

Introducing the Neurocalometer: a view from the Fountain Head

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A review and analysis of the 1924 introduction of the neurocalometer (NCM), a heat-sensing instrument purported to detect "nerve interference" (subluxation), is presented. Included are the origins of the device, the terms and expense of B.J. Palmer's leasing program for the NCM, the role of the NCM as centerpiece in a "back to straight chiropractic" movement, the development of competitive instruments and BJ's method of dealing with "infringers", claims made for the clinical value of the NCM and the profession's response to the NCM-movement. It is suggested that the NCM's introduction provides a model of unethical promotions in health care. (JCCA 1991; 35(3):165-178)

KEY WORDS: chiropractic, history of chiropractic, quackery, manipulation.

Introduction

Sixty-seven years ago B.J. Palmer (BJ) introduced the neurocalometer (NCM; see Figure 1), a heat sensing device purported to "prove pressure on nerves"¹ and, so the story goes, changed the chiropractic profession. The "neurocalometer debacle"² has been recalled by a number of writers since,³⁻⁷ many of whom agree that the NCM's introduction marked a turning point in BJ's authority. The episode may also have led to the formation of the Lincoln College of Chiropractic,⁷ divided the Universal Chiropractors' Association,² and ultimately, precipitated formation of the National Chiropractic Association (NCA), forerunner of today's American Chiropractic Association.⁸

Given the significance of BJ's "BACK-TO-CHIROPRACTIC-NEUROCALOMETER-MOVEMENT" (p.6)⁹ in chiropractic history, surprisingly little scholarly attention has been devoted to understanding the NCM's introduction. Perhaps owing to this neglect, much of the flavour of the event has been

Une révision et une analyse de l'introduction, en 1924, du neurocalomètre (NCM), un instrument sensible à la chaleur qui est supposé détecter «l'interférence nerveuse» (subluxation) sont présentées. Sont inclus les origines de l'appareil, les conditions et coûts du programme de location de B.J. Palmer pour le NCM, le rôle du NCM comme pièce centrale du mouvement de «retour à une chiropratique plus orthodoxe», le développement d'instruments compétitifs et les méthodes de B.J. pour s'occuper des contrevenants, les prétentions quant à la valeur clinique du NCM et les réactions de la profession au mouvement NCM. Il est suggéré que l'introduction du NCM offre un modèle de promotion peu éthique en terme de soins de santé. (JCCA 1991; 35(3):165-178)

MOTS-CLÉS : chiropratique, histoire de la chiropratique, charlatanisme, manipulation.

forgotten, and some discrepancies have apparently crept into the NCM saga.

There are, of course, many sides to this story. Reactions (pro and con) to the NCM and to BJ's presentation of the device and his continuing intransigence about its benefits have reverberated through the chiropractic literature for years.^{3,4,6,7,10-13} This writer is aware of at least one practicing chiropractor who continues to pay a monthly rental fee to Palmer College for use of the device, and of many chiropractors whose second-hand recollections of the NCM's introduction are decidedly negative. Surely, an event which prompts both intense loyalty and intense antipathy after so many years merits further scrutiny.

In order to better understand events surrounding the NCM's 1924 introduction, a review of the information provided by B.J. Palmer and the Palmer School of Chiropractic (PSC) was conducted. Two sources were relied upon heavily. All available issues of the *Fountain Head News* (FHN) from May 3, 1924 to November 22, 1924 were reviewed. The FHN was an irregularly published, usually weekly, newsletter produced "by BJ (himself)". The text of Palmer's apocalyptic speech⁹ at the 1924 lyceum, *The Hour Has Struck*, was also studied. Much of what follows, therefore is decidedly a view from the "Fountain Head", that is, a consideration of the NCM's introduction from

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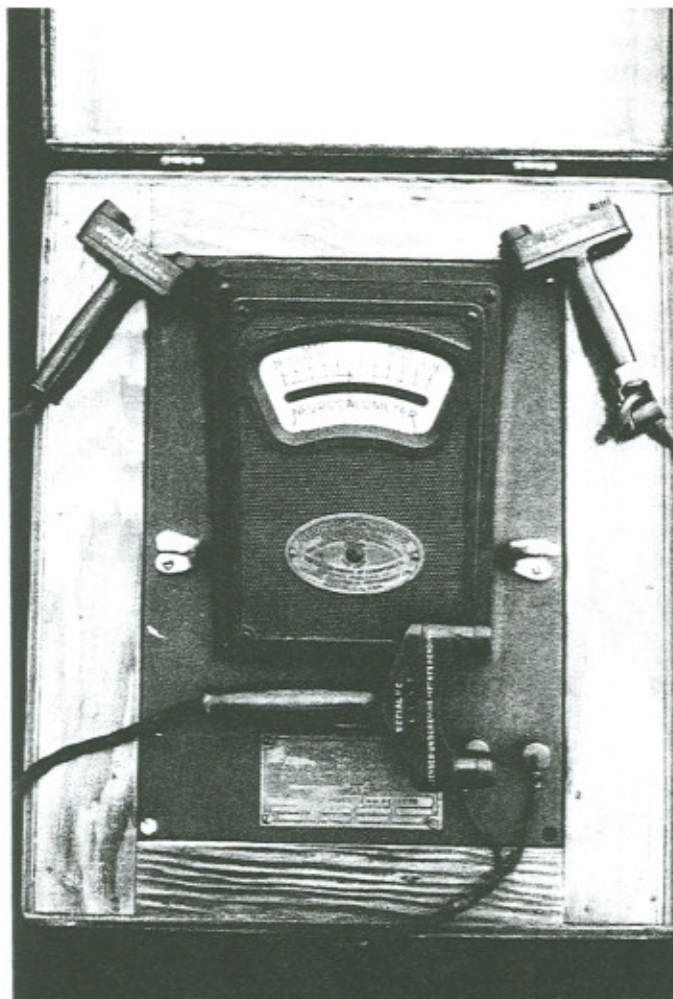


Figure 1 An early neurocalometer ("Serial No. 1443, Licensed under Evins Patents Pending"). Photo courtesy of Ms. Barbara Gordon Webb, Director of Library Services, Texas Chiropractic College, Mae Hilty Memorial Library Special Collection.

BJ's perspective. Whether or not BJ's writings on the NCM actually reflected his beliefs can be debated, but these documents leave no doubt about what he said to the profession about the NCM at the time.

There are several drawbacks to this sort of limited analysis of chiropractic historical events. First, the "cross-sectional" character of this analysis may introduce bias and error. A longitudinal perspective, for example, might have produced a more accurate, complete and comprehensible picture of the NCM and BJ's place in chiropractic history. Surely, Palmer's role in promoting the NCM was only one piece in a long and colourful career. In this study, however, a mere slice of chiropractic history (1923-1929) is considered, and so the "big picture" may be lost.

