



Chiselled hands:

A history of manipulative therapy and Chiropractic care

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Narrative abstract: A brief history is given of early manipulation in the form of bone-setting, deriving from Britain, to demonstrate the sophistication of DD Palmer's methods of spinal manipulation which he named Chiropractic.

Palmer not only introduced the use of the spinous process as a lever for his spinal corrections but identified and reported a range of effects gathered as neuroimmunity and neuroimmunology to form his Chiropractic brand of neurobiology. It is shown that Palmer's ideas mirrored those of Cannon, credited with the discovery of the stress response around 1915 and heralded as the father of psychosomatic medicine, and of Koch, one of the founders of bacteriology.

The distinction of Chiropractic from Osteopathy is given, along with a discussion on the opprobrium of medicine as represented by the American Medical Association, described as the 4th arm of American government with its plan to 'contain and eliminate' Chiropractic.

Indexing terms: Chiropractic; competition; containment; DD Palmer; Bone-setter.

'In the near future Chiropractic will be as much valued for its preventative qualities as it now is for adjusting and relieving the cause of ailments.' (1)

DD Palmer, Founder of Chiropractic

Before probing into the long history of the Medical War against chiropractors, there are facts about the art, science, and philosophy of Chiropractic that will surprise you, but essential to understand the absurdity of this skeptical attitude begins with an explanation of the early history of this healing art.

The recorded origin of chiropractic began in 1895 when DD Palmer is credited to have reinvented the art of spinal manipulation or spinal "adjustment," as he preferred. He would later admit that "The Chiropractic method was developed by me, not discovered."²

The art of spinal manipulation, the mainstay of chiropractic care, is certainly not a new healing treatment. Nearly every civilisation from Asia to Europe to

... Chiropractors are unsung heroes with a non-drug, non-surgical vision of health, along with effective tools to help in the current epidemic of neck/back pain and related neuromusculoskeletal disorders stemming from spinal disorders Chiropractic today ...'



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1. Attitudes toward chiropractic health care in Oklahoma," Welling & Company and Oklahoma Chiropractic Research Foundation in cooperation with the Chiropractic Association of Oklahoma, 1984. p. 638
 2. DD Palmer, The Chiropractor's Adjuster: The Text-Book of the Science, Art and Philosophy of Chiropractic (Portland, Oregon: Portland Printing House) (1910): p. 581.

indigenous native societies in the West, (3) such as the Mayan civilisation in Guatemala to Montana's Crow Indian healers, have had '*bone-setters*' who popped, pulled, tramped, twisted, or 'racked' (as DD Palmer described the 'knack' of adjusting) the spine as well as other joints to relieve pain.

Historians have shown that bone-setters have, in a crude way, been treating strains, sprains and other ailments of the spinal column and other joints of the skeletal system since time immemorial. These bone-setters usually belonged to the peasantry, and the art was passed on in the same families from parent to child for many generations. (4)

The history of spinal biomechanics has its origins in antiquity. Egyptian documents written in the seventeenth century BC describe the difference between cervical sprain, fracture, and fracture-dislocation. In ancient Greece, Hippocrates provided recorded more evidence in his book, *On Joints*, written in the 5th Century BC. This described the practice of spinal manipulation by physical means such as traction or local pressure to correct spinal deformities. (5)

During the Renaissance, Leonardo da Vinci (1452-1519) accurately described the anatomy of the spine and was perhaps the first to investigate spinal stability. The first comprehensive treatise on biomechanics, *De Motu Animalium*, was published in 1680 by Giovanni Borelli, who is often called the '*Father of Spinal Biomechanics*.' (6)

A rare book by George Matthews Bennett, *The Art of the Bone-Setter* (London: Thos Murby & Co, 1884) gives an excellent history of bone-setters in England, Wales, and Scotland. One of the earliest English books on bone-setting was *The Compleat Bone-setter* by Friar Thomas Moulton (London: Thos Rooks, 1665:20-21). Throughout Europe, the men and women who practiced bone-setting learned from others and honed their skills through practical experience. The skill was an art taught via hands-on training. (7)

Bone-setter Richard Hutton gained notoriety in London in the 1800s when he relieved the long-standing suffering of the Honorable Spencer Ponsonby, a son of an Earl and a prominent cricket player of the time. It is rumoured that even Queen Victoria, who suffered with migraines, was treated by a spinal manipulator. (8) Queen Victoria was also treated for rheumatic pains with Swedish massage and was so delighted with her results that the Royal Crown rewarded the practitioners with a school called the *Swedish Institute* which opened in London in 1838. (9) History makes clear that hands-on therapies have been used throughout recorded history to provide relief for people suffering with pain, discomfort, and health problems.

While the art of bone-setting has roots in English populist history, the prejudice against manipulative therapy by orthodox medical practitioners also began in England. A case illuminating the beginnings of medical bias towards chiropractic principles and practice concerns Sir Herbert Barker, well known in England in the early 20th Century and the leading bone-setter of his time. (10)

3 WH Dorn, "Indian Lore: Crude Us Of Chiropractic Fundamentals Centuries Ago," *Journal of Chiropractic*. (NCA) 4/3 (1935): 17-8.

4. Scott Haldeman, *Principles and Practice of Chiropractic*, Appleton & Lange, (1992): 4.

5 Haldeman, *Ibid.* p. 7.

6 Sanan Abhay MD, S. Setti Rengachary MD. "The History of Spinal Biomechanics," *Neurosurgery* 39 (1996):657-69.

7 Sanan Abhay, *ibid.* p. 657.

8 *Ibid.*

9 MP Cassar. "Massage Made Easy: 100 Great Ways To Beat Stress, Relieve Aches And Pains And Tone Key Areas Of Your Body," Allentown: People's Medical Society. (1994).

10 BD Inglis, B Fraser, BR Penfold, *Chiropractic in New Zealand*, Report of the Commission of Inquiry into Chiropractic, PD Hasselberg, Government Printer, Wellington, New Zealand (1979):38.

Like most other bone-setters, Barker had no formal medical training and no medical qualifications. He learned the craft of bone-setting from his cousin, and after a period of experience in the provinces he set up practice in London. His autobiography, *Leaves from My Life* (London, 1927) provides a fascinating account of his work. It also presents a fully documented account of the attitude of organised medicine toward 'unorthodox' healers. Barker's work produced a multitude of cures, 'many of them dramatic'. (11)

Although a small number of leading physicians and surgeons supported Barker, considering his reputation and known success, it might have been expected that the so-called scientific medical profession would have been eager to learn from him. Instead, organised medicine fought him persistently, solely because of his lack of formal medical training and, more so, due to the potential economic competition.

Toward the end of his life Barker was asked to demonstrate his techniques to an audience of over one hundred orthopaedic surgeons at *St. Thomas' Hospital* in London in July 1936. The report in the *British Medical Journal* (1936, August, p. 255) gave him great credit, stating 'He displayed in some cases remarkable dexterity...and the warm thanks of the meeting for a most interesting demonstration were conveyed...', but in spite of the 'warm thanks' there was no interest in giving manipulation a recognised clinical status. (12)

Despite this continuing skepticism by the British medical profession, Barker's good work earned him knighthood as recognition of his services to public health. Obviously Sir Herbert's work impressed King George, if not the medical society.

Manipulative therapy gained status in 1952 when British medical author James Mennell, MA, MD, published a textbook, *The Science and Art of Joint Manipulation* (London: J & A, 1952 Churchill Ltd.). His son, John Mennell, MD, some twenty years later would play an important role as a witness in the *Wilk et al. v. AMA et al.* antitrust trial when he testified on behalf of spinal manipulation.

A review of senior Mennell's book mentioned:

'The author has just written his experience in his own honest way in the hope it will help others, both patients and doctors. He writes as if he does not mind if no one agrees with his views, which are arrived at after very careful experience and consideration and are pleasantly controversial. Observations on the unusual, such as the "pyriformis syndrome," will interest many.

Everyone engaged in physical medicine and orthopaedic surgery should study this book. It will interest many others, particularly those impressed by Dr. Mennell's demonstrations. He teaches nothing dramatic, but the subject is a difficult one to describe by writing and difficult to learn from a book'. (13)

Spinal manipulation as a valued healing art is not a new treatment; it is older than many traditional medical treatments. Despite the public acceptance of manipulation and the isolated but guarded praise of Dr Mennell, the medical society would have nothing to do with these manual practitioners who were perceived beneath their social status. The discrimination endured by these early bone-setters was carried over to early chiropractors in the USA.

11 Ibid, p. 38.

12 Ibid, p. 38.

13 J.D.Buxton, Book Review: "The Science and Art of Joint Manipulation. By James Mennell, M.A., M.D." *Journal of Bone Joint Surgery* Br 34-B/4 (November 1952): 721,

The History of Spinal Manipulation in America

Other than lay people who practiced bone-setting, the first academic investigation of this art of spinal manipulation began with Andrew Taylor Still when in 1894 he secured the charter of the 'American School of Osteopathy' in Kirksville, Missouri.

