

**The Healing Effects of Chiropractic:  
The Mind-Body-Spirit Connection**

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## **Abstract**

**Objective:** This article provides an overview of literature concerning the relationship of the healing effects of Chiropractic care and scientific support of its efficacy as a dynamic integration of an art, science, and philosophy. Emphasis is focused on the scientific support of a mind-body connection via emergent scientific theory, such as Entanglement Theory and the Biopsychosocial Model paradigm of care, and current research such as in Psychoneuroimmunology, touch therapy, and cell resonance. Furthermore, the inability of the scientific gold standard, double-blind randomized controlled trials, to be effectively applied to a holistic patient care, such as Chiropractic, is also explored. Finally, the role that spirit plays in overall health and Chiropractic patient care is discussed.

**Data Collection:** A computer search of PubMed and MANTIS generated articles relevant to Chiropractic effects (540 articles), Psychoneuroimmunology (897 articles), Biopsychosocial Model (784 articles), Entanglement Theory (144 articles), and Mind-Body medicine (594 articles).

**Data Synthesis:** Chiropractic is a dynamic approach to healing that addresses not only physiological and psychological aspects of care, but also spiritual as well. Although scientific advances are being made, Chiropractic care still lacks the body of evidence that can prove its efficacy from a scientific view rooted in a mindset of reductionism.

**Conclusions:** The Chiropractic approach to health can not be broken down into its individual aspects of patient care and then proven scientifically. The vitalistic and holistic foundations of Chiropractic philosophy and the art of its practice support that it is a science of its own. As traditional science boldly moves forward into the new realm of quantum science, the spirit of Chiropractic care may finally gain the body of evidence it has long sought to prove its effectiveness.

**Key Indexing Terms:** Chiropractic effects, Psychoneuroimmunology, Biopsychosocial Model, Entanglement Theory, and Mind-Body medicine.

## **Introduction**

Chiropractic is the science, philosophy, and art of achieving a state of optimal health, or homeostasis, through the manipulation of soft and boney anatomical structures that have become misaligned, or subluxated. This is one of many possible definitions of Chiropractic depending on who you ask. Some would say it is a pseudoscience at best, rooted in pantheistic beliefs in a universal power to heal that resides within all of us. The perfect foundation for quackery since there is no real way to prove it's efficacy with the tried-and-true scientific gold standard of a double-blind trial. So may we just summarily dismiss Chiropractic as a viable option in healthcare since it lacks the empirical evidence through experimental trials that typically accompany allopathic treatment protocols? As the leader in the realm of complimentary and alternative healthcare and with a rapidly growing trend toward increased utilization of such alternative approaches, a closer look at Chiropractic is warranted. This literature review will focus on the many factors involved with Chiropractic care that facilitate the mind-body connection, the role it plays in overall well-being, and proof of efficacy that transcends science alone.

So what is this talk of a mind-body connection and is this just more Chiropractic mumbo-jumbo trying to rationalize a lack of any quality scientific proof of its effectiveness? The answer to this question lies within the vitalistic foundation of Chiropractic and its holistic approach to patient care. As defined the Merriam-Webster dictionary (1), vitalism is a doctrine that processes of life are not explicable by the laws of physics and chemistry alone and that life is in some part self-determining. Holistic is defined as relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts. Holistic care seeks to treat both the

mind and the body and views humans and the environment as part of a single system. The stark contrast between the vitalistic and holistic approach provided by Chiropractic care is readily apparent when compared to the allopathic treatment protocols that most patients are predominantly accustomed to.

So the question arises, should Chiropractic even concern itself with trying to prove its efficacy in a fashion congruent with the tenants of modern science which is heavily founded in reductionism and mechanistic beliefs? Are we merely the sum of our parts or something much more? Do we dare to dig deeper for the truth and go so far as to say that spirit is the key ingredient to well being? These are all very intriguing questions that current science lacks the ability to prove with any adequacy and ultimately becomes a question of one's own personal perspective. Is the connection between the mind and body what leads to the expression of spirit, an inner source of well being that awaits its divine ability to present itself? Exactly how would science define spirit or would it simply scoff at the idea, similar to its stance about Chiropractic? Many scientists believe the philosophical constructs of Chiropractic makes it better suited to fit into the realm of religious practice rather than the practice of healthcare. Yet others are starting to learn that the mind-body connection actually has scientific validity and has led to the development of a new hybrid field of study known as Psychoneuroimmunology (PNI). Advancement in PNI and new scientific theories such as Generalized Entanglement Theory just may hold the key to proving the validity of Chiropractic philosophy and cause a radical shift in the paradigm of health care across all fields of practice.

