Light on the Mechanism of Holistic Therapies

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Abstract
Whilst holistic therapies enjoy enduring popularity with the public, among scientists they are regarded with deep suspicion. The primary reason is profound incredulity as to how they may work. This paper defines the envelope within which material science and biology are currently confined, identifies the resulting blind spots, and proposes a wider framework within which holistic therapies would, incidentally, acquire scientific legitimacy.

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Introduction
There is a deep rift between the scientific establishment and holistic medicine in all its forms. One particularly strident example appeared in 1997. The Lancet published a systematic scientific review of studies on the effectiveness of homoeopathy [1]. Such a review is the gold standard against which scientists challenge all innovators to be judged. This paper cited a previous review of similar caliber [1]. Both found good-quality evidence that homeopathy works significantly better than placebo.

This finding triggered a storm of negative responses, including two separate editorial articles published in the same edition of the journal. It continues to this day [2]. The consensus remains that homoeopathy cannot work because there is no conceivable mechanism. Leaving aside the merits or otherwise of homoeopathy, this is just one strident example of the incredulity with which holistic therapies in general are met in the scientific establishment. The underlying problem lies, I submit, not so much with the therapies, as with the science.

We have always to remember that science is no more than a method of addressing questions systematically. Scientists are essentially investigators, not necessarily philosophers. It is not the primary role of the scientist to pose questions, rather to answer them. It is up to the public and their representatives to decide which questions to ask, if the science is to be carried out at public expense. Problems arise when politicians are dazzled by prominent academics or institutions, lobbying for priority, and when science is funded by industry. And in any case, if we do not ask sensible questions, even the best scientists will necessarily produce unreliable answers. This sets limits to what we can expect from science in general. For the present purpose we are concerned with how this applies in biology. What I say in relation to animal biology applies equally well in a botanical context.

We have in the past century learned a great deal about the stuff of Nature, but still agree nothing about how individual organisms are formed. The modern era in biology began with the seminal work of Charles Darwin, which is now almost universally acclaimed. Darwin was contemporary with Mendel [2] but seems unaware of his work on inheritance. Darwin’s own work predated modern biochemistry by 50 years, and genetics by a whole century. So he worked entirely from observations of organisms in their environments.

He noted the variation of forms in nature, the relationship between those forms and their environments, and their responsiveness to environmental change. His chief contribution was to propose that survival was competitive as between species and varieties within species, and that the forms best fitted to cope with the conditions prevailing would survive and supersede their less well-adapted competitors. He did not propose a biological mechanism for this adaptability, but others have done since. Once genes had been identified and characterized, they acquired the mantle Darwin had ascribed to the whole organism. Evolution came to be attributed entirely to variation of genes within the organism, by a process of inter-breeding and mutation [2]. This is a jump too far, however. Whilst genetic mutation is clearly a factor in evolution, it does not rule out other mechanisms. In fact, mutation is far too slow and wasteful to bear the brunt of the process.

Not all in the genes
A broader view is possible, but requires recognition that genes cannot, in any case, logically account entirely for the form of a complex organism, let alone its functioning as a whole in its world.
Genes are in principal identical in every cell of any organism that began as a fertile egg or seed of some sort, since multiplication of cells during maturation produces identical sets of genes in every daughter-cell. Yet every cell in the organism’s body differs slightly from its entire neighbor’s, at every stage in its life. At the boundary of a specialized organ within the whole body, the form and function of neighboring cells changes radically and abruptly.

As if that were not enough, the entire body comprising all these cells manages somehow to function as a whole, and to respond gracefully and instantaneously to stimuli from the world around it. Whole communities of organisms can show the same spontaneity and grace, as when starlings fly in a close-packed mass formation that swirls and weaves on the evening air without collision.

It is clear, on reflection, which the mass of cells comprising a whole creature have managed somehow to retain the integrity that existed as a potential within the fertile egg that gave it rise. All that has happened during maturation, is the full physical and functional expression of that potential—locomotion, manipulation, nourishment, respiration, circulation, to name but a few of its aspects - none of it expressible in full by one cell alone.

