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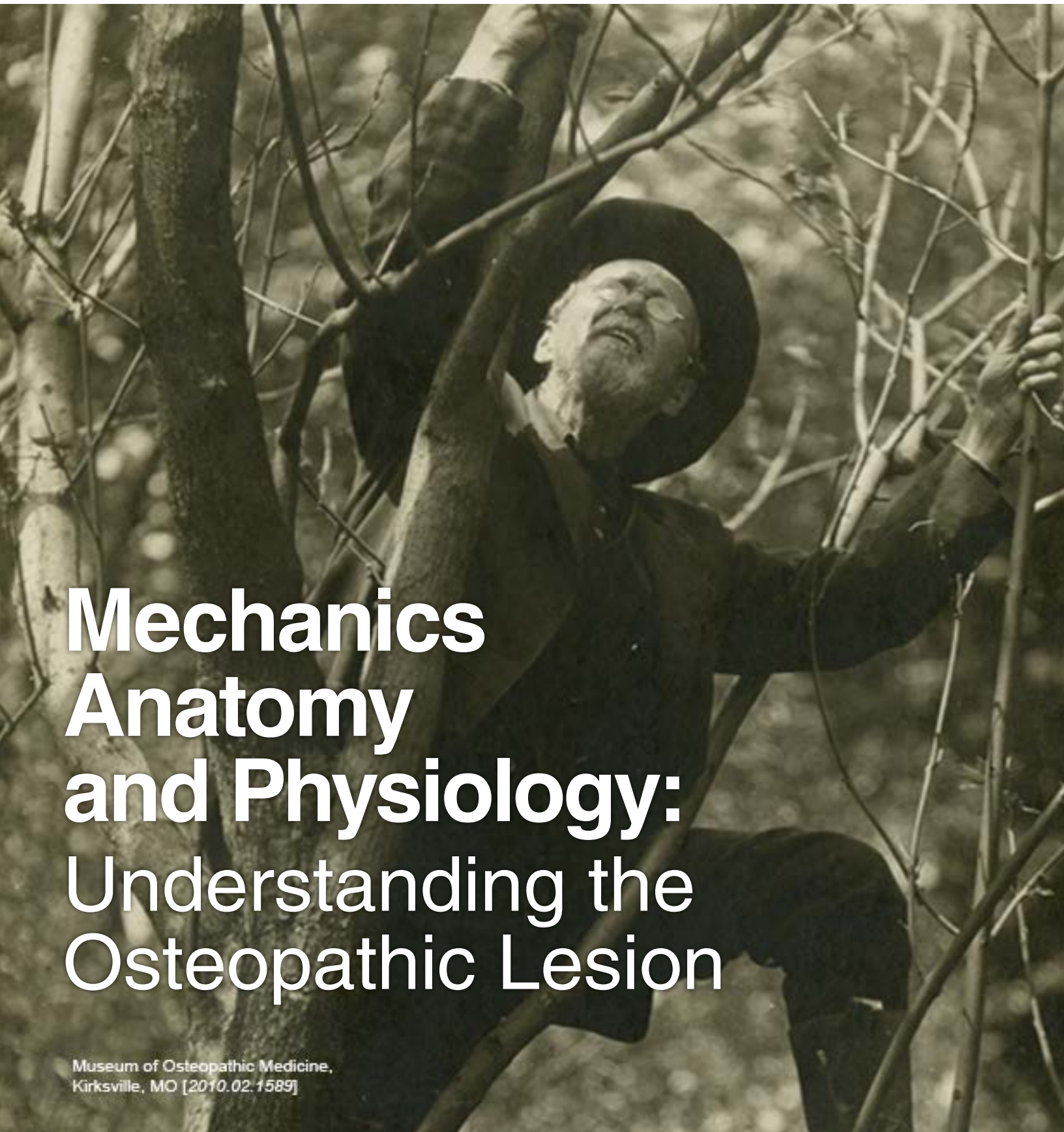

Mechanics Anatomy and Physiology: Understanding the Osteopathic Lesion

Museum of Osteopathic Medicine, Kirksville, MO [*2010.02.1589*]

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CAO Canadian Academy of Osteopathy

COA

CICO The Canadian Institute of Classical Osteopathy

The International Institute of Classical Osteopathy

By Robert Johnston

CLOSE TO THE BONE

Mechanics, Anatomy, Physiology (MAP)

When looking at the patient it is important to consider the three-dimensional mechanical picture that the patient presents. "Mechanics" does not denote simple joint movement; it encompasses a holistic understanding of the distortions and deformations in hard and soft tissues, as well as the way all tissues relate to one another with respect to gravity. This mechanical picture displays stresses, strains, vectors of pull, and other alterations that are landing on, and passing through, hard and soft tissues. It is our job to examine how the body is responding to these fundamental changes. The mechanics are considered first, as they are palpable in the anatomy while the physiology lives inside the anatomy. The anatomical and physical discord comes alive through the mechanics. This is an area of osteopathy that is often misunderstood even though it is absolutely vital to the practice of the profession.

In order to understand mechanics it is important to have a guide to follow. At the Canadian Academy of Osteopathy this guide is the Myogon Model with the Upper and Lower T-Lines. Through basic comprehension of the Myogon Model, the operator becomes anchored to a frame of reference, which allows them to begin to bring things in to and out of the mechanical understanding of patients and their lesions. The process of differential diagnosis is vital as it unveils the problematic areas during a patient's assessment. If no differential diagnosis is performed, the operator has no choice but to perform a general treatment. General treatment has its benefits; however, it is not the appropriate tool for every job. With the understanding of mechanics and differential diagnosis the operator will be able to identify local and focal areas that require treatment. Determining a differential diagnosis is done via motion testing the body on different planes and axes to identify what moves as it should. What is needed at this point is not a cookie-cutter palpation; rather, the operator should figure out why anatomical structures are not moving as they should on the mechanical level. The anatomy will allow the operator to understand which structure(s) are not moving as they should. The physiology will allow the operator to interpret the symptoms of the anatomical discord identified through the mechanics.

Coupling our knowledge of mechanics with the anatomy and physiology allows the operator to not only develop a differential diagnosis, but also make appropriate choices for treatment. This process is not driven by treatment protocol; it is driven by the actual findings of the differential diagnosis. The findings of the diagnosis will lead the operator to do a local or focal treatment that is aimed specifically at the structures involved. This methodology facilitates greater understanding of the patient's overall health (or lack thereof).

The treatment process may emerge from a general treatment utilized as a global diagnostic assessment. The operator may then move to a local region that is sectioned based on anatomy (i.e., the upper limb would include C1-T4 based on neurovascular anatomy), or a focal region that is directed by the findings within the local region, which have been prioritized by categorizing the primary, secondary, and tertiary lesions. The process of going from global to focal and prioritizing primary, secondary, and tertiary lesions makes a complicated picture more digestible by partitioning smaller components that the operator will understand and be able to act on. One thousand findings in a diagnosis will not be useful; however, if those findings are prioritized into three lesions then the operator will have greater efficacy. The concept of prioritizing diagnostic findings is one of the crucial lessons at the Canadian Academy of Osteopathy, as it provides a way to understand the osteopathic lesions that any patient presents. Without this understanding there is no amount of technique that will be useful, as blind technique will not be specific to the patient on the day. To be clear, understanding the osteopathic lesion does not automatically make an operator effective if they are not technically strong, but an operator who is technically strong with little understanding of the osteopathic lesion will also be ineffective. What we are training students to do at the CAO is to understand the osteopathic lesion and be technically strong so that they may successfully treat any patient.

The education taking place at the CAO is driven by Dr. Still's originating philosophies of mechanics, anatomy, and physiology in approaching treatment. The Rule of 9 (see CJO, issue 4, p. 16) is also the culmination of a framework students can employ to move through a patient and prioritize the findings into a digestible diagnosis. Once the lesion is understood, it is engaged with the strong technical and treatment skills that the CAO teaches. This approach of using MAP and the Rule of 9 complements the 7 Commandments (see CJO, issue 6, p. 14), which allows the operator to choose the appropriate treatment and actually help the patient. So, as is clearly laid out here, the CAO has a framework to help guide the student at all points of diagnosis and treatment. This framework is not protocol-based, as all patients present differently and, as such, the framework simply helps the student control the thought process of diagnosis and treatment in order to be effective.

