

# The Chiropractic Vertebral Subluxation Part I: Introduction



Simon A. Senzon, MA, DC

## ABSTRACT

**Objective:** The objective of this article is to present a rationale for the need of a history of chiropractic vertebral subluxation (CVS) theory based on primary sources.

**Discussion:** There is a dichotomy in the chiropractic profession around subluxation terminology, which has many facets. The literature around this topic spans social, economic, cultural, and scientific questions. By developing a rationale for a historical perspective of CVS theory, including the tracking of the historical development of ideas throughout the profession, a foundation for future discourse may emerge.

**Conclusions:** By using primary sources, ideas in chiropractic on the development of CVS theory are proposed. This introduction presents a basis for the need of a history of CVS theory and suggests how this work may be used to further philosophical dialogs in chiropractic. (J Chiropr Humanit 2018;25C:10-21)

**Key Indexing Terms:** *Chiropractic; History*

## INTRODUCTION

Chiropractic vertebral subluxation (CVS) is a chiropractic concept that dates back at least to 1902.<sup>1</sup> It has been described by some authors as the central defining clinical principle of the chiropractic profession.<sup>2,3</sup> In the last decade, some have suggested that the term *vertebral subluxation complex*, which is the latest in a long line of terminology, should no longer be retained by the profession.<sup>4</sup> Other groups, such as leaders from 9 European, Australian, and South African chiropractic training programs, have suggested that the term should only be used historically.<sup>5,6</sup> However, others (Association of Chiropractic Colleges and the Rubicon Group, made of up 7 chiropractic colleges in the United States, United Kingdom, and New Zealand [Fig 1]) suggest that CVS is the foundation of the profession.<sup>7,8</sup> To better understand these different viewpoints in the chiropractic profession, a thorough examination of primary sources from the literature is warranted. I propose that this exploration is relevant for modern clinical practice to determine if the arguments for various positions are based on a complete integration of the historical literature or only a partial or selected view.

Some suggest that CVS should be a historical term only.<sup>5,9</sup> I suggest that this may be a difficult position to maintain because a majority of practitioners are content to keep the term,<sup>10</sup> and many chiropractors state that they address CVS in

practice.<sup>11,12</sup> For example, 62% of students in North America sampled in 1 study agreed that the emphasis of chiropractic practice is to eliminate CVS.<sup>13</sup> Several institutions support definitions of CVS.<sup>7,8</sup> Some are actively researching and publishing on CVS.<sup>3,14-20</sup> It is the diagnosis chiropractors in the United States use for Medicare billing,<sup>21</sup> and textbooks from the last decade use the term *subluxation*.<sup>22-24</sup> At least 2 consensus statements were developed in the 1990s, embracing CVS as a foundation of the profession.<sup>7,25</sup>

I propose that some of the arguments against the use of CVS terminology are based on references that may contain factual errors and literature oversights. This does not mean that there are flaws in every argument, nor does it mean that all of the literature is filled with inaccuracies. However, I have noticed several instances that include historical mistakes, which may have led to distortions in the literature about the term<sup>26-29</sup> or, in this authors' opinion, do not adequately represent the CVS literature.<sup>2,30,31</sup>

Therefore, a comprehensive view of the literature on this topic could provide a better understanding among groups with varying viewpoints and may open up lines of discourse while also providing potentially new areas of research and practical relevance. A historical review may also establish a common ground to be better able to analyze these discussions in the literature for and against utilizing CVS terminology. The purpose of this article is to serve as an introduction to a historical exploration of CVS theory in the chiropractic profession and to develop a rationale for the need of a comprehensive history of CVS theory based on primary sources.

## DISCUSSION

In 2011, Yvonne Villanueva-Russell used critical discourse analysis to examine the movements within the

School of Health and Human Sciences, Southern Cross University, Lismore, New South Wales, Australia.

Corresponding author: Simon A. Senzon, MA, DC, 218 E. Chestnut Street, Asheville, NC 28801. Tel.: +1 828 251 0815. (e-mail: [Simon@institutechiro.com](mailto:Simon@institutechiro.com)).

