

# "Analytical Certainty"

by James Healey, DC

Chiropractors use many methods in attempting to correct vertebral subluxations. Logically, with more than one method, one must be the best and the others something less. Like the preschool toy consisting of a box or board with various shaped holes and an array of shaped blocks, it's sometimes possible to get the hexagonal block in the round hole, but the round peg fits the best, and square pegs don't belong in round holes but can be made to go in with a big enough hammer. It is logical that for a given subluxation there is a perfect adjustive force, having the greatest potential for correction and the least potential for trauma. The key to great technique is to find that force. The key to finding that force, however, is in knowing the nature of the subluxation.

A technique based on sound understanding of the subluxation will prove to be the best. When one uses a valid means of determining vertebral subluxations, it becomes a relatively simple matter to use pre- and post-checks to know whether the technique effected an adjustment. The introduction of an adjustive force may have many different forms and must be tailored to the individual subluxation. There will be no "best" technique, except the one that allowed the adjustment to take place at that moment in a particular person. The benefits can only be realized, though, when we think more critically about our methods and when analytical certainty becomes our expectation.

Methods or techniques must be validated as to their appropriateness within chiropractic. A technique is not validated by whether it changes a select group of parameters or by the assertion that it is intended to find or correct subluxations. Neither is validity defined by consensus or popularity. One can talk about technical excellence at length, but if the method does not have sound philosophical roots it is like a cut flower stuck into the ground. It will impress at first, but soon it will wither and die. Alternately, claiming allegiance to philosophy without actually or practically achieving it is like gardening without seeds. Wanting to have flowers, even if you really want them, is impossible if you don't take the steps necessary to grow them or if you do something else entirely unrelated such as build a birdhouse. So it is with chiropractic methods of

analysis and adjusting. Philosophical pertinence and practical reality are essential.

The pursuit of technical excellence without philosophical roots can seem quite productive but, as said earlier, it will ultimately result in failure of the system. It usually stems from confusing precision with validity. Precision is the degree to which the measurements or standards of the parameters can be known. As an example, it is possible to measure the length of a board with a grade school ruler, let's say, to the nearest  $\frac{1}{8}$  inch, the smallest unit on the ruler and taking into account that we have to move the ruler to make multiple measurements if the board is more than a foot long. It would be more precise to use a quality carpenter's tape measure with a greater span and divisions as small as  $\frac{1}{64}$  inch. A concern for technical excellence, in this case, would mean that one would choose the carpenter's tape measure for the greater precision it offers over the ruler. There may even be other methods or other devices for measuring the length of the board which offers still higher precision. I imagine it's possible now, using scanning beam microscopy, for instance, to actually count the number of atoms lined up along the edge of the board. It may not be necessary to be so precise, but if it is, then that requisite method should be used for technical excellence to be achieved.

Validity is much different – and much more important. It is the philosophical precedent of precision, if you will, in that it determines why the particular method of measurement is used. To know if something is valid, the question has to be asked, Does it actually do what it's supposed or purported to do and does it help me know what I need to know? In our example, the goal was to determine the length of a board. Length-measuring procedures and devices are valid ways of measuring length. If the goal was to determine the weight of the board, though, all the length-measuring devices in the world will not be as good as even one simple bathroom scale. The scale is a valid way to measure weight. Using a tape measure, no matter how precise, to measure weight lacks validity. It doesn't matter if it was your intent to use it to measure weight; it simply lacks validity in that realm.

Similarly, a chiropractic analytical method is not validated simply by precision or intent. Multiple parameters of the human body can be measured, many with amazing precision, but not all of them reveal useful information about vertebral subluxation. It's not enough to say that the

parameter you're using is related to subluxation. It must actually be so. It is necessary to use analytical data that are consistent with vitalism, with the physiological reality of the body and with a chiropractic understanding of life. It is certainly necessary that they be measurable and that the mensurations be repeatable, but that alone is not enough.