A "BELL-SHAPED" THORAX

By Lee Jarvis

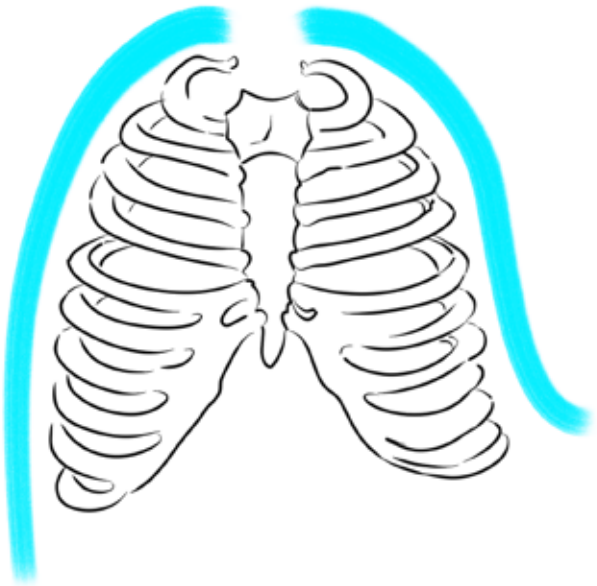
The lesion pattern discussed in this article is something I have encountered in practice numerous times. I cannot be certain of any particular starting point or primary lesion that would cause this pattern to occur, and so I will not attempt to claim one. However, as we traverse the multiple parts of this lesion pattern I hope to make clear that, given enough time, any one of these parts could instigate this pattern owing to the intrinsic mechanics of the body. I hope that, by recognizing this pattern in their own patients, readers will find the following to be a useful application of mechanics in practice.

To explain this lesion pattern we will begin with some of its easily observable characteristics. Through visual inspection and palpation, we can illustrate the mechanics of the body that allow for this pattern to manifest in configurations of related articular surfaces and soft tissue fibers. Ultimately, we will explain principles of treatment for this lesion pattern that are reasonable and efficient for the operator.

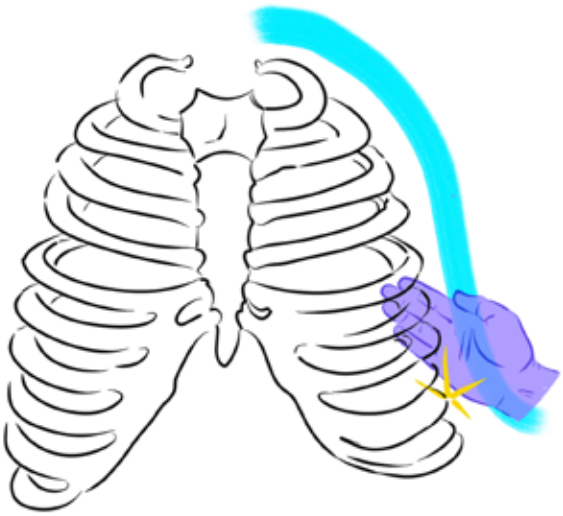
The name I have given to this particular pattern is the "bell-shaped thorax." The name was chosen for ease of communication when talking to other practitioners; the thorax in this position looks "bell-shaped" under the right condition. That "right condition" presents itself when viewing the ribcage with all skin and muscles removed—though if you are seeing your patient like this, it's probably too late for you to help him. Thankfully, we can easily palpate this lesioned thorax to ascertain its shape.

Should you wish to search for this contouring in your patients, a simple way is to run a flat hand over the rib cage from top to bottom at the lateral side of the thorax (rib angles) and then as well from top to bottom on the anterior surface of the ribs. If the patient exhibits this pattern, the operator will find that instead of what should be a smooth lateral border continuous with the abdominal muscles, the lower ribs are positioned more laterally and posteriorly from top to bottom (as if they were flared out like the inferior end of a bell). It may even appear that the ribs themselves are malformed into this flared shape. Such a malformation may be more common in the elderly, particularly if they have been in this position for decades. Deformation of the ribs is not the rule, however, as this lesion pattern can be created without major bony distortion, but rather by normal rib-joint motion, specifically the costovertebral(s) and costochondral joints as influenced by the spine.

It should be clarified that ribs 7-10 traditionally are considered to have "bucket-handle" motion or coronal plane movement with an AP axis. The author will agree that the bucket-handle motion of ribs 7-10 is indeed typical of a healthy patient inhaling and exhaling; however, this is seldom the patient we might see in our clinics on a day-to-day basis. For ribs 7-10 to move in the transverse plane—in reality, this is a very small amount of movement—it would require a shift in the sternum and a glide of the rib head and rib tubercle at their articulations (both of which are gliding joints).



On the right side of the ribcage we see a representation of a smooth continuous line that we find normally from ribs to abdominals. On the left side of the rib cage we see lateral and compressed ribs as emphasized by a blue contour line.



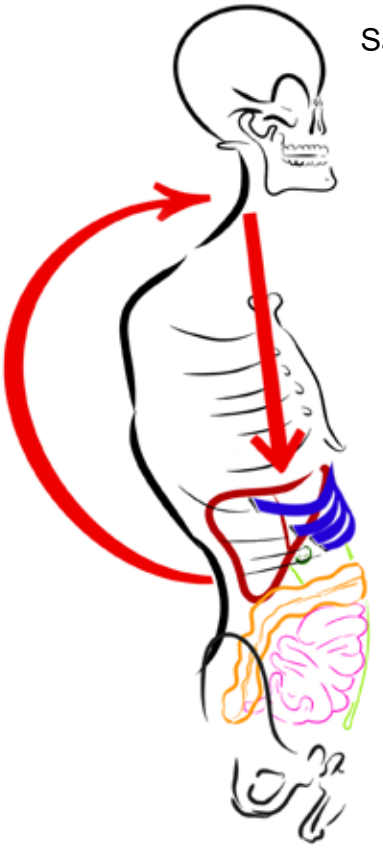
The palpating hand is seen catching on the superior surface of the lesioned ribs.

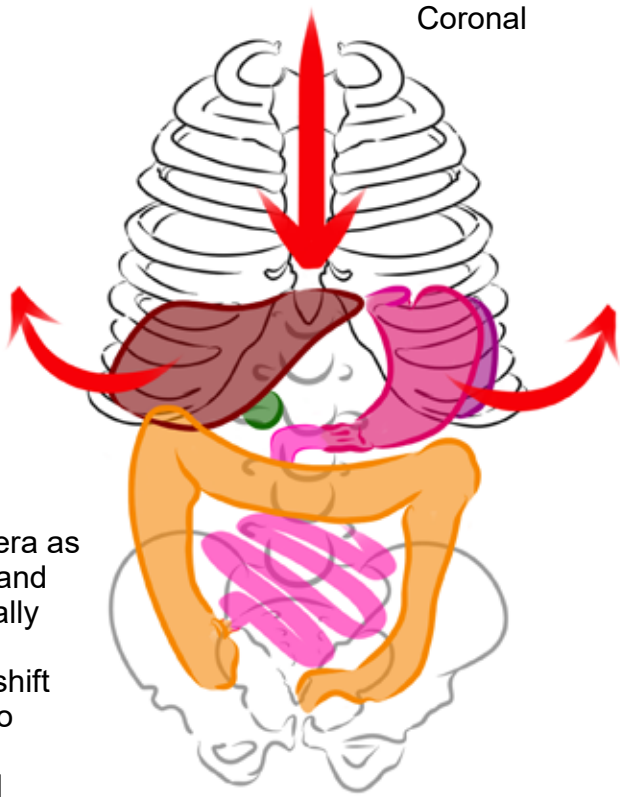
Though the lateral motion of ribs 7-10 is not considered typical, operators can palpate this rib motion on their own body simply by flexing their spine globally as far as possible (as if to push the xiphoid process of the sternum into the sacrum) while holding their breath (so as not to create a false positive). While doing what has been described above, palpate on either side the lateral parts of ribs 7-11; you will feel a push outward from the ribs. The lateral motion seen in this pattern is therefore a normal mechanic of rib and vertebra articulation—though an extreme example—that becomes irreducible by the body's own means over time.

