

The Evolution of Palmer's Metaphors and Hypotheses

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ABSTRACT

The pre-scientific assumptions and testable propositions of chiropractic have always been in flux. The earliest evolution of chiropractic metaphors and hypotheses, however, has been obscured by the unavailability of most of D.D. Palmer's writings from before the turn of the century. Viewed in combination with Palmer's later publications, these writings provide a glimpse of the founder's conceptual evolution from magnetic to chiropractic to chiropractor. The incompatibility of some of Palmer's assumptions with those of science is noted.

KEY INDEXING TERMS: chiropractic, history of chiropractic

INTRODUCTION

One aspect of philosophy in science is the use of metaphors to guide theory development, research and application. Metaphors are those pre-scientific concepts and assumptions which, although not necessarily testable themselves, provide an intellectual context for testable propositions. For instance, scientists adhere to the notion of an orderly universe of causes and effects, and believe that the relationships among causes and effects are potentially discoverable and testable by means of the scientific method. These beliefs are not testable by the scientific method, but may give rise to testable propositions (i.e., hypotheses).

In addition to the assumptions shared by all the sciences (such as causation), particular sciences adopt idiosyncratic metaphors and root constructs which guide research efforts in particular fields. The construct of mind, for example, guided much of primitive and early scientific theory, research and practice in psychology, and only in this century has begun to be replaced or supplemented by Skinner's radical behaviorism. Similarly, the Newtonian notion of a mechanical universe guided the science of physics for several centuries until replaced by the idea of relativity. The metaphor of disease provides an excellent example of a root construct within the applied science of medicine, and helps to illustrate how fundamental and rarely questioned some pre-scientific constructs may become. Although no one has ever seen a disease, nonetheless this metaphor guides and directs the lion's share of health care theory, research and application.

Like other sciences chiropractic has adopted a variety of root metaphors which direct the activities of its practitioners and investigators. Exemplary are notions such as the supremacy of the nervous system, the human organism's capacity for self-repair and self-regulation, and the idea of reciprocity between the structure and function of the body. Unlike many other disciplines, however, many chiropractors have taken pride in the notion that the metaphors and derivative theories of the first chiropractic philosopher are immutable truths. Subluxation, for example, whether construed as a metaphor or a testable theory, has often been suggested as a dictum of chiropractic without which the profession could not survive. Similarly, the construct of Innate Intelligence, whether viewed as metaphor, theory or gospel, has been advanced as an incontrovertible tenet of chiropractic, and has spawned a rigidity of thought that has become a barrier to scientific and philosophic development in the profession.

This hardening of the categories is indeed ironic when viewed from the perspective of early chiropractic history. The founder of chiropractic appears to have been at least as fluid in his thinking as many of his professional heirs. D.D. Palmer repeatedly altered his metaphors and hypotheses during the 17 years of his chiropractic career (1896-1913; see Table 1). Sadly, the flexibility in his intellectual evolution seems to have been lost to many of his successors, and for a variety of reasons. "Old Dad Chiro" must share some culpability for this, since his self-declared authority in all matters of chiropractic philosophy, theory and practice was a dogmatic stance intended to stifle dissent (or intended, at least, to protect his brand name: chiropractic). Political forces have also operated to harden dogmatic attitudes within the profession: in the face of a continuing survival struggle with organized medicine chiropractors have been reluctant to challenge the ideas that bind them together politically (1). When up to one's elbows in alligators, one doesn't worry about water temperature; in the face of continuing criticism from medicine, chiropractors have been reluctant to engage in the sorts of self-criticism and self-analysis from which genuine philosophy and science must grow.

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Table 1 about here

An additional factor which may have encouraged a static chiropractic mind-set is the general lack of appreciation of early chiropractic history. Many seem unaware of the numerous variations in chiropractic thought that D.D. Palmer underwent during his brief career as the founder of chiropractic. This general lack of awareness of the evolution of chiropractic ideas may be attributable partly to the anti-intellectualism which has permeated much of the profession (2). Just as important, however, may be the lack of access to D.D. Palmer's earliest writings on chiropractic. Without the ability to learn how Palmer's notions of magnetic healing progressed through several versions of chiropractic, the profession has been left to imagine that chiropractic somehow sprang into existence full-grown on that day in early 1896 when Harvey Lillard received his first adjustment.

Does the reader think that 1896 is a typo? We have long been taught that Mr. Lillard's first encounter with chiropractic took place on that magical date, September 18, 1895. But perhaps not. Following is, to my knowledge, the first published account of the Harvey Lillard case; it appears in the January, 1897 issue of Palmer's advertising newspaper, *The Chiropractic* (3):

DEAF SEVENTEEN YEARS

I was deaf 17 years and I expected to always remain so, for I had doctored a great deal without any benefit. I had long ago made up my mind to not take any more ear treatments, for it did me no good.

Last January Dr. Palmer told me that my deafness came from an injury in my spine. This was new to me; but it is a fact that my back was injured at the time I went deaf. Dr. Palmer treated me on the spine; in two treatments I could hear quite well. That was eight months ago. My hearing remains good.

HARVEY LILLARD, 320 W. Eleventh St., Davenport, Iowa

Although the date of Mr. Lillard's first adjustment (and/or of the first chiropractic adjustment, whomever received it) may be trivial, the document from which it is drawn is not. In the past few years the notorious elevator shaft at Palmer College in Davenport has yielded up a number of documents (3-8) from D.D. Palmer's days as a magnetic healer and his early development of chiropractic (1896-1902). These and later sources help to clarify the conceptual metamorphosis that the founder underwent as his "boy," chiropractic, took shape. Review of these documents and Palmer's later writings may help to soften attitudes about the supposedly unchanging character of chiropractic metaphors and theories.