## Discussion

Bruce Lipton Ph D, is a cell biologist with an array of research experience concerning the molecular mechanisms controlling cell behavior with a scientific background and research interests that are intimately entwined with the philosophy and practice of allopathic medicine and yet remains a major supporter of Chiropractic. Dr Lipton sums up the differences between Chiropractic and Medical philosophies quite well in his article, The Evolving Science of Chiropractic Philosophy as follows:

“D. D. Palmer was very sensitive to scientists’ displeasure concerning concepts related to spirit and vital forces. In formulating the original science of Chiropractic, he coined the terms Universal Intelligence and Innate Intelligence to refer to the inherent organizing intelligence of the Universe and of life.

In the early years of Chiropractic I used the terms Innate (Spirit), Innate Intelligence (Spiritual Intellect), Universal Intelligence (God) because they were comprehensive, and the world was not prepared to receive the latter terms just mentioned in parentheses. It may be even now premature to use them. (page 542, The Science, Art and Philosophy of Chiropractic).

Since vitalism is at the heart of chiropractic philosophy, and vitalism is perceived as metaphysics, the philosophy of chiropractic is not recognized by conventional medical science. Though modern medicine considers chiropractic as “unscientific,” it has not been able to ignore the large number of their patients that have been increasingly satisfied with chiropractic care. The success of Chiropractic in recent years has fueled the antagonism between conventional medical physicians and chiropractors. Biomedical research scientists are at a loss to explain the efficacy of chiropractic adjustment for it is in direct opposition to contemporary knowledge concerning biological “control” mechanisms.

Ever since the nature of DNA had been revealed, biomedical science has been grounded in the belief that the structure, function and health of an organism is directly or indirectly regulated by its genes. This has led to the concept of the Primacy of DNA, the belief that our physical and behavioral traits are controlled by genes. Scientists took a leap to the next level and subsequently evolved the idea of genetic determinism, the notion that our health and fate are “predetermined” in our heredity. Consequently,

the fact that an “externalized” chiropractic adjustment can alter the expression of the system flies in the face of conventional medicine

A principal source of dissension between practitioners of allopathic medicine and chiropractic is evident when one examines how each practice perceives the flow of information in living systems. The schema for allopathic medicine is as follows: Genes represent the internalized source of control; gene-mediated cell expression of peripheral tissues and organs is relayed internally to the spinal cord, that information is then sent up the cord to the brain. Essentially this path can be described as Outside>Inside>(from)Down>(to)Above (O-I-D-A).

In contrast, the basic philosophy of Chiropractic, as defined by D. D. Palmer (before its modification by B. J. Palmer), perceives the flow of information from an externalized source, Universal Intelligence. An eternal “metamerized” portion of that intelligence, referred to as Innate, is needed by each individualized being (pages 494 and 496, *The Science, Art and Philosophy of Chiropractic*). Although Innate is not localized, its seat of control is the brain. From the brain, Innate’s intelligence travels down the spinal cord, and from the spinal cord outward to the periphery, a pathway referred to as Above>Down>Inside>Out (A-D-I-O).

The crux of the controversy lies in the philosophical foundation of each practice. The A-D-I-O principle of Chiropractic is diametrically opposed to the O-I-D-A principle in medicine. By virtue of “might makes right,” the populous membership of conventional science acknowledges its certitude in its dogma and disavows the beliefs of the smaller group of chiropractors.” (2)

So is the role that Chiropractic plays a connection between spirit (Innate) and God (Universal Intelligence) and what place does this have in the area of science? Dr Lipton further answers the question of “Why Chiropractic?” in his article *Miracle Message from Down Under* (3) stating “because it is a proven, effective health modality that is philosophically in alignment with leading edge modern science.”