The type of motion in this pattern is different from the lateral and superior motions seen in inhalation. When operators find their patient with this lesion pattern, they will notice while running their hand down the lateral side of the thorax that their hand will catch on the lower ribs as they encounter the prominent superior edge. If the prominence is severe enough, the operator's hand will stop entirely as if striking a perpendicular surface. This superior edge of the rib is not exposed in normal inhalation as the contour is left relatively smooth. A very small amount of lateral glide is required to expose this edge of the rib by the ribs' head and transverse process, which occurs when the flexing spine pinches the rib heads. Extension of the thoracic spine occurs in inhalation, not flexion, so in a flexed spine when inhalation is attempted we are likely to see some of these accessory/non-typical movements emphasized. This lateral glide of the rib head is very miniscule, but it is further enhanced when the costochondral cartilages flare out. This flaring of the costochondral cartilage would mean the ribs are twisting in the sagittal plane about a transverse axis at the head. This costochondral deformation requires a laxity in the respiratory diaphragm (which will be explained further on).

Another way to interpret these atypical movements is that if the ribs did not move laterally—that is, they moved medially instead—they would put immense pressure on the abdominal viscera such as the spleen and liver, which would be lethal as opposed to just structurally unsound. In many cases where we see typical lesions in many people, we come to understand that the chronic position of the patient or their pattern of structural dysfunction is a "lesser evil" in that the reverse problem would be life altering. This bell-shaped thoracic lesion pattern is no different.

With regard to ribs 11 and 12, transverse plane motion is considered the normal plane of motion (i.e., calliper/pincer) and thus does not require special explanation. Rib 11 is easily palpable in the bell-shaped thorax as it is lateral under rib 10. The pointed distal end of rib 11 may even feel as though it were "poking out" of the abdomen. Because rib 12 is often much smaller in length as compared to rib 11, it does not often reach the same area on the lateral ribcage to be palpated. Rib 12, however, will be palpated as relatively posterior when palpating to either side of the spine. Observed in a lateral view, the thorax appears to be flexed globally with an extended neck and anterior





The compression on the viscera as created by the anterior head and neck, This compression laterally shifts the viscera and the ribs along with them. This lateral shift allows more thoracic flexion to occur. Thorax flexion leads to further cervical extension and anterior head position.

chin above it. This thorax and cervical pattern is not well compensated for in the lumbar spine and pelvis.

When the patient is laying on the treatment table in the supine position the most inferior ribs and costochondral cartilages appear to be pointed up at the ceiling. If we look underneath the patient to where their back should be flush with the table it will be obvious that the ribs are so far up because the spine opposite these "pointed" ribs is greatly extended (it is clearly off the table enough for the operator to slide their hand under the back without lifting of the body). This extension appears to occur at T11-L1, and though it is quite discernable it is not necessarily painful. The sternum will often appear "sunken" amongst the ribs with the superior sternum most posterior and the xiphoid process pointed anteriorly.

If we see such an extreme extension in the patient and they manage to walk relatively erect into our office, we can expect that there is a significant flexion somewhere else. As to the exact location of these flexed vertebra, I cannot be absolutely certain. In fact, it seems un-osteopathic to attempt to formulate an absolute, so I will just say that these findings are approximately in the following locations:

- T7-10 will be flexed (this must be the case to "pinch" the ribs)
- T6 will be in extension to compensate for the flexion below
- T4-5 are flexed
- T1-4 are extended
- C6-7 will likely be flexed over the thorax with the rest of the cervical spine in heavy extension

When represented in a list, it appears that the pattern is compensating—and technically it is. However, the summation of the curvature results in a flexed thorax with an anterior neck and head. This anterior neck and head is very important to the pattern because it shifts the center of gravity anterior such that the abdominal viscera would be compressed by the respiratory diaphragm. Moreover, it allows for lesioning to occur in the region of the phrenic nerve.

It is well known that the respiratory diaphragm creates alternating pressure as if it were "massaging" the abdominal organs during respiration. When flexion occurs at the T7-10 area the center of gravity shifts anterior off the spine and the weight of the entire upper body drops onto the viscera. The diaphragm normally domes (inferior side concave) over the organs, allowing the viscera to remain under normal and acceptable amounts of pressure. However, this midline pressure causes the abdominal viscera to become compacted (squished, if you will). The organs under this pressure push in all directions in an attempt to relieve the pressure. In this case, they will bear anteriorly through the abdominal muscles (seen as a "ponch"), inferiorly towards the pelvic viscera, and (now that the ribs are more inferior and surrounding the abdominal viscera) laterally towards the lower ribs and costochondral cartilages.

When the lower ribs move laterally the respiratory diaphragm will lengthen because it attaches to the inferior thoracic aperture. As with any skeletal muscle, when it is stretched it should respond by increasing its contraction and returning

it to its previous size. A muscle can only contract, however, when the nerve that stimulates it is free to act. The phrenic nerve controls the motor action of the respiratory diaphragm and, when the neck is significantly extended in this pattern, it is more likely to be lesioned and/or inhibited.

The relationship among the cervical spine, phrenic nerve, and diaphragm is essential to understanding this lesion pattern because, when it is established, the lesion becomes self-perpetuating. When the diaphragm fails to contract and allows the lower ribs to move laterally and twist upward, the upper rib will slide down into the space left by the lower rib. This will occur in ribs 6-11 (approximately) in such a way that the interspace between the ribs is laterally larger but much smaller vertically. With the ribs coming closer together, the thorax collapses further into flexion, the neck extends further, and the phrenic nerve is less able to behave normally, worsening the lesion pattern. This is not to say that the pattern at this point becomes a rapidly progressing death sentence, but that it is now beyond the body's capacity of self-repair and requires the treatment of a skilled operator. It is important to mention that a unilateral version of this thorax shape is possible but involves a rotation and same-sided sidebending. This singular form likely precedes the bilateral form, though I have not had any way of testing this as it would take decades of research.

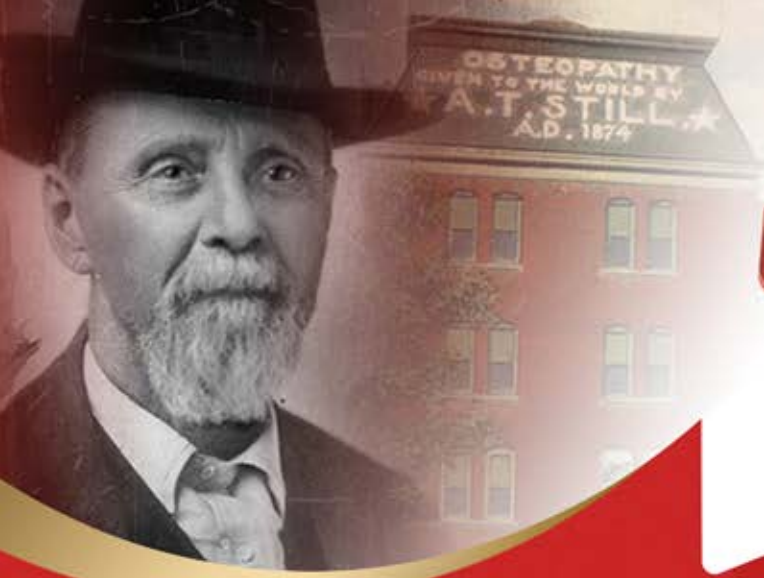
As stated earlier in this article I cannot be certain of an exact causative point and, therefore, I cannot pretend to explain a specific order of treatment that would result in its reversal with a one hundred percent success rate. We can instead highlight some principles by which to operate. The validity of these principles is substantiated by primary and secondary lesioning, or what might be called resultants.

When initially discovering this lesion pattern there is a tendency to want to push the distorted ribs back into place, which is often a common—and disastrous—mistake made by new practitioners. The lower ribs are compressed and lateral but are only a result of spinal and visceral positions. Thus, if we attempt to force the ribs back into place, irritation to the surrounding nerves and/or tearing of the supporting ligaments will occur. Once nerve irritation is exacerbated in a lesion, we have done nothing but create more of the lesion-supporting neurology (muscle contractions and fluid distribution) and thereby have further entrenched it in the body. We must instead look to change the shape of the ribs by removing what is allowing them to exist in this state.

In this pattern the cervical extension is a result of thoracic flexion. Yet once the cervical extension in the neck has become chronic, it will prevent a resolution at the thoracic spine and the ribs. Without the action of the phrenic nerves the diaphragm cannot effectively contract. The improper action of the diaphragm would mean poor oxygenation in the long term; however, because of the diaphragm's transverse orientation, this action pulls the ribs internally, "cinching-up" the middle of the trunk, as it were. Once the ribs have returned to a normative position, the center of gravity will drift posteriorly back onto the spine where it should be. Consider that if you were somehow capable of fixing the thorax without resolving the neck, the patient would be stuck looking up at all times.