AT Still MD, developed the principles of Osteopathy in 1874. He believed that diseases caused by mechanical interference with nerve and blood supply were curable by manipulation of 'deranged, displaced bones, nerves, muscles, removing all obstructions, thereby setting the machinery of life moving.' (14)

Simultaneously in Davenport, Iowa Daniel David ("DD") Palmer began his health care practice as a magnetic healer in 1886 when he was 41 years old. Apparently Palmer had visited Dr Still at his home, suggesting to some that Palmer had duplicated Still's methods of manipulation. (15)

Palmer would later write that his chiropractic techniques were totally different and that Chiropractic had a different science and philosophy than Osteopathy. The fundamental belief that structure affected function would remain similar for decades until Osteopathy was absorbed by medicine. Palmer did claim to be the first to use the levers of the vertebrae to make specific 'adjustments' to the spine rather than crude, regional 'manipulations' as Osteopaths of his time were doing. This difference in treatment, along with a different neurogenic explanation of health and disease causation, would become a legal turning point in the persecution of Chiropractors.

Palmer admitted in his book, a lengthy 985-page volume, *The Chiropractor's Adjuster: The Text-Book of the Science, Art and Philosophy of Chiropractic* (Portland Oregon: Portland Printing House, 1910; reprinted 1956) that the art of manipulation is rooted in history; moreover, he speaks of a deceased local medical doctor, Jim Atkinson, whose inquisitive work and spirit inspired him in his quest.

'The basic principle, and the principles of Chiropractic which have been developed from it, are not new. They are as old as the vertebrata. I have, both in print and by word of mouth repeatedly stated, and now most emphatically repeat the statement that I am not the first person to replace subluxated vertebrae, for this art has been practiced for thousands of years. I do claim, however, to be the first to replace displaced vertebrae by using the spinous and transverse processes as levers wherewith to rack subluxated vertebrae into normal position, and from this basic fact, to create a science which is destined to revolutionize the theory and practice of the healing art.

'As much curiosity has been expressed in regard to the discovery and development of the basic principle and others which have been derived from it, a brief mention of the manner in which I became acquainted with the underlying principles of Chiropractic may be of interest. My first knowledge of this old-new doctrine was received from Dr. Jim Atkinson who, about fifty years ago, lived in Davenport, Iowa, and who tried during his life-time to promulgate the principles now known as Chiropractic. He failed, not because the principles were erroneous, but on account of the intellectuality of that time was not ready for this advancement.

'Dr. Atkinson has frequently informed me that the replacing of displaced vertebrae for the relief of human ills had been known and practiced by the ancient Egyptians for at least 3000 years.

14 Andrew Taylor Still, *Autobiography, With a History of the Discovery and Development of the Science of Osteopathy*. (New York: Arno Press, 1972; New York Times).

15 Louis S. Reed, *The Healing Cults: A Study of Sectarian Medical Practice; Its Extent, Causes, And Control*, University of Chicago Press, 1932, p. 38.

'Recently I had the honor and pleasure of entertaining my old friend WJ Colville, the well-known traveler, author and inspirational speaker, who gave me the following type-written information concerning the history of the principles which had been given to me by Dr. Atkinson. These axioms, rediscovered and known as Chiropractic, were also known and practiced by Aesculapius and his followers 420 years before the Christian era. Aesculapius was the noted physician of this time who, later, was known as the God of Medicine and Healing. In Greece his doctrines were amalgamated with those of the cult of an older Serpent-God whose function was that of healing the sick with medicine.

'In mythology Aesculapius is represented as a bearded man with an attending serpent. In honor and remembrance of the fact that the principles revealed to me by Dr. Atkinson were direct from the Greeks, Rev. Samuel H. Weed, at my request selected two Greek words, *cheir* and *praxis*, meaning when combined, done by hand. From which I coined the word Chiropractic'. (16)

In his book, *The Chiropractor's Adjuster*, DD Palmer mentions some early recollections of Bone-Setters in American history.

'Natural Bone-Setters¹⁷

'AJ Howe, AM, MD, in his valuable Treatise on Fractures and Dislocations, on page 256, says of these Bone-Setters:

"A few individuals have gotten the credit of being natural bone-setters, but their merits, so far as they go, depend more upon tact than skill; and the prevailing credulity of the people has given them more reputation for ability than might reasonably be expected from the limited success.

"A family by the name of Whitworth, in England, and another by the name of Sweet, in Connecticut, have assumed to possess these wonderful, inborn qualities. For two or three generations, one or more of the male members of these families claimed to possess a secret power for reducing dislocated bones; and not a few persons of average intelligence gave credit to these preposterous assumptions. Any uneducated man with a large endowment of boldness and self-assurance, claiming to be a natural bone-setter, could by giving every disjuncted joint coming in his way, a severe pulling and twisting, accomplish some cures; the success would be heralded far and near, and the failures would pass unmentioned and unremembered, consequently he would soon gain considerable experience in handling defective joints, and if he proved to be a good learner he would acquire considerable skill in his pretended art. Having received no lessons in anatomy and surgery, success even in a single case would be accepted by the popular mind as positive evidence of innate power. Love of the marvelous is so infatuating that every age will have to endure its quota of imposters. However, it is not to be denied that these charlatans have done some good indirectly. The fact that dislocated bones could be reduced by manipulation, without the aid of pulleys and other instruments for multiplying force, led such discreet surgeons as Dr. Nathan Smith [Founder of the AMA] to put the manipulating plan into successful practice.

"The Whitworths, Sweets and others of their order, studiously keep to themselves their plan of operation, though competent observers declare that it is not essentially different from the plan now followed by the most intelligent portion of the profession being aware of their general incompetency in surgical science, these natural bone-setters preferred to

16 Palmer, *ibid.* 11-12.

17 *Ibid.*, pp. 543-49.

keep secret the little knowledge they possessed, hoping to retain this meager advantage over those who in other respects were their superiors. Probably a similar feeling actuated the Chamberlains to keep as a secret in the family a knowledge of the obstetric forceps. Such detested selfishness, by a law unvarying as that of gravitation, will taunt the name of those who in any branch of the healing art, withhold knowledge which accident or genius has placed within their power. Anything in medicine or surgery which will benefit our fellow men ought to be the common property of mankind; and he possesses a sordid spirit who from selfish motives will not promulgate a secret which will ameliorate the condition of the unfortunate. The dabbler in secrets is, by the common consent of all good men branded indelibly with the disgrace that cleaves to the quack and the charlatan.”

DD continues:

‘Howe is the only author, as far as I know, who makes mention of the “bone-setters.” Howe regrets that the medical professionals are so slow to catch on and too arrogant to receive instruction from those whom they regarded as charlatans. Physicians thought it took great force to replace a displaced joint. It is a fact that joints are easily displaced and readily replaced when the subject is not resistant. If the subject is braced by muscular tension against an expectant injury, whether in displacing or replacing bones, much more force is required; in fact, when the subject is well braced by muscular contraction, either the dislocation or reduction of a joint is almost impossible. In time Chiropractors will be given similar credit for ability and ignorance as are the “bone-setters.”’ (emphasis added)

DD wrote how Old Dr Sweet learned his trade:

‘The “Sweet Bone-Setters” live at Sag Harbor, a small town situated at the east end of Long Island, New York. The Old Doctor has been dead for several years, but his children, Steven, Charles and Mary, still follow the business of bone-setting. Many amusing stories are told about the Old Dr. and how he got the knack or talent of setting bones. He replied: “Don’t know; just came to me all of a sudden one day when I had caught chicken and was about to kill it, and the first thing I know, I’d pulled a bone out of place. In putting it back I pulled another out of place, and I pulled another out of place in putting that back. Then, when I’d got ‘em all back in place, I got an idea I’d learn how to set bones and give up farming. So I practiced uncoupling and coupling up the bones of my dog until I learned the right twists for setting all the different bones. Guess I took that dog apart high onto a hundred times, on and off. He got so used to it that he seemed to enjoy it, and I do believe he missed the exercise when I let up on him.’

DD also spoke of these gifted forerunners to chiropractic:

““Natural Bone-Setters” used natural means; that of relaxation and quickness, combined with the know-how made success, that which Dr. Howe calls “tact and skill.” Dr. Howe says that they assumed to possess wonderful inborn qualities. If he refers to their knowledge and skill, they are certainly guilty. Howe, however, admits that these “charlatans” have done some good, that of teaching Dr. Nathan Smith and thru him the medical profession “that a dislocated bone could be reduced by manipulation, without the aid of pulleys and other instruments for multiplying force, the plan now followed by most intelligent portion of the profession”.’