Secondly, it may be argued that the emphasis on a few literary

sources (the FHN and Palmer's lyceum speech) constitutes a too limited and biased sample, and will therefore fail to capture the breadth of the participants' activities and sentiments. In defense it may be noted that other sources that were consulted (see References) occasionally contradicted Palmer on details, but rarely on attitude and belief; BJ's views on the NCM seem to have been very consistent in this respect. However, a review of other sources of information (i.e., further research), such as BJ's *The Chiropractor*, might provide a more complete understanding of the NCM's introduction and BJ's program for it. Additionally, little effort was made to appreciate BJ and the NCM's introduction within the context of the profession's on-going legal and interprofessional struggle for survival and legitimacy.

Origins of the instrument

There is little dispute that Dossa D. Evins, DC, a University of Arkansas-trained engineer and 1922 graduate of PSC,⁸ was the inventor of the NCM. By one account,⁸ Evins' inspiration for the NCM derived from his observations of San Antonio, Texas chiropractor RS Marlowe, who sought "hot boxes" by placing the back of his hand on various places along the spine. According to this report, Evins enrolled at PSC specifically for the purpose of developing a device which would accomplish Dr. Marlowe's purpose instrumentally: the NCM.

Palmer reprinted the following acknowledgement of Evins contribution from the September 14, 1924 issue of the *Omaha Bee*:

"Laboratory work and experimentation on the new device was begun in 1920 by Dr. Evins, who is a graduate of The Palmer School. The invention was brought to the attention of Dr. Palmer in April of last year and both he and Dr. Evins combined their efforts in perfecting the new instrument . . ."¹⁴

This account essentially agrees with BJ's comments at the 1924 lyceum concerning the timing of his first efforts with NCM, i.e., during the early months of 1923:

" . . . Oh, I have been in some very unpleasant situations before, but none anywhere near equaling those of the past eighteen months. First, came my great battle to convince myself that the Neurocalometer was right. That covered 10 months. Second, knowing that THE PSC needed outside financial resources, I had to submerge its interests and weigh solely the scientific value of the Neurocalometer to Chiropractic and to you chiropractors. If it was a failure, we had to go down without it; if it was right, then I banked on you" (p. 31-32).⁹

Although it is often suggested that the NCM was first introduced to chiropractors at the 1924 lyceum, nearly a month before the college gathering BJ spoke of "the formal announcement made of the Neurocalometer"¹⁵ and that this announcement had produced an immediate demand for the instrument. BJ places the NCM's introduction to the field around June, 1924, several months before the school homecoming:

"... Now that it has been informally presented to the profession, it has been taken by storm..."¹⁶

and

"Neurocalometer deliveries is one of the big circus problems at THE PSC and has been from the beginning. At this time over 1,000 are in actual use - within four months..."¹⁷

Indeed, by the time of the historic lyceum, the device was well enough known to have inspired five "imitations", and these were on display at lyceum.¹⁸ Field testing of the instrument had apparently begun before the formal introduction in August, and had already prompted gradual increases in the rental fee to chiropractors:

"At first when the Neurocalometer was presented down East, it took the country by storm. They thought the price of \$500 pretty stiff, but it was worth it. Then came the raise to \$600, and some resentment. Then came that short-times raise to \$750. And then the storm burst loose..."¹⁹

The rising charges for these pre-lyceum NCM's had already brought BJ considerable hostility from the field:

"... I ran into many thousands of your human minds, with the multiplicities of varying misunderstandings, where you did not have the vision, that could not see beyond your immediate today pocket-book - minds that were prompted by their prejudices, hasty judgments and unfair conclusions; minds that gossiped, minds that ran to evil constructions..." (pp.31-32).⁹

The cost of the Neurocalometer

The NCM was offered not for sale, but by a leasing agreement with the PSC. The lease duration was 10 years, roughly the same amount of time as the patent rights on the device would last. At one time, the lease arrangement was apparently available only to PSC graduates, a condition which added "fuel to the controversy" surrounding the NCM and to the "fierce competition" for students among the chiropractic colleges.³ "Leasees were also required to charge patients ten dollars per NCM reading - conservatively equivalent to charging sixty dollars for that service today".³

As noted earlier, the pre-lyceum rental fee had varied between \$500 and \$750.¹⁹ BJ's historic speech at lyceum (August 24, 1924), "The Hour Has Struck", provided the opportunity to announce further increases in the cost of an NCM lease:

"The price until midnight September 14th remains the same. Beginning tomorrow morning at eight o'clock \$100 cash and 13 payments of \$50 each, each month, and when \$500 has been paid you will be entitled to your technique and your Neurocalometer... Those who pay the full cash of \$500 in advance now get preferential position and delivery over all-time-payment contracts. The price after midnight of September 14th will raise to \$2,200, or an increase of \$700. The

terms will then be \$200 cash and \$100 a month until \$1,000 has been paid, at which time you will be entitled to your technique and your Neurocalometer... this same easy plan has gone out to the entire field..." (pp. 3-4).⁹

This sales ploy was so successful, according to Palmer, that Western Union's local cash reserves were unable to keep pace with the "hundreds"²⁰ of incoming contracts on September 14. The next day BJ penned an article for FHN which proposed a further increase, from \$2,200 to \$3,000 for the 10 year lease, and tentatively set to take effect on January 1, 1925. The NCM, he explained, "has established itself, its earning values have been printed for your information, letters from users have been printed and distributed to you - it is no longer an unknown quantity. It has established itself..."²⁰ Two weeks later this threat was re-issued: "At the present writing, we are quite certain to make another raise from \$2,200 to \$3,000. The exact date is not set, but more than likely will be between now and January 1st".²¹ Quigley²² suggests that the price may have eventually reached "an initial fee of \$3,500 and a monthly rental fee of \$5", this is an age when "an expensive car costs \$1,000 and an average home could be purchased for \$3,500".

In response to a letter from attorneys representing a chiropractor who sought a less expensive NCM contract with guarantees of at least a partial refund if the PSC's patents did not hold up legally, BJ was intransigent. The Developer held firm to his price of \$2,200, and explained to the lawyers:

"We know that this contract is all that you think it is. It was drawn up, as is, intentionally. If you will read my two lectures (more particularly The Hour Has Struck) you will see where we have found that it is impossible to trust Chiropractic in its purity for posterity to the majority group mind of chiropractors, therefore we drew up a contract which gave us every advantage in its restrictions so that we could prevent them from doing in the future those things which have injured Chiropractic in the past. You will find all that explained in the lecture."²³

Outraged by the terms of the "standard" NCM and by BJ's condescending tone, the attorneys responded (and BJ reprinted):

"... In all our experience as practicing attorneys, nothing more closely resembling a fraud and a swindle has ever been brought to our personal attention than this proposition which your school is submitting to its graduates... she [our client] could not be misled by the mass of bad English and poor judgement displayed in your selling campaign... Mr. Lee, the senior member of this firm, believes that the promoters of this scheme ought to be prosecuted. However, I am inclined to be a little more lenient, as I am of the opinion that this is clearly a case showing arrested development and inferior mentality".²³