This bell shape of the thorax is made possible in part by the costochondral cartilages being a readily distortable tissue. When in this distorted position for an extended period (decades often), it loses flexibility and becomes rigid to the point where it feels ossified. Once rigidity is established in the costochondral cartilage, a normal position on the vertebra is prevented, and therefore this secondary lesion now has the qualities of a primary lesion. The costochondral articulations—being that they are indeed, as the name states, cartilage—are significantly less mobile as compared to the facet joints of the rib-vertebral articulation. Again, we do not want to try and "push" these cartilages back into place. Because they have changed in their flexibility, we know that there has been an internal/cellular/fibrous change, which requires the same type of internal mechanisms to alter it. The operator may find it more beneficial to first work on normalizing the tension in the intercostal muscles between the affected ribs to secure better blood flow to that area. Once the flexibility begins to return to the cartilages, it is then safe to gently "un-flare" them with direct treatment.

In my limited experience I have found that, when applying these principles, the lesion pattern can be reduced within a short time (weeks to months, depending on chronicity) and the patient fares much better.



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The Problem with Focusing on Allopathic Pathology in Osteopathy

By Samuel Jarman

In practice, Osteopathy revolves around palpable anatomy and a deep functional understanding of that anatomy. Yet the Osteopathic lesion, more often than not, is approached through a non-Osteopathic lens, which ignores the science of mechanotransduction, axoplasmic flow, and vasomotion. This article is not the appropriate venue to discuss those three scientific concepts; however, it is important to acknowledge their existence so that readers can investigate them. The Osteopathic lesion is what will affect and alter the health of the patient—it is the primary focus of the Osteopathic Operator. If Operators focus on an allopathic pathology, then they are likely to narrow their scope. In other words, they will seek out the lesion in a highly specific area and remain fixed to that region instead of searching for lesions where they are occurring. Operators must broaden their scope to seek out the lesions that are contributing to a change in the patient's health state.

The earliest Osteopathic Operators knew that they must make the lesion their principal focus; this was the key to establishing the health of a patient. The hallmark of the Osteopathic lesion is altered movement—generally, restriction of movement—in palpable anatomical structures. When normal dynamic anatomical function is recognized, *ab*normal dynamic function becomes apparent and the corrections are more straightforward. The first Osteopath, Dr. A.T. Still, clearly advocated probing for the original cause of altered health: "I want it understood that I look upon the treating of effects as being as unwarranted as it would be for the firemen of a city to fight the smoke and pay no attention to the cause that produced it" (*Osteopathy: Research and Practice*, 1910, p. 2). To Dr. Still "effects" were diseases as they are named allopathically; they are normally the results of some other dysfunction. As a warning against following the allopathic model of simply naming diseases, Dr. Still wrote that "Books compiled by medical authors can be of little use to us, and it would be very foolish of us to look to them for advice and instruction on a science of which they know nothing" (*Philosophy and Mechanical Principles of Osteopathy*, 1902, p. 8).

The point of quoting Dr. Still is to substantiate the foundation of the profession upon which success was built and remained for only a relatively short time. The sciences that underpin Osteopathy are no different than any other medical science. Anatomy and physiology are established sciences that, despite what some people may believe, are still evolving.

The hallmark of Osteopathy is the Osteopathic lesion; ignoring the dynamics of lesioning immediately removes a practitioner from Osteopathic practice. As the profession began to grow there was mounting pressure expressed by Osteopaths to investigate allopathic diseases, which shifted and confused the focus of the practitioners that followed the earliest Operators. Around 1900, many books on Osteopathy began to appear that organized themselves with headings regarding allopathic diseases; all the while, these books gestured toward the anatomy that most often showed lesioning related to the disease. This posturing was an attempt to maintain the understanding of the Osteopathic lesion while interpolating the allopathic diseases. All of those books (which the reader of this article is strongly invited to investigate) are based on clinical observation, meaning that they are not completely accurate and that no one should interpret them as such. Those who read them carefully will find insights such as the following from Charles Hazzard:

"Make a correct diagnosis of the case. There are no two cases alike. You cannot take it for granted that one case which you receive today is like the case which you treated yesterday. Look over the case thoroughly making an individual diagnosis for it; likeness and unlikeness to other cases are incidental only." (*Lectures on Principles of Osteopathy*, Volume 1, 1898, p. 1) [1]

On the whole, Osteopathic professionals should immediately abandon the search for connections between allopathic diseases and Osteopathic practice. Let us look to the biological mechanisms being investigated that show how mechanical information affects the human body (mechanotransduction, axoplasmic flow, and vasomotion) and maintain our focus on the Osteopathic lesion. Allopathic professionals are experts in what *they* do; Osteopathic professionals should be professionals in what they do. It is wise to respect the dedication and time it takes to truly become a successful professional in any field. That being said, if one is aiming to be an Osteopathic Operator, dedication should be allocated to Osteopathy in itself.

[1] Source available at:

https://www.atsu.edu/museum/subscription/pdfs/principalsofosteopathyhazzardvol1.pdf

By Samuel Jarman

WE DO LESIONS

The hallmark of Osteopathy in healthcare is the *Osteopathic lesion*. Regardless of the shifts in nomenclature to somatic dysfunction, and in spite of arguments that the Osteopathic lesion is irrelevant, the nucleus of Osteopathy is the Osteopathic lesion. The lesion is highlighted by lack of dynamic movement within *any* palpable structure or any other structure related to the palpable structure. As a profession, we may choose to disagree with one another about the causative factor for a given lesion; however, we are able to agree that palpable anatomy has altered dynamic function. We ask the reader to reflect on this assertion, and to prove the effectiveness of focussing on allopathic diseases in relation to Osteopathy.

Allopathic diseases are for allopathic doctors. These particular practitioners devote themselves to the study of disease processes, and ask no forgiveness from any other profession for doing so. Why, then, has the Osteopathic profession chosen to supplicate for the acceptance from the allopathic profession? Dr. Still argued this point in *Philosophy and Mechanical Principles of Osteopathy* (1902): "Books compiled by medical authors can be of little use to us, and it would be very foolish of us to look to them for advice and instruction on a science of which they know nothing" (p. 2).

Respect should be allotted to allopathy for the positive things it accomplishes through diligence and a desire to help the afflicted. Osteopathy, however, is its own science and should have continuously been treated as such from its first codified appearance in the form of Dr. Still's discovery to the present day. When Osteopathic professionals begin speaking about allopathic diseases they disrespect two professions at the same time by passively (or even actively) suggesting they are able to understand both when, in reality, Osteopathy and allopathic medicine require a lifetime to master. If we again look to Dr. Still, the following four excerpts from his *Osteopathy: Research and Practice* (1910) highlight this point:

"Sixth: The osteopath does not depend on electricity, X-radiance, hydrotherapy or other adjuncts, but relies on Osteopathic measures in the treatment of disease." (p. 8)

"Seventh: We have a friendly feeling for other non-drug, natural methods of healing, but we do not incorporate any other methods into our system." (p. 8)

"Eighth: Osteopathy is an independent system and can be applied to all conditions of disease, including purely surgical cases, and in these cases surgery is but a branch of Osteopathy." (p. 9)

"Ninth: We believe that our therapeutic house is just large enough for Osteopathy and that when other methods are brought in just that much Osteopathy must move out." (p. 9)

The above quotes were chosen to illustrate that Osteopathy stands as its own science. Dr. Still was making the case for Osteopathic professionals to practice Osteopathy in its purest form, as he knew better than anyone else the amount of dedication it took to be even mildly proficient. Respect the work it takes to be a professional of any title and use that respect for your own profession to guide your progress in Osteopathy.

Moving the focus back to the *Osteopathic lesion*, as the hallmark of Osteopathy, the lesion should become the focus of all educational and professional efforts. We, as a profession, have no authority or business discussing allopathic disease, as we are not experts in the field. The amount of time spent by Osteopathic professionals studying allopathic disease has created a deficit of understanding concerning lesionology. As Dr. Still contends, "I want it understood that I look upon the treating of effects as being as unwarranted as it would be for the firemen of a city to fight the smoke and pay no attention to the cause that produced it" (*Osteopathy: Research and Practice*, 1910, p. 2). All professions will claim that they look for the cause of dysfunction; indeed, many do seek out the cause rather than treat the symptom. However, focusing on the lesion as a manifest cause is what distinguishes the Osteopathic profession from others.