One such leading edge science as evidenced in an article by Michael Hyland Ph.D. from *Complementary Therapies in Medicine* is the electromagnetic theory and its basic tenants are as follows:

“The electromagnetic theory, or biofield hypothesis as it is known, has three assumptions. The first is that a signal transfers from therapist to patient, and vice versa. The second is that this signal involves some kind of force, i.e., one of the four forces of nature, the electromagnetic force, which is also represented as a photon. This idea of force is also features in popular culture. In the cult film series, ‘Star Wars’ there is an expression ‘May the force be with you’. This purported force, can, according to popular culture, move objects, as suggested both in the Star Wars films and in novels. The third assumption is that the body is sensitive at ‘critical states’ to small deviations in electromagnetic radiation or quantum events and so can respond to energy levels that conventional biologist might dismiss as irrelevant.” (4)

So what could be a more “critical state” of the body than a balanced spine, without which the nervous system does not properly function? And, of course, the nervous system controls all of the rest of our bodily functions, or does it? Could subluxation be the small deviations, or quantum event, being referenced? At the quantum level our ideas of reality all of a sudden do not fit so comfortably into our preset notion of what we consider normal in a traditional scientific mindset. Could it be that D.D. Palmer had it all completely right from the start and science is finally catching up to prove his theories? Great will be the day when the common salutation amongst all people is “May the Innate be with you”! George Lucas had it mostly right, credit justly given to him.

Okay, wow, starting to pill on the Chiropractic mumbo-jumbo pretty thick now. But hold on, there is some more leading edge science to support the idea of innate, or the force if you so prefer, and suggests a common bond, or entanglement, amongst all things. Again, from Michael Hyland Ph.D., this time from an article in *The Journal of Alternative and Complementary Medicine* is an explanation of Extended Network Generalized Entanglement Theory:

“The underlying assumption of the theory is that the body has a superordinate system, the extended network, that sets the parameters (e.g., set point, gain, etc. —by analogy the thermostat settings and the output of a

central heating system) of the body's control systems. The 'body's control systems' is interpreted in its broader sense to include control systems controlling internal physiologic parameters (e.g., temperature, blood glucose, etc.) as well as those controlling external parameters (e.g., access to food, rest, etc.) through behavior. This superordinate system is assumed to be a network-based intelligent system that has the ability to coordinate conflicting requirements of a system that requires temporal specialization of function (network systems are particularly suited to this kind of task). So, for example, the extended network coordinates temporal change in homeodynamic systems (many physiologic systems are homeodynamic rather than homeostatic as the set point varies throughout the day), as well as providing a coordinated response to internal or external challenge.

Although traditional medical science assumes the body's control systems are independent or at best haphazardly connected, it is evident that they are highly coordinated in function. For example, there are many simultaneous physiologic changes in the fight-or-flight response to external challenge, and these changes are controlled suggesting an alteration of reference criteria. Similarly, when the body experiences an internal challenge (e.g., infection or trauma), one of the many consequences is the production of cytokines that, in addition to effects on immune activity, creates the sensation of fatigue via hypothalamic and other receptors, leading to the organism resting. The functioning of internal and external environment is coordinated; indeed, it is difficult to conceive how the body could function without some overall coordinating system.”(5)

So could this be just a lengthy definition of innate? The article further suggests that Entanglement Theory implies that complementary and alternative medicine (CAM), such as Chiropractic, provides direct and indirect subtle therapy in the healing process. To quote:

“Direct subtle therapy creates network change either through lifestyle management, some manual therapies, and physiologically mediated effects of therapy. Indirect subtle therapy is a process of entanglement with other people or physical entities (e.g., remedies, healing sites). Both types of subtle therapies create two kinds of information within the network—either that the network is more disregulated than it is and the network then compensates for this error or as a guide for network change leading to healing. Most CAM therapies involve a combination of direct and indirect therapies, making empirical evaluation complex.”(5)

So not only is there patient-practitioner-remedy entanglement, but the setting in which healing is sought becomes a factor as well. We are all willing to pay a few dollars more at our favorite restaurant because it has a certain "atmosphere", and could such phenomena imply entanglement, or interconnectedness, amongst all things in the universe? The holistic and vitalistic approach provided in a Chiropractic setting, where an extra level of care implicit with touch is the norm, may be a bigger factor than currently provided by science alone, and supply just the right "atmosphere" for healing.