Palmer indicated that he had applied for multiple patents on the NCM in 17 countries. He justified his NCM leasing program

on the grounds that there were no other good options for bringing the NCM to humanity without injuring the chiropractic profession. The options according to BJ involved: keeping the NCM a school secret, selling the device to anyone who could pay the price, or leasing the instrument:

1. "... keep it as a school trade secret, and make the world come to us ... We knew that we could keep this a ONE-SCHOOL-DAVENPORT-IOWA-P.S.C.-SEVENTEEN-COUNTRY-MONOPOLY ... We knew that would destroy confidence in you, because we would be here the sole purveyors of that service to 17 countries ... Why, I could have built a hospital here ... That would have meant millions to me, but it would have meant total ruination to you (applause), for which I have been everywhere cursed as a grafter ..." (pp. 8-9).⁹
2. "... the SALES OUTRIGHT plan. This would reduce the price because we could sell more. The world would have been our market - 17 countries exclusively ours. That would include medical men, osteopaths, mixers, barber shops, beauty parlors, your next door neighbour, plumbers and everybody that had the money ... Chiropractic has now been made so simple that it can be given to the people direct ... Under that plan we could have sold to lay people, millions in number, in 17 countries ..." (pp. 9-10).⁹
3. "... the LEASE PLAN. This plan restricts the leases exclusively to chiropractors. It limits the number of sales to our profession. It limits it to a limited percentage of our profession, for all are not competent or qualified ... This will cull about 5,000 good out of 20,000, and lease a substantial number of competent and qualified chiropractors to construct a professional house that would be worth living in (applause), where we think and talk the same language and feel acquainted on the same subject ..." (pp. 10-11).⁹

Palmer suggested that there were actually two possible variations on the "LEASE PLAN": "restrictive" and "non-restrictive". The latter involved "... a non-restrictive letting down all bars, letting everybody do anything they pleased, thus using it as a method of further ruining chiropractors ..." (p. 11).⁹ The former was a "... restrictive plan, keeping up the personal, educational, professional, financial as well as legislative bars high, permitting certain things to be done only in certain ways, thus protecting Chiropractic against chiropractors as well as protecting competent chiropractors against incompetent chiropractors ..." (p. 11).⁹

This restrictive leasing plan was BJ's chosen means of implementing NCM-movement. The "SALES OUTRIGHT PLAN" was rejected as unethical. Although BJ claimed that the NCM had made chiropractic care so simple that the layman could now accurately detect subluxations, "... that man is dangerous who sells them to anybody and everybody without a proper and competent course in technique ..." (p. 10).⁹ The "trade secret" strategy was likewise rejected, on the grounds that it would have been selfish of the PSC to deprive the profession of the profits which the NCM-service would bring in. BJ would share the NCM's bounty with that 15-25 percent of the profession who deserved it by virtue of their adherence to straight chiropractic principles and practice.

The self-styled "Developer of Chiropractic" acknowledged that he would reap great financial profit from the Neurocalometer program, but justified this by suggesting that what was good for Palmer was good for Chiropractic. To his lyceum audience he indicated:

"You know we will make money on the Neurocalometer. I will be absolutely frank with you. We will make money on the Neurocalometer, but I promise you here and now to continue doing just what I have always done, to put every dollar we make on the Neurocalometer back into Chiropractic to feed the cow. Make me rich and Chiropractic profits. We will but make it all over into a better, bigger, busier Chiropractic and safer and saner chiropractors" (p. 35).⁹

The Neurocalometer movement

Much of the hostility toward the NCM seems to have derived from the very high prices charged for its rental from PSC. However, the sustained aversion by a sizable portion of the profession may be better attributed to BJ's wider program for the profession. Some critics have construed the NCM program as a response to the introduction of radionics devices by MDs and osteopaths. Whether or not Palmer was inspired by the financial success of Albert Abrams, MD's "Electronic Reactions" (pp. 105-108)⁶ or not may never be known. Certainly, Palmer's plans for the NCM were every bit as ambitious, and he viewed its introduction as a means of producing fundamental change throughout the chiropractic profession. From the Developer's perspective he was not merely marketing a device, but was organizing a straight chiropractic renaissance. BJ spoke frequently of his "BACK-TO-CHIROPRACTIC-NEUROCALOMETER MOVEMENT", and described it at length, including his rationale for its expense to practitioners:

"Why the high price!

1st - We will have a PSC traveling school with approximately ten men. Figure salaries and expenses at \$5,000 per month for ten years and see what an item that is - \$600,000. It will cost us \$1,170 to fulfill our ten years contract of services with you, for you. On every \$620 contract, we will lose \$550. On every \$1,200 contract, we will clear \$30. On every \$1,500 contract, we will have a profit of \$330.

2nd - With this profit, we contemplate a National Publicity Campaign on the Neurocalometer. Somebody has said that I will make \$30,000,000. That is three million a year. We have had a National Publicity Campaign of \$100,000 and it barely scratched the surface.

3rd - I anticipate the necessity of protecting our patents when they are allowed. That means a crew of lawyers and fees. You pay this for your own protection to your Neurocalometer.

4th - You brush aside the incorporation tax of 12.5 % and over. You brush away royalties, improvements, breakage, etc.

5th - WOC now covers portions of America consistently. Contracts have been let which multiply our power by 10. Five hundred watts now to 5,000 watts, or five kws. We will then be heard over the world, and will have one of the five strongest private broadcasting stations in the world. That will cost \$50,000 additional.