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| Chiropractic Educational Organization                     | Affiliated Chiropractic Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Statement                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Association of Chiropractic Colleges (ACC)                | <ul style="list-style-type: none"> <li>Canadian Memorial Chiropractic College (CMCC)</li> <li>Cleveland Chiropractic College (CCC)</li> <li>HanSeo University (Korea)</li> <li>D'Youville College</li> <li>Life Chiropractic College West (LCCW)</li> <li>Life University</li> <li>Logan University</li> <li>National University of Health Sciences (NUHS)</li> <li>New York Chiropractic College (NYCC)</li> <li>New Zealand College of Chiropractic (NZCC)</li> <li>Northwestern Health Sciences University (NWHUS)</li> <li>Palmer College of Chiropractic (PCC)</li> <li>Parker University</li> <li>Sherman College University of Health Sciences (SCUHS)</li> <li>Texas Chiropractic College (TCC)</li> <li>Université du Québec à Trois-Rivières (UQTR)</li> <li>University of Bridgeport College of Chiropractic</li> <li>University of Western States - College of Chiropractic</li> </ul> | “Chiropractic is concerned with the preservation and restoration of health, and focuses particular attention on the subluxation... a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.”          |
| European-South African-Australian Education Collaboration | <ul style="list-style-type: none"> <li>Anglo-European College of Chiropractic</li> <li>Chiropractic Medicine - University of Zurich</li> <li>The Education of Clinical Biomechanics - University of Southern Denmark</li> <li>The French-European Institute of Chiropractic</li> <li>Welsh Institute of Chiropractic</li> <li>Dept. of Chiropractic - Durban University of Technology</li> <li>Dept. of Chiropractic - Macquarie University</li> <li>Dept. of Chiropractic - Murdoch University</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                         | “The teaching of vertebral subluxation complex as a vitalistic construct that claims that it is the cause of disease is unsupported by evidence. Its inclusion in a modern chiropractic curriculum in anything other than an historical context is therefore inappropriate and unnecessary.”                              |
| Rubicon                                                   | <ul style="list-style-type: none"> <li>Barcelona College of Chiropractic at the University of Pampeu Fabra</li> <li>Chiropractic Academy at Dresden International University</li> <li>Life Chiropractic College West (LCCW)</li> <li>Life University</li> <li>McTimoney College of Chiropractic</li> <li>New Zealand College of Chiropractic</li> <li>Sherman College of Chiropractic</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | “We affirm that Chiropractic is a healthcare profession based upon a paradigm that includes: A philosophy rooted in neo-vitalism, the traditional principles of chiropractic, a neurologically -centered model of subluxation, a natural approach to health and well-being, excluding the practice of drugs and surgery.” |

**Fig 1.** Samples of chiropractic educational organizations, colleges, and statements about chiropractic vertebral subluxation.

profession to establish identity.<sup>32,33</sup> She described a conflict between “everyday chiropractors” and a small group of academics and researchers. She noted that the surveys of chiropractors have flaws, but most chiropractors are content with the traditional lexicon.<sup>33</sup> She concluded:

Analysis of the discourse suggests that debate over identity and cultural authority seems largely a politically-motivated intra-professional movement, focused more on paternalistic occupational control than over cohesion

and identity. Hollenberg and Muzzin’s (2010) work on paradigm appropriation of acupuncture in Britain does not wholly seem to apply to the case of chiropractors in the United States. Rather than seeing the dominance of biomedicine engulf a subordinate marginal profession, the impetus to engage in paradigm assimilation (integrative medicine or the idea of becoming back/neck/pain specialist) is being driven from *within* the profession of chiropractic itself. Rather, changes to identity are being initiated internally by academic

chiropractors as a coup d'état using the commitment to science (seen operating at the textual, discourse practice and social practice levels through [evidence-based practice], lexicon cleansing and reformed scope of practice laws) to achieve intra-professional control.<sup>33</sup>

This claim has yet to be discussed in the chiropractic literature in a substantial way. Villanueva-Russell continues:

The growing divide between the everyday chiropractor whose views are only available by proxy through methodologically flawed surveys are being systematically silenced by the claims of academic chiropractors, who utilize rhetoric, status, institutional position, and their roles as gatekeepers to journals as a means to dominate the discourse.<sup>33</sup>

Villanueva-Russell suggests that chiropractors should be included in the discourse and policy decisions about professional identity. She hypothesizes that scope of practice laws, insurance reimbursement, and licensure renewal may be affected by “lexicon cleansing” and an ideological power struggle (Fig 2).<sup>33</sup>

In recent papers, several authors question the use of the term *subluxation* in the chiropractic profession. A cursory search on Google Scholar demonstrates that these papers were cited multiple times in the literature.<sup>34-36</sup> However, none of the papers contain comprehensive references on the history of CVS. This may have resulted in potentially flawed conclusions. Chiropractors trust that the researchers accurately documented their arguments and were adequately versed in the historical literature and that editors and peer-reviewers are as well. My concern is that the views of chiropractors are influenced by academic chiropractors in “their roles as gatekeepers to journals as a means to dominate the discourse.”<sup>33</sup>

Although there is some literature on CVS and technique models, a comprehensive history of CVS is lacking.<sup>37,38</sup> Various reasons for this may include bias,<sup>39</sup> school competition,<sup>40</sup> and economic incentives.<sup>41</sup> It is incumbent upon the chiropractic profession to examine CVS in light

of historical facts and current research about chiropractors so that we may better assess the concerns stated by Villanueva-Russell.<sup>10,11,13,33</sup>