In healthcare we all study anatomy and physiology. Yet this is the point at which we diverge from other professions because of what we do with that knowledge. In Osteopathy we are *supposed* to apply that knowledge to finding and fixing lesions and, when we do not, we fail to get the real results that Osteopathy is capable of. Osteopaths do not *do* disease, and there is a large amount of evidence that validates this notion in the earliest literature. One such statement is provided

by Charles Hazzard in the first volume of his lecture notes (available at https://www.atsu.edu/museum/subscription/pdfs/principalsofosteopathyhazzardvol1.pdf):

"Make a correct diagnosis of the case. There are no two cases alike. You cannot take it for granted that one case which you receive today is like the case which you treated yesterday. Look over the case thoroughly making an individual diagnosis for it; likeness and unlikeness to other cases are incidental only." (*Lectures on Principles of Osteopathy: Volume* 1, 1898, p. 4)

Charles Hazzard does speak about allopathic disease in other books he wrote. It is most likely that Hazzard's writings about allopathic disease appeared out of pressure to validate Osteopathy outside of the discipline. He still contends that Osteopathic diagnosis is absolutely unique to the individual and that other cases are not necessarily to act as a guide. The guide in Osteopathy is functional anatomy.

To reiterate, Osteopathic Operators, when properly trained, do not do disease; they do Osteopathic lesions. As an example of pushing that concept forward, one only need peruse issue 4 of this very journal to read Robert Johnston's article on "The Rule of 9." The point of that article is to provide a schematic for finding and accurately identifying the Osteopathic lesion. The hope of this article is to make two statements:

1. Osteopathic Operators do not do disease; Osteopathic Operators do *Osteopathic lesions*.

2. The Rule of 9 is an extremely useful tool to refocus the Osteopathic profession on the *Osteopathic lesion*.

From the above two statements it will be suggested that we should refocus the Osteopathic discussion on the *Osteopathic lesion*. Much thanks is owed to Robert Johnston for training this writer as a student, and now as an apprentice, such that the conversations with him have greatly informed the views here expressed. Let us, as a profession, find a way to push ourselves forward with our own identity and benefit many from that work instead of relying on the dictums of others.

The Stories on the Shelves: Artifacts at the Museum of Osteopathic Medicine

By Anna Mullen Villareal

Research Coordinator,
Museum of Osteopathic Medicine

In a typical week, the Museum of Osteopathic Medicine receives at least one email beginning with the phrase, "This may seem like an obscure question but, I was wondering if…" The best aspect of serving as the profession's museum is that there are no questions too obscure, random, or odd. With over 80,000 artifacts in the collection, the Museum is able to utilize its vast historical repository to benefit osteopathic physicians, researchers, students, and historians around the globe. While definitive answers to every question may not be possible, the Museum strives to use its collection to assist in the understanding of the profession's history as a whole.

The artifacts in the Museum of Osteopathic Medicine's collection reflect the diverse history of, and individuals within, the osteopathic profession. Often a single artifact or grouping of artifacts preserves a multitude of stories. A major example of this is the Alice Patterson Collection; more than two thousand artifacts which contain stories of the personal life of Dr. Andrew Taylor Still, the legalization of osteopathy in Missouri, and women in osteopathic medicine.

Dr. Alice Patterson Shibley, born Alice Mary Smith in 1862, was the fourth child of William and Sarah Link Smith of Kirksville, Missouri. Dr. Andrew Taylor Still served as the family's physician and their support of Dr. Still in the early years of his practice often left them ostracized in the community. Exposure to Dr. Still's treatments fueled Alice's personal interest in studying osteopathy. Before beginning her osteopathic training, Alice married childhood friend Henry Eldorus Patterson. The couple enrolled in the second class of the American School of Osteopathy, graduating in 1895. Dr. Alice Patterson's thirty year professional career yielded techniques for treating gallbladder stones, lectures on obstetrics and gynecology, a successful practice for dignitaries and political leaders in Washington D.C., and service as the first Vice-President of the prefatory group of the American Osteopathic Association.

The Alice Patterson Collection provides researchers with a window into the personal life of Dr. Andrew Taylor Still, Founder of Osteopathy. Before graduating from the American School of Osteopathy, Alice acquired a keepsake from Dr. Still, her physician, teacher, and friend. On February 17th, 1895, Alice clipped a lock of Dr. Still's hair, now museum artifact 1998.06.01[1] . This memento was cherished and later passed down to the Patterson's daughter Marian Lee. The close relationship between Dr. Still and Alice Patterson is further seen in her autographed copy of "Osteopathy: Research and Practice", artifact 1979.42.05. Dr. Still's inscription on the inside cover reads, "Follow your guide and fear no danger. Sept. 21, 1910- Kirksville, MO".

[1] ***The Museum of Osteopathic Medicine is currently completing a full inventory and digitization of its collection. Artifact numbers are highlighted throughout the article for those interested in further research or viewing. The Museum's Online Collection includes over 45,000 searchable artifact records, with new records added weekly. http://momicoh.pastperfectonline.com/***

Dr. Andrew Taylor Still with Dr. Alice Patterson in 1896, Museum of Osteopathic Medicine, Kirksville, MO [1994.29.06]

When Dr. Andrew Taylor Still passed away in 1917, hundreds of friends, patients and fellow practitioners sent condolences to the Still family. In January 1925, Dr. Alice Patterson penned her unique memories of Dr. Still for the family. The reminiscence included a personal story on the founder's character;

> *One little incident which [Dr. Still] greatly enjoyed occurred in the early days just after the completion of the new school building…John, one of the janitors, had neglected to do a certain thing which Doctor had told him to do. When Dr. Still met John soon afterward he said in rather firm tones, "John, you did not obey me, why did you not do that? Who is the subordinate around here?" John, much confused and most apologetic, hastened to say, "Oh! You are, Doctor, you are!"… Dr. Still greatly enjoyed the joke and retold it many times. [1997.04.113]*

From her personal experience, Dr. Patterson believed Dr. Still's strongest characteristics were his wit, his confidence, and his kindliness.

Within the artifacts of the Alice Patterson Collection are a series of letters between Alice and her husband Henry, which highlight the struggles behind the process of the legalization of osteopathy. Dr. Henry Patterson was hired by Dr. Andrew Taylor Still to be the general superintendent of the American School of Osteopathy and infirmary. He later transitioned to secretary of the school and private secretary to Dr. Still himself. Dr. H. Patterson used his business background to keep the school financially stable in its earliest years. His record of service to osteopathy in Kirksville made Dr. H. Patterson the perfect candidate to accompany Dr. Arthur Hildreth to the state capital in 1897 to lobby for the passing of osteopathic legislation. The first attempt to legalize osteopathy as a valid medical practice in the state of Missouri was thwarted when Governor William J. Stone vetoed the bill on March 23rd, 1895.

Drs. Arthur Hildreth and Henry Patterson stayed at The Monroe House in Jefferson City, Missouri for several weeks while lobbying for osteopaths at the capital. It is on The Monroe House stationary which Henry writes to his wife Alice in Kirksville about his personal struggles and the battle for the osteopathic profession. As seen in artifact 2013.21.18.103, on February 10th, 1897 he writes, "I shall be disappointed if I don't get to come home, but fear I can't get there- I hate awfully to be away. I never fully appreciate home, & you, & Lee, until I can't get back to you when I want to." Fifteen days later, a new osteopathic bill was submitted to the Missouri House of Representatives by Judge Edward Higbee and passed on February 25th. On the same day Henry writes to Alice, artifact 2013.21.18.105, "We have won the greatest part of the battle, and if I was home now, my happiness would be complete… It was a big landslide… We will now follow it to the Senate, over the route it has to travel." The bill passed in the Senate on March 3rd, 1897, making Missouri the third state to legalize osteopathy.