Why this? Just to spread the gospel for you!" (p. 29).⁹

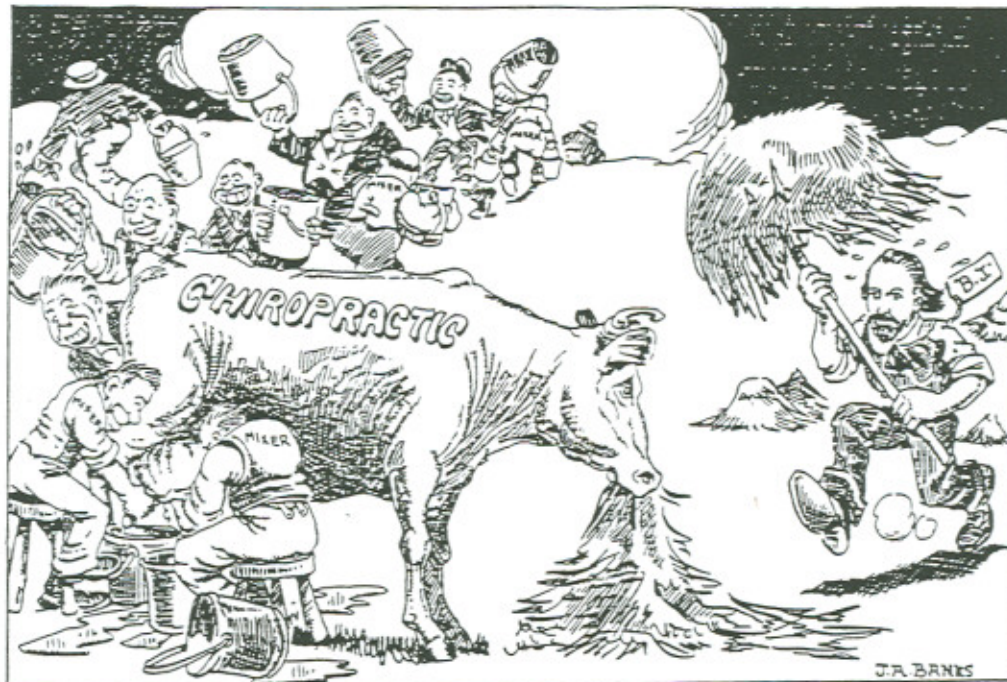


Figure 2 From the *Fountain Head News*, November 8, A.C. 30 (1924): XIV(7):3.

BJ made it clear to his FHN readers that he was the standard-setting authority in the NCM-movement:

"One of the designated intents and purposes of the Neurocalometer program IS THE ELIMINATION OF DIVERSITY AND THE ESTABLISHING OF ONE METHOD, in universal use in ALL offices that HAVE a Neurocalometer service to render . . .

ChiropractORS are where they are purely because they cannot be trusted to preserve ChiropractIC in its purity for posterity . . . you place us in a necessary position of ruling adversely to any person using any other technique than that taught you either at THE PSC or through our technicians when they called upon you".²⁴

Palmer repeatedly spoke of the NCM-movement as a way of sharing the burden of professional responsibilities for chiropractic with all those who had been benefitting from its practice, and as a means of allowing BJ to get his rightful share. In this regard, he likened chiropractic to a cow, and asked:

"Whose cow is Chiropractic anyway? It is more my cow or your cow? Must I always stand at the feeding end? Can't I get a glass of milk once in a while? Who is that man that speaks to me about the rights of the sick to get well? Who is that man that dares say I am the downfall of this profession? Do you know of any chiropractor adjusting for fifty cents when he could collect five dollars, just for the love of the rights of the sick to get well? Do you know of any reducing their price on the theory of their love for the rights of the sick to get well if he could get it?" (pp. 13-14).⁹

This sentiment was captured also in several cartoons published in the FHN (see Figure 2). BJ clearly thought of the NCM-movement as a means of purifying chiropractic of the "mixers" who he believed were enjoying the profits without concern for the principles of chiropractic. He saw himself as the rightful authority in straight or "real" chiropractic, a privilege he had seemingly inherited; in the same breath he also suggested that his actions were divinely inspired:

"You know, folks, Chiropractic is my birthright. It is my heirloom. I could no more do anything different than I am doing, because I am not the master of my own destiny. I am in the hands of an All-Wise Creator that carries me on and on. Everything I have or everything I ever have had, is . . . centered on Chiropractic and nothing else . . . Every dollar I have ever made - it is here and in you. You know that just as well as I do. I have given everything I have ever made back into Chiropractic - and that is more than the most of you can say who have been criticising me" (p. 30).⁹

The MOVEMENT, orchestrated from Davenport, would also involve local newspaper and cinematic advertising by individual NCM-practitioners. BJ and The PSC would provide for the marketing needs of the individual NCM-practitioner:

Neurocalometer leesees:

A pair of Movie Slides showing the Neurocalometer. Your name and

address printed thereon. Will fit any regulation machine. The Palmer School of Chiropractic.²⁵

Guidance in advertising the NCM was no less specific and detailed than instruction in the instrument's use. And, to the PSC alone was reserved the prerogative and responsibility of challenging "infringers" on the NCM patents:

ADVERTISING THE NEUROCALOMETER

"First, all language must be in the positive. All statements must be in the constructive sense. All fact must be reliable and truthful. Nothing must be said derogatory of those who have not a Neurocalometer. Nothing must be said against imitators or imitations. We will take care of all that here. Long drawnout inferences about the prices or conduct of other chiropractors' offices must be eliminated . . ."²⁶

In addition to the travelling school, in addition to a national publicity campaign, in addition to legal action to defend the instrument and its legitimate lease-holders from infringement by competitor devices and other chiropractors, and in addition to the promotions which BJ promised would emanate from the expanded broadcast facilities of his WOC radio station (p. 29),⁹ Palmer also encouraged the formation of "neurocalometer clubs". In October Paul A. Gannon announced the formation of the Neurocalometer Club of Northeastern Pennsylvania, which was open only to NCM-lease holders.²⁷ A week later the formation of the Pacific Northwest Neurocalometer Association, including members from British Columbia, Idaho, Oregon and Washington was reported.²⁸

Less than a month after the 1924 lyceum the FHN announced the amalgamation of the National Spinographic Society and the "Neurocalometer Society", and the election of BJ Palmer and Dossa Evins as first and second honorary presidents, respectively.²⁹ Although the introduction of the NCM may have threatened the role of x-ray in the profession and at the Fountain Head,³⁰ the amalgamation was welcomed by some x-ray enthusiasts, including Warren L. Sausser, DC, who would later pioneer the first 14 x 36 full-spine weight-bearing x-ray views of the spine.³⁰ Two weeks after the lyceum Sausser wrote to BJ to express his opinion about the amalgamated Neurocalometer and Spinographic Society and the NCM-movement:

"This organization, without doubt, will be the strongest and most popular organization in Chiropractic. The standardized brochure and standardized analysis slip used by the membership only, will, to my mind, play an important part in advancing our cause. I wish that you would comment on this so that I may govern myself accordingly. What would you suggest to be included on the Neurocalometer? Would you suggest someone else preparing something and I to take care of the spinographic phase, and then to combine the two? This brochure and analysis slip are to be copyrighted by the society.

BJ, I am sorry that more of the boys could not have been present at lyceum this year so that many of the doubts could have been disposed of. Most criticism comes from those who are really not informed of the facts. Regardless of what my opinions were before lyceum I am

now whole-heartedly behind the Neurocalometer. My appearance at lyceum this year has taught me a great deal, and in the future not the least doubt shall enter in, nor shall I be influenced until I hear both sides".³¹

The Palmer-NCM-movement was apparently also seen as a vehicle for increasing enrollment at the PSC.³ Prior to the 1924 lyceum Palmer had announced plans to discontinue post-graduate coursework for non-PSC graduates.³² This ploy was apparently intended to discourage students from obtaining their DC degrees elsewhere (from more convenient and/or less expensive schools), and then earning a post-graduate certificate from the PSC (which would entitle them to claim to be "Palmer graduates", and many chiropractors considered this to be a strong advertising advantage). After lyceum the FHN announced that "Future graduates of the PSC will have the privilege of Neurocalometer service in their practice";³³ the implication here was that non-Palmer graduates would be left out of the NCM program.