Entanglement Theory and Chiropractic philosophy, this is nothing but conjecture, where are the double-blind randomized controlled trials (DBRCTs)? That is the only "true" way to prove something scientifically. Well, maybe its time for a new way instead of a purported "true" way. Lionel R Milgrom in his article *Journeys in The Country of The Blind: Entanglement Theory and The Effects of Binding on Trials of Homeopathy and Homeopathic Provings* (6) suggests "the reason DBRCTs apparently fail to unequivocally demonstrate the efficacy of homeopathy, is because specific and non-specific effects of the therapeutic process are actually interdependent and mutually correlated. Thus, according to a holistic paradigm, the methodologies used in DBRCTs, and the loss of information such techniques imply, must necessarily destroy the very thing they are trying to investigate." Thus it is not possible to validate any holistic approach to healthcare with techniques founded in reductionism and separating the specific and non-specific effects of the care provided. That would be against the very nature of holism itself.

So is there any hope in trying to find scientific proof of the efficacy of Chiropractic care. The emerging scientific field of Psychoneuroimmunolgy (PNI) may provide some

explanation on the deeper realms of the mechanisms involved with Chiropractic, the healing effects of touch, and the Mind-Body connection. Born from the early work of psychologist Robert Ader at the Rochester School of Medicine and Dentistry in 1974 where immune systems in rats were proven to have learned a specific conditioned reaction, PNI is just the beginnings of proving the mind-body connection. Prior to his discovery, the scientific community believed that the central nervous system (CNS) and the immune system were completely separate from one another. From the book *Mind-Body Medicine: How to use your mind for better health*, to quote:

“Ader’s experiments have now been repeated successfully, and his discovery has opened the way to identifying the links between the immune system and the central nervous system. As a result, science is finding that there are many physiological connections between these two systems...”

“While no one is quite sure how the connections among these areas function, few medical researchers now doubt that such connections exist. Ader likes to quote a basic immunology textbook, published in 1991, that teaches that research studies in PNI now ‘confirm the long-standing belief that immune system does not function completely autonomously.’ In the last decade, he says, the reaction of the scientific community to PNI “has gone from, ‘It’s impossible,’ to, ‘We knew it all along.’” (7)

It is interesting to note the delay in acceptance of a new paradigm of belief regarding immune function versus the more traditional scientific view of reductionism. Though the prior quotation was from a fairly dated text, modern research still drudges forward in proving these findings of an interconnectedness between the nervous system and immune function, as well as the role of mind in such matters. From a December 2005 article in *International Review of Psychiatry*, it states “it has become increasingly clear that the immune system has a delicate, complex, and dynamic interaction with the nervous system both in health and in disease. Molecules identified principally by their actions in one

system often have important developmental or homeostatic functions in the other.”(8) So how does PNI relate to Chiropractic?

“Chiropractic has historically identified with the concept that mechanical nervous system interference, ‘subluxation,’ is at least a contributing if not a primary cause of disease. Indeed, with demonstrated involvement of the sympathetic nervous system in PNI, it would seem inevitable that someone in the profession of Chiropractic would seize on PNI as ‘proof’ that this is the way Chiropractic allegedly prevents or cures disease.”(9) So what are the dynamics of the healing touch of a Chiropractor and how does it relate to PNI? “Peripheral nerves can stimulate both primary and secondary lymphoid organs. These stimulatory nerve fibers may be noradrenergic (i.e., sympathetic, secreting NE), cholinergic (i.e., parasympathetic, secreting acetylcholine), or peptidergic (i.e., secreting neuropeptides). The majority of research in this area has focus on sympathetic innervation, initiated by the hypothalamus. The sympathetic nerve fibers, located in the thoracic and lumbar regions of the spinal cord (T1 to L2), innervate not only lymphoid organs but also other organs, blood vessels, and muscle tissue throughout the body, as well as secrete NE (Guyton, 1991). Many studies have identified alterations in immune responses, generally enhancement of function or augmentation of autoimmune diseases, as a result of denervation or chemical blockade of sympathetic fibers.” (10)

“The therapeutic value of sensory interventions is illuminated through understanding basic neuroscience and PNI. Stimulation of the five major senses triggers a cascade of bidirectional physiological activities: Cranial nerves play roles in interventions of smell, sight, and hearing; peripheral nerves are central to touch interventions.” (11) So there

you have it, a link between chiropractic and valid modern science without digging deeper into the scientific reductionism that proves the linkage of the nervous and immune systems through the study of PNI, we shall leave that up to the experts. But not so fast, what does PNI actually prove regarding Chiropractic? Again, we are faced with a situation where a holistic view of healthcare just can not fit into a scientific model that wants to break things down into parts, so perspective is the key to understanding.