Sometimes, however, it may be impossible to make a direct measurement. That doesn't automatically mean the method is not valid. It will, more ostensibly, require that we have a sound deductive premise from which to work and employ sound reasoning. Much of what we still use as our model for the workings of the universe came from the thinking of Albert Einstein whose deductions allowed him to predict the results of measurements that wouldn't be practically possible until years or decades later! His premise and his reasoning, though abstract, were sound and logical. Despite coming much later, the measurements that confirmed his calculations were real and the validity of his thinking was tested and established.

Chiropractic analytical methods must be valid before precision is even to be considered. If the goal of analysis is to locate and characterize vertebral subluxations, then the analytical method must be pertinent to doing that. That means they must either measure the subluxations directly or measure reliable sequellae.

Measuring vertebral subluxation directly presents certain challenges. The subluxation has four fundamental components or, for sake of this discussion, parameters; i.e., misalignment of a vertebra, occlusion of an opening, impingement of nerve tissue in such a way as to disturb its function, and interference to the transmission of mental impulses. Let's look at these to determine how or if they may be measured in valid ways.

Misalignment of a vertebra, the occlusion that occurs at the level of the intervertebral foramen or the neural canal, and the impingement of nerves are three virtually inseparable elements. Impingement occurs because the opening is occluded because the vertebra is misaligned. One unavoidably follows the other. The key consideration here is that the primary factor, the misalignment, cannot be measured. Now, I know some of you are thinking, "Whoa, wait a minute! I learned x-ray analysis in chiropractic college. I can measure misalignments down to a fraction of a millimeter." To that, it needs to be asked, Misaligned with respect to what? Where

should the vertebra be? There's no doubt that x-rays may be taken in such a way as to reduce distortion, assure reasonably consistent subject placement, etc., but let's not forget that, even measured with precision, it's not possible to measure Innate Normal position. Innate Normal position is that position determined by the Innate Intelligence of the body to be optimal for the given circumstances. It's not always geometric normal position. It's not even a constant location! Well, then, if you can't know where the bone should be in space, you can't possibly know if it's not in that position based on such a measurement. X-ray findings, or anything else that is designed to measure spinal or skeletal geometry (including motion studies, which are, in effect, no more than many individual positions considered sequentially), for this reason, have no philosophical and, therefore, no practical relevance to the finding of a vertebral subluxation.

Would it be of value to measure mental impulses? Yes. In fact, it would probably be the most direct means of determining when and where a subluxation existed. The mental impulse is the only one of the four elements of a subluxation that has a uniquely vital quality. Bones, openings and nerves are present in a corpse; mental impulses are not. Mental impulses represent the interface between the immaterial nature of the principle of organization (i.e., Innate Intelligence) and the matter that is being organized to exhibit what we recognize as life. The mental impulse, then, is certainly the best or most direct indicator of the activity of the Innate Intelligence of the body in this context. If one could actually measure the mental impulse then it could also be determined when there was interference to its transmission.

Is it possible, though, to measure a mental impulse or interference to the transmission of mental impulses? No, at least not at this time. Mental impulses are not the same as nerve impulses. Mental impulses embody information. They're not simply electrochemical events. If we can allow ourselves to oversimplify the subject through analogy without trivializing it, there's a huge difference between a telephone repair technician's ability to measure some activity on a phone line and his ability to actually know that it's a meaningful conversation and what's being said. It may be that the activity on the line is nothing more than static. It may be that the line is actually being used in a conversation but that it's in a language the technician doesn't understand. It may even be nothing more than meaningless gibberish.

To date, there is no way of deciphering or detecting a mental impulse. I doubt there ever will be. We don't understand the body's language. How would you know if there was interference to the message if the words – the individual building blocks of those messages unique to the individual – were foreign or unintelligible to begin with? Beyond that, we see technology advance exponentially and, still, it's estimated that we know only a small percentage of what the body does or is capable of doing. Imagine trying to understand its language or just its vocabulary for all the things we don't even know about.

A better approach is to determine what happens in the body when a subluxation is present - and even that is a difficult proposition. For any measurable parameter, it is impossible to know empirically what it should be (with respect to what Innate Normal is) and, therefore, equally impossible to know when it's deviated from that point. Chiropractors readily acknowledge that one cannot know what the body temperature should be, what the blood pressure should be, what quantity of bile the liver should produce each day, etc., but, ironically, they measure leg lengths, muscle reflexes and strengths, breathing cadences, skin and core temperatures, etc., as if they know what they should be. The chiropractor can't know – only the Innate Intelligence of the body can know – therefore, these are not valid ways of determining whether what is happening in the body is representative of improper function due to a subluxation.