The Magnetic Manipulator:

D.D. Palmer began his career as a magnetic healer in Burlington, Iowa in 1886 (9, p. 43; 10). His decision to become a healer apparently derived from his interests in "Christian Science, Faith Cure, Mind Cure, Metaphysics, Magnetic and Osteopathy"; he tells his readers that he had "taken lessons and studied" all of these (6, p. 1). B.J. Palmer would later relate his father's interest in phrenology, and that DD had been a "demonstrator" (seminar instructor) of this art (11). He was presumably also influenced by the Caster family, who operated a very large and successful magnetic healing clinic and infirmary in Burlington at the time. Although an avid reader of books on spiritualism and Theosophy (12), D.D. Palmer was also a self-taught student of biology, and had acquired quite a collection of animal bones, a forerunner of the later human osteological collection which would become so well known within and outside the profession. Terrett (13) has noted an impressive range of citations in Palmer's 1910 volume, *The Chiropractor's Adjuster*; Donahue (14) has counted "several hundred references to over fifty of the best medical textbooks of the time" in the pages of the *Adjuster*.

Like the Casters of Burlington and "magnetic-manipulator" C.A. DeGroodt of Clarinda, Iowa (15), Palmer believed that he had a special "gift for Magnetic Healing for 25 years", and that he could pour off his own personal "vital magnetism" or "life force" into diseased organs to effect a cure (4). This notion of vital energy was a derivative of the magnetic theories of healing which had been imported from the European traditions credited to Anton Mesmer, M.D. However, DD believed that he practiced a superior form of magnetism; his treatments were more "specific" than the non-diagnostic magnetic methods of his competitors. He made this distinction clear in a short essay entitled "Massage and magnetism":

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"...Many so-called magnetics are massage healers. While the masseur is rubbing or slapping all over the body he is unconsciously throwing into his patient his vital force, with the disadvantage of a great waste of vitality because it is scattered over the whole body instead of into the organ or part diseased" (4, p. 3).

In one of the many testimonials Palmer published in his advertising circular, *The Magnetic Cure*, a medical physician, Dr. Livezey, characterized the future chiropractor's work:

"He heals the sick, the halt, the lame, and those paralyzed, through the medium of his potent magnetic fingers placed upon the organ or organs diseased and not by rubbing or stroking, as other 'magnetic curers' do....Dr. Palmer seeks out the cause, the diseased organ upon which the disease depends, and treats that organ. Magnetics generally treat all cases alike, by general stroking, passes or rubbing. I think Dr. Palmer's plan is much more rational, and should be the most successful" (4).

The future founder of chiropractic was confident of his abilities as a magnetic healer. Although he stated his limitations as he saw them, the range of conditions he would treat was broad:

"I treat successfully the following

DISEASES:

"Rheumatism of any kind, neuralgia, the various kinds of stomach ailments, diseases of the liver, kidneys, bowels, bladder spleen, heart, throat, and head, male and female diseases, periodical headaches, inflammation of the bowels or bladder, brain fever, lung fever, bronchitis, nervous diseases, shaking palsy, quinsy, running sores, abscesses of the lungs, liver or stomach, catarrh, pleurisy, sprains, lameness caused by injuries, asthma, malaria, dyspepsia, female weakness, diabetes, chronic diarrhoea, constipation, loss of strength and vitality, eczemas, indigestion, erysipelas, dropsy, diphtheria, some diseases of the eye and ear, painful menstruation, piles, incontinence of urine or bed-wetting, consumption, lupus, cancers and tumors when not too far gone, and some cases of paralysis. I give no medicines, you do not have to wait months to see a change. Three to five treatments usually shows you what I can do. I treat *causes*, not effects. This Vital Magnetic Power of curing disease is sufficient to heal any disease when we know how.

"I do not claim to cure all diseases, but I now treat and cure many diseases which I had not thought of doing five years ago.

"Medicine and medical doctors are necessary; we cannot get along without them. But they cannot cure everybody. Neither can I. I especially invite those who have tried all other remedies and have failed to find relief" (4).

Fundamental to his later practice of magnetic healing and the early practice of chiropractic was Palmer's development (16, p. 20) of the technique of nerve tracing, by which he "treated nerves, followed and relieved them of inflammation" (10). The sources of this assessment strategy are uncertain; perhaps Palmer was aware of the practice of nerve palpation, a method discussed in the British medical literature at least as early as 1891 (17). Nerve tracing involved digital probing of the body surface to elicit pain over affected nerves; Palmer may also have believed that he could sense the excessive heat and vibrations that an inflamed nerve supposedly radiated. His nerve-tracing procedure during his magnetic healing days and early chiropractic practice presumably was similar to the method later described by BJ Palmer (18). Lerner (11) suggests that the technique of nerve-tracing may have provided the conceptual link between Palmer's magnetic practice and his first theory of chiropractic. Palmer had been interested in trying to understand why he sometimes detected multiple sites of inflammation in a patient. Perhaps in the process of detecting inflamed tissues through palpation he considered the anatomic linkage between these multiple sites; his later writings hint at this:

"Chiropractic was not evolved from medicine or any other method, except that of magnetic. For nine years previous to the discovery of adjusting vertebrae, I was practicing magnetic healing. During that time I had developed much which afterwards became a part of the science of Chiropractic. For example, I treated (as I supposed) the spleen for cancer of the breast, effecting a cure. Now I see that I relieved the nerves in that region of inflammation. There was 'nerve tracing' in its infancy" (16, p. 111).

Palmer's magnetic strategies clearly had a strong vitalistic and spiritual flavor to them, and yet he also sought to practice from a scientific/biologic base. He construed "animal magnetism" as a gentler form of electricity which could

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be employed to re-vitalize diseased tissue. In describing "female weakness," he mentions loss of "vital tone" of the abdominal muscles, which causes a sagging of the abdominal contents (4, p. 4). Palmer's earliest chiropractic ideas similarly sought to understand disease in terms of the bio-physics of the day. In contrasting magnetic healing with chiropractic Palmer likened inflammation to an axle turning in its bearing box, and suggested that although magnetic treatment could cool inflamed tissue, chiropractic manipulation could prevent the friction believed to cause inflammation:

"How do Magnetic and Chiropractic treatments differ? If a journal heats we pour on water to cool it; in the human machine we pour on magnetism to relieve inflammation. With the chiropractic treatment we adjust the journal and box so that they will not heat; in the human machine we adjust each part to its proper place so that all works in harmony without friction" (8, p. 1).