### Historical Errors in the Literature

Historical errors in publications may be passed down from 1 author to the next and affect the interpretation of concepts. I suggest that factual errors about the history of ideas in chiropractic go back to the earliest days of the discipline. One example is when D.D. Palmer's rivals accused him of stealing chiropractic from the Bohemians.<sup>42</sup> This claim was used originally to challenge Palmer's authority as the founder of chiropractic.<sup>43</sup> Textbooks written by rival school leaders also included these allegations.<sup>44-46</sup> These texts also included history of spinal manipulation as a way to suggest that Palmer was trained in a manipulative tradition.<sup>44-46</sup> I suggest that there is no basis in fact for that assumption. Chiropractic historian Gary Bovine writes, “It is very possible that Palmer, as did the Bohemians, Turks, and other bonesetters and healers from various cultures, gradually evolved the method of thrust adjusting independent of direct influences from anyone.”<sup>47</sup> Palmer's early writings on magnetic healing and chiropractic concur with Bovine's assessment that he may have been self-taught and his methods developed over time with practice.<sup>48,49</sup>

Another example is in an article reprinted by the New York State Chiropractic Association.<sup>26</sup> The author included several factual errors to argue that the term *subluxation* be relegated to history. He suggested that D.D. Palmer did not use the term until 1907 and that the term was first used in 1906 in a text by Smith et al, and modern concepts of CVS are the same as they were during D.D. Palmer's era.<sup>26</sup> I would argue that these assumptions are incorrect because of factual errors supporting faulty arguments.<sup>1,50,51</sup> These types of errors should be corrected in the literature before further discussion of the appropriateness of the term may be adequately undertaken.

In another example, McGregor et al wrote, “The majority of practitioners historically were thought of as ‘straights,’ perceived the subluxation as the cause of disease, and its remedy to be manipulation/adjustment. This dominant faction was schooled through a single institution that boasted an enrollment of 505 students as early as 1910.”<sup>27</sup> My argument with this statement is that most chiropractors in the first 80 years of the profession were trained to detect and correct CVS. The major schools included leaders who were subluxation theorists (Fig 3).<sup>22,40,45,52-65</sup> Many of the early leaders also hypothesized that 90% to 95% of disease processes were related to CVS, either as a primary or secondary cause.<sup>44-46,57,58,66-68</sup> These CVS theories evolved over the century, integrating Verner's theory of the nonimpinging subluxation,<sup>69,70</sup> reflex concepts,<sup>64,71-73</sup> and theories developed by

| Intent                                                          | Methods                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methods of systematically dominating the professional discourse | <ul style="list-style-type: none"> <li>• Rhetoric</li> <li>• Status</li> <li>• Institutional position</li> <li>• Gatekeeping journals</li> </ul>                                                                                           |
| Ways of achieving intraprofessional control                     | <ul style="list-style-type: none"> <li>• Textual</li> <li>• Discourse Practice Level</li> <li>• Social Practice Level</li> <li>• Evidence Base Practice</li> <li>• Lexicon Cleansing</li> <li>• Reformed Scope of Practice Laws</li> </ul> |

Fig 2. Ways to gain control and dominate discourse.