‘It seems a pity that somebody before Dr. Nathan Smith’s time did not take a hint from the Whitworth’s or Sweets, and study out and put in practice a principle of reduction in

dislocations which was demonstrated by those charlatans to have an existence. Perhaps the spirit of the profession was too arrogant to receive suggestions from such a source. Unfortunately for the world, good ideas are often kept from seeing the light on account of the illiberacy of the influential classes.' (18 emphasis added)

DD summarised Dr. Howe's plea to 'take hint' with his personal reprimand:

'It is a pity that the medical professionals are possessed of arrogance instead of liberality; that instead of encouraging and fostering advanced idea, they stifle and discourage advancement; that they only adopt advanced ideas when they are compelled to do so by public opinion'. (19)

Prophetic or not, little did DD Palmer realise how true his words would soon prove to be as the AMA began its campaign to contain and eliminate the chiropractic profession in a medical war unprecedented in American history.

Battle Lines Drawn: Blood vs. Nerves

DD Palmer wrote just one book published before his sudden death in 1913 at the age of 68. His textbook was written primarily for members of his new profession and contains a variety of topics ranging from anatomy lessons, adjusting methods, dialogues with leaders of other spine professions like AP Davis, founder of *Neuropathy*, and AT Still, founder of *Osteopathy*, his responses to letters from aspiring Chiropractors, and anecdotes about his son, BJ Palmer, with whom he feuded with constantly.

DD Palmer was also adamant that chiropractic was dissimilar to either osteopathy or the practice of medicine (allopathy):

'Chiropractic is not a branch of medicine. There is no more resemblance between Chiropractic and medicine than there is between a Chiropractor's office and a drug store'. (20)

Because chiropractors and early osteopaths treated the spine, many people thought the philosophy and methods of these two groups were identical. The difference, however, is much greater in the science as well as the philosophy of these manipulative art forms, and would become a legal linchpin that would determine the fate of the budding chiropractic profession.

DD Palmer himself spoke of the difference between Chiropractic and Osteopathy from his book, *The Chiropractor's Adjuster*.

'Chiropractic Not Osteopathy (21)

Chiropractic is unlike any therapeutic method; in fact it is not therapeutical. Osteopathy is the only system which has similar features, and they, as promulgated by the founders, are as different as day is from night. AP Davis, a graduate under the founders of both systems, said: "The methods of Chiropractic and Osteopathy differ in application and results, as well as in name. There is no resemblance in the treatment and but little in any way except the philosophy. The application of the two is so different that learning either one gives no clue to the other'.

In 1874 AT Still, Founder of *Osteopathy*, stated his observations as follows:

18 Ibid, pp. 543-49.

19 Ibid.

20 Ibid. p. 233.

21 Ibid. pp. 139

'A disturbed artery marks the period to an hour and minute, when disease begins to sow its seeds of destruction in the human body. That in no case could it be done without broken or suspended current of arterial blood, which by nature, is intended to supply and nourish all nerves, ligaments, muscles, skin, bones and the artery itself. The rule of the artery must be absolute, universal and unobstructed, or disease will be the result. All nerves depend wholly upon the arterial system for their qualities, such as sensation, nutrition and motion, even though by the law of reciprocity they furnish force, nutrition and sensation to the artery itself.'

'It will be observed that Osteopathy is founded on the circulation of the blood, whereas, Chiropractic is founded upon the quality of nerve tissues and its ability to transmit functioning impulses. Instead of nerves depending upon the arterial system for their quality of sensation, nutrition and motion, it is a fact, established by Chiropractic that the arterial system depends upon the nervous system for the incentive stimulus which the latter possesses.

'The Osteopath manipulates; the Chiropractor does not. The former uses many movements with the hands, which amounts to manipulation; the latter does his work by one movement, does not manipulate. I here refer to a Chiropractor who is specific, one who adjusts one vertebra with a special purpose. A Chiropractor who adjusts "all up and down the spine" is a manipulator.

'Osteopathic treatment and Chiropractic adjustment have no corresponding features. Osteopathic treatment and Chiropractic adjustment have nothing in common.²²

'The Allopath and Osteopath agree on etiology and diagnosis; the only difference being that the latter tries to do with the hands what the former aims to do with drugs. These two systems contend that diphtheria is an enemy a disturber of the peace; that it is caused by an invasion of bacteria; that there are good and bad bacteria, friends and foes. It is the business of the bacteriologist to devise ways and means whereby he can assist the friendly microbes to drive out or destroy the disease-provoking microorganisms.²³

'You may think Chiropractic is like Osteopathy. If so, go to an Osteopath for a treatment and afterward take a Chiropractic adjustment. You will then not only know there is a difference between them, but you will know just what that difference is'. (24)

To this day, medical science is just beginning to grasp the early concepts of DD Palmer. From DD's book, *The Chiropractor's Adjuster*, let him set the record straight for the uninitiated so you can judge for yourself his concept of health, disease, and the role of spinal adjustments. As you will learn, his concept is a far cry from the germ theory used at the time by his allopathic rivals, and keep in mind this was written over a hundred years ago.

'Chiropractic Defined

'The Philosophy of Chiropractic is founded upon the knowledge of the manner in which vital functions are performed by Innate [God Within] in health and disease when this controlling intelligence is able to transmit mental impulses to all parts of the body, free and unobstructed, we have normal action which is health. (25)

22 Ibid. p. 144.

23 Ibid. p. 145.

24 Ibid, 631.

25 Ibid. p. 399.

'Displacement of any part of the skeletal frame may press against nerves, which are the channels of communication, intensifying or decreasing their carrying capacity, creating either too much or not enough functioning, an aberration known as disease.

'Chiropractors adjust, by hand, all displacements of the 200 bones, more especially those of the vertebral column, for the purpose of removing nerve impingements which are the cause of deranged functions. The long bones and the vertebral processes are used as levers by which to adjust displacements of osseous tissue of the body. By so doing, normal transmission of nerve-force is restored.

'Disease is nothing more nor less than functions performed in either a too great or too little degree. If they are performed in a normal or a natural amount, as desired by Innate, we have health. Pressure on nerves causes irritation and tension with deranged functions as a result. Why not release the pressure? Why not adjust causes instead of treating effects? Why not?' (26)

DD Palmer's use of '*Innate*' cast suspicion upon chiropractic as '*unscientific*' although his use was no different in essence than other health professions, including allopathy's *Vis Medicatrix Naturae*. This phrase is the guiding principle of Hippocratic medicine which is the belief that organisms contain '*healing powers of nature*'. Anyone who believes in God understands there is a vital source of life inside each body, for without it, there is death. But to the medical society, this smacked of quackery.

By the 19th Century, *vis medicatrix naturae* came to be interpreted as '*vitalism*' and became the philosophical framework of homeopathy, chiropractic, hydrotherapy, osteopathy and naturopathy.

Palmer spoke of the vital functions of the body not in religious terms, but in medical terms.

'An, heretofore, unrecognized force which I chose to name Innate, because it unites with the body at birth, performs functions, creates life and produces all action. There are three kinds of functions; vital, vegetative and intellectual. The two former are under the control of Innate; the later is directed by Educated mind.

'Vital functions are those essential to life, such as innervation, circulation, respiration, digestion and calorification.

'The vegetative functions are those which pertain to the nutrition, growth or decrease of the body. They are supposed, by physiologists, to be performed by trophic nerves. They include metabolism, which may be either constructive (anabolic), or destructive (katabolic), micturition, defecation, assimilation, absorption, exhalation, secretion and excretion.

'The intellectual functions are those which run the voluntary movements, those which are sensorial, or distinctively animal, such as the affections, reasoning, formation of ideas, perceptions, locomotion, voice and memory.

'All vital and mental actions depend upon the condition of the nervous system for their expression. Either intelligence can direct its impulses without aberration if the lines of communication are clear and unobstructed by pressure'. (27)

In an attempt to appear scientific, medical ethicists clothed themselves in the cloak of scientism with a total disdain for vitalism. Instead they appeared to be medical atheists who

²⁶ Ibid, p. 408.

²⁷ Ibid. p. 865

inexplicably denied there is an innate healing power. Ironically, their denial of an innate vital force appears to be their own folly.

DD Palmer defined Innate:

'Innate is that vital principle, the heretofore unknown intelligence which, associated with matter controls the manifestations and properties of organized bodies, thereby distinguishing organized from inorganic matter'. (28)

Here is a compilation by Palmer of other terms for Innate:

'To express the individualized intelligence which runs all the functions of our bodies during our wakeful and sleeping hours, I chose the name Innate. Innate – born with. And so far I would not change it except to replace it with the name of the individualized entity which really is a part or portion of that All Wise, Almighty, Universal Intelligence, the Great Spirit, the Greek's Theos, the Christian's God, the Hebrew's Elohim, the Mahometan's Allah, Hahnemann's Vital Force, new that's Divine Spark, the Indian's Great Spirit, Hudson's Subconscious Mind, the Christian Scientist's All Goodness, the Allopath's Vis Medicatrix Naturae - the healing power of nature'. (29)

Palmer believed this innate healing power could be impaired. He explained in simple details his view of the science of manipulative therapy as best it was known at the beginning of the 20th century, an issue the early bone-setters never pursued – a scientific, organized basis for their art.