The Alice Patterson Collection includes documents and notations from Dr. Alice Patterson herself on a wide range of academic topics. One key document identified by the Museum is artifact 1999.10.02, "Women in Osteopathy". This unique piece provides a first person account from one of the earliest female osteopaths on a commonly researched topic, gender in the osteopathic profession. In her essay Dr. A. Patterson writes, "Of late a new field has been opened which is peculiarly adapted to woman with her intuition, her tenderness, and her sympathy. Into this field of osteopathy she has been cordially welcomed, not as a mere onlooker but as a co-worker." Dr. Alice Patterson and her husband Henry received the same training and payment for their work. She continues;

> *Today hundreds of voices are lifted in their praise and in praise of the discoverer of this science. In this work, woman has an equal chance with man and when she sets a misplaced hip, cools a fever, cures indigestion or catarrh, she receives the same recompense for it that a man would. And this is as it should be. What a travesty on justice that for so long a time the mere accident of sex has debarred woman from receiving a full return for her labor. [1999.10.02]*

Dr. Alice Patterson was able to work as a lecturer at the American School of Osteopathy and primary operator at the school's infirmary which welcomed her as an equal to any male professional.

The stories of the personal life of Dr. Andrew Taylor Still, the legalization of osteopathy, and the work of women in osteopathy are just three examples of the detailed information contained in the Alice Patterson Collection. Artifacts are the foundation of the Museum of Osteopathic Medicine as they are key in preserving the history and development of the profession; the Alice Patterson Collection represents only 2.5% of the total artifact collection. Imagine the research still to be completed and the stories yet to be told. So bring forward the obscure questions, the random, and the odd as that is how we study and research the unique history of osteopathy.

Dr. Alice Patterson wearing a brooch featuring her husband's portrait circa 1902, Museum of Osteopathic Medicine, Kirksville, MO [2013.21.19.06]

Dr. Andrew Taylor Still with Dr. Alice Patterson in 1896, Museum of Osteopathic Medicine, Kirksville, MO [1994.29.06]

Lock of Dr. Andrew Taylor Still's hair with note from Dr. Alice Patterson Smith to daughter Marian Lee, Museum of Osteopathic Medicine, Kirksville, MO [1998.06.01]

Drs. Henry Eldorus Patterson and Alice Patterson with daughter Marian Lee circa 1900, Museum of Osteopathic Medicine, Kirksville, MO [2013.21.18.48]

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CAO SPRING SYMPOSIUM: SHARING PRINCIPLES

By Samuel Jarman

On the weekend of June 4th and 5th, 2016, the CICO put on a lecture event that was held at the gorgeous Art Gallery of Hamilton. Four speakers shared thoughts, ideas, and insights into osteopathy. The four speakers were Robert Lever from the UK, Robert Schneider (DO) from ATSU in Kirksville, John Lewis from the UK, and Robert Foster (DO) from the West Virginia School of Osteopathic Medicine. All four speakers shared their distinct lecture styles with those in attendance and, to distill their essential message, they all highlighted the principles of osteopathy as the guiding light for their progression as professionals.

To begin the weekend, Robert Lever spoke about the identity of osteopathy as it becomes animated through the principles. The primary concepts he discussed were reciprocity, subjectivity, and context. With respect to reciprocity, his message was that an issue in one area will affect many others in structure and function while addressing that issue (lesion) will positively affect others. With respect to subjectivity, he proposed that the practice of osteopathy is an art form which expresses the principles that underpin the profession. With respect to context, Mr. Lever shared that science is concerned with individual pieces outside of their normative context; likewise, a core principle of osteopathy is holism, such that the relational context of any one piece of the body must be intact to understand it. In Mr. Lever's view, the current dictums of scientific practice do not express the capacity to study disparate relationships—which is what osteopathy thrives on. Mr. Lever explained mechanotransduction to exemplify that all living cells use mechanical information to determine many cellular functions. This demonstrates that the osteopathic paradigm is true on both the micro and macro levels by regarding the osteopathic lesion as altered mechanics affecting all levels of function.

The second speaker of the weekend was Robert Schneider (DO) who delivered a lecture and demonstration on obstetrics. Dr. Schneider described the common alterations created by a growing fetus as well as in the postpartum stages. Dr. Schneider echoed a statement that Robert Johnston, principal of the Canadian Academy of Osteopathy, often makes: if you want to help the child, treat the parents. To add to that concept, Dr. Schneider espoused the benefit of treating a

mother before conception so that she is ready to allow nature to do the normal work of building, delivering, and raising the child. Dr. Schneider was able to share a wealth of information about professionalism and bedside manner in his interactions with the young woman that volunteered to be a part of the demonstration; he was positive, polite, and supportive of his patient. He explicitly said that he empowers his patients by demonstrating things that they are able to do on their own to improve their condition. Dr. Schneider highlighted that patients are human beings with emotions, and that we must treat them as full people, not simply the physical expression of mechanical dysfunction we are palpating and treating. The reality of Osteopathic Manual Medicine is that time elapses while physically treating a patient, and we are able to address the multiple facets of day-to-day life in general through positive conversation. Much may be gained from considering Dr. Schneider's take on patient interaction.

The third speaker of the weekend was John Lewis. Having written a very in-depth book on Dr. Still, Mr. Lewis took a concept that Dr. Still expressed and then gave a lecture on the nuts and bolts of modern understandings of DNA, antibiotics, and food production. The concept that Mr. Lewis utilized as the grounding point for his lecture was that osteopathy is nature. It is clear that Dr. Still wanted us to recognize that nature does nothing in vain and that it is human hubris that attempts to do better than nature. Through Mr. Lewis' lecture we learned that only about 10% of the cells in a human body are actually human; the rest are symbiotic bacteria and retroviruses. The point of sharing this somewhat disturbing information was to emphasize that all things are interrelated on all levels, whether we look at the human body or any other thing in nature. Mr. Lewis very accurately communicated that osteopathy is a philosophy guided by principles before anything else. The science that continues to advance may change as we gain more insight, but the principles remain constant. Mr. Lewis is truly in awe of the human body and nature as a whole because it displays so much wisdom and efficiency. Another key message is that when we attempt to disobey or circumvent the laws of nature, there are consequences for human health and the vitality of related organisms. In Mr. Lewis' eyes, Dr. Still and osteopathy are correct because nature is correct.

The final speaker of the weekend was Robert Foster (DO). He had a comprehensive lecture that delved into many subjects. Dr. Foster articulated that, as a medical examiner who determines the cause of death and signs the death certificate, he has the experience of truly communing with bodies that have lost their animating force. Because living humans exhibit an animating force, Dr. Foster reminded those in attendance that we are not just touching a patient's body; we are touching the mind and soul. This sentiment echoes not only Dr. Schneider's assertion that we are treating people and not conditions, it also hearkens to Dr. Still's notion of treating souls in conjunction with the corporeal frame. Dr. Foster talked about how osteopathic education does not require training in spirituality; however, some medical schools are indeed exploring this notion, particularly as osteopathy has spirituality (not religion) as a core tenet. He suggested that students should expose themselves to educational opportunities that are outside their comfort zones in order to grow as practitioners, as comfort leads to stagnation. Dr. Foster also reviewed the concept of tensegrity as the distribution of force throughout the human body via the base-level structure of a triangle (or through the method of triangulation). The general principles of nutrition—eating local, seasonal, unprocessed food—were also examined.

The uniting theme of the entire weekend was that the principles that underpin nature are the principles of osteopathy. Each of the speakers were distinct individuals who approach the profession from different angles. All share the view that the principles of nature are essential to the profession, although those principles speak to each from their own path. Dr. Still wanted to place us on the rock of reason and have us think for ourselves, which is why it is beneficial to have different people speak about the principles from different vantage points. These idiosyncrasies of perspective show that we can stand on our own two feet, think for ourselves, and use the principles of nature to benefit the unique needs of patients.

INTERVIEW

with Robert Lever DO at the CAO Spring Symposium

by Adam Houston

1 ***It was great to hear you speak today at the CAO's Spring Symposium. Thank you for the lecture. We don't hear enough about the philosophies of osteopathy, perhaps because it is difficult to conceptualize them and put them into tangible thoughts and actions. So it is great to hear you speak, as it addresses this very problem.***

To begin, please tell us about yourself, your book At the Still Point of the Turning World: The Art and Philosophy of Osteopathy (2013), and what you were lecturing on today.

I originally started in practice about 43 years ago. The work has always inspired me, but I'm very fortunate in that it's gotten better as the years have gone by; I find more in it, bring more to it, and experience a deeper, broader approach than I could ever have imagined all those years ago. The book was written partly because I had a lot of material that accumulated over many years of teaching, and I'd always thought that one day I might put it together in a book. Over the years, several students had asked if I might consider it. I have to say, I was also motivated by the distress that has persistently afflicted the profession [of osteopathy] all over the world, not just in the UK, and as I understand it, here in Canada as well. And of course the situation in the USA is unique as they have an entirely different relationship with osteopathy; the practitioners there who have a resonance with us are in a tiny minority, but they have a very considerable fraternal regard for us—a relationship with us which is very warm and has been very fruitful, mutually.