Genes on their own cannot account for this. And there is no higher biochemical mechanism known. Epigenetics is the general word for the formative influence we need, and is still in its infancy.

Physics to the rescue

Biology and physics make very different demands on their practitioners, so that there is very little cross-fertilization of the two. In particular, this means that the potential in biology of the field phenomena identified within physics has yet to be realized.

Some physicists have contributed, but are ignored by the physics establishment and have seldom been taken up [3,4]. One notable biologist has not only proposed a field phenomenon within biology but designed and executed elegant experiments to substantiate its reality. So hostile was the establishment response to Rupert Sheldrake’s ideas, however, that his first book [3] was described by Sir John Maddox in the prestigious journal Nature as “...the best candidate for burning there has been for many years.”

Sheldrake proposes that the forms of organisms are accounted for by Morphogenetic Fields, aka Fields of Formative Causation. Every member of any particular species is tuned in to the field appropriate to that species. Every mother invests her offspring with it both before and throughout gestation. From that field each cell takes the structural information that overlies its location in the organism at a particular time, and its genetic toolkit responds to make the physical adaptations called for in that location.

But that is not all. A morphogenetic field can evolve. It informs individuals, but they also feedback to it. Sheldrake terms this two-way process Morphic Resonance, and claims it enables newly learned tricks and habits to be shared not just with neighbors in the same local community but universally. The oft-quoted “hundredth monkey” phenomenon may be mythic, but Sheldrake reviews an impressive mass of evidence from successful experiments in support of morphic resonance.

Physicists make little direct comment on this, but are familiar from their studies of quantum mechanics with the phenomenon of scalar fields. These encode information, rather than force. Holograms are examples of scalar fields, and provide a vivid illustration of the potential importance of scalar fields in morphogenesis. If the cells of an organism have a way of reading the information provided by a holographically projected design, then we can begin to understand how cells widely distributed across the organism may know to adopt their unique structures and functions. That would be a promising direction for epigenetics to explore.

If we suppose, for the sake of argument, that something along these lines can indeed account for whole-body form and function in nature, then how may it work?

Health

We must now confront a hitherto intangible, unquantifiable element in life – its quality. Qualities have not been scientifically respectable for several centuries, but physics is accidentally rediscovering them. Scalar Morphogenetic Fields are plausible – perhaps inescapable – vehicles of the qualities of life. Let us consider wholeness, as an example. This term, loosely synonymous with health, is a property of wholes, which I tentatively define as living things with unique immunological identities. The feature, which elevates wholes above quantitative mechanisms, is the possession of a morphogenetic field. This field must control the whole from its conception, directing its ontogeny and maintaining its adult form, throughout its life.

Provided the differentiating body is able to keep pace perfectly with the unfolding field, the two resonate intensely. (This is distinct from morphic resonance, as defined earlier.) The phenomenon of Kirlian photography seems to render this resonance visible. The radiance of living things on a Kirlian camera is remarkable to see, and in human’s correlates subjectively with vitality. Successful field-body resonance over time generates the structural detail within the organism, its morphology. The detail and perfection of this morphology must be related to the perfection of the field-body resonance which, aggregated over time, produced it. Morphology, or structural information, is exactly the kind of data that scalar fields encode. This model has many ramifications beyond the scope of this paper: they are considered in more detail elsewhere [4]. For the present the notion of organic growth is relevant, however. I suggest that the term applies to the extent that an organism has maintained resonance with its formative field. The use of non-natural forms of agriculture may hinder or distort growth potential and diminish that resonance. Radiance on a Kirlian image is markedly greater for an “organic” vegetable than one raised otherwise, and may bear development as an indicator of organic culture.

Holism

So there are limits to what materialist scientists can do, or even visualize, within their quantitative realm. And there is reason to propose a larger qualitative realm, perhaps explicable by physicists, which can illuminate the blind spots in the materialist view of biology.
The possession by every organism of at least two “bodies”- a material creature manifest to our senses, and an invisible formative field closely associated with it, provides a plausible basis for holistic thinking.

During life, events in the formative field determine structures and functions in the material body, through the agency of biochemistry. But thoughts, memories, moods, desires, feelings and intentions are almost certainly not confined to the material. They make more sense as aspects of the formative field that governs it.