'The discoverer and developer of the greatest of all sciences finds but few who are willing or capable of taking in Chiropractic as a science. They prefer to know it as a chance method instead of one which is scientific'. (30)

He was adamant that chiropractic care was much more than merely an effective spinal pain relief treatment. Palmer would later characterise his discovery as '*the lock to which Chiropractic has at last furnished the key.*'

'Chiropractic is not a science because it "stands in public favor," nor because of its "marvelous results."

'Chiropractic is a science because it comprises a knowledge of facts concerning health and disease. This knowledge reduced to law and embodied in a system makes it a science. Knowledge of a single fact or of many facts of several systems does not make a science. Knowledge of many facts concerning one subject, correlated in a system, creates a science". (31)

'Ninety-five per cent of all displacements which disarrange the transmission of motion and sensation will be found to exist contiguous to the exit of nerves from the spinal column. Herein is the lock to which Chiropractic has at last furnished the key. This science has found the cause of disease and by hand adjusting is able to replace articulations to their normal position, thereby freeing any tension on nerves caused by bone pressure'. (32)

Palmer's book is not merely his guesswork about health or the ranting of an uneducated faith-healer, but he gave a thorough accounting of the medical science of the day quoting many medical textbooks and authorities of the time such as medical standards like *Dorland's Dictionary*,

28 Ibid. p. 642.

29. Ibid. p. 493.

30 Ibid. p. 847.

31 Ibid. p. 730.

32 Ibid. p. 724.

McClellan's Regional Anatomy, *Cunningham's Anatomy*, *Gray's Anatomy*, Gould and Pyle's *Anomalies of Medicine*, as well as *The American Text-Book of Surgery*.

DD Palmer discussed the findings of the medical masters of his time on relevant issues pertaining to neuromusculoskeletal disorders in his book. He was never granted the opportunity to demonstrate his methods as did Sir Herbert Barker in England nor was he able to debate these authors in person, such as John Ashhurst, AM, MD, Vice President of the *Philadelphia Pathological Society* and Professor of Clinical Surgery at the *University of Pennsylvania*, and CW Mansell-Moullin, MA, MD, Fellow at *Pembroke College, Oxford*.

John Ashhurst, AM, MD, Vice President of the *Philadelphia Pathological Society* and Professor of Clinical Surgery at the *University of Pennsylvania*, continues to assert:

'One great prospective danger in strains of the spine is the possibility of the inflammation developed in the fibrous structures of the column extending to the meninges of the cord. This I have several times seen to occur. It is particularly apt to happen when the strain or twist occurs between the occiput and the atlas or axis in these cases a rigid tenderness is gradually developed which is most distressing and persisting and evidently of an inflammatory character. Or the paralysis may remain incomplete, being confined to the nerves that are connected with that part of the spine that is the seat of the wrench, one or other of their roots either having suffered lesions or the nervous cord itself having been injured in its passage through the intervertebral foramen. Lastly a twist of the spine may slowly and insidiously be followed by symptoms of complete paraplegia, and eventually by death from extravasation of blood into the vertebral canal'. (33)

DD Palmer responded to Ashhurst's comment:

'The pain is greatly increased "by lifting up the head so as to put the tissues on the stretch."

'That sentence expresses the basic principle, tone, of Chiropractic; increased tension - increased pain. Tension above normal - tone -not only causes pain, but abnormal functioning - disease.

'Remember that what a physician calls a sprain is a Chiropractic subluxation. It persists because of slightly luxated vertebrae'. (34)

DD Palmer also responded to the remarks of CW Mansell-Moullin:

'If, as CW Mansell-Moullin, MA, MD, Fellow at Pembroke College, Oxford, says, "The vertebral column may be strained, the smaller (articular) joints between the segments twisted and wrenched," why would not this disarrangement account for much of the diseases following numberless accidents? Moullin should remember that there is a ganglionic nerve chain, on either side of the vertebral column, which serves as a distributing agent for motor and sensory impulses of normal as well as abnormal force. This accounts for "the general tenderness all down the spine, which is such a common symptom in sprains of the back"'. (35)

Despite his inability to debate directly with these prestigious medical men, Palmer went to great lengths to discuss the beliefs of these medical minds in his book, *The Chiropractor's Adjuster*, as a teaching aide to his students and followers in the field. Indeed, his 985-page book

33 DD Palmer, *ibid.* p. 650-51.

34 DD Palmer, *ibid.* p. 651

35 *Ibid.* p. 654-55.

was a testament to his in-depth understanding of human biology and physiology as well as the scientific issues at that time, such as the rift between the germ theorists and chiropractors.

Palmer believed the effect of spinal subluxations upon health focused on his basic principle of tone. Indeed, Palmer postulated that health is not merely the absence of germs, but is actually a function of the quality of the tone in tissue, which is controlled primarily by the nervous system.

'Tone is the source or origin of all life, normal or abnormal, animal or vegetable. Tone is an elastic quality of tissue fiber upon which life depends. Tone is the element, the source of all life; its quality determines the character of life'. (36)

While '*Old Dad Chiro*', as DD Palmer was often called, was actively developing the new-found science and philosophy of chiropractic, the *American Medical Association* (AMA) wanted nothing to do with this upstart profession that was headed by a self-educated man and based on a healing art with a rudimentary science and a vitalistic philosophy that disdained the use of drugs and surgery.

The medical animosity and professional ridicule began in the first decade of the 20th century in a war between clashing ideologies. The medical profession was shocked by DD Palmer's pronouncements, especially when they arose from an unknown magnetic healer.

'My writings were the first to announce that 95 per cent of all disease are the result of slightly displaced vertebrae which press against nerves causing impingements, the result being too much or not enough functioning, and that the other five per cent are from luxated joints elsewhere than in the spinal column; for example, those of the feet, causing corns and bunions'. (37)

Palmer's exaggeration smacked of quackery with its cure-all claim, an issue that haunts the entire profession to this day. Morris Fishbein, chairman of the AMA, author of *Medical Follies* (New York, Boni & Liveright, 1925) and the mastermind behind the persecution of chiropractors, used this one statement to fuel the fire against chiropractors:

'The great fallacy of all the "systems" of disease and their healing lies in this "all or nothing" policy. When that policy runs counter to demonstrable facts the result is invariably disaster'. (38)

However controversial, DD Palmer was not entirely wrong with his upstart science, if not certainly hyperbolic in his claims. Palmer's postulates now can be seen as the beginning of neurobiology, a concept virtually unknown by a medical profession at that time obsessed with the germ theory as the cause of most diseases.

While Fishbein criticised Palmer's premise as '*counter to demonstrable facts*', medical science could not disprove his new science either since neurobiology, the concept that biological functions were controlled by the nervous system, was still embryonic. However, pioneering medical researchers would soon speak of similar discoveries, but political medicine ignored this coincidence.

The most renowned case treated by DD Palmer was his first patient, that of a janitor in his building, Harvey Lillard, who was reportedly cured of deafness after a spinal adjustment. This epiphany propelled DD into further investigation of this serendipitous event; he wasn't satisfied that Lillard was helped, unlike the lay bone-setters of the day, he wanted to understand why he improved.

36 Ibid. p. 879.

37 Ibid. pp. 189.

38 Morris Fishbein, MD, *Medical Follies*, New York, Boni & Liveright, 1925, p. 58.

Lillard stated:

'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 news 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'. (39)

Of course, the local medical establishment in Davenport railed against Palmer. Here is an excerpt from a letter to the editor from JA DeArmand, a local medical doctor in Davenport, Iowa:

'An ex-coal digger does business near my office and he seeks cases by offering to bet at satisfactory odds that he can cure cases, but nobody disturbs him, for he gets only the superstitious and ignorant. People who believe in spooks and other forms of occult things are taken in by such mountebanks, but what of it? Many people are taken in by the various goldbrick devices modified to suit the cases, and it is just as well. I am losing no sleep because foolish people try to get wealthy by shortcut methods. When my profession makes itself competent to give honest and good value for reasonable compensation, we have done our duty, and the rest of the world can buy experience at market value if they choose'. (40)

Palmer met constant medical opposition and was often accused of being a 'crank' and a 'quack.' When Palmer was still practicing his magnetic healing before he developed his Chiropractic venture, an article appeared in the 1894 edition of the local paper, *The Davenport Leader*:

'A crank on magnetism has a crazy notion that he can cure the sick and crippled with his magnetic hands. His victims are the weak-minded, ignorant and superstitious, those foolish people who have been sick for years and have become tired of the regular physician and want health by the short-cut method...he has certainly profited by the ignorance of his victims ... His increase in business shows what can be done in Davenport, even by a quack'. (41)

This diatribe not only shows the emerging medical chauvinism that typifies the medical society today, but it also illustrates the continuing medical belief that there are right ways to get well and wrong ways to get well, no matter that the patient did, in fact, get well.