2 ***It's evident when reading your book and listening to you speak that this is not just a concept you've come up with in the short term, but something that has taken time and years of experience to arrive at. Would you agree?***

Many of the ideas I've expressed are an attempt to put words to what many of us feel, but have found somewhat ineffable. A lot of the material I try to describe is hard to express because some of the concepts are very abstract and intangible. And so I've tried to use words the best way I can to implant in

the reader's mind material that they might find helpful in generating a relationship with these ideas themselves, maybe a little more fully than they currently do. Osteopathy is only partly based on the sciences and analyzable data, but so much of what we do to make it "live" is where we find the "art." It's very hard to put a lot of this into words but it's something that needs to be said, though the language for it isn't always going to come that easily.

3 ***I appreciate very much, especially as a student, your understanding that it is difficult to grasp the intersection of practice and art. Also, I think your integration of research and input from other professionals is really helpful in that regard.***

I've always liked the fact that you can take material from the great minds of other disciplines, whether it be philosophy, literature, science or whatever. They've formulated their ideas and gone through their own processes of development and dedication to arrive at thoughts that express their own particular wisdom. I've always found it interesting that the great ideas and wisdom drawn from one discipline are transportable. In other words, the great truths that you find in one discipline are often quite easily imported to others; there are a lot of shared philosophical threads. As I say in the book, you even find nowadays that there is a convergence between eastern spiritual traditions and contemporary physics as well as systems biology. I find that thrilling—very exciting—because you gain more insight into the one discipline by borrowing the wisdom from another; I feel that's a very worthwhile transaction.

4 ***Is there any way to develop what you're talking about in terms of taking this way of thinking, including these philosophies, and applying them tangibly to treatment?***

Well, the philosophies underpin the treatment. They're not something that you "apply." In fact, you could say that without the philosophies and the principles that derive from them, practice becomes a very different commodity; it becomes a much weaker commodity, and may lack potency or be ineffectual. It is principle that makes the process of diagnosis-to-treatment-to-technique effective. Without it (as I quoted this morning and as Professor Korr said) the results are often quite indifferent, the reason being that they are not based on the real article, on real osteopathy. You know, we have this phenomenon in our profession where many will claim to know what 'real' osteopathy is. In my next book, Finding the Health, I've written a piece on this where I analyze the notion that everybody thinks they have found the Holy Grail of osteopathy. And so their chosen method is the method and others are somewhat derided. I tend to take the view that all approaches have a modicum of wisdom to them, and if we learn to celebrate what we share we can all benefit and learn something. Not a lot has been gained from the rather confrontational exchanges between the different factions within our profession. We have enough problems with the differences we have with those outside our profession and with the mainstream medical profession, so we don't need to add to it, frankly.

5 ***When I found out that I was going to be doing this interview with you, I started to think that when someone asks what science is, pretty much everyone defines it by saying "it needs to be able to be replicated," and "scientific laws happen the same way every time, regardless." So we have a very clear definition of what science is, and the scientific process. But we don't really have a good unified understanding of what art is. So when I was looking at the definition of art, it always came back to skill—being able to apply something in a skillful way is artful. Can you speak to how one might become better at the art of osteopathy?***

Well, it isn't only skill; it's very largely "attitude." The thing about science at its best is that it is also very creative. The great scientists have been amongst the most creative people on the planet. It's what happens after that that matters. In order for their hypotheses and their theories to be tested, they have to be filtered through a discipline, which is about implementation and evaluation. The creative insights are as wonderful and, in their way, as artistic as anything else because, to complement what you said about art being skill, I would say it's actually about creativity. I think that the best osteopathy is creative because it brings the science of what we know and what we understand, sieves it though a set of concepts, and then subjects it to a kind of alchemy, a sort of magical translation into something quite creative. And it's at that point that the work does what Still asked of us. It's at that point that the health becomes accessible to us, at that point that we can call upon the vitalistic and healing principle in our patients. So there are stages that must be undertaken where the philosophy, the principles, the concepts, the models, and the skills, become married, and in order to do that we need to engender a kind of attitude or a mindset that allows that to happen in each and every student. Once they get it, they'll never forget it; once that happens within them, you can say "job done, that's it," and they can throw away their training wheels. That is the moment that is most satisfying when we teach: to see that happen in our students, or for them to come back to us and tell us that that finally happened for them. But it doesn't happen without dedication, and it doesn't happen without perseverance, and it doesn't happen without what I mentioned this morning, and that is "surrender." It's devotional, and when it becomes devotional, the potential is there. For me, teaching is partly about saying that this is possible, achievable.

6 ***So you've obviously just talked about it, but can you speak about surrender and devotion; I love that you're talking about that and you're not talking about experience, because we all know that experience—hands on bodies, hands on patients—is key. So can you speak more about what a student of osteopathy can do to get to that deeper level of understanding?***

Well it can start quite early in their education, because if the quality of what is taught has any depth to it, it can help to engender what I call the "listening and receptive attitude." You see, you may come to what you do with a large amount of knowledge and understanding, but there is a point at which you have to allow your hands to feel, allow your mind to hear what the patients' body and patients' being is expressing. Then we create a synthesis from it. You see, it is all very well to hear about the different aspects of the patient's history, medical and otherwise, but at some point there has to be "the weaving of a tapestry," the creation of a pattern, a picture that goes way beyond a diagnostic label. If you're simply looking at threads, you get no picture. As soon as you're actually able to make the tapestry, and the picture comes into view, you have something to interpret. Until then, all you have to interpret are facts. The tapestry allows you to interpret the person and their presentation in the most human way, and that is really the essential ingredient in becoming a dedicated practitioner.

7 ***The "tapestry" is a great analogy that hearkens back to holism. So along this same thread then, how should a student of osteopathy be taught? Can you comment on what is missing from most curricula in the UK or around the world?***

Well there are two things to look at there. First is to question whether or not the principles are adequately expressed. In other words, they have to be there, they have to be presented in a way that it lights up a light bulb inside the student's head where they say "yes, that sounds right, that sounds plausible, that sounds perfect." And some of these notions have a kind of perfect resonance that you instantly recognize when you hear it. The second is how the student is exposed to hands-on work. I believe that sometimes there are great benefits to be derived from observation. If a student is quietly able to receive what happens when they're in the presence of an expert practitioner, or a master of the art, that will generate something quite interesting, but then when they actually try and come to work with it themselves, they need an element of individual coaching. Even when you're working with groups of students, taking them through a process, it's the way you talk them through it. It's the opportunity that you give them to place their minds in a certain way when they're touching tissue, or when they're listening to the body. So good teaching carries with it a certain sort of methodology in that respect, but it can also be an exposure to something quite subtle.

You can demonstrate a very subtle approach but you can describe what you're doing in such a way that the student feels a connection and an involvement with the performance. There are these two prongs to practical teaching. Some of it is demonstration that encourages a readiness in the student's mind to observe constructively, to participate, and another is the education offered when they are being asked to do the work themselves.

8 ***When we talk about the dichotomy of mind and body I hear what you are saying in terms of education. When I see Mr. Johnston treat, I can see that he is coming at it from a different position than mine. How can we get students to understand the soul—the spirit of the patient?***

This is a process of empathy; many people have it, some don't (or haven't developed it). What is interesting is to consider whether it can actually be engendered in any individual. Now without getting too bogged down in psychodynamic technicalities, there are people, for example, who have a pathological problem with empathy, and they will never cultivate it, but we always hope that they are sifted out in the induction process at any school, so that they don't get too far along the line only to be found to have a problem in that particular respect. But if you don't have the capacity to empathize in the healing profession, then you may be on a losing wicket from the start, and I don't think it is something that should be encouraged. It begs the question of whether empathy can be developed, and I don't know the answer to that. It may well be so, but it may not. Surely it is a product of the individual's emotional background and development—a complex issue. When the empathy is there, then what we hope to foster is the inculcation of the "quiet listening attitude" that serves both diagnosis and treatment. It is something that builds over time, not because the student determines to make it happen; it happens as a product of dedication. It is like so many things that elude you if you target them or chase them directly. But if you let it in, that's different. There is nothing like perseverance, dedication and surrender for letting it come to you. And it will be a reward that will come.