At this early stage of chiropractic theorizing Old Dad Chiro clearly and repeatedly likens the human body to a machine, and believes that displaced anatomy is the cause of inflammation and disease:

"Our healing is done entirely by the hands; there are no drugs used; you can eat or drink what you please within reason. We use no electrical batteries, no instruments. Any one can step into our treating rooms. There you will see in each a table, two stools, and the magnetic manipulator. The diagnosis and treatment is often done inside of five minutes. We find what is wrong - perhaps some bone, muscle, or ligament needs replacing, some nerve stretched, or blood vessel compressed. By having a knowledge of the anatomy of the human machine we can locate the exact spot where the wrong is which causes the trouble. Disease is only a result of inharmony, something wrong" (3, p. 3),

and:

"The cause of disease is a mechanical obstruction to natural functions. The human mechanic can remove and adjust that cause by his knowledge of anatomy and a highly cultured sense of touch" (3, p. 2),

and:

"When Dr. Palmer examines you he knows just what is wrong. He will tell you just where the displacement or obstruction is and whether he can put such in order. He can tell you just what he expects to accomplish by each move, the nerve, artery or vein he wishes to free, or the bone, ligament or muscle he wishes to replace" (3, p. 3)

and:

"A human being is a human machine and like a machine, would run smoothly, without any friction, if every part was in its proper place. If every bone, every nerve, and all the blood vessels, muscles, etc., were just right, there would be nothing wrong. We look the human machine over and find what parts are out of place, why the blood does not circulate freely to all parts, why the nerves cry out with pain" (5, p. 1).

Additionally, at the earliest stage of chiropractic theorizing "a chiropractic" (not yet a chiropractor) is a mechanic who provides a therapy involving manipulation of the body. The therapeutic nature of Palmer's early chiropractic is made clear early on:

"A THERAPEUTIC SCHOOL

"We are establishing a school where we can explain intelligently why certain manipulations produce certain results, the direct causes of disease, and how to cure those diseases by natural methods" (3, p. 1),

The man-machine metaphor is used throughout Palmer's writings in the period from 1897 through 1902. We should also emphasize that at this early stage of theoretical development Palmer believed that the friction, vibration and heat that produced inflammation could derive from any type of displaced anatomy, not just osseous impingements on the nervous system. Palmer's first chiropractic paradigm was clearly as broad as Andrew Taylor Still's concepts of osteopathy. For instance, Still employed the same man-machine metaphor:

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"The human body is a machine run by the unseen force called life, and that it may be run harmoniously it is necessary that there be liberty of blood, nerves and arteries from their generating point to their destination" (Still, quoted in 19, p. 20-1)

Palmer's concern to maintain unobstructed circulation is seen in his description of the cause and cure of cancers:

"An eminent English writer comes very near the truth when he suggests that "the beginnings of cancer have to be sought for in the disturbances of the apparatus and process of secretion." The cause is an obstruction to the blood circulation and an injury to certain nerves. Show us a case of cancer - no matter in what portion of the body that cancer may be - and we will at once show you two injuries which obstruct the blood circulation and injure certain nerves. It is this combination of injured nerves and obstructions which cause cancers" (3, p. 2).

Despite the similarity in the breadth of chiropractic and osteopathic theory and scope of practice, an apparent difference is found in their rationales for manipulative intervention. Still's writings reveal a belief that the brain is a pharmacopeia, an innate drug store, and that if the circulation is maintained unobstructed, these endogenous substances will restore and maintain health. Palmer, on the other hand, while no less concerned with maintaining unimpeded bloodflow, sought to do so in order to avoid friction, the perceived source of inflammation. This conceptual difference is not included in Palmer's earliest efforts to differentiate his chiropractic from his Missouri neighbor's osteopathy. Instead, in response to growing confusion between osteopathy and chiropractic and to criticisms that Palmer had "stolen" osteopathy from the "lightning bonesetter" of Kirksville, Palmer initially emphasized methodological rather than theoretical/metaphorical differences. Although not explicitly stated, he seems to point to the distinction between long-lever manipulation vs. short-lever adjustments in his 1899 advertisement:

"Some Questions Answered

"...Are your treatments the same as the Osteopath? The Osteopath and the Chiropractic both aim to put in place that which is out of place, to right that which is wrong; but the movements are entirely different. The Chiro. is ten times more direct in the treatment and its efficiency, making cures in one-tenth of the time than an Osteo. usually does" (6, p. 1 and 7, p. 1).

Osteopathic criticisms of Palmer and his followers continued to mount, perhaps prompting Palmer to search for or devise additional distinctions between the two clinical arts. By 1902 Old Dad Chiro added a vague reference to conceptual differences to the above paragraph:

"Are your treatments the same as the Osteopath? The Osteopath and the Chiropractic both aim to put in place that which is out of place, to right that which is wrong; but the *pathology, diagnosis, prognosis* and movements are entirely different. The Chiro. is ten times more direct in the treatment and its efficiency, making cures in one-tenth of the time than an Osteo. usually does" (8, p. 1). [*emphasis added*]

It is not clear how Palmer's 1902 version of chiropractic differed from osteopathy in terms of pathology and diagnosis. However, it may be that a conceptual reduction, from adjusting to free any displaced anatomical part to adjusting to disencumber the nervous system only, had begun to gel in DD's mind. On the other hand, Solon Massey Langworthy, a 1901 graduate under Palmer, would establish in September, 1901 the Cedar Rapids Chiropractic Cure and School (later renamed the American School of Chiropractic and Nature Cure), begin to publish the first chiropractic journal (*The Backbone*) in October, 1903 (20), and advance a traction-table remedy for the enfeeblement of old age by 1904 (21). Langworthy in 1904 emphasized keeping the "oval windows" (intervertebral foramina) wide open so as to permit "brain force" to reach all end-organs (21), but cannot be credited as the first to suggest that chiropractic care would prolong life (8, p. 2). Whether Langworthy's emphasis on the nervous system reflected the teachings he received under Palmer or his own creativity is unknown to this writer.

Palmer continued to employ the man/machine metaphor in 1902: "I look the human machine over and find what parts are out of place, why the blood does not circulate freely to all parts, why the nerves cry out with pain" (8, p. 1). However, the man-machine analogy he offered had begun to emphasize the nerves: "...the human body is a fine, sensitive piece of machinery run throughout all its parts by nerves..." (8, p. 2). Additionally, the testimonials he offered in his 1902 advertisements are predominantly cases of neural dysfunction. On the other hand, his evolution to

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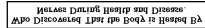
what might be called second-stage chiropractic is not clearly demarcated, and Palmer continues to refer to the freeing of obstructed circulation.