Pattern work is a system of using parameters in a different way. Rather than attempt to interpret the measurement compared to some absolute value of what it should be, the assumption of pattern work is that the parameters' values should change. The idea is that living things exhibit adaptability and, therefore, should be constantly adapting. The conclusion is that the parameters will change (as a result of the adaptations) with the corollary that a stagnation, or fixed pattern, of those parameters indicates that subluxation is present, interfering with the body's ability to effect their change. It is intended to be used as a method of determining when a subluxation is present.

The idea that the body adapts (or, more accurately, attempts to adapt) to changes in its surroundings is incontrovertible. It is a sign of life. The assertion that one can knowingly measure this, however, does have some weaknesses. The expression of the Innate Intelligence may be so

successful in how the whole body is used for adaptations that a single, particular parameter will not need to be changed (e.g., body temperature may remain constant even if the person goes from a warm house out into wintry weather).

Indeed, the change may be so slight as to escape measurement (e.g., upon going outside, the body temperature may change a fraction of a degree but less than the instrument can reliably measure) or so quickly as to be missed (e.g., the body temperature may drop for a moment but be restored within a matter of seconds and the measurement done a few minutes later will not reveal the change). It is possible that the measurement is taken at a time when the parameter is the same as it was during prior measurements (e.g., body temperature may fluctuate during the day and as it moves up and down it will pass through the same values repeatedly), though it is reasonable that the likelihood of this coincidence would diminish with multiple measurements. It's also possible that, even under varying circumstances, a given parameter should be kept stable at a specific value to maintain optimum expression of organization (let's not forget, another quality of living is homeostasis). Lastly, it's possible that the circumstances may be relatively stable or so subtle such that an adaptation will not be required. In each of these cases, the parameters will have been found to be clinically unchanging, interpreted as stagnant or (applicable to this method) in "pattern," even though there is no subluxation. It is also possible that one's adaptability may be compromised by something other than subluxation. In such a circumstance, the parameters will be unchanging and a "pattern" will be detected, despite that fact that no subluxation is present.

Additionally, with pattern work, there is still the matter of determining where the subluxation exists. Patterning can conceivably be done in conjunction with many different analytical systems of determining the location and character of the subluxation. It is, therefore, only as strong as the chosen system. But if the system to locate and analyze the subluxation is sound, it begs the question, Why would one need to determine when the subluxation was present if the subluxation itself could be pinpointed? Quite logically, if a subluxation were found, it would be unnecessary to determine also when it was there.

How does a subluxation affect the body? Only the Innate Intelligence of the body "knows." Rather than measure things and try to guess if they're right or wrong, it is infinitely better to rely on the ability of the Innate

Intelligence to do it with certainty. Certainty is a wonderful thing, especially when it comes to chiropractic analysis.

Let's examine the issue of certainty. Imagine, for a moment, that you are given the task of determining the weight of an item, say, a drinking glass. You are given an array of measuring devices: a light meter, a tape measure, a graduated cylinder, an audiometer and a scale. You could try the light meter first, measuring how much light the glass transmits, reasoning that a light weight glass would probably transmit more light than a heavy weight glass. You measure and find that it transmits a great deal of light. You take this as an indicator that it's probably of light weight. Next, you try the tape measure, measuring all dimensions of the glass. The reasoning here is that a small glass would probably be lighter than a large glass. You measure and find that it's several centimeters in diameter and height, a small size for drinking glasses, and take that as an indicator that it's probably a light-to-mid weight glass. You then try the graduated cylinder, submerging the glass to measure its volume by displacement. The reasoning here is that a glass with low displacement will probably be light and one with high displacement will probably be heavy. You find that the glass displaces several milliliters and take that as an indicator that it is probably a relatively light glass. On to the audiometer, to measure how much sound the glass makes when dropped from a few centimeters onto the table.

