

Connecting the Dots – Or How to Put Humpty Dumpty Back Together Again Functional Medicine and Naturopathic Medicine: Can we “connect the dots” to create the big picture?

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At a recent excellent functional medicine conference (The Challenge of Emerging Infections in the 21st Century: Terrain, Tolerance, and Susceptibility), several presenters made compelling scientific cases for the infectious root causes of certain diseases. Rheumatoid arthritis (RA) was described as being precipitated by a *Proteus* infection of the urinary tract. Ankylosing spondylitis (AS) was described as caused by an infection of the bacteria *Klebsiella* in the colon. It was particularly striking to see the experimental and research data used to make the case for the development of autoimmune disease stemming from these infectious agents. Interesting also, was that even in the face of significant scientific data supporting the premise of an infectious agent causing an autoimmune disease in humans, conventional rheumatologists largely dismiss the data, preferring instead to continue to find drugs to mask symptoms rather than address the underlying cause.

So, we began thinking: what is functional medicine and how might functional medical practitioners potentially be working toward a more vitalistic approach? Does functional medicine provide areas for growth, development, and collaboration with naturopathic medicine, and does naturopathic medicine provide areas for growth, development and collaboration with functional medicine ? Indeed, does the naturopathic process of healing,

Lindlahr’s early concepts and therapeutic order represent a synthesis of strengths from conventional, functional, and naturopathic approaches? In this article we explore the fundamental differences and the similarities we perceive. These are worth exploring in the context of natural medicine’s recognition of the terrain as the deepest underlying factor in illness. To further explore these ideas, we first must define functional medicine

“**Functional medicine** is personalized medicine that deals with primary prevention and underlying causes instead of symptoms for serious chronic disease. It is a science-based field of health care that is grounded in the following principles:

- **Biochemical individuality** describes the importance of individual variations in metabolic function that derive from genetic and environmental differences among individuals.
- **Patient-centered** medicine emphasizes "patient care" rather than "disease care," following Sir William Osler's admonition that "It is more important to know what patient has the disease than to know what disease the patient has."
- **Dynamic balance** of internal and external factors.
- **Web-like interconnections** of physiological factors...the human body functions as an orchestrated network of interconnected systems, rather than individual systems functioning autonomously and without effect on each other.....
- **Health as a positive vitality** – not merely the absence of disease.
- **Promotion of organ reserve** as the means to enhance health span.” (p. x)

Functional medicine includes some of the important concepts of the vitalist approach, including recognition of biochemical individuality, a homeostatically-based systems approach, and appreciation of the crucial interplay of the mind, body and spirit. While some in conventional medicine may be less appreciative, the use of different terminology, such as “biochemical individuality,” rather than “genetic polymorphism,” does not discredit the concept. Perhaps the most significant position of functional medicine, from the naturopathic point of view, is its appreciation of health as not merely the absence of disease, but as a “positive vitality.” Vitalism, also takes this view, although it is more broadly defined within naturopathic practice.

So, where do functional medicine and naturopathic medicine meet at the crossroads of reductionist and vitalist medical approaches? Since the time of Hippocrates, there has been a long and somewhat arduous debate as to the roles that vitalism and reductionism

play in medicine. Certainly Hippocrates, Paracelsus, Galen, and Hahnemann, as well as others, have contributed to the discussion over the centuries with no clear-cut consensus emerging. Often, these discussions did nothing more than to maintain tension between the two views. While the resulting debate may have advanced many medical careers, this lack of consensus did not necessarily benefit the patient who stands—or should stand—at the center of the ongoing debate. From a purely philosophical standpoint, these somewhat opposing positions may be viewed as the yin and the yang, locked in the dance of medicine as it developed over the centuries. Certainly this dance has served to produce many of the great advances in medicine. Pharmacology can be regarded as the ultimate yang or the ultimate in reductionist and mechanistic approaches, while public health advances may be better regarded as the yin, or the ultimate in guarding the terrain.

Flexner's report, citing the need for a more robust science education, and strict oversight for admission and post-graduate education, also included recommendations for greater emphasis on prevention and social responsibility, as well as greater physician humility; arguably, a more vitalistic approach.

While conventional medicine has largely embraced the reductionist method, recent developments in functional medicine may lead one to conclude that the single-faceted approach of the dominant reductionist paradigm may be nearing a bifurcation point. Naturopathic medicine, while clearly having roots in both the vitalist and reductionist traditions, has, as a result, often found itself questioning its place in the dance of medicine. It has never been the most popular partner at the dance, and has always continued to dance as if it needed no partner—but one may wonder if that solitary role may be nearing its own bifurcation point, and if there now is coming a time when a suitable partner may be found—if that partner is willing to make a serious commitment, and if the rhythm is one we can dance to.

Reductionist medicine follows several premises in order to logically address disease. Functional medicine has more recently begun to look deeper into the causes of disease and to explore the interconnectedness—the network—of the organism's attempts to restore homeostasis. However, functional medicine still appears to view disease in terms

of a cause-and-effect relationship within the framework of a reductionist model. This model assumes that disease exists as discrete pathological entities that can be specifically identified and eliminated through the application of evidence-based therapies—primarily drugs and surgery. The main difference is the recognition by functional medicine practitioners that a patient is more than the sum of the parts. This recognition can only be applauded, but perhaps may not go far enough. *Tolle causam*, for instance, the naturopathic principle to treat the underlying cause, does not imply simply treating the bacteria causing a patient's infection, but includes the examination of the terrain.