Also by 1902, the magnetic manipulator of 1897 has become a "chiropractic manipulator" (8, p. 2). The concept of therapeutics is no longer mentioned, but Palmer has not yet begun to formally distinguish between therapies vs. chiropractic intervention. On the other hand, the idea of adjusting causes rather than treating effects permeates his rhetoric, and sounds rather similar to his "specific" magnetic practices of old:

"...We don't look for an imaginary something and then try experimental specifics. We find displacements which obstruct natural functions. The medic doesn't look for obstructions but uses his damnable drugs to deaden and stupefy the action of the whole system of secretion and excretion and thereby obstructs action of all the vital channels....A human being should be examined at least once a year, and if any part is found out of place adjust it, and use as much good sense in doing so as you would in repairing a watch, an organ or a steam engine..." (8, p. 2).

Intelligence and Heat by Nerves:

The year 1903 marked a turning point in chiropractic theory. Although the first published account of this turning point may not have appeared until December of 1904 (when the Palmer School published Volume 1, Number 1 of *The Chiropractor*), the date of Palmer's determination of the supremacy of the nervous system is marked by "discovery." This discovery supposedly precipitated a narrowing of theory: from displacement of any body part (including circulatory obstruction) to an exclusive concern for the integrity of neural function. According to the account in *The Chiropractor*, which may have been composed by BJ Palmer:



"It will be of interest to "The Chiropractor" reader to learn how Dr. D.D. Palmer discovered that the body is heat by nerves, and not by blood.

"In the afternoon of July 1, 1903, in suite 15 of the Aiken block, Santa Barbara, Cal., D.D. Palmer was holding a clinic. The patient was Roy Renwick of that city. There were present as students, H.D. Reynard, Ira H. Lucas, O.G. Smith, Minora C. Paxson, A.B. Wightman and M.A. Collier, in all told, eight witnesses.

"The patient, A.R. Renwick, had the left hand, arm, shoulder and on up to the spine, intensely hot. Dr. Palmer drew the attention of the class to the excessive heat condition of the portion named; the balance being normal in temperature. He then gave an adjustment in the dorsal region which relieved the pinched nerve on the left side, also the excessive heat of the left upper limb; but he had thrown the vertebra too far, which had the effect of pinching the nerves on the right side, and immediately causing the upper limb to be excessively hot. He asked the class, "Is the body heat by blood or by nerves?" he then left them for two or three minutes. He returned and asked them, "Is the body heat by blood or by nerves?" The class unanimously answered "Nerves." Thus was this new thought originated.

"The above circumstance is substantiated by a letter written that evening to the doctor's son, B.J. Palmer, D.C., also several following letters which further explained that the caloric of the body, whether normal or in excess, was furnished by calorific nerves. These letters were placed with other original writings in one of the ten bound volumes in order to prove the autobiography of Chiropractic from its birth. Here are the original writings which show beyond the shadow of a doubt who originated the principle of Chiropractic. The doctor's son anticipated that some sneak thief would try to appropriate the credit of originality, and would desire to rob his father of the honor justly due him, thus, his reason for compiling his original writings." (22).

Several rhetorical changes, familiar to chiropractors today but new to chiropractic at that time, appeared in 1904. Although Palmer continued to employ the metaphor of the patient as a "human machine" (23, p. 18), the term adjustment had replaced manipulation as the name for the chiropractic intervention, and adjustment was portrayed as decidedly "non-therapeutic":

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"The human machine had been disabled and obstructed. When all parts had been properly adjusted, placed in their normal position, health was restored; because all functions were being performed in a natural manner..." (23, p. 18);

and:

"...Therapeutic methods give remedies to treat the effects. The Chiropractic idea is that the cause of disease is in the person afflicted, and the cure consists in correcting the wrong that is producing it." (23, p. 9);

and:

"...Therapeutical methods can only treat effects. Causes cannot be treated; they must be made right by adjustment." (23, p. 17).

Old Dad Chiro's abhorrence for the "mixing" of adjustive and other health care methods is also in evidence at this time. Palmer had graduated enough students to have developed a number of competitor theorists, such as Solon M. Langworthy, D.C. (21), A.P. Davis, M.D., D.O., D.C. (15, 24), and later, Willard Carver, LL.B., D.C. (15, 25). The alternative concepts and practices they suggested would receive extensive and continuing criticism from Old Dad Chiro, who argued that:

"...Chiropractic is distinctly a science differing from all other modes of healing; the less it is mixed with therapeutical remedies the better." (23, p. 4),

and:

"There are many who claim to practice Chiropractic who know but little or nothing of it. The discoverer and developer has been heard to say, 'It came near getting away from me.' It is therefore the purpose of this book and the parent school to teach this modern science unmixed. Those who desire to practice it with other methods have a right to do so, but if they call the mixture Chiropractic, they will hear from us publicly thro our monthly journal." (D.D. Palmer, quoted in 26, pp. 38-9).

The 1903-04 period also witnessed the introduction of Palmer's distinction between the "educated" and the "innate." Apparently, at this early date these terms had acquired neither the anthropomorphic nor the theological significance that Old Dad Chiro would later imbue them with. In 1904 "innate" and "educated" (spelled without capitalization by Palmer) were employed as adjectives to describe Palmer's subdivision of the nervous system (27); the innate and educated nerves had not yet assumed mental characteristics and identities. Old Dad Chiro would later indicate that he had penned his first article on *Innate Intelligence* as early as 1904 (16, p. 641) or 1905 (16, p. 639), and Donahue (12) identifies two letters from Palmer students, published in the March 1905 issue of the Palmer school's journal, *The Chiropractor*, which briefly mention Innate. However, Zarbuck (28, 29) reprinted what he suggests as the "Original Innate Intelligence article by D.D. Palmer 1906," the year of Palmer's incarceration in Scott County Jail, and Donahue (12) similarly credits the first publication on Innate Intelligence to *The Chiropractor* of February, 1906. Presumably, it was this same article which B.J. Palmer republished in his 1906 *The Science of Chiropractic* (26, pp. 109-14).