War of Words: Germs vs. Nerves

Admittedly it would be disingenuous to ignore the questionable statements by the founder of chiropractic, DD Palmer, who in 1910 made the claim '*that 95 per cent of all disease are the result of slightly displaced vertebrae which press against nerves causing impingements.*' (42) After his death, his son BJ Palmer would exacerbate the skepticism with his own exaggerations and political tomfoolery.

Hyperbole aside, certainly any attempt to offer a new paradigm in healthcare is difficult, especially one as complicated as chiropractic. Being on the cutting edge of a new science often

39 H Lillard, "Deaf seventeen years," *The Chiropractic*, Palmer DD, ed 17/3 (January 1897) Palmer Archive, Davenport.

40 V Gielow. (1981) 64-5, *Davenport Leader* (May 13, 1894).

41 D Colquhoun, "Doctor Who? Inappropriate Use Of Titles By Some Alternative 'Medicine' Practitioners," *The New Zealand Medical Journal* 121/1278 (July 2008): 6-10.

42 DD Palmer, *The Chiropractor's Adjuster: The Text-Book of the Science, Art and Philosophy of Chiropractic* (Portland, Oregon: Portland Printing House, 1910; reprinted 1956), pp. 189.

becomes the bleeding edge as the upstart Chiropractors quickly discovered. Indeed, DD Palmer became a man ahead of his time, and Chiropractors ever since have felt the brunt of his progressive principles that started a war of words with a medical profession entrenched in the germ theory.

To explain health as a function of neurobiology is difficult considering it is the most complex system in the study of human physiology. Little did the public or the medical profession at that time realise the importance of neurobiology to explain many chronic maladies that could not be explained by the prevailing germ theory of the medical profession.

As John Jay Triano, DC, PhD would admit almost a century later '*It's not what we do, but what we say about what we do that matters most.*' (43) Without research into the neurobiological basis of chiropractic, saying anything scientific would remain difficult and speculative.

DD Palmer's basic premise explained the fundamental role of the nervous system on health and disease. As simple as it now seems, this was a radical departure from the germ theory.

'All parts of the body are intelligently connected by the bodily functions acting as a unit through this nervous system. It is through the nerves that all functions and actions are conducted; they are the channels of communication through which life is manifested and maintained'. (44)

Most people today fail to understand that the founder of chiropractic was not looking for the cure to neck and back pain, '*rheumatism*' and '*lumbago*', ailments helped greatly by spinal manipulative therapy. Instead, DD Palmer strove to explain chronic degenerative diseases and even infectious disorders from the standpoint of the nerve system rather than the blood system as did the allopaths and osteopaths.

This quandary was addressed by DD Palmer who wrote not only of his first patient, Harvey Lillard who suffered from deafness, but also of his second case who suffered from heart trouble.

'Shortly after this relief from deafness, I had a case of heart trouble which was not improving. I examined the spine and found a displaced vertebra pressing against the nerves which innervate the heart. I adjusted the vertebra and gave immediate relief ... Then I began to reason if two diseases, so dissimilar as deafness and heart trouble, came from impingement, a pressure on nerves, were not other diseases due to a similar cause? Thus the science (knowledge) and art (adjusting) of Chiropractic were formed at that time. I then began a systematic investigation for the cause of all diseases and have been amply rewarded'. (45)

We begin to see the underpinnings of the framework of Palmer's chiropractic brand of neurobiology in both neuroimmunity and neurophysiology. In his book Palmer explained in a rudimentary manner the role of an impaired nervous system upon these disorders.

Although the medical profession had placed great faith in the germ theory and their sulfa drugs and smallpox vaccines, these pharmaceutical remedies did nothing to explain the onslaught of degenerative disorders like cancer, heart disease, diabetes, allergies or arthritis.

A multitude of disease known by other names are due to an impairment to the whole or part of the nervous system.

'Each portion of the body is under the control of the "Nerve Centers" located in the brain and spinal cord. Disease of every organ or portion of the body may, and very

43 Association of Chiropractic Colleges-Research Agenda Conference Plenary Session, Las Vegas 2005.

44 Palmer, *ibid.* p. 761.

45 *Ibid.* pp. 18-19.

frequently do, arise from defect in the nerve centers rather than in the organ itself. (emphasis added) Thus a weakness or irritability in the nerve centers of the brain causes dizziness, dullness, headache, neuralgia, etc.

'Pains in all parts of the body are also caused by an irritated condition of the nervous system, so that headache, stomach ache, neuralgia, rheumatism, etc., are nervous disorders and will be relieved when the nervous system is restored to its normal condition'. (46)

The notion of the germ theory versus natural immunity were also embryonic considerations in the medical ranks. This issue was not lost on this original chiropractor who believed many of these infectious ailments were not solely due to the presence of germs as commonly believed. He wrote that:

'Two hundred years ago "superstition ascribed disease to evil spirits, or the displeasure of the divinities."

'Today, "scientific" medicine ascribes it to a bug and proposes to inoculate those who are well so as to protect them from the entrance of the bug'. (47)

Nor did the germ theory explain why some people were more susceptible than others to infectious diseases.

'Here's a problem. If one person who is exposed to smallpox contracts it, thereby proving it to be contagious, does not the fact that those who do not take it, disprove the contagion theory?' (48)

Ironically, Palmer's observation was similar to the famous German researcher who was awarded the *Nobel Prize in Physiology or Medicine* in 1905, Dr Robert Koch, one of the founders of bacteriology and the germ theory along with Louis Pasteur. Koch established four postulates designed to establish a link between a causative microbe and a disease. In time, however, he changed his beliefs, casting doubt upon his strict germ theory.

Koch soon abandoned the main requirement that microorganism must be found in abundance in all organisms suffering from the disease, but should not be found in healthy animals, when he discovered asymptomatic carriers of cholera and, later, of typhoid fever. (49) Koch himself proved in regard to both tuberculosis and cholera, not all organisms exposed to an infectious agent will acquire the infection. (50)

Asymptomatic or subclinical infection carriers are a common feature today of many infectious diseases, especially viruses such as polio, herpes simplex, HIV and hepatitis C. Doctors and virologists admit that poliovirus causes paralysis in just a few infected subjects. As Palmer suggested, the natural immunity of the host is more important than the virulence of the germ, and the key to this immunity, he believed, is the functioning of the nervous system.

DD Palmer joked about the germ theory when he said, '*Some people are too slow to catch a cold*'. (51)

He also chastised doctors and patients alike for '*gambling*' with their health:

46 Ibid, p. 34.

47 Ibid. p. 616.

48 Ibid. p. 756.

49 Robert Koch, "Über den augenblicklichen Stand der bakteriologischen Choleradiagnose" (in German). Zeitschrift für Hygiene und Infektionskrankheiten 14 (1893): 319–33.

50. Robert Koch. "Die Aetiologie der Tuberkulose". Mitt Kaiser Gesundh. 2 (1884):1-88.

51 Ibid. p. 824.

'Physicians give drugs because the patient is not content without them. By giving medicine a regular specified times, the patient is made aware of how time flies. Prescribing is an experiment with the doctor who gives, and the patient who receives the giving and taking is a gambling speculation'. (52)

He also poked fun that:

'The fly is blamed for carrying all kinds of germs. This is one of the medical scape-goats: one of their explanations intended to cover a lot of ignorance. Did you ever watch a fly clean his feet and body? The fly keeps himself cleaner than many of those who talk about him'. (53)

DD included in his book a poem by Paul West that mocks the germ theory.

Germ Proof
by Paul West (54)

*One time the charming Widow Wise was feeling all run down,
So she went to Dr. Antigerm, the best MD in town.
"A wondrous microbe specialist," they said, "and handsome too.
Who knows, my dear, but he might prove a splendid match for you?"*

*The Widow found the doctor in his germ proof office, where
He listened to her symptoms, seated in a germ proof chair;
And as she told her fancied ills the doctor, for his part,
Began accumulating an affection of the heart.*

*Said he, "You know bacteria abounds in every place;
I really must be watchful in so serious a case.
You need most careful treatment, so I'll call each day at two
And take you for a little drive to see what good it will do."*

*So their acquaintance ripened, and the Widow liked the way
He watched her case so carefully and kept the germs away.
Why, when she'd go to dine with him, in hopes it would do her good.
They'd go to special restaurants which served but germ proof food!*

*One day he sent her roses, and she said, "How odd they smell!"
"Ah, yes," said he, "I've had them boiled and nicely smoked as well;
For microbes lurk in roses and you must take care, you see."
"Ah," thought the silly Widow, "how my doctor thinks of me!"*

And then he started hinting of how much he'd like a wife.