An article from the Journal of Manipulative Physiological Therapeutics titled *Psychoneuroimmunology, the Placebo Effect and Chiropractic* clearly challenges the interconnectedness of PNI and Chiropractic. To quote:

“The field of PNI is still relatively new. Much remains unknown and speculative. What has become clear is that the body’s primary communication system in PNI is hormonal/immunological, not neurological. The body’s inflammatory responses in arthritic conditions reflect a normally operating nervous system, but with immune and hormonal systems that are responding to stress in ways that may ultimately harm the body. Chiropractors often claim to looking for the ‘causes’ of conditions. In PNI, the cause is clearly hormonal.

Thus, Chiropractors must accept that any interventions on our part will be nonspecific, unpredictable, nonneurological, and likely placebo-based. Assuming an accurate diagnostic assessment is made first, there is no reason that Chiropractors cannot render viable, and valuable, placebo-based care. Chiropractic placebo-based care could serve a useful role in the treatment of stress/PNI-associated conditions that would likely be as successful as medical management. The primary concern is that the Chiropractor himself should not be confused as to the reason for the positive results that may be obtained.” (9)

So arthritic conditions, say for example intervertebral foraminal encroachment due to osteophyte formations as seen in degenerative disc disease, reflect a normally functioning nervous system? And somehow you can now say with the development of PNI that

hormonal function is disconnected from nervous function? Ridiculous statements such as these should lead to further questioning of the modern scientific model in general.

“Additionally, PNI does not take into account the subtle but profound effects from the caring relationships that take place when people facilitate interventions for others (e.g., touch therapies, some sensory and cognitive therapies). Interpersonal connections invoke trust and peace of mind, leading to a calmer state with greater psychological and physical well-being.” (11) So could it really be that Chiropractic serves merely in the capacity of a placebo effect in relation to patient health? And what exactly is this placebo effect? The literal translation of placebo from Latin is “I shall please”, and it is suggestive of something that is somehow not “real” or valid. So if a patient responds well to placebo-based care it is often felt the condition being treated was merely “in their head”. This can only further validate the connection between mind and body relations in health, but by no means does it relegate Chiropractic to just providing placebo effects.

This suggests there is something more than the mind and body alone, as thought George Engel leading to the development of his biopsychosocial model in the 1970s. “The main theme of this model is that mechanistic biological explanations cannot account for all health outcomes. To fully explain the aetiology and progress of many conditions, an understanding of the interplay between biological, psychological, and social factors is required. The biopsychological approach was erected as a competing paradigm to the biomedical model. One of Engel’s main criticisms was that the biomedical model encouraged separation of mind and body. In the biomedical model the body is viewed as a machine to be fixed and is separate from emotions. Engel and his colleagues considered that this was leading to the dehumanizing of medicine. They considered that

patients were being seen as objects to be fixed and their subjective experiences were of no relevance to assessment and management decisions.” (12)

Could something as simple as the psychological effects of touch be the only explanation as to the effectiveness of Chiropractic care that is needed to prove its efficacy? Engel’s challenge of the biomedical model has led to more recent advancement of mind-body science, such as the development of the new scientific discipline of Psychosocial Genomics. Ernest L. Rossi, Ph.D. writes in his article *Psychosocial Genomics: Gene-Expression, Neurogenesis, and Human Experience in Mind-Body Medicine*: “Psychosocial genomics brings together a variety of interdisciplinary fields ranging from studies of stress, psychosomatics, psychoimmunology, and psychoendocrinology to the deep psychobiology of creativity, optimal performance, dreaming, art, ritual, culture, and spiritual life.” (13) Can it really be? Modern science is now becoming holistic in nature and even going so far as to say that spirituality is an important factor in health?