| 1902-07                                                                                                                                                                                                                                                              | 1908-1916                                                                                                                                                     | 1917-1927                                                                                                                                                                                                                                                             | 1928-1948                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1949-1961                                                                                                                                                                                                                                                                                                                                                                                 | 1962-1997                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• D.D. Palmer</li> <li>• B.J. Palmer</li> <li>• Joy Loban</li> <li>• W. Carver</li> <li>• J. Howard</li> <li>• A. Gregory</li> <li>• A. Forster</li> <li>• J. Craven</li> <li>• T.F. Ratledge</li> <li>• J.N Firth</li> </ul> | <ul style="list-style-type: none"> <li>• D.D. Palmer</li> <li>• B.J. Palmer</li> <li>• O.G. Smith</li> <li>• S.M. Langworthy</li> <li>• A.P. Davis</li> </ul> | <ul style="list-style-type: none"> <li>• B.J. Palmer</li> <li>• Joy Loban</li> <li>• W. Carver</li> <li>• A. Forster</li> <li>• J. Craven</li> <li>• J. Riley</li> <li>• R.W. Stephenson</li> <li>• J. Drain</li> <li>• T.F. Ratledge</li> <li>• J.N Firth</li> </ul> | <ul style="list-style-type: none"> <li>• B.J. Palmer</li> <li>• W. Carver</li> <li>• A. Forster</li> <li>• J. Drain</li> <li>• T.F. Ratledge</li> <li>• J.N. Firth</li> <li>• H. Logan</li> <li>• R. Ashton</li> <li>• B. Dejarnette</li> <li>• R.J. Watkins</li> <li>• R.O Muller</li> <li>• C.W. Weiant</li> <li>• J. Janse</li> <li>• H. Gillet</li> <li>• F. Illi</li> <li>• J.D. Grostic</li> <li>• J.R. Verner</li> <li>• A. Heintze</li> </ul> | <ul style="list-style-type: none"> <li>• B.J. Palmer</li> <li>• A. Forster</li> <li>• J. Drain</li> <li>• T.F. Ratledge</li> <li>• H. Logan</li> <li>• B. Dejarnette</li> <li>• R.J. Watkins</li> <li>• R.O Muller</li> <li>• C.W. Weiant</li> <li>• J. Janse</li> <li>• H. Gillet</li> <li>• F. Illi</li> <li>• J.D. Grostic</li> <li>• A. E. Homewood</li> <li>• C. Gonstead</li> </ul> | <ul style="list-style-type: none"> <li>• Goodheart</li> <li>• Nimmo</li> <li>• Toftness</li> <li>• Ward</li> <li>• Gonstead</li> <li>• Gregory</li> <li>• Pierce</li> <li>• J.N. Grostic</li> <li>• Stillwagon</li> <li>• Whitehorne</li> <li>• Weiant</li> <li>• Peterson</li> <li>• Himes</li> <li>• Harper</li> <li>• Gitelman</li> <li>• Faye</li> <li>• Howe</li> </ul> |
|                                                                                                                                                                                                                                                                      |                                                                                                                                                               |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Haldeman</li> <li>• Lantz</li> <li>• Dishman</li> <li>• Rome</li> <li>• Boone</li> <li>• Dobson</li> <li>• Kent</li> <li>• Epstein</li> <li>• Homewood</li> <li>• Harrison</li> <li>• Pettibon</li> <li>• Cox</li> <li>• Fuhr</li> <li>• Reinert</li> <li>• Gatterman</li> <li>• Barge</li> <li>• Triano</li> </ul>                 |

**Fig 3.** *Subluxation theorists by time period.*

Speranksy, as well as dystrophic models.<sup>74-77</sup> These approaches viewed the CVS as an insult to the neurologic integrity of the organism that related to a wide variety of pathophysiological processes and was studied and taught in all factions of the profession.<sup>40</sup>

I propose that some of the confusion around these ideas stems from a general misunderstanding of the differences between treating pathology and focusing on the cause of pathophysiology. Pathophysiology is the study of altered function, which, if left unchecked, can result in altered cellular structure known as pathology. This differentiation is represented by the distinction between “disease” and “dis-ease” in the chiropractic literature. Although many chiropractors, including the Palmers, used these terms interchangeably over the years, examination of the historical literature demonstrates that D.D. Palmer and his students were focused on the pathophysiological processes primarily associated with neural disturbances related to spinal joint misalignments.<sup>44-46,57,64,66-77</sup> Pathophysiological processes associated with CVS were classed as “dis-ease,” which they differentiated from “disease.”

McGregor<sup>78</sup> created categories to capture the subgroups of how chiropractors practice. The categories were general problems; biomechanical; biomechanical/general problems; biomechanical organic-visceral; CVS as a somatic dysfunction; and CVS as an obstruction to human health.<sup>27</sup> However, I propose that this classification does not adequately capture the historical complexity of CVS theory when viewed as discreet practice styles. Many of the categories proposed by McGregor et al overlap and may not necessarily capture an accurate picture of chiropractic practice. Some of this supposition may be related to a misunderstanding of the history of CVS.

McGregor states:

Interestingly, the evolution of subluxation as an impediment to health appears to have been a

medicolegal maneuver to distinguish chiropractic from medicine and to defend against a charge of practicing medicine without a license [18]. The defense took note of the philosophical perspective of Langworthy on the supremacy of nerves in modulating health. Together, the medicolegal defense linked with this philosophy to proffer subluxation as an obstruction to human health [18] (p. 66–67).<sup>27</sup>

The historical source they cite was by Wardwell,<sup>79</sup> a sociologist who published extensively on the history of chiropractic.<sup>80</sup> Wardwell’s sources included Rehm and Lerner.<sup>28,29</sup> Rehm’s primary source was Lerner’s report, a dramatic account of early chiropractic history.<sup>28</sup> Lerner spent 2 years as an investigative lawyer exploring the early history of chiropractic. He interviewed B.J. Palmer and his staff and examined primary sources from early chiropractic writings, newspapers, and court cases.<sup>28</sup> Lerner concluded that Langworthy’s text was used by the defense in the landmark Morikubo trial to support the contention that chiropractic has a distinct science, art, and philosophy. Lerner argued that the philosophy of chiropractic was born at the trial and largely derived from Langworthy (Fig 4).