Competitors and their devices

During the months immediately before and after the historic lyceum the pages of the FHN were filled with news and warnings about the introduction of imitation devices which promised all the advantages of the NCM at a fraction of the cost and without the legal entanglements which Palmer's leasing program entailed. BJ raged against these "infringers":

"NOW the profession is almost revolting against those men who started out to give the chiropractors what they thought they wanted - because NOW they see that HE IS THE MAN WHO IS THE GRAFTER; that all HE is interested in IS money, regardless of what becomes of Chiropractic OR THE CHIROPRACTOR."³⁴

In BJ's opinion, the imitation devices and their proponents, including the "NEUROphonOMETER, NEUROther-MOMETER, NEUROpyroMETER",³⁵ the "hot box indicator"³⁶ and the "Potentiometer",³⁷ were fraudulent. Moreover, without the thorough training which the PSC provided its NCM-lease holders, the use of any device (including the NCM) to detect subluxations could be dangerous. These opinions were expressed prior to formal introduction of the NCM at lyceum:

"I say to you frankly and with all candor, any such person is dangerous and the instrument (whatever its name) will produce more BAD results than good. It were far better that he continue under his OLDER SYSTYEM without an instrument than to attempt to use an instrument without proper and competent technique being taught him ..."³⁸

and

"We have been keeping a close inside tab on EVERY infringement on the Neurocalometer and the net result is:

1st - There isn't one that is producing any instrument anywhere near equal to the Neurocalometer.

2nd - They have not the confidence of the profession at large.

3rd - The profession is not being fooled on the legal situation on patents-applied-for.

4th - They are not placing orders with any other firms, to any extent.

5th - If they do, they are waiting until it is all cleared up.

6th - The profession knows infringers are committing suicide, so they stand by and let them do it.

7th - Knowing full well that it is this type of fellow who has been a barnacle on the Chiropractic ship."³⁹

Prominent among the infringers and at the top of BJ's list for the prosecution once his patents were granted was the "J.W. Healey X-RAY COMPANY, representing Wm. Meyer X-ray Company of Davenport, Iowa". BJ enlisted Dossa Evins to threaten suit against this competitor and against chiropractors who purchased imitation NCM's; Evins letter was printed in the FHN.

"... These applications will shortly issue as patents and ... we will proceed against you, as soon as our patents issue, ... we shall bring actions against purchasers from you to enjoin them from using infringers devices bought from you ..."³⁹

Chiropractors who purchased and used any NCM-imitations were at legal risk, but BJ noted his pity for them, since they had not understood his vision of the NEUROCALOMETER-MOVEMENT:

"I took seriously the necessary prosecution of some poor fellow who has bought an imitation, because he wanted to save money, because I know I will have to prosecute him and cause him to chase more good money to make good the suit, all because he was being misled, because he could not grasp my vision of a great service" (p. 33).⁹

Misguided or no, anyone who attempted to provide Neurocalometer-type service with a bogus or imitation device would become targets for prosecution, and BJ sought the assistance of the field to identify such infringers:

HELP US GAIN INFORMATION

We want the names and addresses of any and all Neurocalometer imitators and imitations.

Get us the name of the instrument and names and addresses of not less than two patients who have had them used on them. With this information we will be properly prepared to carry out a much desired program for you and a much needed program for Chiropractic.²⁶

BJ would tolerate no competition in his vision of pure, straight and unadulterated chiropractic. For him, the NCM was a MOVEMENT destined to improve his profession, and chiropractors who objected were near treasonous:

"Every chiropractor who buys an imitation of the neurocalometer supports those who would destroy that program destined to save the Chiropractic profession; and any person who, in any way, encour-

ages, aids or abets any imitation, just that much strengthens him who would ruin this constructive program that would save Chiropractic in its purity for posterity" (p. 16).⁹

Included in BJ's list of infringers upon his patent rights were several rival chiropractic schools:

"But there's still another angle to this race. Look over the schools; here one, there one, many of them are creating imitations.

The minute the immensity of this professional-uplift-program dawned upon Chiropractic schools, and every other "Chiropractic" school (?), that minute each and every such began to put the questions to themselves to find out whether they were worthy or unworthy to continue living.

They find themselves the same as did the chiropractors as individuals.

Some of these schools have in "self-defense" gone into the manufacturing field; others are acting as jobbers in buying and selling – at any rate they are creating a demand for NeuroXYZ-meter service in their students' minds, they are building up a clientele, a patronage based upon the Neurocalometer-service-idea . . ."⁴⁰

Palmer did not name which chiropractic institutions were promoting imitation NCM's, but apparently expected (or at least intimated) that other schools would follow suit. BJ also likened resistance to his BACK-TO-CHIROPRACTIC-NEURO-CALOMETER-MOVEMENT at the major rival colleges to the controversy surrounding his earlier (circa 1910–1911) introduction of x-ray. He expected Joy Loban, DC of the Universal College and Arthur L. Forster, MD of the National School to come around eventually to his point of view:

TIMES CHANGE MEN

"How well and vividly do I remember, a few years back, when the X-Ray was introduced to detect the correct POSITION of vertebrae, both normal and abnormal, in alignment and in subluxations.

The field split on the question. A few saw its value and began to take it up at once. Some of THE FIELD held off and waited "to see". Today – some 13 years later – it is an accepted form of technique by the entire field. Few chiropractors but what are for it.

The schools split. On one side – THE PSC. On the other side – ALL OTHER schools. Loban became bitterly opposed, and wrote much against this 'form of mixing'. Forster wrote much and said much more against its use. Other schools took much the same attitude, all trying to stem the tide of the new movement, not because the movement was wrong, BUT BECAUSE ONE B.J. PALMER ADVOCATED IT. Today – some 13 years later – Loban writes for Spinography, teaches it, uses it, advocates it. Today – some 13 years later – Forster puts it first in value to detect subluxations.

Now comes the Neurocalometer idea. Loban is neither for nor forinst, he is riding both waves, ready to jump either way that proves to be the most popular. Forster will come too on this the same as they did on Spinography. They move upward only as the field forces them to come in.