Dr Rossi further states “psychosocial genomics, as presently conceived, focuses primarily on how subjective states of human consciousness, as well as social and cultural signals, modulate gene expression and vice versa.” (13) This could suggest that the explanation for healing provided by Chiropractic rests in its core vitalistic and holistic beliefs. Just educating the patient on their Innate (Spirit) ability to express Universal Intelligence (God) in healing themselves, as purposed by D.D. Palmer so many years ago, may be the key to its success, by changing cultural beliefs. Before you start thinking we are diving head first back into some more Chiropractic “numbo-jumbo”, Dr. Rossi further validates the healing effects of touch in his article stating:

“It has been known for some time that infant human orphans fail to thrive and grow physically when isolated in an institution without the normal amount of touch even when all other needs for warmth, food, and care are provided. This condition has been called psychosocial dwarfism or nonorganic failure to thrive. When pediatric nurses supplied these infants with tender loving touch, however, their growth pattern returned to normal within hours. The nonorganic failure-to-thrive diagnosis also was documented by social workers investigating homes where the environment was described as psychosocially inadequate.” (13)

So is a little Chiropractic philosophy education with the loving touch of an adjustment all that is needed for health?

The prior question would suggest that a Chiropractor merely has a positive effect on the emotional health of the patient and subsequently provides solely a placebo effect leading to healing. So what if a patient seeks Chiropractic care as their last hope for the alleviation of a problem they are facing, which is often the case? Hope is a powerful emotion and can be described as “a dynamic internal process related to the experience of meaning and the realization of life’s possibilities. This realization allows a person to make satisfactory and significant life choices. Hope has also been described as an anticipation of a future that is good and can give a sense of internal peace and freedom. Hope is necessary for a person to set goals and anticipate a positive outcome.” (14) The extra level of care and attention provided in a Chiropractic setting, verses the “just another number” effect often felt in the medical model of care, can surely help alleviate psychological stress, but don’t write off Chiropractic as placebo only just yet.

“The stress response is a natural reaction by the body, against potentially harmful stimuli to enhance the chance for survival. Persistent activation of the stress response can cause changes to homeostatic mechanisms. The study of stress neurophysiology, in the evaluation of the manifestation of disease in the body, suggests that these chronic

changes have detrimental effects on sub cortical structures. Furthermore, there is much scientific support for the notion that chronic activation of supraspinal systems will lead to maladaptation of homeostatic mechanisms, causing the impairment of processes within the body, and ultimately leading to visceral disorders.” (15) The similarity of the prior statement and basic Chiropractic philosophy is undeniable. So is not subluxation just another form of stress, not only physiological, but also psychological in nature as a potential pain generator? Both of which have a detrimental effect on homeostasis and can lead to visceral disorder.

So there you have it! The mind-body connection and its relation to the efficacy of Chiropractic have been successfully made at last. Could it really be that easy? The answer is no, there is much more to consider. Sure, “in the form of neuropeptides and their corresponding cellular receptors, our biological systems (the body) are literally flooded by our cognitions and emotions (the mind). Furthermore, our mind is created anew on a moment-to-moment basis by the interplay of ligands and receptors previously associated with only the ‘body’” (16), as the article from *Alternative Therapies in Health & Medicine* entitled *The Psychosomatic Network: Foundations of Mind-Body Medicine*, co-authored by Candice B. Pert Ph.D., points out. The article continues:

“Other anatomical locations, both inside and outside the brain, were found to be ‘nodal points’ of neuropeptide receptor distribution. The dorsal horn of the mammalian spinal cord, where neurons transmitting information from glands, skin, and other peripheral organs first make synaptic contact with the central nervous system (CNS), enriched with virtually all neuropeptide receptors. Thus, the entry point within the CNS for filtering somatosensory information is replete with neuropeptide receptors, and similar nodal points were found in virtually all locations in the brain where sensory information enters the nervous system. Another receptor-rich locus is the periaqueductal gray region of the brain stem, which is hard-wired to limbic/emotional brain structures by neuronal pathways and has been shown to modulate pain thresholds. (16)

Dr Pert continues, "A major nodal point of pain transmission is the periaqueductal gray region of the midbrain, which is filled with opiate receptors, making it a control area for pain. Yogis and other practitioners of Eastern meditative and breathing disciplines have demonstrated their ability to vastly alter pain perception. It is conceivable, even likely, that these individuals gain access to the periaqueductal gray region, consciously resetting their pain thresholds.