Although this seminal piece (26, pp. 109-14; 28, 29) does not mention the divine origins of the Innate (i.e., *Universal Intelligence*), Innate by 1906 is clearly construed as a distinct personality who cohabits the patient with *Educated Intelligence*. The latter was conceived of as "wholly acquired - learned by experience"; these two "persons" within the patient were believed to be unaware of one another. At this stage of theoretical evolution the anthropomorphization of the innate and educated nerves is readily apparent:

"...The Innate and Educated are two separate intellects....In all organized living beings endowed with sensation, the innervation, assimilation, circulation and respiration are under the control of **and** managed by the Innate, except in cases where the action of the Innate nerves are affected by being pinched and pressed upon, causing abnormal function..." (D.D. Palmer, 1906, quoted in 28)

THE CHIROPRACTOR'S ADJUSTER

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Following his forced departure from the Palmer school in 1906 and several unsuccessful attempts in 1907-08 to establish new schools of chiropractic in Oklahoma City (the Palmer-Gregory School and the Fountain Head School), Old Dad Chiro relocated to Portland, Oregon in late 1908 (9, pp. 118-20). On November 9, 1908 Palmer and his new partner, Leroy M. Gordon, D.C., founded the D.D. Palmer College of Chiropractic (30, pp. 2, 31), which offered a 2-year course of instruction that included chiropractic theory and methods, "minor surgery, obstetrics, forensic jurisprudence and a full course of dissection" (30, p. 58). With Palmer as Editor and Gordon as Manager (later replaced by John E. LaValley, D.C.), the pair began to publish the bi-monthly journal, *The Chiropractor Adjuster*. Much of the contents of this periodical would eventually comprise Palmer's classic 1910 volume, *The Chiropractor's Adjuster: the Science, Art & Philosophy of Chiropractic*.

The Chiropractor Adjuster, as its name implied, was intended as the instrument by which Old Dad Chiro would correct/adjust the mistaken ideas about chiropractic that he found in so much of the chiropractic literature. Donahue (14) would note of the consolidated 1910 *Adjuster*:

"...Palmer was relentless in 'adjusting' all manner of error in the profession. No error was too insignificant to draw his attention. Even simple business cards or patient education pamphlets were not safe if he felt they misrepresented chiropractic. Misuse a word and you were liable to be corrected from several of the dictionaries he used. Make factual errors about anatomy or physiology and you would suffer numerous citations from noted medical authorities."

The journal also provides the first glimpses of what might be construed as DD's consolidated second version of chiropractic. Although the process of revision had perhaps begun with his 1903 reduction of theoretical scope to nervous system only, not until the 1908-10 era are all of the components of what might be construed his final theories clearly in place (see Table 1). By this period chiropractic had become a "philosophical science" (30, p. 14), and Palmer had clearly abandoned his earlier (3,5) machine metaphors in favor of the vitalism that had originally led him into magnetic healing:

"A machine is an inanimate mechanical contrivance operated by and designed to produce some mechanical effect; whereas, metabolism consists of a group of phenomena, which convert foodstuffs into tissue-elements (assimilation), and complex substances into simple end-products (dissimilation).

"A human body is not a mill or machine. Health or disease are not manufactured products, they are conditions..." (31, p. 28)

and:

"...There is no similarity between living bodies which possess functions and machines by which goods are manufactured. Functions are vital acts for accomplishing vital phenomena....To attempt to demonstrate the vital acts of the human body by the working of machinery is futile...." (16, p. 160).

The *Adjuster* also provided numerous clarifications of DD's revised concepts of subluxation. He repeatedly corrected those who persisted with his own original (1897-1902) concepts of obstructive pinching of nerves

"...Osteopaths talk much of the obstruction of the circulation of the blood. Chiropractors do not understand that nerves are obstructed. Nerves may be impinged, causing a repressed or an excited condition, a lack of or too much carrying capacity of energy..." (32, p. 37),

and:

"...It has never been proven that subluxated vertebrae pinch, squeeze or compress nerves as they pass through intervertebral foramina..." (32, p. 44),

and:

"...I doubt very much that nerves are ever pinched, squeezed or compressed anywhere. Nerves cannot be impinged between any two bones, vertebrae or other joints..." (30, p. 49),

and:

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"The cause of nearly all diseases is an *over-supply* of nerve force; therefore, we have fever." (31, p. 60),
[emphasis added]

and:

"An impingement, a pressure against a nerve is never mechanical obstruction.

"An impingement does not obstruct. It irritates in a large share of diseases, and excites functional activity beyond a normal degree" (16, p. 161).

Palmer's notion of "tone" (16, p. 7) provides a theoretical bridge between Old Dad Chiro's concepts of vital (Innate) force and subluxation. Tone, the neurally-mediated health of individual cells and body parts, was construed to originate in the life force known as Innate Intelligence, and to be disrupted by impingement upon nerves. Such impingements, rather than obstructing nerve flow (as in BJ's foot-on-the hose notions), caused an increase or a slackening of tension in the nerve, thereby altering the vibrational rate of impulse transmission. By the 1908-10 period Palmer seemed to think of the nerves as a meshwork stretched over the bony framework of the body; the normal tension of the nerves was determined by the proper alignment of the skeleton. Palmer had come to believe that subluxations *usually* produced an *increase* in nerve tension, thereby accelerating mental (vibrational) impulses to end-organs, which resulted in increased "molecular vibrations," friction, heat and inflammation. In this respect, Palmer's 1910 chiropractic had retained much of his original theory: as ever, chiropractic was predominantly a theory of inflammation. (Too little nerve tension, also a product of slight joint displacement, was thought to produce hard tumors).