Times certainly do change men, but with some it takes a long, long time!"⁴¹

Virtues of the Neurocalometer

From Palmer's perspective the NCM was a remarkable health care innovation whose multiple uses and advantages, according to a sample letter prepared for patients, included:

" . . . The Neurocalometer is a very delicate, sensitive instrument which, when placed upon the spine:

1. Verifies the proper places for adjustments.
2. It measures the specific degree of vertebral pressures upon nerves.
3. It measures the specific degree of interference to transmission of mental impulses as a result of vertebral pressure.
4. It proves the exact intervertebral foramina that contains bone pressure upon nerves.
5. It proves when the pressure has been released upon nerves at a specific place.
6. It proves how much pressure was released, if any.
7. It verifies the differences between cord pressure or spinal nerve pressure cases.
8. It establishes which cases we can take and which we should leave alone.
9. It proves by an established record which you can see thereby eliminating all guesswork on diagnoses.
10. It establishes, from week to week, whether you are getting well or not.
11. It makes possible a material reduction in time necessary to get well, thus making health cheaper . . ."⁴²

Indeed, the Developer could hardly find sufficient superlatives to describe the new device:

"Along comes the **Neurocalometer**. You hear me tell much good about it. You hear me say that it is "THE MOST VALUABLE INVENTION OF THE AGE BECAUSE IT PICKS, PROVES AND LOCATES THE CAUSE OF ALL DIS-EASES OF THE HUMAN RACE"⁴³

and

" . . . we finally realized that we had in our profession the most valuable idea that has ever been given by man for man in the history of the world, the appalling immensity of the thing grew upon us . . ."⁹ (p. 8).

and

" . . . No less a great international authority than Mr. Thwing of Philadelphia, the man who is the world's greatest pyrometer expert, the man who has written a book of physics on pyrometers, the man who holds more patents on pyrometers, than any other man in the world, has examined and investigated the Neurocalometer, and he claims it is the greatest invention he has ever seen" (p. 18).⁹

Again and again Palmer insisted on the scientific value of NCM, and how it would improve health outcomes for chiro-

practic patients. Exemplary was a recommended letter for soliciting patients for the NCM service:

Sample letter for NCM users only

"Medical doctors have said, 'DEMONSTRATE to us your theory that subluxations in the spine cause PRESSURE upon nerves, and that by replacing those subluxated vertebrae to normal positions, you release pressure upon nerves, and we will believe.' They said it couldn't be done - and time only seemed to prove them right as far as actually demonstrating the fact. The only demonstration we could offer was that people got well when we replaced the subluxation, but we could not actually demonstrate that we released pressure upon the nerves.

... Dr. Palmer has perfected an instrument which DOES prove the above point - and goes way on beyond that. It proved so many things that it was no wonder that small group of chiropractors were enthusiastic.

It proves pressure upon nerves. It proves the exact spot where that pressure is. It measures the exact degree of pressure at that point. AND - it does more. It checks immediately after an adjustment whether a proper adjustment was given, by registering whether the pressure was removed from the nerves".¹

Claims for the new instrument, including its superiority over palpatory and x-ray methods of subluxation detection and its ability to reduce costs to patients, were based, Palmer argued, on extensive scientific research:

"Experimental work on approximately a thousand cases had proven there are many subluxations in the spine which the X-Ray does not locate, causing pressure upon nerves. This instrument locates them. Experimental work also shows that by using the instrument as a check, results can be obtained in from one-fourth to one-half the time now necessary under the present method. In other words, should it take 100 adjustments to get a case well now, it would take only 25 to 50 to get the same case well using the new NEUROCALOMETER."¹

So superior was the device that even BJ himself could not find subluxations as accurately as the NCM:

"... Eighteen months of education when focalized down to a pin point means where to pick majors and why ... in 30 minutes the Neurocalometer can do more in picking correct majors than anybody attending school for 17 months, or more than I can do after 28 years ..." (p. 9-10).⁹

Chiropractors' response to the NCM

BJ found a receptive audience among many chiropractors. The pages of the FHN before and after lyceum were filled with hundreds of accolades and testimonial letters from chiropractors who had tried the device and felt it lived up to BJ's claims, or whom had accepted the instrument based on their faith in BJ *per se*. Many also voiced their belated recognition that the NCM marketing strategy, rather than being a self-serving ploy for the PSC's and BJ's profit, would greatly benefit the profession.

Many chiropractors wrote in to accuse themselves of having lacked faith in Palmer, some in prose (see Table 1).

This support was far from universal, however, and BJ apparently received many negative communications. A very few of these were published, but the majority of the correspondence in the FHN was extremely enthusiastic about the NCM. However, according to the Developer, the deluge of derogatory comments from field doctors had caused him to dread his appearance at lyceum:

"... For once I have looked forward with the deepest depression to facing you tonight. I didn't know! I have known what has happened the last three months, but I couldn't know what about tonight, or what about the tomorrow.

Oh, I can forgive! I can forgive! But how can I erase out of my memory the ugly gashing, the ugly scars, that so many have so recently made? That is human! ... Oh, I can forgive, because you did not understand" (p. 33).⁹

But the Developer was not playing to the whole profession; in fact, his NCM leasing plan was specifically tailored to a "limited percentage of our profession" (p. 10).⁹ Nor was he concerned for the majority of chiropractors, whom he considered "unworthy" (p. 10),⁹ ungrateful:

"... I may be no angel I have made mistakes the same as you, but at that where would you be today if it had not been for THE PSC and us?" (p. 6).⁹

and self-serving:

"Chiropractic, as a movement, is no different than a body with its functions. You must feed a body to keep it functioning, and you must feed Chiropractic if it is to keep on functioning. Out of 20,000 who call themselves chiropractors, 13,000 are milking the Chiropractic cow. Three thousand turn their Chiropractic cow into somebody else's pasture; 1,000 now and then give the Chiropractic cow one week's board ... 3,000 of us have been feeding that cow for 20,000 milkers for years ... For 28 years thousands have been milking, and they resent it now when we three thousand insist that they do some feeding ..." (p. 13).⁹

But if BJ was undissuaded by any negative reaction to his NCM-movement by the majority of the profession, he was insistent about the support of PSC faculty. The details are unclear,^{7,22,44-46} but it seems that some aspect or aspects of the NCM-MOVEMENT prompted the departure from the PSC of at least five core faculty members (James Firth, Harry Vedder, Stephen Burich, AE Hendricks, and Earnest A Thompson), all of whom were involved in the founding of the Lincoln College in Indianapolis.⁷ By one account their departure was prompted by BJ's failure to involve these men in the NCM's early development:

"... BJ failed to confide in his most influential faculty members. Instead, it appears that he made a unilateral decision to accept the

TABLE 1

BJ's RIGHT AGAIN!*

I "cussed" BJ with all my might
I hated all his ways;
I could not see the light he held
But now - I sing his praise.

Like others, I admit I thought
These efforts for his gain
But now I see he's protected me
When I would him have slain.

The new **Neurocalometer** -
This contract I must sign -
This "technique" and this "red tape" stuff -
The whole "mess" made me whine!

I "ripped him up the back" a few -
Would have "cussed" him was he here;
But now, I sing a different tune,
My madness turns to fear.

I see a different light just now -
'Twould all have meant my ruin;
It makes me take another vow
To cut out so much stewin'.

The things we worry most about -
These things which kill our song -
They never happen half the time,
So **this time** we were wrong!

The M.D.'s and the Osteopaths
And every Tom and Dick
Would have owned a "Neurocal,"
Had not BJ been slick.

Now, as it is, he protects us
And all our true profession
He thinks ten miles ahead of us
While we trail the procession.