However, I propose that several of Lerner’s conjectures were not supported and cannot be verified. For example, there were no court transcriptions of the Morikubo trial. There were only newspaper accounts. None of those accounts mention Langworthy. In addition, Morikubo claimed that Langworthy’s book was not used in his defense, which he and B.J. Palmer prepared for 6 months before the trial.<sup>81</sup> The newspaper accounts do not specifically state that Langworthy’s text was discussed at the trial; although 1 account notes that Morikubo provided “every book on osteopathy and chiropractic published” to



**Fig 4.** Solon Langworthy (courtesy of Special Services, Palmer College of Chiropractic).

the prosecutor.<sup>82</sup> Peters and Chance wrote, “we have found no evidence” that the defense used Langworthy’s book.<sup>81</sup>

I propose that other historical facts further challenge Lerner’s account. D.D. Palmer’s chiropractic paradigm had its origins in his published writings, going back to 1872 and 1887.<sup>83,84</sup> The first use of the term *subluxation* was by O.G. Smith in February 1902.<sup>1</sup> D.D. Palmer first used the term in April 1902,<sup>85</sup> and by 1903 he wrote about his philosophy, the primacy of the nerves, and innate intelligence, along with his thoughts about adjusting and the importance of intervertebral foramina.<sup>86,87</sup> In an advertisement on June 14, 1902, D.D. Palmer writes, “Our philosophy of treatment, removing the pressure, has the most rational claims upon the afflicted.”<sup>86</sup> D.D. Palmer did not have high regard for Langworthy. Palmer accused him of plagiarism and referred to him as “Langworthless” in a private letter.<sup>88,89</sup> It has also been suggested that *Modernized Chiropractic* was written mostly by O.G. Smith.<sup>90,91</sup>

The legal argument that chiropractic had a separate “philosophy, science, and art” was used in court cases for decades after the Morikubo trial<sup>40,92</sup> and may have been modeled on an earlier case: *South Dakota v Brunning*.<sup>91</sup> Although legal strategies used to defend chiropractors in court were common, I argue that the first models of philosophy and CVS were not a “medicolegal maneuver.”<sup>27,81,93</sup>

It is not clear where this supposition originated. It is possibly due to authors citing previous sources. For example, Rehm cited Lerner’s conclusions. Rehm may have been inspired by Gibbons, the first editor of the chiropractic history journal, *Chiropractic History*.<sup>29,94</sup> Gibbons cited Lerner’s theories about Langworthy’s early leadership.<sup>94</sup> Nevertheless, no one challenged these interpretations or challenged Rehm’s paper.<sup>29</sup> Rehm was the first president of the Association for the History of Chiropractic, one of the first associate editors of the journal *Chiropractic History*, and advisor to the editor of *Who’s Who in Chiropractic*, which included a *Necrology*.<sup>95,96</sup> Several early articles from the Association for the History of Chiropractic leadership cited Rehm and expanded on Lerner’s writings.<sup>97-104</sup> Rehm’s article may be the source for much of the literature propagating these errors.<sup>40,79,92,105-109</sup>

Sagan and Druyan wrote that we should always mistrust arguments from authority, and that approach applies here.<sup>110</sup> However, a history of CVS should not be an appeal to authority; rather, it should be an appeal to historical accuracy and inclusion of the chiropractic canon or the central literature of the first century of the profession. By understanding history, we may better understand practice and chiropractic’s role in health care.

It is impossible in an overview to critically analyze every historical CVS theory. Such a critique should, however, follow an accurate history based on primary sources. This is important because some theories were developed from clinical research, and some were developed based on clinical practice, whereas others were passed down authoritatively from technique developers and school leaders. Motivations to develop CVS theory originated with intentions to help the sick and suffering and yet were sometimes influenced by economic and political forces.<sup>39,111-113</sup> All of the theories and models should be scrutinized and subjected to analysis and research.

### Historiography

Antiquarianism is the collection of facts about the past without deep analysis. Historians John Moore and Mark Munzinger both cautioned the chiropractic profession to move beyond antiquarianism in the writing of history in chiropractic.<sup>114,115</sup> Moore proposed that historical writing in chiropractic should move away from “chiropractic history of chiropractic” and move toward “social history of chiropractic.” His concern was that most histories in chiropractic bordered on hagiography and did not emphasize the wider social implications surrounding chiropractic.<sup>114</sup> He critiqued the defensive postures of chiropractic historical writing with an emphasis on the deviant role of chiropractic in the biomedical paradigm. Moore writes:

Continuation of an antiquarian, chip-on-the-shoulder defensive posture will simply mire chiropractic and

its history in the sludge of the past and hinder a real understanding of the complex social and cultural realities represented by the emergence and growth of chiropractic as well as the nature of medical and scientific realities.<sup>114</sup>

He suggested that too much emphasis in the historical literature was traditionally placed on events and individuals and not enough on the wider contexts and societal implications. The defensive posture could also be applied to intraprofessional disputes.<sup>33</sup>

A brief history of CVS does not need to emphasize the social and cultural context. However, once a timeline of CVS theories and research is established, such an analysis should follow. To adequately respond to the accusation of lexicon cleansing and the ideological conflict in chiropractic that I suggest is rooted in academic discourse;<sup>33</sup> an analysis of the academic literature is a much needed first step. Thus, the focus should be to identify and correct historical mistakes and develop greater depth of perspective about historical facts, research, and ideas. A scholarly debate and discourse may then emerge in light of the wider social forces shaping worldviews about health, healing, science, and holism.