The reasoning here is that a light glass will make less of a thud than a heavy one. You drop the glass and note that the sound is just a few decibels above the room noise and you take that as an indicator that it's probably light. At this juncture, you have several indicators that the glass is probably light. Finally, you use the scale and measure the weight (mass) of the glass to be 103.6 grams. With this last bit of information now available, and based upon this one measurement alone, you are able to conclude – with certainty – the glass is, indeed, 103.6 grams,

The point of this is that if your analytical system lacks an item of certainty, it must rely on multiple items of probability (often called indicators and, because they are only probability indicators, the more the better) to arrive at an approximation of the circumstances. A system with just one item of certainty is enormously better than a system with a multitude of items of probability. It would be best, then, for our purposes of chiropractic analysis, to determine what, if anything, can be actually known with certainty about the body pertinent to vertebral subluxation. Admittedly, the list will not be very long. It doesn't have to be. Recall that in our

exercise of measuring the weight of a glass it was necessary to have only one particular measurement to know the weight with certainty. So, too, will our ability to determine subluxation with certainty be possible with only one particular parameter. The key is choosing the right one.

How a vertebral subluxation affects the body – i.e., in what way and to what extent the function or anatomy of the body is other than what would be Innately determined – cannot be known on our educated level. As mentioned earlier, and consistent with our understanding of the vitalistic doctrine in the explanation of life, only the Innate Intelligence of the body is capable of evaluating whether something is right or wrong about the body. The Innate Intelligence of the body readily knows the four fundamental components of the vertebral subluxation.

The parameters of misalignment of a vertebra, occlusion of an opening, impingement of nerve tissue in such a way as to disturb nerve function, and interference to the transmission of mental impulses can be measured Innately.

There is immediate Innate awareness of when something is not Innate Normal. Naturally, there is also an immediate Innate response to attempt to restore it to Innate Normal.

It is reasonable to deduce that the Innate Intelligence of the body recognizes vertebral subluxation as detrimental, as outside of Innate Normal. It follows that the Innate Intelligence will respond by attempting to correct the vertebral subluxation. If it were possible to observe the Innate efforts to correct the subluxation, then it would be possible to know, indirectly but with certainty, when and where a subluxation exists. Such observations would constitute an immensely reliable and valid analytical system. Based on an Innate awareness of both Innate Normal and the subluxation, this type of analysis would answer key questions about the vertebral subluxation.

It would reveal when the subluxation is present. The mere presence of such analytical findings indicates that the subluxation currently exists. There would be no Innate effort to correct something that wasn't there!

It would reveal where the subluxation was present. The findings in this system represent the efforts of the Innate Intelligence of the body to attempt to correct the subluxation. Those efforts would be directly related to the subluxated vertebra(e).



It would reveal the nature and character of the subluxation. By observing the Innate efforts to correct the subluxation, it can be known where the vertebra(e) shouldn't be.

It would also reveal the direction of the adjustic force the chiropractor should use in the process of effecting correction. The Innate efforts will be in the direction of correction, of course. It would only be necessary to match them, ideally (but because of the limitations of our matter and educated mind, it is more likely that a best approximation will be performed in the delivery of the force).

Does such a system exist? Is it possible to observe Innate efforts to correct subluxations? Yes and yes. The premise behind muscle palpation analysis is consistent with vitalism. It is necessary only to accept that the Innate Intelligence of the body abhors subluxations and would attempt to correct them. The rest follows logically from that.

Muscle palpation analysis is based upon the reasoning that, when there is an Innate awareness of a subluxation, the Innate Intelligence of the body will use the muscles, the Innate "tools" of movement, attaching to the subluxated vertebra in an attempt to move it; i.e., restore it to Innate Normal position. The chiropractor's ability to palpate the muscles being used – the "working" muscles – will reveal when and where the subluxation exists. Because the Innate Intelligence of the body has perfect awareness of the direction the vertebra should be moved to effect an adjustment and because the body is equipped with muscles which are fashioned in such a way as to allow movement in all anatomically possible planes, observation of the working muscles will reveal where the vertebra shouldn't be and the direction in which the Innate Intelligence would have an adjustic force move it. This system will provide the chiropractor with a complete and useful valid method of analysis.