He lifts our science from the mire -
To it a new life gives
Now every tortured sufferer
May look to it and live.

Thus dawns an era new and bright
And Chiropractic's fame
Proclaims a new hope for the sick,
To honour BJ's name.

No more groping in the dark,
A new light now appears
To guide the chiropractor's hand
And stay the patient's fears.

So we can say to those who sick
And suffering roam the earth:
An **exact science** now we have -
'Twas BJ gave it birth.

You will agree now (when you see
'Twas not all done for "self"),
Instead of kicking B.J.P.
We all should kick ourself.

by B.K. Vance, D.C., Ph.C.
South Bend, Ind.,
7-14-'24

* reprinted from the **Fountain Head News**, Saturday, July 26, A.C. 29 (1924), XIII (24-A):5.

instrument, then appointed a select group to secretly conduct research on the instrument and its clinical use. On the eve of his announcement to the lyceum, he virtually demanded complete support from his faculty, making it clear to them that if they couldn't support him, he didn't want them in his school. Having been kept in ignorance, there were a number who were unable to accept this dictum."²²

However, it seems doubtful that the Palmer faculty could have been wholly unaware of the NCM, its cost, the marketing program or the extraordinary claims made for the instrument. According to BJ the NCM had been in daily use in the PSC

clinic, and required eight technicians to keep up with patient demand. Additionally, at least some of the leasing terms had been published,¹⁹ and the pending patents on the NCM had been discussed at length for months in the FHN. In fact, Dr. Vedder consented to introduce Palmer for the opening address (The Hour Has Struck) at the 1924 lyceum, which suggests his initial approval of the NCM and BJ's program for it. Moreover, several months after the historic lyceum BJ indicated that his faculty supported the program:

"It is interesting to show the confidence The Faculty of THE PSC have had in one B.J. Palmer and in the Neurocalometer. Of their own

free will and accord the following instructors have purchased Neurocalometer contracts from THE PSC, buying therefrom the same \$1,200 contract that any of you bought: FW Elliott, SJ Burich, HE Vedder, JH Firth, JH Craven, AB Hender, EA Thompson, HL Gaddis, Roy Maybach, Karl Stephan, Clyde Hall, AL Willis, Herbert Hender, AG Hinrichs, R Richardson, Clyde Kern, RW Stephenson, EL Nott, LY Willes, CA Russell, WL Heath, Jr., CF Stoddard, CC Flanagan, Donald Kern, HL Yinkemeyer."⁴⁷

Perhaps it was the continuing emphasis on monetary vs. professional issues, or the rising costs of leasing the NCM, or restrictions on academic freedom, or some combination of these factors which prompted the faculty members to resign. Perhaps, as Quigley⁴⁵ suggests, the most that can be said given our current knowledge of this episode is that the schism that produced Lincoln College of Chiropractic was not due to any single event. In any case, it would be recalled that the founders of Lincoln "had no respect for the neurocalometer."⁴⁶

Whatever the specific source(s) of their dissatisfaction, the Lincoln chiropractors' discontent with the NCM would be echoed by many in the profession. Among these were the sentiments expressed by Watkins some eight years after the historic lyceum;¹² Watkins had been a student at PSC during 1923-25:

"The neurocalometer is a name given to an instrument formed by the combining of the galvanometer and thermocouple for the purpose of detecting "nerve heat". These latter two instruments have long been used as a unit to determine the relative temperature of two given areas, and is scientifically accurate when thus used.

The use of the Neurocalometer as a Chiropractic diagnostic adjunct is based on the assumption that nerve interference gives rise to changes in the temperature of the surrounding surface tissues and that, by the recording of this, nerve interferences may be detected. It is concerning this assumption that controversies over the Neurocalometer arise.

Unusual circumstances, not found with other modalities, surrounded the patenting and distribution of NCM. Besides being patented basically, it is covered by a process patent. It is not sold, but rented on contract. Due to the peculiar circumstances of its distribution it can be valueless as a Chiropractic adjunct. By high pressure promotion it can be sold; its value judged only by the distributor and those entering the contract. The "purchaser's" sole reliance is his confidence in the producer. Since being placed before the Chiropractic profession, the Neurocalometer has seemingly been under unparalleled promotion. However, as the time for the expiration of the patents approaches, this promotion becomes more vicious and vigorous.

Whether the NCM is of real value to our profession and whether it can become a standard part of Chiropractic cannot be determined until the patents expire. It can then be sold as all other adjuncts are, tried as all other adjuncts are tried, and generally used by the profession as a whole rather than by a small enthusiastic group. Until such time Chiropractors cannot use them with assurance that they are not deceiving the public as well as themselves.

The process patent and vigorous promotion has . . . discouraged further research in that line. It has also caused the Chiropractic profession much embarrassment and ridicule. We may expect more drastic means of promotion as the time for the expiration of the patents approaches and it will be sold at any cost . . .

In reply to the question, can NCM be considered a standard modality as applied in the Chiropractic profession, we should answer, "No". Promotion has deprived it of any possibilities it might have of becoming standardized in the near future. Time only can determine its worth."

Watkins' prediction concerning "more drastic means of promotion" as the patent rights came due to expire may have been partially accurate. According to Homola,⁶ a 1956 graduate of the Lincoln College, BJ seemed to have planned for the end of his patent rights on the NCM:

"In 1935, 11 years after Palmer introduced the Neurocalometer and about one year after the 10 year lease many chiropractors had on the device ran out, Palmer introduced the neurocalograph, which was essentially a neurocalometer that made an automatic graph of "nerve interference" as it was found. By 1953, the Palmer School was also employing the use of a "chirometer", an improved neurocalograph that was supposed to determine whether or not nerve interference existed and, after treatment whether or not the nerve interference had been removed . . . It was obviously a brilliant piece of salesmanship when used in conjunction with the chiropractic adjustment."

Success of the Neurocalometer program

From the perspective of "chiropractors" (i.e., the profession at large), the NCM-movement was "significant enough to change the whole course of chiropractic education and politics for the rest of the century".⁴⁸ The "mixers", however, did not feed the chiropractic cow, at least not as BJ publicly predicted (Figure 2). Rather, the field split into "those who leased and those who either could not afford to or were not convinced" and those "who felt exploited".²² Gibbons⁵ describes a "massive wave of defections of purists followers" from BJ's camp in the aftermath of the NCM's introduction. Watkins (p. 23)¹³ would suggest of the NCM-movement that it "represents an attitude which is contemptible and grossly unethical in the field of science", and the dissident PSC faculty who had formed the Lincoln College would lead (with National and Western States) in challenging BJ's authority among the schools⁷ and throughout the profession.⁴⁸ Dissatisfaction with Palmer and with the "intimidation" policies (p. 279)⁸ of the Universal Chiropractors' Association (UCA) had already been growing. Now it reached into the UCA to such an extent that BJ resigned⁴⁹ to form (in 1926) the Chiropractic Health Bureau (today's International Chiropractors' Association). By 1930 the UCA and other organizations had merged to form the National Chiropractic Association, immediate predecessor of today's American Chiropractic Association. Yet that "hard core of believers"⁵ who remained loyal to Palmer were intensely so, and in this sense may have achieved the Developer's purpose: to preserve "real" Chiropractic "in its purity for posterity".