### Theories as Historical Anchors

Arguments for and against the use of CVS terminology should rest upon prior theory and research. Without making this lineage explicit, the modern debate may lack historical anchors. Viewing theories as anchors may keep the profession moored to the chiropractic paradigm. Some examples might help to demonstrate the relevance of this approach for practice and the role of chiropractic in health care.

A recent discussion of chiropractic identity highlights neurologic imbalance as a “new” way to describe CVS,<sup>116</sup> and yet such an approach can be found in the theories of B.J. Palmer,<sup>74</sup> Verner,<sup>69</sup> Homewood,<sup>55</sup> Harper,<sup>65</sup> and Peterson, Watkins, and Himes.<sup>76</sup> As another example, recent arguments against CVS cite papers in the literature dating to the late 1980s,<sup>34</sup> some of which are lacking in literature reviews on CVS history.<sup>30,102</sup> As well, several arguments in the literature attribute a “bone out of place” model to D.D. Palmer when a deeper analysis of his writings and the literature demonstrates that articular models of CVS, which came into prominence in the 1980s, could actually be traced to his model of CVS.<sup>52,55,75,77,117,118</sup> Also, I propose that few sources accurately describe the contributions to modern theory initiated by B.J. Palmer, such as his interference theory,<sup>119</sup> cord pressure model,<sup>120</sup> and periodic CVS model related to rhythmic pattern analysis.<sup>75</sup> Finally, the prominent role of reflex models in CVS theory is not apparent in the recent peer-reviewed literature (Fig 5).

These types of problems could foster misunderstandings about the history of ideas in chiropractic, which could reduce the depth of understanding of the chiropractic paradigm.

| Historical Anchors to Important Subluxation Theories                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• D.D. Palmer’s model of articular disrelationship</li> <li>• Speranskian and dystrophic models of B.J. Palmer, Verner, Homewood, Weiant, Harper, and R.J. Watkins</li> <li>• B.J. Palmer’s models of interference, cord pressures, and periodicity of subluxation patterns</li> <li>• Inclusion of the chiropractic canon of ideas</li> </ul> |

**Fig 5.** *Subluxation theories as historical anchors.*

Discussions of the use of CVS should reflect the most complete base of knowledge available and include consensus models as well as operational models.

For example, Owens distinguishes between consensus models and operational models. He writes:

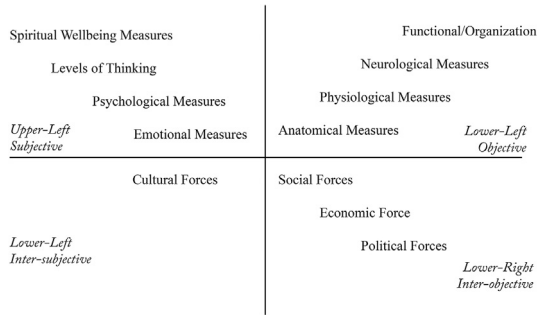
While consensus models are very broad in order to encompass all of their constituents, they are actually fairly useless for research purposes. Our greatest need in this area is for an “operational definition” that describes subluxation according to the measurements or procedures used to locate and analyze it. The operational definition is the model that can be tested for reliability and validity using the tools of science.<sup>121</sup>

He explains that most chiropractic techniques use procedures that have not been scientifically studied and validated. Operational definitions would help to accomplish this goal. Thus, as we explore the history of the CVS, it is vital to keep in mind that many of the definitions and assessments still must be operationally defined and scientifically studied.

### Multiple Perspectives and Evidence in Chiropractic

The history of the chiropractic profession has been described in terms of social,<sup>79,122</sup> political,<sup>40</sup> economic,<sup>111,113</sup> and psychological factors.<sup>39</sup> In 2005, professionalization of chiropractic was analyzed from a sociologic perspective by building upon previous theory.<sup>123</sup> This article proposed that a second phase of chiropractic’s professionalization was shaped by 2 dominant external forces: orthodox medicine and managed care organizations. Even though professionalization was initially achieved through licensure and accreditation, these 2 external forces dictated “how knowledge claims of expertise and practice are validated by positivistic science and how [evidence-based medicine] also serves as a crucial element to attain professional status and legitimacy.”<sup>123</sup> This perspective on legitimacy fed into the internal conflicts in the profession, primarily because a positivistic perspective was more amenable to those in the profession who were epistemologically aligned with orthodox medicine.