52 Ibid. p. 624.

53 Ibid. p. 792.

54 Ibid. p. 676.

*For whom he'd build a germ proof house and lead a germ proof life.
"Now," thought the Widow with a thrill, "he'll next propose, I guess.
He'll offer me his germ proof heart and I shall answer yes."*

*He did, and she accepted him; then raised her blushing face,
Her ruby lips all ready for the kiss and fond embrace.
"Back! Back!" he cried in wild alarm, "There's suicide in this!
No microbes are so fatal as those lurking in a kiss!*

*"Ere we enjoy that labial treat advance your lips, my dear;
I'll spray them with the contents of this atomizer here!"
"Away!" cried she, and glared at him with anger in her eyes.
"TRUE LOVE IS NOT AFRAID OF GERMS!" examined the Widow Wise.*

All jest aside, Palmer offered a totally different perspective of the role of germs in the disease process. Rather than viewing germs as invaders upon a defenseless body, Palmer viewed them as scavengers. There is an old metaphor of unknown origin that says, '*Germs cause disease as much as mosquitoes cause swamps.*' Indeed, what comes first: the mosquito or swamp? Palmer believed it was the swamp, '*decaying matter*' as he mentioned.

'Chiropractors consider the micro-organism a scavenger – not a cause. The Osteopath drops into the time-worn ruts of the Allopaths' antidotes; disease is an invader, a fight on hand. The body a laboratory, it manufactures antidotes to combat disease; poison for poison. This is not Chiropractic. (55)

'Chiropractors look upon bacteria as scavengers who live upon dead and decaying matter. Their existence is as much as natural result as is the mold found in decaying cheese. We understand that necrosed mucous membranes are the result of excessive heat, local inflammation; that deleterious substances act upon sensory nerves causing them to be unduly excited, inflamed. If these affected nerves end in the throat, in persons of a certain age, we have conditions known as diphtheria'. (56)

DD Palmer's concept of infectious disease as a function of the nervous system was also ahead of its time and is known as the field of neuroimmunology, a leading edge science today.

Here is one contemporary definition of neuroimmunology:

'The long-term goal vested in this new field of research is to bridge the gaps of knowledge of how and why different diseases affect people ... Many types of interactions involve both the nervous and immune systems including but not limited to the physiological functioning of the two systems in both health and disease, malfunction of either and or both systems that leads to disorders, and the physical, chemical, and environmental stressors that affect the two systems on a daily basis'. (57)

Palmer believed long before an infection takes hold, for example, the body's natural immunity must be impaired somehow by physical, chemical, emotional, or neurologic stress. He explained that disease is developed, not caught as the germ theorists believed:

55 Ibid, p. 142.

56 Ibid. p. 145.

57 Wikipedia, <http://en.wikipedia.org/wiki/Neuroimmunology>

'Students of Chiropractic should constantly remember that disease is not a thing, but a condition. It is an abnormal performance of certain morphological alterations of the body ... conditions which the body cannot adapt itself to sway the capacities of energy above or below normal, inducing the functional aberrations and structural alterations known as disease. (58)

'We, as Chiropractors, do not believe that evil comes upon us, that we are afflicted with diseases by seen or unseen beings. We find the producing cause within the sufferer, not outside of him. If, by a vertebral luxation a nerve is impinged upon, inflammation created, extending to the twig ends of the nerves, creating boils, ulcers or cancers, we would not look after the afflictor, but, adjust the cause of these conditions. (59)

"... disease is not a thing, but a condition." This clearly differentiates chiropractic from the germ theorists, which explains why the accusations that chiropractors were practicing medicine without a license made as little sense as accusing a Protestant of practicing Catholicism. It also explains why chiropractors have long questioned the validity of vaccines, a position that remains controversial today with adverse reactions such as autism'.

Today evidence is mounting that the immune system and the nervous system are linked in several ways. However, this remains a difficult link to show according to Alejandro Aballay of the Howard Hughes Medical Institute,

'It has been recognized for at least 20 years that there must be bidirectional communication between the nervous and the immune systems. But because of the complexity of the communication network it has been very difficult to prove this connection conclusively.' (60)

One well-known connection involves the adrenal glands. In response to stress messages from the brain, the adrenal glands release hormones into the blood. In addition to helping a person respond to emergencies by mobilising the body's energy reserves, these 'stress hormones' can stifle the protective effects of antibodies and lymphocytes. Cortisol is now known as the "stress hormone" most important since it regulates a variety of important cardiovascular, metabolic, immunologic, and homeostatic functions, but in 1910 it was an unknown factor in the disease process. (61)

Nearly fifty years later, Hans Selye, MD, author *The Stress of Life* (New York: McGraw-Hill, 1956) elaborated on the same theory regarding the relationship of the *General Adaptation Syndrome* to stress, which was heralded as a landmark concept concerning stress and health.

More proof of Palmer's postulates now comes from researchers at the *National Institute of Allergy and Infectious Diseases* who suggest another link between the immune system and the nervous system: hormones and other chemicals that convey messages among nerve cells also 'speak' to cells of the immune system. It appears some immune cells are able to manufacture typical nerve cell products, and some lymphokines can transmit information to the nervous system. 'Moreover, the brain may send messages directly down nerve cells to the immune system. Networks of nerve fibers have been found connecting to the lymphoid organs.' (62)

58 Ibid. p. 358.

59 Ibid. p. 433.

60 "Nervous System Rallies Immune System Forces Against Invading Pathogens," Howard Hughes Medical Institute, Chevy Chase, MD. September 18, 2008.

61 "Understanding the Immune System: How It Works," U.S. Department Of Health And Human Services National Institutes Of Health, National Institute of Allergy and Infectious Diseases, NIH Publication No. 07-5423 September 2007.

62 Ibid.

When Palmer wrote that '*Disease of every organ or portion of the body may, and very frequently do, arise from defect in the nerve centers rather than in the organ itself*', he was, unknowingly, speaking of neuroimmunology, which today is known as the study of the interaction between psychological processes and the nervous system upon the immune systems of the human body. (63)

Ironically, today neuroimmunologists speak of an '*innate immune system*' that protects our bodies from infection. 64

'Innate immune systems provide immediate defense against infection. The innate immune system comprises the cells and mechanisms that defend the host from infection by other organisms, in a non-specific manner. This means that the cells of the innate system recognize and respond to pathogens in a generic way, but unlike the adaptive immune system, it does not confer long-lasting or protective immunity to the host'. (65)

The immune system protects organisms from infection with layered defences of increasing specificity. Most simply, physical barriers prevent pathogens such as bacteria and viruses from entering the organism. If a pathogen breaches these barriers, the innate immune system provides an immediate, but non-specific response.

Neuroscientists now suggest disorders of the neuroimmune system include many autoimmune diseases such as *Crohn's, Graves, endometriosis, type 1 diabetes, lupus, rheumatoid arthritis*; hypersensitivities such as allergies; and immune deficiencies to fight infections. (66)

Of course, this revelation was unknown at the turn of the last century, but DD Palmer was observant to this relationship between the nervous system and physiology, which explains why he joked about germs as the primary causation of infectious disorders.

'We, as Chiropractors, do not believe that evil comes upon us, that we are afflicted with diseases by seen or unseen beings. We find the producing cause within the sufferer, not outside of him. If, by a vertebral luxation a nerve is impinged upon, inflammation created, extending to the twig ends of the nerves, creating boils, ulcers or cancers, we would not look after the afflictor, but, adjust the cause of these conditions'. (67)

While neuroimmunology deals with the role of the nervous system upon immunity, neurophysiology is the study of the chemical and physical changes which take place in the nervous system that, in turn, controls the function of the major system components of the human body. (68)

According to the textbook, *The Clinical Neurophysiology Primer*, by Andrew S. Blum:

'A branch of neurophysiology describes the function of the major system components of the nervous system of the human body at the system level. The overall nervous system of the body consists of the central nervous system (CNS), and the peripheral nervous system (PNS). The neurophysiology of the CNS studies the function of the brain and spinal cord while that of the PNS studies the function of all the nerves that connect the CNS with organs, muscles, blood vessels and glands. The neurophysiology of the PNS further subdivides into the somatic nervous system (SNS) and the autonomic nervous

63 Michael Irwin, Kavita Vedhara *Human Psychoneuroimmunology*. Oxford University Press. (2005).

64 Alberts, Bruce; Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walters (2002). *Molecular Biology of the Cell*; Fourth Edition. New York and London: Garland Science.

65 Ibid.

66 <http://en.wikipedia.org/wiki/Psychoneuroimmunology>.

67 Palmer, *ibid.* p. 433.

68 Andrew S. Blum "*The Clinical Neurophysiology Primer*" Seward B. Rutkove, Humana Press, 2007, ISBN 089603996X.

system (ANS), with the ANS being further divided by function into the sympathetic and parasympathetic systems'. (69)

The concept of neurophysiology was as foreign to the medical physicians as Einstein's *Law of Relativity* was to traditional physicists in 1916. If you can imagine the difficulty Einstein had in explaining his theory to traditionalists in physics, Palmer faced the same dilemma explaining his theory of neurobiology and the impact of an impaired nervous system upon physiology to skeptical medical rivals steeped in the germ theory.

Again, Palmer's idea was not without merit from medical research of his time. The relationship between neurological stress (physical, chemical, or emotional) and organ dysfunction also began to appear in the medical literature at the beginning of the 20th century. Walter B Cannon MD, a professor of physiology at *Harvard University*, observed in his work with animals the relationship between the effects of strong emotions on the autonomic nervous system.