From a financial perspective the NCM seems to have worked, at least in the short-term. Quigley,²² who is BJ's wife's nephew, described the years immediately following the NCM's introduction as "a period of extraordinary prosperity for the Palmer School". According to Quigley²² "classes filled, debts were paid and plans for additional buildings were drawn"; the prosperity would continue until the stock market crash of 1929, in which the Palmer family suffered substantial but not total financial loss. Gibbons⁴⁸ account differs somewhat; he suggests that the PSC's enrollment declined from over 2300 in 1922 to less than 500 in 1927, apparently due to dissatisfaction with the NCM. These two versions may not be irreconcilable: a successful marketing of the instrument may have produced sufficient profits to more than offset any loss of students and tuition at the PSC. Quigley²² suggests that as many as a thousand NCMs may have been leased in the first year after lyceum; this suggests at least several millions of dollars in revenues, a fabulous sum in the 1920s. BJ and the PSC rode out the depression years, and the school eventually revived with the influx of veterans after World War II. Through it all, rentals of the NCM (and derivative instruments) continued, and a firm core of true believers in BJ and his device remained loyal and propagated. Today, Palmer College of Chiropractic continues to provide repair services for the NCM, although new contracts for the device ceased to be issued about 1989-1990.⁵⁰

Conclusions

In the politically charged environment of the chiropractic profession any interpretation of the value, meaning, or lessons of the NCM's introduction is bound to meet with objections. Although the Developer has been gone for 30 years, still his spectre hangs over the profession. Elements of BJ philosophy, theory, technique, instrumentation and marketing strategies are still very central to many doctors' orientation to chiropractic, and though few can still recall the NCM's introduction, many can recall the man.

So be it. This paper has reviewed the NCM event as BJ described it. Yet, there are several summary comments and speculations about BJ's BACK-TO-CHIROPRACTIC-NEUROCALOMETER-MOVEMENT which seem warranted (to this biased writer's eye):

1. BJ considered it his prerogative, by right of birth, through divine inspiration and by virtue of the correctness of his (chiropractic) principles and in compensation for his dedicated service to chiropractic, to set clinical standards for chiropractors.
2. Palmer sought to police the profession and to enforce NCM-standards with the legal authority granted by the NCM patents.
3. BJ considered high-pressure salesmanship an acceptable tactic in marketing this clinical device to the profession.
4. The NCM's integrated training-marketing-advertising-patent-protection program was not intended for the benefit of the chiropractic profession as a whole, but for the subset of chiropractors whom BJ considered "principled", especially

graduates of the PSC. Palmer sought to rally the purists.

5. Despite the exuberance of the claims made for the NCM, no references to any published scientific evidence for the validity of its subluxation-detection abilities were offered. Testimonials, however, were legion. The NCM was a scientifically unsubstantiated clinical assessment procedure. We will probably never know how sincerely BJ actually believed in the value of the NCM; a later NCM-incident,¹¹ however, suggested that the scientific validity of the instrument was not an important issue for the Developer.
6. The NCM program was intended to produce considerable revenues for straight chiropractors who participated, especially Palmer. BJ promised to re-invest the profits in Chiropractic.

The revolt against the NCM and the decline of Palmer's leadership in the profession was based less on any perceived lack of legitimacy of the instrument than on BJ's "hucksterism"⁵ and abuse of the authority and trust many chiropractors had placed in him. The "Fountain Head" of chiropractic had become a source of professional tyranny. Although Dossa Evins' new technology would survive and proliferate (in the form of many derivative instruments), BJ's status as chiropractic's "maximum leader" would not be sustained.

In some respects Palmer's NCM-movement may be seen as an extension of that mandate which BJ claimed to have inherited from the founder. "Old Dad Chiro"⁵¹ had suggested that "... The science can only be developed along the lines laid down by the founder" (p. 876)⁵¹ and:

"When Chiropractic was an infant, 'Old Chiro' thought there was no possibility of losing its identity, or ability, but he has discovered that established remedies, ignorance and unprincipled shysters would soon smother his pet if it were not for the parent school.

There are many who claim to practice Chiropractic who know but little or nothing of it. The discoverer and developer has been heard to say, 'It came near getting away from me'. It is therefore the purpose of this book and the parent school to teach this modern science unmixed. Those who desire to practice it with other methods have a right to do so, but if they call the mixture Chiropractic, they will hear from us publicly through our monthly journal" (pp. 38-39).⁵³

But where the founder of chiropractic was content to scold those who breached his standards of theory and practice, BJ determined to exact a price and to enforce a technique standardization and a purification of the chiropractic ranks. The NCM-movement was BJ's strategy for exercising his birthright authority.

Also worthy of consideration is the value of the NCM's introduction as a model of quackery, that is, as an example of the promotion of "health schemes and remedies known to be false, unsafe, or unproven for financial gain".⁵⁴ Given the lack of published evidence of the experimental validity of the NCM, the claims made for the NCM were not scientifically substantiated, and may be seen as a breach of the trust which patients give to doctors. However, with several noteworthy excep-

tions,^{12,13} the revolt against Palmer and the NCM program seems to have resulted more from a sense of the Developer's unfairness to his fellow chiropractors rather than to patients. Indeed, the profession, as a unified body politic, has never truly renounced the marketing and advertising excesses modeled by BJ, and many clinical procedures and innovations since are noteworthy for the extraordinary and unsubstantiated claims which are made for them.^{55,56} Exemplary are the continuing claims of the American Chiropractic Association in its anti-steroid publicity campaign, which assert the "proven" value of chiropractic care in increasing athletic performance:

"... Chiropractic procedure not only corrects athletic injury but also enables your body to operate at peak efficiency without the use of drugs or medication..."⁵⁷

and:

"... Chiropractic is a drugless, non-surgical method of procedure which has been proven effective for improving performance..."⁵⁸

Many chiropractors ("straights" and "mixers"), it seems, may have rejected the man, but accepted his marketing methods.

The NCM's introduction is one of those critical episodes which significantly helped to shape the profession's evolution. A variety of other incidents (such as the formation of the NCA and the federal recognition of the Council on Chiropractic Education) likewise merit review if we are to benefit from their inherent lessons. Unfortunately, the history of chiropractic has not been a very valued area of scholarship.⁵⁹ Hopefully, this paper will suggest the importance of "historical chiropractic".^{60,61}

Acknowledgement

This project was supported by the National Institute of Chiropractic Research. My thanks also to the archivists of the David D. Palmer Health Sciences Library for assistance in retrieval of source materials.

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