The recent trend in the profession to prioritize truth claims based on evidence-based practice (EBP) was started in the 1990s before many critiques of its efficacy for manual medicine or complementary and alternative medicine (CAM)



**Fig 6.** Chiropractic vertebral subluxation perspectives in 4 quadrants.

were developed.<sup>34,123-128</sup> There have been several initiatives in the chiropractic profession to teach EBP literacy online and institutionally.<sup>129-133</sup> It is not clear whether these trends have included varied types of evidence from chiropractic's first 100 years of theory, clinical practice, and research into CVS.

Villanueva-Russell proposed that EBP was being used for ideological control of the chiropractic profession by a minority of academics,<sup>33</sup> and that “EBP within chiropractic is really a political war against the philosophical roots of the chiropractic profession . . .”<sup>134</sup> Epistemological and ontological conflicts between EBP, social sciences, and CAM have been noted,<sup>135-137</sup> and other holistic research strategies have been proposed.<sup>6,123,124,138,139</sup> Mixed methods research,<sup>140</sup> multiple levels of evidence,<sup>127</sup> and pluralistic stances toward knowledge have been proposed to apply EBP to CAM.<sup>135</sup> Recent articles have suggested at least 8 perspectives through which chiropractic theories might be viewed and at least 5 levels of thinking that chiropractors utilize to understand themselves and the profession.<sup>39,125</sup>

In a critique of the overreliance of EBP in sociological research, Humphries writes:

On the face of it, it should be regarded as a shocking revelation that policy and practice have *not* been

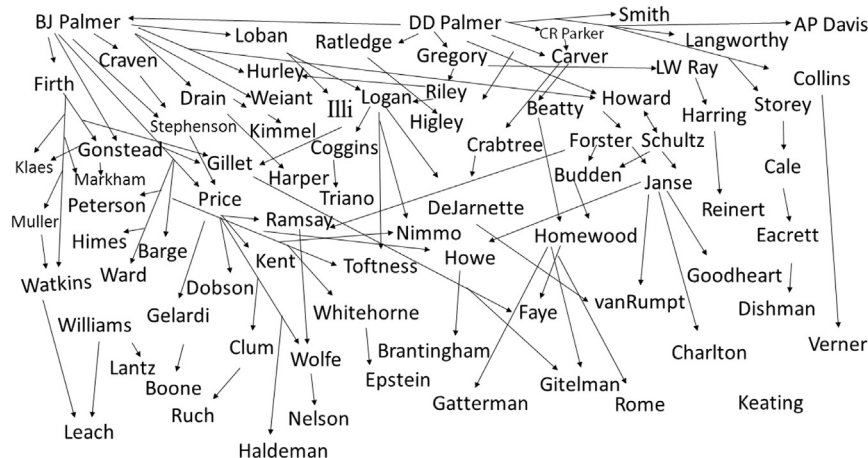
informed by evidence, as otherwise how, and on what basis, can a knowledge base be built? At the same time, the collection of evidence is a complex social activity, and is influenced by competing interests.<sup>137</sup>

I propose that a deep analysis of the CVS should reflect the many levels of evidence that were used to establish the profession. That evidence could then be explored and reevaluated based on multiple methods of research from several perspectives, including the contextual nature of knowledge acquisition. Not 1 perspective is adequate to explain or critique CVS models, especially because the theories developed as a part of a wider chiropractic paradigm that included physiological, emotional, psychological, and spiritual elements set within cultural, social, political, and economic forces (Fig 6).

## Chiropractic Subluxation and Philosophy

The view that CVS could be researched, apart from the psycho-spiritual philosophical theories originated by D.D. Palmer, was proposed at Sherman College in the 1990s,<sup>121,141-145</sup> which evolved from the straight chiropractic movement from the 1970s<sup>146</sup> and intercollegiate consensus definitions of CVS.<sup>60,147,148</sup> This perspective views the CVS as a clinically relevant anatomic and neurophysiological phenomenon that relates to the body's inherent self-organizing and self-healing structures.<sup>39,142,149,150</sup> By effectively bracketing the older philosophical terminology without dismissing it, the clinical, anatomic, and physiological elements of CVS might be analyzed, researched, and explored independently.