The 1908-10 **period** also saw several embellishments of Innate theory. Palmer made explicit his belief that the life force which drove the individual was a component of the Intelligence of the universe, or God. As Donahue (33) notes, Palmer offered a complex theological mechanism that involved the soul as something distinct from the spirit:

"That which I named innate (born with) is a segment of that Intelligence which fills the universe, this universe, all wise, is metamerized, divided into metameres as needed by each individualized being. This somatome of the whole, never sleeps nor tires, recognizes neither darkness nor distance, and is not subject to material laws or conditions. It continues to care for and direct the functions of the body as long as the soul [life] holds body and spirit together." (16, pp. 491-2),

and:

"Innate is a part of the Creator. Innate is the Creator of man before as well as after birth. Mother Innate builds before birth - the individualized, personified Innate after birth. Innate is a part of The All Wise. Innate (Spirit) is a part of Universal Intelligence, individualized and personified. Innate desires to assist the Chiropractor in making a correct diagnosis. The Universal Intelligence, collectively or individualized, desires to express itself in the best manner possible. It has been struggling for countless ages to improve upon itself- to express itself intellectually and physically higher in the scale of evolution. Man's aspirations should be to advance to a superior level, to make himself better, physically, mentally and spiritually. This marvelous existence of many systems, harmoniously associated and controlled by the I AM, constitutes the duality of man. The spirit was a living intelligence before it was united with the body. It will continue a living, intelligent entity after it is separated from it." (16, p. 691).

Despite the obvious religious character of this bio-theosophy, Palmer felt that the non-denominational character of his spiritual views were not in conflict with any chiropractor's individual theological preferences; he apparently recognized little conflict between religion and science. Donahue (12) suggests that Old Dad Chiro did not intend to establish a new religious sect, but rather to legally protect the fledgling profession by bringing the practice of chiropractic under the protection of the religious exemption clauses of many of the medical practice acts then in effect. This strategy paralleled the replacement of old technique jargon, such as diagnosis, manipulation and treatment, with legally defensible terms such as analysis and adjustment (John A. Howard, D.C., quoted in 34). Although the Founder considered chiropractic a philosophical science which "in time will lift the veil which obstructs the view of the life beyond" (16, p. 491), he would also note that "It [is] the business of religion to prepare you for death; of science to show you how to live. Religion asks, 'Are you prepared to die?' Science asks, 'Are you prepared to live?'" (31, p. 52). Unlike religion, Palmer's chiropractic was clearly in the life business. To his credit, Old Dad Chiro

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acknowledged that "Chiropractic may be practiced without the knowledge" of his Innate philosophy (16, p. 691); perhaps this may be interpreted as allowing that chiropractic science could be meaningful even if divorced from Palmer's "New Theology" (16, p. 446)?

The terminological masquerade noted above may account for some of the continuing intra-professional conflict over the meaningfulness of symptoms and the usefulness of diagnosing disease. Donahue (14), for example, notes D.D. Palmer's apparent self-contradiction: he insisted that chiropractors don't treat disease, but also left a lengthy list of named conditions. Palmer himself provides a part of the answer. By 1908-10 he had clearly abandoned that idea that chiropractic was therapeutic, but he was still very much concerned with symptoms: "Chiropractors, as do MD's, recognize a group of symptoms which occur together as constituting a disease. Certain symptoms found collectively are named disease..." (35, p. 25). Symptoms provided clues which directed Old Dad Chiro to the "cause" of disease (i.e., subluxation) by means of nerve-tracing. Predictable symptom patterns (i.e., disease categories) could facilitate detection of the offending joint by directing the chiropractor's attention to likely regions of the spine or extremities. Symptoms also provided a point of origin for Palmer's favorite assessment strategy, nerve-tracing (16, p. 518). It may be recalled that B.J. Palmer's advocacy of the Meric system persisted until the 1924 introduction of the Neurocalometer eliminated the need for nerve-tracing.

With minor exceptions (noted below), Palmer's 1910 *Adjuster* marked the completion of the Founder's metaphoric and theoretic evolution. Ironically, the *Adjuster* reiterated many of Palmer's earlier, magnetic healing constructs. Although the magnetic-manipulator/chiropractic of old had developed a respect for science apparently as a consequence of his Theosophical study (12), he would ultimately abandon his machine metaphors in favor of the spiritualism that had seemingly attracted him to magnetic healing in the first place. Palmer the magnetic-turned-mechanic would return in the final decade of his life to the vitalism from which his healing practices had originated.

THE (POSTHUMOUS) CHIROPRACTOR

Published by his widow in Los Angeles in 1914, D.D. Palmer's final written offering is the collection of essays known as *The Chiropractor* (not to be confused with the journal of the same name that had been published by the PSC since December, 1904). *The Chiropractor* offers little if any further evolution of Palmer's thinking; it is better thought of as an epilogue to the 1910 *Adjuster*. In this sense, the work is helpful because of its greater organization relative to the patchwork quilt that made up DD's first volume. *The Chiropractor* is especially helpful in offering further explications of Palmer's thinking on Innate philosophy and the nature of the subluxation.

The chiropractic lesion had undergone considerable conceptual development since its introduction by Palmer thirteen years before, and much to his chagrin. Whereas Palmer had initially viewed the chiropractic lesion in terms of pressure "caused by the luxation or displacement (partial or complete) of the bones or by contraction of the muscles drawing on or across the nerves" (21), Langworthy had introduced the notion that enfeeblement in old age was due to nerve compression secondary to degeneration of the intervertebral discs and narrowing of the intervertebral foramina (11, pp. 343-50; 21). Lerner (11) credits Langworthy with narrowing the scope of chiropractic practice from the manipulation of any displaced part to concern for spinal lesions only. Langworthy's partner and dean at the American School of Chiropractic in Cedar Rapids, Iowa was Oakley G. Smith, who had graduated under D.D. Palmer in 1899 (36). Smith further deviated from Old Dad Chiro's early teachings by introducing the concept of the "ligatite," in which neural interference and circulatory obstruction were believed to result from contracted ligaments. His teachings, about which he and Palmer agreed there was little similarity to chiropractic, led to the establishment of the separate profession of naprapathy.

These unauthorized innovations in theory prompted Palmer to clarify his concepts, as exemplified by his writings in the 1908-10 era. However, *The Chiropractor* of 1914 offers perhaps the clearest discussion of Palmer's subluxation. He reiterates that the lesion is not caused by a bone-pinching-nerve phenomenon in the intervertebral foramen, but rather rather by the tensing or slackening of a nerve secondary to subluxation of the articular surfaces of a joint. Interestingly, he mentions the stretching of arteries due to subluxation of the articular surfaces of joints, but attributes no pathophysiological significance to this. Palmer also emphasizes that vertebrae (meaning the vertebral bodies) do not subluxate; only articular surfaces are capable of subluxation:

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"Nerves are never pinched or impinged upon in the foramina. Foramina are never narrowed. WE DO NOT ADJUST THE VERTEBRA. The vertebra itself, so far as a chiropractor knows, is never displaced, dislocated or subluxated.