Yet, the presentations mentioned above didn't account for the premise of vitalistic medicine. Seemingly, the thought is there, but it is not actively addressed. To naturopathic physicians, it is the soil—the terrain—that is critical and not so much the organism. The presentations alluded to the naturopathic determinants of health, but did not connect the dots—the dots of infection, cross-reactivity to self, and the suppression of symptoms.

The vitalist approach, by contrast, follows the view that health is a homeostatic set point and a natural state the organism is constantly attempting to achieve. Ill health is an adaptive response to a disturbance of the homeostatic balance of the organism, an attempt to rebalance the allosteric load.

In the vitalist view, the balanced homeostatic mechanism of optimal health follows the laws of the universe in that it is ordered and dependent upon a healthy environment. In the words of Paracelsus, the “health in the body relies on the harmony of man (*the microcosm*) and Nature (*macrocosm*)”. Another way of thinking about this is to discuss terrain—in the naturopathic view, the terrain, consisting of the background genetics (or susceptibility) coupled with the epigenetic status, reflecting lifestyle—including socioeconomic status and environmental factors, is a fundamental construct. The lifestyle and environmental factors help form the allostatic load. The epigenetic mechanisms can provide for the re-establishment of homeostatic balance. This is why, in the vitalistic view, some people get ill while others do not when exposed to the same perturbation. In a

reductionist model, theoretically everyone should become ill, or eventually will become ill, when exposed. We know in practice that not everyone exposed to an infectious agent becomes ill; therefore, it seems likely that, at a minimum, the reductionist view is incomplete.

Vitalism is a philosophy that posits that the totality of an individual organism cannot be explained solely by the interplay of biochemistry, but that there is an additional “spark”, an expression of energy that is essential to life. Furthermore, vitalism posits that the organism itself plays a role in disease; that disease is not due primarily to exogenous organisms or factors but that it is the important interactions between the organism, the terrain, and the environment. Disease is viewed as a process, rather than a discrete entity.¹ A particular condition is the result of an organisms’ response to a set of factors and while there may be similar characteristics, the progress and the process of each individual’s condition is at least partly unique to the individual.

More recently, the field of epigenetics has emerged as a way to view the macrocosm’s influence upon the microcosm through the activation (or deactivation) of genetic sequences that had previously been inactive (or active) via phosphorylation, methylation and other mechanisms.

Study in these areas clearly has the potential to identify the influence of the environment, mental/emotional status, and lifestyle choices on the development and progression of disease. It is not wishful thinking to believe that epigenetics will ultimately lend support to the vitalistic view of health and disease.

As disease is viewed as a process rather than an entity, what are the factors that determine whether or not one becomes ill? Some of the factors thought to influence this are genetics, previous illness patterns, the effects of previous medications, ones’ physical and mental/emotional state, toxic exposures, poor digestion and toxemia, hygienic factors, and poor quality food and water. These are often not considered when the physician is faced with them, simply because they are thought to be unquantifiable and not amenable

to study. Further, it is often more difficult to view the patient as a unique individual when perhaps the easier alternative is a label consisting of a diagnostic code and/or a particular procedure code.

Classical homeopathy, for example, can use entirely unique remedies for individual cases of chronic pharyngitis. The remedy for one case of pharyngitis may be *Lachesis*, while for another it may be *Lycopodium*. There is no convenient way to code for these differences, because they are based on the individual symptoms and not the disease.

The functional medicine approach has strengthened aspects of naturopathic practice. It has added immense knowledge to the concept of tonifying weakened systems within the therapeutic order, for example. Thus, this article is less of an argument that functional medicine is approaching vitalism than applauding some of the concepts championed by functional medicine—and some concepts that, in our view, might enhance the impact of its approach. Key among those concepts is consideration of patients' biological and energetic terrain that might help retain the integrity of Humpty Dumpty's shell, before it becomes weakened or broken by genetic predisposition or environmental onslaught.

In the process of medical education, the reductionist approach has many clear advantages, as evidenced, for example, by advances in surgery and the treatment of acute disease. The problem, perhaps, lies in the fact that while Humpty Dumpty has been cracked, few medical professionals have the training, take the time and the intellectual effort needed to put him back together again. Functional medicine and naturopathic medicine have developed these skills and approaches collectively, in differing ways, on many fronts. From a naturopathic perspective, to connect the “dots” of reductionist facts and data, we must step back and think about how, for example, the thyroid actually interacts with the adrenals and the reproductive organs. It is insufficient to code for adrenal insufficiency coupled with hypothyroid function without realizing that the two are inextricably linked in ways that are often unique to each individual. The interactions of the mind and body are becoming more appreciated, but how do we treat or code for a patient whose epigastric pain is associated with the loss of a sibling, parent or pet (30000, ANXIETY

STATE, UNSPEC” or “78906, ABDOMINAL PAIN, EPIGASTRIC)? Neither is sufficient for description, yet the reductionist coding system (required in the US for insurance purposes) forces physicians to do so. Physicians, of course, know the relationship, but the act of coding for billing purposes may blur the fact that physicians understand the patient’s disease, not the disease the patient has.

To fully put Humpty Dumpty back together again requires all the king’s medical men and women working together to redefine, re-think, and “re-connect the dots”—of priorities within their various medical systems of thought-- reductionism, functionalism, and vitalism—to one that embraces all that each has to offer, while focusing on the health and wellbeing of the patients at the center of the debate. It also requires that societies emphasize health and wellness, rather than spending tremendous resources maintaining the *status quo* of illness. For, as long as we continue to maintain the “disease as a normal state of being” model, rather than one of wellness and health, the vitalist-reductionist debate will undermine the health of communities and populations, with increasingly devastating consequences and skirt the issues that face every patient who seeks medical attention for healing of their mind, body and spirit.

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