This approach may be relevant for this series of articles because many of the theories in the profession were developed outside of the Palmer School and may have been created in reaction to the Palmer approach (Fig 7). Thus, many theories may have been developed without any overt philosophical dimensions apart from the inherent self-healing and self-organizing aspects of the living system and the role of the nervous system in that process.<sup>58,60,64,77,118,151-153</sup>



**Fig 7.** Chiropractic vertebral subluxation theorists through their teacher-student relationships back to D.D. Palmer.

By separating CVS theory from the philosophy of chiropractic, a more unifying discourse may emerge. A research and theory agenda could be forwarded without dismissing the classical elements associated with CVS, such as innate intelligence and mental impulse. The self-organizing and self-healing hypothesized to emerge in relation to CVS correction could then be researched on its own terms.

This differentiated approach is also useful because it does not rely on extreme vitalism and is more in-line with what Donceel referred to as “moderate vitalism” as noted by Koch.<sup>141</sup> Integrative and holistic approaches to medicine include similar viewpoints.<sup>154</sup> Some systems and complexity theorists eschew the term *vitalism* altogether because of its historic implications and emphasize, instead, emergent and self-organizing behavior in living systems.<sup>155</sup>

Chiropractic authors have traditionally combined CVS theory with philosophy and art. A complete history needs to focus on objective definitions of CVS. This approach avoids some of the categorical errors,<sup>142</sup> logical fallacies,<sup>156</sup> and straw man arguments common in the literature.<sup>51</sup> The purpose of a history of CVS does not need to be based on politics, scope of practice debates, or philosophical concepts like intelligence and mental impulse in isolation; however, some of these topics may be relevant in the context of the evolution of models.

Over the course of chiropractic’s first century, the term *subluxation* grew in complexity. Each iteration of technique, research, and theory led to more complex ways to detect, correct, and study the CVS. In the 1970s, 1980s, and 1990s, this complexity grew to such a degree that terms such as *subluxation complex*, *chiropractic vertebral subluxation*, *vertebral subluxation complex*, and *subluxation syndrome* were developed.<sup>22,157-159</sup> Some have suggested that this complexity points to irrelevance for the term.<sup>2</sup> Several consensus statements throughout the profession have suggested that it points to a robust clinical phenomenon that is best understood with multiple levels of analysis.<sup>7,25</sup>

By describing theory and CVS as a clinical entity that may be studied, CVS may come to represent the complexity and history of ideas in chiropractic. Each multiplication of components and mechanisms increases the research challenges. The research agenda for chiropractic could be reframed by such a historical approach.

### Limitations

This article reflects 1 person’s interpretation of historical writings and theories. It is acknowledged that the author’s perspectives on chiropractic practice, epistemology, and history can influence this writing. A narrative review of the historical literature does have its limitations, even though the author has reviewed an abundance of literature on this topic. Without detailed search parameters, inclusion and exclusion criteria, synthesis methods, a standard critical appraisal of the literature reviewed, and evaluation of bias, it is acknowledged that conclusions do need to be made

with caution and within the historical context from which they are made. Future research into this area of inquiry would benefit from a more systematized approach.

### CONCLUSIONS

The history of ideas in chiropractic starts with D.D. Palmer.<sup>52,66,160</sup> From Palmer, we can trace a lineage of significant thinkers in chiropractic and the evolution of chiropractic ideas alongside the distinctive Palmer School of Chiropractic (Fig 8). An emphasis on teacher–student relationships and the use of references to trace the development of ideas is an important way to explore this history.

This paper presents a basis for the need for a far-reaching history of CVS and suggests how such work may be used to further philosophical dialogs in chiropractic. The series of articles that follows is meant to take a step towards productive dialogue that is needed in the profession. It is not meant to be a one-sided argument for the CVS perspective; although it may seem that way to those who agree with the statement that “the subluxation is dead.”<sup>26</sup> To that point of view, any discussion of the history of CVS that does not dissect each and every theory is inherently one sided.

Previous generations were familiar with this history, even though few theorists seemed to have integrated all of the relevant literature, possibly owing to school and personal biases and the dearth of historical data available to many at different points in time. This series of articles is an attempt to introduce the current generation of chiropractors to their own literature and provide my analysis of this information. There have been several prior valiant attempts at comprehensive reviews of CVS theory. These articles are written in that spirit, to capture the past so that it might be relevant for the present and help to pave the way for the future.



**Fig 8.** D.D. Palmer, B.J. Palmer, and Dave Palmer circa 1913 (courtesy of Special Services, Palmer College of Chiropractic).

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Data collection/processing (responsible for experiments, patient management, organization, or reporting data): S.A.S.

Analysis/interpretation (responsible for statistical analysis, evaluation, and presentation of the results): S.A.S.

Literature search (performed the literature search): S.A.S.

Writing (responsible for writing a substantive part of the manuscript): S.A.S.

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**Practical Applications**

- This series of articles provides an interpretation of the history and development of chiropractic vertebral subluxation theories.
- This series aims to assist modern chiropractors to interpret the literature and develop new research plans.

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