Cannon was credited with the discovery of the stress response around 1915, and heralded as the father of psychosomatic medicine. He noted that frightening dogs would shut down their digestion, a concept similar to what DD termed '*intense thinking, auto-suggestion, unrelieved change of thought, insufficient rest and sleep*' as potential '*etiological factors*' of organic dysfunction.

Cannon's findings were published in professional journals during the same timeframe as DD Palmer's research for his own book. There is no reference by either acknowledging the other's work, but these two men were definitely on the same path to understanding the role of the nerve system upon health and homeostasis. It is regrettable that these two men did not collaborate on their thesis which found great similarity, certainly when compared to the mainline germ theorists.

Cannon's work took book form in *The Mechanical Factors of Digestion* (New York, Longmans, Green & Co.) published in 1911, and his influential work, *Bodily Changes in Pain, Hunger, Fear and Rage* (New York, D. Appleton and Company) published in 1915, in which he coined the term fight or flight to describe an animal's response to threats. He also discovered the need for mental and physical balance and coined another term, '*homeostasis*' in his book, *The Wisdom of the Body* (Norton, New York, 1932) from the Greek word *homoios*, meaning similar, and *stasis*, meaning position. (70)

Many of the chronic disorders were poorly understood at that time, especially by the germ theorists, and no doubt Palmer's and Cannon's neurophysiologic and psychosomatic explanations shed new light on many ailments.

DD wrote in his book of the relationship between structure and function:

'Physiology is the science which deals with normal energy and its results. Pathology is the science that deals with disease in all its aspects. It includes the study of cause, manifestations and results. The symptoms of disease are the expressions of abnormal functional activity or lassitude.

'Chiropractors are demonstrating the existence of this heretofore obscure, structural change which causes functional aberration. (emphasis added) All functions performed are the result of impulses forwarded thru the nervous structure. Palpation demonstrates that nerves which end in diseased structure are sensitive, rigid, enlarged in diameter and contracted longitudinally. (71)

69 Healthline. <https://epdf.tips/the-clinical-neurophysiology-primer.html>.

70 <http://en.wikipedia.org/wiki/Psychoneuroimmunology>.

71 Ibid. p. 663.

'Traumatism, mechanical injuries, the displacing of any part of the osseous framework, causes pressure upon the channels of impulse communication, thereby deranging the quantity of functioning, which results in conditions we name disease. The kind of disorder—functional disturbance—is determined by the portion of the osseous framework displaced and functioning channels of communication which are subjected to impingement; so that life and health depend upon the extent of the injury and the part of the body affected'. (72)

Clearly both Cannon and Palmer were like-minded in their investigations about the role the nerve system played upon health and disease. It is noteworthy to mention that Cannon was honoured for his discoveries with the Nobel Prize in 1915 while Palmer was ridiculed by the same medical establishment. Medical pride and prejudice may have been responsible for the different reaction to practically similar discoveries.

Certainly the germ theory proponents were at a loss to explain these issues of psychosomatic, neurophysiologic, neuroimmunologic, and homeostatic disorders, but not the first Chiropractor. Over one hundred years ago DD Palmer explained the multi-factorial physiologic factors of his neurogenic concept of disease when he spoke in terms of energy instead of germs:

'When studying the etiology of disease, we should remember that underlying the manifestations of health and disease are the ceaseless, complex vital transformations which supply energy in varying amounts, which maintain life as expressed health and disease.

'Impingements, poisons and intense thinking, auto-suggestion, unrelieved change of that, insufficient rest and sleep, increase or decrease the momentum of impulses. In the study of pathology, we should look to the etiological factors which, by their exciting or debilitating effects, retard or liberate stored up energy, resulting in abnormal functioning and morbid structure'. (73)

Palmer and Cannon were among the first observers to speculate on the aetiology of these neurogenic disorders and certainly their beliefs were foreign to the germ theorists of their time. Indeed, Palmer should be credited with the development of chiropractic science as well as the emerging science of neurophysiology, an accolade he will never receive due to his status as a medical heretic.

If not for his early death and the medical war on chiropractic, Palmer would be seen today in an entirely different light as an innovator of progressive ideas like Koch and Cannon. Unfortunately, like many health pioneers who were not politically-correct in regards to their education and ideology according to political medicine, such as AJ Still and Samuel Hahnemann (founder of Homeopathy), Palmer's contributions would be overlooked and even ridiculed during his time.

Palmer spoke of this medical skepticism in a letter written in 1906 to John F Howard regarding his new school and of his experience speaking at a medical society meeting. (74)

72 Ibid. p. 664-5.

73 Palmer, *ibid.* p. 359.

74 JC Keating, National Institute of Chiropractic Research, Chronology of William Charles Schulze, M.D., D.C. and the National College of Chiropractic, "National College of Chiropractic advertisement." *The Chiropractic Journal (NCA)*, March, 1936.

May 28, 1906

Dear Sir and Friend:

You have been on my mind for several days, therefore I will write you a few lines.

Why should I not approve of your teaching the science of chiropractic; when I consider you a capable and qualified teacher...In practice and as a teacher I consider you qualified ... I cannot let your letter go until I tell you of the M.D.'s meeting yesterday. They have a county society which meets once each month. I attended. Did not do so at home (Davenport). A paper was read; each member discussed its merits. I asked to have a say.

They reluctantly voted me 5 minutes. When the 5 minutes were up several said, "Go on." So they voted me another 5 minutes. By that time all the rules were forgotten and I occupied most of the afternoon....Dr. Martin said that he had a headache. I offered to cure it by one touch. He accepted. I seated him in front of the audience. He showed his surprise and admitted that the headache was gone.

Several questions were asked for me to answer. Chiropractic captured the meeting...

With best wishes,

D.D. Palmer

During the early 20th century, pioneering neuroscientists like Cannon and Palmer would not fully understand the complex role of spinovisceral reflexes or the impact of endogenous neurochemicals on the health and disease processes, neurotransmitters and hormones, such as oxytocin, glutamate, GABA, dopamine, serotonin, acetylcholine, and nitric oxide.

Nor did Palmer understand the mechanical dynamics of spinal subluxations in terms of joint buckling dysfunction, and altered mechanoreceptors, nociceptors, and muscle reflexes.

Today researchers like Apkarian, Sato, and Budgell have discovered the direct role of spinovisceral reflexes and the effects of spinal lesion and the effects of neurochemical stimulation upon nervous system alteration and degeneration, a topic discussed in a later chapter. The bottom line: there is a direct relationship between spinal function and organic health whether it is a direct nerve root impingement issue, a neurochemical issue, or a spinovisceral reflex caused by a spinal lesion or vertebral subluxation in chiropractic parlance.

Skepticism was to be expected from the public and medical professionals who were ignorant of the early principles of neurophysiology that Palmer espoused with a blend of both scientific and metaphysical terms. It would take nearly a century before modern researchers would explain his concepts accurately, such as the role of spinal stress/joint dysfunction upon muscle reflexes and organ function, the role of neurochemicals upon autonomic nervous system balance and cerebral degeneration, or the spinovisceral reflexes that mimic many organ disorders including angina.

DD Palmer was clearly prophetic when he addressed this issue one hundred years ago:

'Is it possible that the science of Chiropractic has arrived before its time? (75) In the near future Chiropractic will be as much valued for its preventative qualities as it now is for adjusting and relieving the cause of ailments'. (76)

You can also now understand why DD Palmer stated that chiropractic theoretically is not therapeutic aimed at treating disease or pain. In terms of neurophysiology or neuroimmunity, Palmer's brand of chiropractic is best seen as hygienic, a method to maintain good health rather than a remedy afterwards to treat symptoms. In reality, however, chiropractic can be used as both.

Just as dentists cannot count how many tooth cavities were prevented by the use of hygienic dental care like toothpaste/brushing/flossing, or from the allopaths' perspective how many people were protected by vaccines, chiropractors also cannot count how many cases of organ or muscle dysfunction were prevented by adjusting spinal subluxations before nerve impingement or spinal-visceral reflexes became clinically symptomatic. All will agree the concept of an ounce of prevention is difficult to prove albeit a better approach than the pound of cure.

Nonetheless, the science of chiropractic was alien to a profession built on germs and drugs, and the intolerance of a different ideology was evident in Morris Fishbein's appraisal:

'Thus the fundamental dogma of chiropractic, that disease is caused by dislocations or subluxations of the bones of the spinal column, pressing on nerves, is simply a complete misrepresentation of the demonstrable facts. Any chiropractor who tells an invalid that he is ill for that reason is either willingly deluding the patient or deluding himself'. (77)

Regrettably, Fishbein was deluding himself when he wrote that chiropractic was '*a complete misrepresentation of the demonstrable facts*' since Palmer's postulates paralleled those of both Koch and Cannon. This big idea of DD Palmer has been overshadowed by a medical war hell-bent on invalidating his concept of neurobiology as a cause of disease despite the increasing research that now reveals the belief that many chronic degenerative diseases may take root in an impaired nerve system.