"Any extreme movement of the articular surfaces enlarges the foramen or foramina, causes the nerves and blood vessels to become stretched, irritated, increasing its carrying power.

"Nerves are never shut off by the closure of the foramina. There are no dams or obstructions that restrict. Impulses are never interrupted.

"Reducing the luxated intervertebral articulation; diminishing the displacement of the articular processes, replacing the two articular surfaces, returns the enlarged foramen to its normal size, removes tension and irritation. Irritated nerves cause muscular contraction. The location and amount of disturbance depends upon the portion of the nervous system involved." (37, pp. 94-5).

Palmer's posthumous offering also elaborated upon the spiritual components of his theory. Unlike Smith, Paxson and Langworthy (38), whose *Modernized Chiropractic* had spoken of the brain as the source of life, Palmer's Innate Intelligence was seen to inhabit all parts of the body, and was believed to communicate with the material world through *any* nerve ganglia (not merely spinal or brain ganglia):

"The founder of chiropractic has located the spirit in man, found its abiding place to be throughout the entire body, a position from which each and every nerve ganglia may be used for receiving and forwarding impulses." (37, p. 11).

Palmer's first book had suggested that his "religious plank" had been grafted onto "the framework of Chiropractic" (16, p. 642), an idea that implies Palmer's recognition of its non-essential relationship to his scientifically testable propositions (e.g., the value of adjusting). He does mention a "bounden duty" in the 1910 *Adjuster*:

"Knowing that our physical health and the intellectual progress of Innate (the personified portion of Universal Intelligence), depend upon the proper alignment of the skeletal frame, prenatal as well as postnatal, we feel it our right and bounden duty to replace any displaced bones, so that the physical and spiritual may enjoy health, happiness and the full fruition of our earthly lives." (16, p. 635).

But where Palmer in 1910 had allowed that chiropractic could be skillfully practiced without regard to his theology, *The Chiropractor* of 1914 speaks only of the "Moral and religious duty of a chiropractor" (37, pp. 1-12). Moreover, Palmer had settled upon a spiritual epistemology for his theories and methods:

"The method by which I obtained an explanation of certain physical phenomena, from an intelligence in the spiritual world, is known in biblical language as inspiration. In a great measure The Chiropractor's Adjuster was written under such spiritual promptings....A person may be a conscientious devotee of any theological creed and yet still be a strict, upright, exalted principled practitioner of chiropractic." (37, pp. 5-6).

In his final writings Palmer seems to have rescinded his previous flexibility concerning the theological component of his biology. On the other hand, this same essay also makes clear his concern to protect the practice of chiropractic under the religious clauses of the medical practice acts in several states, which he names: California, Kansas, Virginia, Washington and Illinois (37, p. 1). Palmer was presumably unaware that his efforts to legally shield the profession by distinguishing between "subjective" vs. "objective religion" had rendered his theories incompatible with the epistemology of science. He had substituted religious metaphors for scientifically testable propositions and offered spiritual revelation as his source of knowledge.

CONCLUSIONS

D.D. Palmer repeatedly changed the a priori assumptions and hypotheses which comprised his vision of chiropractic. Exemplary are his switch from vital magnetism to machine metaphors and later to the spiritualism of his final version of chiropractic, and the reduction of theory from a concern with any friction-producing anatomical displacement to bone-pinching-nerve to nerve impingement and resulting changes in tone. At each stage of this embryologic process he spoke authoritatively about how much superior his current concepts were relative to their predecessor, and maintained that he alone, the "Fountain Head of Chiropractic," had the right to define chiropractic.

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Former students who offered Palmer's earlier concepts or derivatives thereof repeatedly provoked his written criticism, and only occasionally did he acknowledge that his own conceptual metamorphosis was responsible for some of his students supposed "errors."

A variety of concurrent events seemingly provide explanation for some of the metamorphosis in Old Dad Chiro's thinking. Threatened with prosecution for the unlicensed treatment of disease, Palmer's magnetic manipulation became non-therapeutic adjusting to remove "causes." Scorned in the osteopathic literature for his supposed "theft" of A.T. Still's theories, Palmer sought to differentiate the two professions, and eventually abandoned his earlier concern for circulatory obstructions. Defeated and imprisoned in 1906 for unlicensed practice, Palmer embellished his spiritual explanations of life (Innate) into a religious justification for chiropractic, and eventually sought "authority" for his views and practice methods in the realm of spiritual inspiration. Although we can never know how much of this conceptual evolution might have occurred in the absence of these external forces (i.e., medicine, osteopathy, the law), the evolution of chiropractic thought in Palmer's lifetime does seem to foreshadow similar processes among his professional heirs (e.g., the varying scopes and definitions of chiropractic among the states, x-ray definition of subluxation in medicare regulations). Much of chiropractic ideology seems to have been devised in courtrooms (39) and legislative halls rather than or in addition to chiropractic clinics and laboratories.

Old Dad Chiro surely deserves credit and honor for offering the seminal and several revised versions of chiropractic ideas. However, this acknowledgement should be balanced by a recognition of several thorny problems that Palmer's principles created. The theoretical and technique authority he reserved to himself was and is incompatible with scientific epistemology, as are the spiritual insight, rationalism and private, uncritical empiricism he offered in support of chiropractic validity and effectiveness (40, 41). Palmer's insertion of the untestable metaphor of Innate Intelligence into his potentially testable formulations (e.g., value of adjusting, nature of the lesion) placed his ideas outside the realm of science, and has been a continuing source of derision (33).

Ironically, much that is potentially testable in Palmer's theories has been forgotten by chiropractors. Langworthy's and subsequently B.J. Palmer's metaphor of "pressure on the hose" has replaced Old Dad Chiro's belief in vibrational nerve transmission, aggravated nerve tension and altered tone. Many if not most chiropractors today seem unaware that D.D. Palmer's chiropractic was a theory of inflammation. Whether or not Palmer's theories would stand up in light of present day knowledge of neuroanatomy and physiology remains to be seen. Surely any attempt to scientifically evaluate Palmer's seminal hypotheses will require that several of his anti-scientific principles (40, 41) be abandoned; Old Dad Chiro himself offers precedent for this sort of philosophical change. Just as certainly, the scientific investigation of D.D. Palmer's notions will require chiropractors to distinguish between metaphors and hypotheses, to study the early history of chiropractic and to attempt to understand the founder in the raw.