Deeper questions concern the nature of mind – that presumably nonmaterial, nonphysical substrate of observable processes characterized by the flow of information throughout the bodymind. The word 'soul' is still assiduously avoided by academic scientists. But what animates the neuropeptides in their flow patterns through the body? What animates the receptors? These flexible cell-surface molecules vibrate, shimmy, and even hum as they change shapes, awaiting arrival of their matching ligands. The entire healing system is propelled by chemical energies, but to reverse the usual question: What is the immaterial substrate of these ceaseless biochemical reactions? Rachel Naomi Remen refers to the 'life force', heretical psychoanalyst Wilhelm Reich spoke of 'life energy', and poets and theologians conjure an *élan vital* and 'spirit'." (16)

She happened to forget D.D. Palmer and Innate (spirit) at the end there, but the idea is clearly portrayed. This all coming from a highly regarded scientific researcher with an outstanding international reputation in the field of neuropeptide and receptor pharmacology and chemical neuroanatomy, and she is even bold enough to bring the idea of soul or spirit into the mix.

It can be said, and is even starting to be scientifically proven, that the mind and body work harmoniously. Forming the bodymind, in Dr. Pert's words, or Innate as Chiropractic would have it. Furthermore, it is the integration of the body and mind that comprises the soul or spirit. But how does it work? What is the mechanism? It surely is a form of energy. It can be easily argued that all we really are is a conglomeration of trillions of cells, each with their own energy, that work in unison as one big happy family of cells. The flexible surface molecules of the cell receptors that vibrate, shimmy, and

hum in anticipation of neuropeptides may be the key to understanding and brings up the idea of vibrational energy, or resonance.

“A demonstration in classical physics is resonance between two tuning forks (A and B) that vibrate at similar rates. If one tuning fork (A) is struck, a second tuning fork (B) some distance from A will begin to resonate (make sound), especially if B is identical in shape, size, and substance. A dynamic energy systems interpretation requires that we reinterpret the relationship between tuning forks A and B as interactive, dynamically coupled, and connected. Tuning fork A does not simply act upon B – it interacts with B. A and B are connected through the air (they are also connected electromagnetically, but we will ignore this for the time being). Because A and B are connected, when the energy from A begins to move B (vibrate it), B begins to generate a sound (energy), which returns to A. Therefore, B begins to vibrate A shortly after A begins to vibrate B. This implies that the functioning of A (measured by the sound A generates) will be modulated in some complementary ways by the functioning of B (e.g., measured by the sound B generates). Moreover, these dynamic interactive effects will emerge and change over time in a complex and profoundly important way (e.g., they will create “memory”). Hence, resonance can be reinterpreted as synchronized dynamic interaction. Implications of this simple idea in alternative medicine and healing should be clear.” (18)

Could something as simple as a subtle misalignment of boney anatomy, or subluxation, actually have an effect on every cell of the body to the detriment of homeostatis? From the book *Bodymind*, “In reality, every cell in your body is both structurally and functionally related to every other cell in your body. Similarly, all your thoughts, beliefs, fears, and dreams are dynamically connected within the structure and

function of your psyche. I would also like to suggest that your cells and your thoughts are more directly interconnected than you probably believe at present.” (19) And could this really all be related to vibrational energy in each cell of your body used to communicate with one another? It is really starting to become a matter of personal perspective that transcends the ability of science to prove.

Look within your heart and see what perspective seems true to you. “It is common to speak of learning or knowing things ‘by heart.’ Is this simply a misplaced metaphor, or is there some significance to this choice of words? If all cells store information, if the heart is especially involved because of the centrality of its location and connections, and if the heart is especially involved in emotion, then memories – especially implicit emotional memories – may literally involve the heart in addition to the brain.” (18) If science can develop sophisticated enough listening devices, is it possible we may one day be able to hear a heart cell crying out for a thoracic spine adjustment? Or maybe you think that the direct byproduct of lower gastrointestinal function is getting laid on really thick now and here we go, back into some more Chiropractic mumbo-jumbo?