Invisible Government

The intolerant attitude of Morris Fishbein and political medicine toward chiropractic is not atypical of other historical medical events. According to historical record, a 29-year-old German chemist named Felix Hoffmann synthesised aspirin in its pure form in 1897, but now research has uncovered evidence proving that it was not Hoffmann but his supervisor, Arthur Eichengrun, who discovered the drug. Eichengrun was Jewish and with the rise of the Nazi Party, he was written out of history and the total credit of the discovery was attributed to Hoffman. (78)

The same medical mindset continued to write another dark chapter in healthcare with its on-going professional prejudice, persecution, and illegal boycott of Chiropractors. When the AMA declared to '*contain and eliminate*' the chiropractic profession, the same bigotry that denied Eichengrun his credit has denied the similar accolades to the chiropractors, the forbearers of spinal health and neurobiology.

Despite this effort by Palmer and other chiropractors to advance health care, the AMA would not tolerate the rise of alternatives, especially Chiropractic. Morris Fishbein illustrated this mindset of a health policeman when he wrote in 1925 '*When that policy runs counter to*

75 DD Palmer, *ibid.* p. 847.

76 *Ibid.* p. 638.

77 Morris Fishbein, MD, *Medical Follies*, New York, Boni & Liveright, 1925, pp. 77-8.

78 <http://health.discovery.com/fansites/mystery-diagnosis/medical-breakthroughs-timeline.html>. See also <https://encyclopedia.ushmm.org/content/en/article/adolf-eichmann>.

demonstrable facts the result is invariably disaster'. (79) That policy, however, was never shown to be a *'disaster'* for the public as much as an annoyance to political medicine.

He might as well have been truthful and said the result is invariably disaster when that policy runs counter to the best interest of the AMA since many notable medical greats like Koch and Cannon were more in agreement with DD Palmer's postulates than in disagreement.

Since the early 20th century, the AMA has acted as an invisible 4th branch of government. Ostensibly, one trade association should not have authority over rival associations; it is the duty of the state to regulate health professions, not that of the AMA.

Senator Edward M 'Ted' Kennedy mentioned the problems caused by organised medicine nearly 40 years ago in his book, *In Critical Condition: The Crisis in America's Health Care*. (80) When he began his campaign for universal health care, he confronted the same hostile AMA only to realise that the problem with American healthcare is the fact that the US government had turned over the operation and management of healthcare to the medical society.

Of course, this enabled the AMA to become, in effect, the unelected 4th branch of government that tried to eliminate all competition, controlled public hospitals to the exclusion of all others, and basically controlled the healthcare industry to its own profit. In this light, the oppression of chiropractors was only one problem to controlling this huge market.

Senator Kennedy mentioned his appraisal of the medical monopoly when he was Chairman of the *Senate Subcommittee on Health* in January of 1971:

'I am shocked to find that we in America have created a health care system that can be so callous to human suffering, so intent on high salaries and profits, and so unconcerned for the needs of our people. American families, regardless of income, are offered health care of uncertain quality, at inflated prices, and at a time and in a manner and a place more suited to the convenience and profit of the doctor and the hospital than to the needs of the patient...it (the medical profession) is an industry which strongly protects the profits and rights of the provider, but only weakly protects the health and the rights of the people... (81)

'The result of the lack of competition, the monopolistic practices, the seller's market, and the people's inability to judge quality is that the providers do not have to respond to what the people want. To put it another way, because health care is "bad business" the people have little say or influence over the costs of care, the quality of care, or how it is offered... (82)

'Indeed, the medical societies and the American Medical Association seem often more concerned with defending an entrenched, competition-free position for their members than with promoting competition and innovation to find new ways of filling health care needs of Americans'. (83)

Kennedy's recognition of the medical society as a virtual monopoly was not unlike BJ Palmer's claim that the AMA was *'an invisible government'* whose main goal was to control the marketplace, not necessarily to improve health care by whatever means possible. (84)

79 Morris Fishbein, MD, *Medical Follies*, New York, Boni & Liveright, 1925, p. 58.

80 EM Kennedy, *In Critical Condition: The Crisis in America's Health Care*, Simon and Schuster; first edition (January 1, 1972)

81 *Ibid.* p. xv.

82 *Ibid.* p. 140.

83 *Ibid.* p. 139.

84 Palmer BJ. *An Invisible Government*. 2e. Davenport IA: Universal Chiropractors' Association, 1917a.

DD Palmer would have agreed with Sen. Kennedy when he also noted in 1910 the '*entrenched, competition-free position*' of the medical society:

'It is a pity that the medical professionals are possessed of arrogance instead of liberality; that instead of encouraging and fostering advanced idea, they stifle and discourage advancement; that they only adopt advanced ideas when they are compelled to do so by public opinion'. (85)

Perhaps this medical muddle might have been avoided if the Founding Fathers had the foresight to see the problems with one school of thought dominating health care, as did one Founding Father, Dr. Benjamin Rush, Signer of the Declaration of Independence, and the Father of American Psychiatry, who supposedly warned of the rise of a medical monopoly:

'Unless we put medical freedoms into the Constitution, the time will come when medicine will organize into an undercover dictatorship... All such laws are un-American and despotic and have no place in a republic... The Constitution of this republic should make special privilege for medical freedom as well as religious freedom'.

Certainly that day has come, the rise of an undercover dictatorship, that has stymied '*competition and innovation to find new ways of filling health care needs of Americans*'.

Howard Wolinsky and Tom Brune, authors of *The Serpent on the Staff*, (86) an investigation of the '*unhealthy politics of the American Medical Association*', were also quite candid about the AMA's failings:

'Our thesis is that the AMA is not a paternalistic Dr. Welby [a popular TV drama in the 1960s] looking out after his patients. We see the AMA as more often than not a political entity that claims to be tending to the public's health, while in reality looking after doctors' interests. However what's good for the AMA and its members is not necessarily good for the USA'.

The legitimacy of chiropractors to practice and monitoring the relative safety and effectiveness of treatment should be determined by the state legislatures, not by its rival medical trade association. Policing health care practitioners is not the legal role of the AMA, but that of the state licensing boards. Without question, the AMA overstepped its role as a trade association when it decided to '*eliminate*' the Chiropractic profession.

Conclusion

Doctors of Chiropractic should be seen as unsung heroes who brought forth a non-drug, non-surgical vision of health, along with effective tools to help in the current epidemic of neck/back pain and related neuromusculoskeletal disorders stemming from spinal disorders.

Unfortunately many members of the medical profession have purposely denied to their patients the information about alternative treatments such as chiropractic care. This has prevented generations of patients from making informed decisions about their health care by withholding, distorting, or suppressing information about chiropractic, which is nothing less than a medical crime against humanity.

The medical methods to treat back pain, drugs, shots, and surgery, have proven to be mostly unnecessary and ineffective, leaving a wake of disability behind with impaired patients.

Currently Chiropractors constitute the third largest group of health care providers who treat patients directly, after only medical physicians and dentists. There are approximately 100,000

85 DD Palmer, *ibid*, pp. 549.

86 H Wolinsky and T Brune, *The Serpent on the Staff*, Putnam Book, New York, 1994. p. xiv.

qualified doctors of chiropractors in 92 countries according to the *World Federation of Chiropractic*, the leading international chiropractic association. (87)

In the USA there are approximately 65,000; 8,000 in Canada, 5,500 in Australia, and 2,000 UK; 500-100 each in Belgium, Brazil, Denmark, France, Ireland, Italy, Japan, Mexico, The Netherlands, New Zealand, Norway, South Africa, Spain, Sweden, and Switzerland; 100-50 Argentina, Chile, Finland, Germany, Hong Kong SAR China, Israel, Singapore, South Korea; and under 50 in the remaining countries. Currently there are nearly 50 chiropractic schools in 15 different nations.

Despite 100,000 chiropractors licensed in all 50 states and 92 countries in the world treating over 30 million people annually, this is a mere fraction of the world's population. We can only imagine the many millions of more people who would be helped if this war had never been waged and chiropractic had proliferated unimpeded by a vengeful medical profession.

DD Palmer spoke of the resistance to change despite the obvious need:

'The fundamental principles of nearly every branch of modern science have been the gradual metamorphosis of investigators who searched for the "philosopher's stone" and the "elixir of life." The philosophers of the Middle Ages spent many long, weary hours of study and research chasing after what proved to be a will-o'-the-wisp. Those of the twenty-first century will, no doubt, look back upon us in a similar manner'. (88)

DD Palmer did not live long enough to see the many battles fought by chiropractors in the medical war, nor did he live to see the Medical Mussolini who would attempt to eliminate his newborn profession. He did see during this lifetime an arrogant medical profession hell-bent to 'stifle and discourage advancement.' Little did he know that within a few decades the AMA would become a 'terrifying trade association' run amok.

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87 www.wfc.org.

88 Palmer, *ibid*, p. 860.