In this way of thinking, the brain – and indeed every individual cell - is a receiver analogous to a television or radio set. Broadcasts are not confined within the receiver, but detected by it.

In the same way, more day-to-day matters such as appetites, boredom or tiredness are examples of unease between the material and field aspects of the individual. They prompt self-correcting action – appropriate food, a change of scene, or rest.

**Food**

In the case of food, this model helps to resolve an on-going puzzle about the specificity of appetite. How do we know to relish certain foods, and when we have consumed enough?

With refined or processed foods we don’t. But with fresh whole foods we possess an uncanny instinct for what we need, and how much of it. This is related to the senses of taste and smell, and memories of past meals: but the suddenness with which relish turns into indifference is a mystery.

What if we select food on the basis not of its material content but of its formative field? Put crudely, we may feel a defect in our formative field that roughly corresponds to that of a particular food. So we relish it, and eat it, but only until the defect in our field structure has been made good. Then we want no more.

It can be demonstrated [5] by Kirlian imagery or taste tests for example, that fresh whole foods retain their flavor in depth until they are cooked, disintegrated mechanically or disrupted chemically by refinement processing.

It would seem that the field information associated with the food is released as we chew it, and radiates from the mouth into the head and glands nearby. The material of the food is processed in the gut over a few hours, but the appetite satisfaction is based on field information, merging into our own and repairing its defect, and can therefore be instantaneous.

**Herbal Medicine**

Extend that principle to more distressing disturbances of balance that we recognize as diseases. These are distinct from unease because they are no longer self-correcting: we don’t know how to obtain relief. This is where a trained and experienced therapist may help. One familiar with herbs may be able to select a remedy not just on the basis of its material ingredients but taking into account the field information associated with that plant.

It is reasonable to speculate that the formative field of a plant, under whose influence the food organism grew, is dispersed along with the flavor-in-depth when the plant is chopped up or dried. This forfeits the vitality or vividness of the field, but its legacy of structural information vested in the organism remains [6].

So the herbalist can present not just the material ingredients of a specific plant, but the structural information invested in it during its growth. Fresh herbs, as salad ingredients or fresh brews, also offer some at least of the plant’s vitality. These is therefore a case for using medicines from nature in their raw condition, rather than attempting to extract from them a specific ingredient considered responsible for its effect [7]. This is manifestly true of food, which is capable of satisfying appetite in a way that it’s refined or processed derivatives – let alone a pile of its purified ingredients – cannot. Naturopathy is a very broad term encompassing the therapeutic use of food and herbs, among other modalities considered natural.

**Homoeopathy**

It is conceivable that the process of succession and dilution, described by Hahnemann for the preparation of homoeopathic remedies, may separate the field aspect from the material of a grown substance, trapping the former in an inert water-alcohol solution. It would then be possible to medicate the formative field of a patient, with structural information from another material chosen to restore balance. It would be reasonable to revisit trials of homoeopathy in that light [8-10].

**Acupuncture**

Traditional Chinese medicine combines herbal and physical techniques, but is best known for its acupuncture. I propose that needling is not aimed at specific physical structures at all, but an anchor points or nodes within the body with which the formative field of the patient is closely or reliably associated. It is the field that is medicated, not the material tissue.

**Healing**

All forms of interpersonal caring, whether based on love or professional practice, would in this way of thinking take place primarily between morphogenetic fields. This is not, like nourishment, achieved by absorption of another’s field information, which would exhaust the healer. It is more likely to represent a creative relationship between patient and healer, by which both are enhanced. This begs the nature of the creative process, which is discussed elsewhere [11].

**Conclusion**

William of Occam proposed that if there are several possible ways to account for an observed phenomenon, then the simplest is the most likely to apply. I submit that the thesis of this paper offers so much illumination to biology that it deserves to be taken more seriously than hitherto. Having me several times witnessed dramatic therapeutic results achieved by holistic treatment modalities; I cannot deny them out of hand. Nor should our scientific establishment; however this may upset the economics of medicine. Rather, we should ask scientists straight questions about the realm of quality, and perhaps then we may get some sensible answers.
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