Hold on, we’re not quite done with science yet, as Alex Hankey Ph.D. tells us in his article *Are We Close to a Theory of Energy Medicine?*:

“Gariaev’s 1994 discovery of electronic resonances in DNA, which may couple to acoustic resonances implies that under critical regulation, quantized fluctuations continuously switch DNA expression between on and off states at a quantum level. This process almost certainly creates superpositions of the on/off states, transforming their information states into quantum information states. If this is true, regulation of living cells functions according to the laws of quantum information: they function as quantum biocomputers.

Another equally important consequence of critical regulation is that the quantized fluctuations will couple to resonant acoustic vibrations, thus affecting the electronic resonances and their associated rf/microwave

transmissions. The ideas presented by Curtis and Hurak result in a possible explanation for the observed effect of vibrational medicines on electromagnetic frequencies at acupuncture points and vice versa.” (20)

The advancement in the field of quantum science may be able to further prove the efficacy of Chiropractic and many other complementary and alternative medicines throughout all the ages, but the heart of healing needs not to have proof, but rather just belief alone suffices. Do we really want to let our beliefs on health be driven by a science that looks at us as merely quantum “biocomputers”?

There has to be something more. Could it be the divine spark of life that D.D. Palmer spoke of so many years ago? Isn't the union of mind and body what comprises spirit, or Innate, if you so prefer? “Before leaving for the private sector in early 2006, Candace Pert, Ph.D. researched "new paradigm" healing at the Georgetown University Medical School where she was a professor of Physiology and Biophysics. Her research reveals how the "bodymind" functions as a single psychosomatic network of information molecules which control our health and physiology. Candace's work fuses Western science with Eastern philosophy to promote new ways of optimizing health.”(17) She has further made a “quantum” leap in her article from her website *God as a Field Interfacing the Spirit World and Our Own Minds*:

In 2004 I appeared in the film *What the Bleep Do We Know* and spoke as a serious scientist lending my research background to the notion that we create our own reality. In 2006 I wrote *Everything You Need to Know to Feel Go(o)d* with my lifelong friend Nancy Marriott and in it I explored the further reaches of science and spirituality, another *Bleep* theme.

Most provocative of recent developments has been my “coming out” as a scientist to embrace what I experience as God. Some increasingly vocal hardcore atheists, who fail to make a very important distinction between spirituality and religion, are claiming their way of thinking should be the cornerstone of modern medicine and biology. True, the religion vs. science battle has waged for the past three centuries, but in my new book,

I talk about a “new spirituality” that has nothing to do with the Church, but is grounded in more mystical roots. The God I embrace is within me and within us all, manifesting as our oneness, our love and our power. I dare to say that there is a bio-molecular basis for these qualities and experiences, and that when we are in these states of consciousness, we feel *good*.

Some misread my title because they didn't see the play on “good/God.” If people want simply to feel good and not embrace their spirituality, they should go to other books. I'm more interested in the bigger picture that brings together human emotion, physical reality and a co-created universe. The heart of science is feminine. Many who can't embrace a partnership with God are either looking through a dominantly male perspective, wanting objectivity, rationality and separation to rule the day or have rejected religion because of its association with family-induced emotional scarring (all potentially reversible!) in childhood and teen years. God is not rational, something to be proven beyond a doubt. God is closer to a feeling -- we sense a field that is mysterious, theoretical and undetectable by the scientific method I still passionately embrace. And we can use this field of infinite possibilities or God (as I prefer) to make our dreams come true in a dance totally consistent with the laws of science!” (21)

### Conclusion

Many may say belief is best left to the realm of religion or spirituality and has no place in science. But just like a human body is an integration of cells, a resonant symphony of life, Chiropractic is an integration of philosophy, science, and art. Holistic and vital at its heart, one aspect of Chiropractic care is just as important as the other, and as a whole, that is where the power of healing resides. Chiropractic is the belief in Innate (spirit) within all things and through which Universal Intelligence (God) is able to express itself, of course facilitated immensely by being as subluxation-free as possible. I have to agree with Dr. Pert, “The God I embrace is within me and within us all, manifesting as our oneness, our love, and our power.” This does not make Chiropractic a religion, just a really go(o)d way to achieve optimal health.

To conclude, with wisdom far older than Chiropractic gleaned from an article on psychoneuroimmunology:

*“As it is not proper to cure the eyes without the head, nor the head without the body, so neither is it proper to cure the body without the soul.”*

*(Socrates, 400 BC) (22)*

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