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Table 1: D.D. Palmer's concepts during four periods of publications

<u>Concept:</u>	<u>1897-1902</u>	<u>1903-06</u>	<u>1908-10</u>	<u>1914</u>
therapeusis	Yes	No	No	No
method	manipulation	adjustment	adjustment	adjustment
innate/educated	absent	nerves; Intelligence	Intelligence	Intelligence
circulatory obstruction	Yes	No	No	No
machine metaphor	Yes	Yes	No	No
nerve pinching	Yes	Yes	No	No
foraminal occlusion	?	Yes	No	No
tone	(vital)	absent	Yes	Yes
nerve vibration	?	?	Yes	Yes
religious plank	absent	absent	optional?	obligatory?

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December 9, 1991

Dana J. Lawrence, D.C., Editor

Philosophical Construct for the Chiropractic Profession

200 E. Roosevelt Road
Lombard IL 60148-4583

Dear Dana,

Per your request of August 8, enclosed please find three copies of my manuscript, "The evolution of Palmer's metaphor and hypotheses," which I submit for your consideration to publish in *Philosophical Constructs for the Chiropractic Profession*. Please let me know what additional materials you may require.

Thank you.

Sincerely,

Joseph C. Keating, Jr., Ph.D.
Professor

The Evolution of Palmer's Metaphors and Hypotheses

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The Evolution of Palmer's Metaphors and Hypotheses

NOTES

Table 1: Changes in D.D. Palmer's metaphors and hypotheses during four stages of his chiropractic career

Date	Version	Concepts
1897	1	The body is a machine; if any part is displaced, it produces friction. A "chiropractic" provides therapeusis, but unlike a magnetic, the method involves avoiding/preventing friction (by manipulation of displaced parts), rather than cooling off the inflammation by pouring on personal magnetism.
1903	2	The body is a machine, and the nervous system is supreme ("the body is heat by nerves"). Innate vs. educated nerves regulate the body . Subluxation involves nerves which are pinched in occluded foramina. Chiropractor is non-therapeutic
1910	3	The body is not like a machine. The body is regulated by Innate Intelligence, and to a lesser extent by Educated Intelligence. Subluxations involve impinged (not pinched) nerves which create friction and vibration, which alters the tone of cells, thereby producing inflammation or hard tumors. Religious plank is non-essential
1914	4	The body is not like a machine. The body is regulated by Innate Intelligence, and to a lesser extent by Educated Intelligence. Vertebrae do not subluxate, rather articular surfaces subluxate, and produce a <u>widening</u> of the intervertebral foramina. Impingement rather than pinching, produces stretched or lax nerves and alters their tone. Chiropractors have a moral/religious duty to adjust patients

machine metaphor	Y/N
nerve pinching	Y/N
circulatory obstruction	Y/N
foraminal occlusion	Y/N
adjusting	vs. manipulation
innate/educated	absent; nerves; intelligence
tone	Y/N
religious plank	Y/N

"TREAT-(Webster)-To care for medicinally or surgically; to manage in the use of remedies or appliances; as, to treat a disease, a wound or a patient.

"ADJUST-(Webster)-To make exact; to fit; to make correspondent or conformable; to bring into proper relation." (Palmer, 1904, p. ii)

"The cause of disease has been, and is yet, mysterious to the great mass of humanity. Chiropractic has solved the mystery. The old idea, that the cause of disease is outside of man, still prevails in most of the schools of healing, and the cure consists in finding something outside, which by being introduced into the body of the sufferer, will drive the disease out. Therapeutic methods give remedies to treat the effects. The Chiropractic idea is that the cause of disease is in the person afflicted, and the cure consists in correcting the wrong that is producing it." (Palmer, 1904, p. 9)

"The Allopath and the Osteopath agree in that diptheria is highly contagious, readily communicable from one person to another, that Klebs-Loeffler bacillus is the cause. This theory is founded on fermenting spores being transmitted from one person to another as in yeast. In treatment they differ; the Osteopath aiming to do with his hands what the medical man tries to do with his drugs. The Osteopath gives a general treatment which takes five pages to describe, and over an hour of hard work to perform the 200 movements explained. This treatment is to be repeated every six to eight hours.

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"The Chiropractor replaces the displaced vertebra by one move, which takes but a moment. Wherein does the Chiropractor resemble the Osteopath or the Allopath?" (Palmer, 1904, p. 12)

"All actions of the body, whether normal or abnormal, pleasant or unpleasant, whether in health or disease are but the result of nerve sensations. The educated nerves run the acquired movements. The innate nerves run all the functions of the body, whether these actions are natural or otherwise. Diseased symptoms are but decreased or increased normal functions. The normal, medium is health; any deviation either way from that is disease. All ailments are but the result of either repressed or exaggerated innervation, caused by irritation or paralysis of nerves. This excited or depressed condition has as its cause pressure on nerves near their origin." (Palmer, 1904, p. 15)

"...All schools TREAT DISEASES except the Chiropractors. Certain symptoms when associated together are named child bed fever; these symptoms are treated. All therapeutical methods, including Osteopathy, treat the symptoms of puerperal fever. These effects are but the result of abnormal functions, a derangement of the human mechanism, a disturbance of the vital forces.

"Chiropractors find that these disordered functions are caused by occluded foramina in the lumbar region, by a vertebra being displaced during child birth, causing pressure upon these nerves that are deranged. Instead of treating the symptoms, they adjust, put in place, the vertebrae which they find slightly out of line. Therapeutical methods can only treat effects. Causes cannot be treated; they must be made right by adjustment." (Palmer, 1904, p. 17)

"Chiropractors hold that all functions of the body, whether normal or abnormal, are the result of nerve action. That nerves have each their special function to perform. That certain nerves are thermogenic, produce heat, whether too much or not enough, or in normal degree. That pressure upon these nerves deranges their functions. That child bed fever is the result of nerves in the lumbar region being impinged as they emanate from the spinal cord thru the intervertebral foramina." (Palmer, 1904, p. 20)