9 ***So perhaps education should look at taking a student that already has that empathic quality embedded in them, and it's just a matter of the school encouraging and allowing that to bloom.***

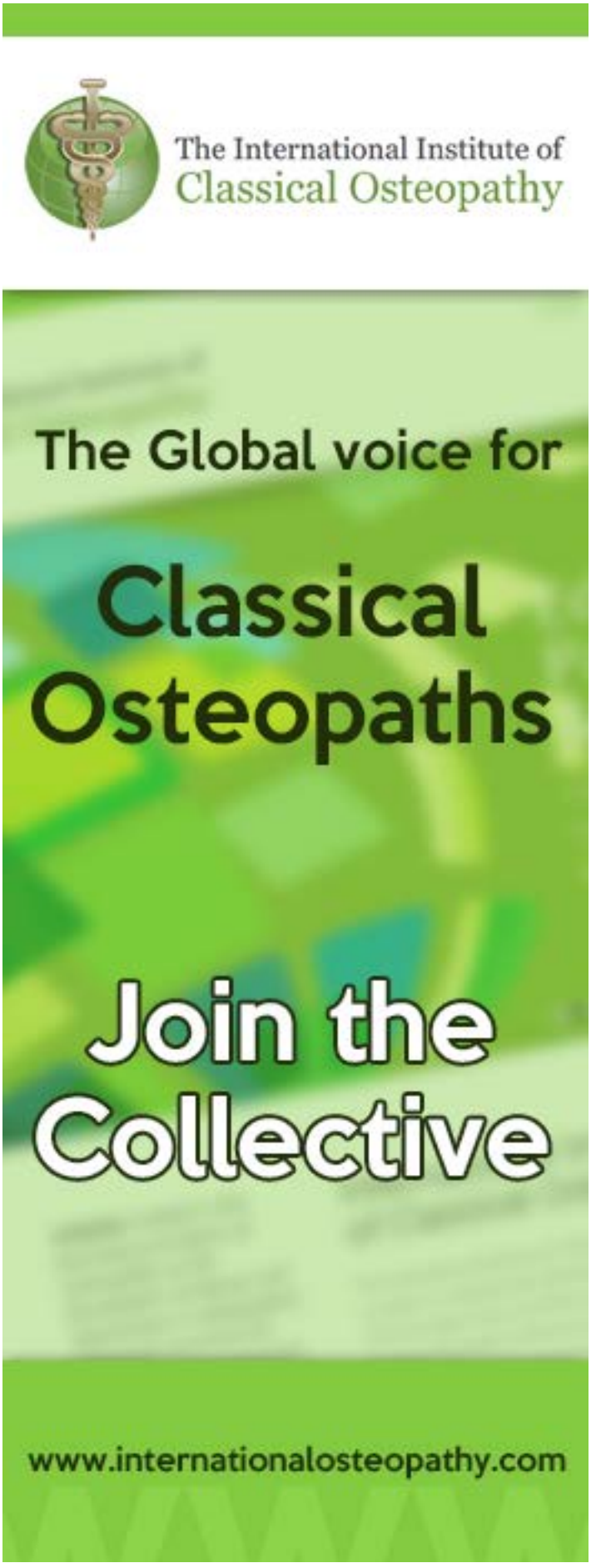
One of the things that the student gradually learns to understand is the importance of doing less... but being there more, if I can put it that way. Their connection with the patient, which is virtually "energetic," becomes very important and that connection which becomes highly charged energizes their technical approach; at that point you can pare your intervention right down. But it will have an exquisite charge to it because of what you're allowing it to be. And that enables the penetration that we seek. That is the way, I think, that we link with the patients' health. That's how we "find the health." Hence the title of the new book Finding the Health, clearly drawn from Still's dictum that we attempt to find the health; as he says, anyone can find disease! So that I think is one legacy of Still's that really stays with me. It's really the key to everything in osteopathy; it really is what allows you to take osteopathy to deeper levels and do everything we can with it, maximizing its potential.

10 ***I'm so glad you brought up Still—and please understand where I'm coming from when I ask this—but I noticed in your lecture and in your book there are not many quotes from Still himself, but rather other great minds. Was this a conscious decision?***

Yes, I think it is probably because I made the assumption that most of my readers would already be familiar with Still and, in a way, I took it as read. I mean in this morning's lecture I didn't quote Sutherland much either and I can think of several other pioneers whom I also didn't quote. But in the main, my quotations have not been from other osteopaths; they have been from people who I considered to shine a light on what we do without knowing it. So it was for me a question of how to take the benefits of what they unwittingly offered us and say, "you see, other people think this way too!"

11 ***Can you speak a little bit about what the SAT approach is and why you've focused attention on it?***

SAT is known as Specific Adjusting Technique. It was really developed by Tom Dummer who derived it from Parnell Bradbury's work. Bradbury was trained both in osteopathy and chiropractic and, owing to a colleague's illness, suddenly had to double his patient list. In doing so, he found that he had to work very intensively in the time available but was determined to do it. He studied each patient's records and x-rays (etc.) very intently, and when he examined them, tried to pair down his analysis of the "total lesion" to a focal point, what I call a bio-mechanical focus, and use a corrective technique that filtered through that focal point but was resonant with the total lesion in what I think of as a holographic model. In many ways, the approach respected the tenets of Classical Osteopathy. To some extent, particularly in the case of the upper cervical traumatically produced "positional" lesion, Bradbury borrowed a little from chiropractic medicine, which historically had always placed the emphasis on vertebral mal-positioning, abnormal spatial relationships. Osteopaths don't do that primarily; by and large they focus on abnormalities of motion. But in the case of the upper cervical "positional" lesion there is a very strong case for looking at the spatial mal-relationship, particularly between the occiput, C1, C2 and C3. This also applies to the L5/S1 relationship, but we don't need to go into that here. So coming back to SAT, Tom [Dummer] was very cognizant of the tenets and principles



of Classical Osteopathy; he was well-versed in the "spinal mechanics" model and mechanical reciprocity of function. He was also quite artistic; he used to be a musician and had very artistic hands. His technique was very gentle, subtle, but very penetrating for all the reasons I have discussed here. He taught me the principles of SAT and "positional adjusting," and I also observed many treatments, and had the privilege of being able to work alongside him for several years. When I was able to generate some skills in SAT for myself, it became my preferred way of working (having previously been a person who worked very classically when I graduated). Later, when I incorporated the Involuntary Mechanism or cranial work, I took to it particularly as it resonated with the same principles and attitudes that I'd already acquired in order to be proficient at SAT. I found that the important thing was still going to be focus. The need to be precise with SAT, and the need to find a way of listening to the body and using technique in a penetrative way in order to have systemic effects and benefits, was exactly the same in the IVM work. So the touchstone of my teaching became that whichever techniques were chosen, and however you're going to work, whatever approaches were to be incorporated, the idea of focus was paramount. I've often said (and quoted in my book) that the biomechanical focus that Tom taught was distinctly paralleled with Rollin Becker's "Eye of the Storm" and the bioenergetic focal point within the lesion pattern in cranial work—a perfect reflection. And I thought to myself, this is exciting; here we have two people once again coming at the same thing from different places but, in their own way, speaking the same language, and that was a great piece of insight for me. I've worked that way ever since.

12 ***Kudos to you for coming to that realization that it all comes back to that stillness, that focus. After going through your book, hearing you lecture, and now interviewing you, everything you say comes back to this same point. You've definitely found something.***

Well, when you analyze or diagnose a patient and you stand with them, whether you're demonstrating to students or whether you're in the consulting room, whatever you're doing, you "place yourself" somewhere that allows you to receive the maximum information. It's like adjusting an antenna so that you get the best possible signal, and if you're distracted, or you're unfocused and you cannot find the stillness in yourself, then you'll miss "it" or get a distorted picture—or more likely, will struggle to find anything at all! I remember once seeing a patient and trying to make a diagnosis while I was somewhere else in my head—I don't know where I was! But I said to the patient "now that you've come a long way, I'd like you to lie down on the couch and rest for a few minutes" and I went off into the other room and meditated for about five minutes. Then I came back into the treatment room and all was clear, I had no problem. So it is a question of how you prepare your mind to open all the portals that allow the patients' material to resonate with you—but that's not where the job ends, of course. The job goes on and you have, in my words, to become a kind of bridge

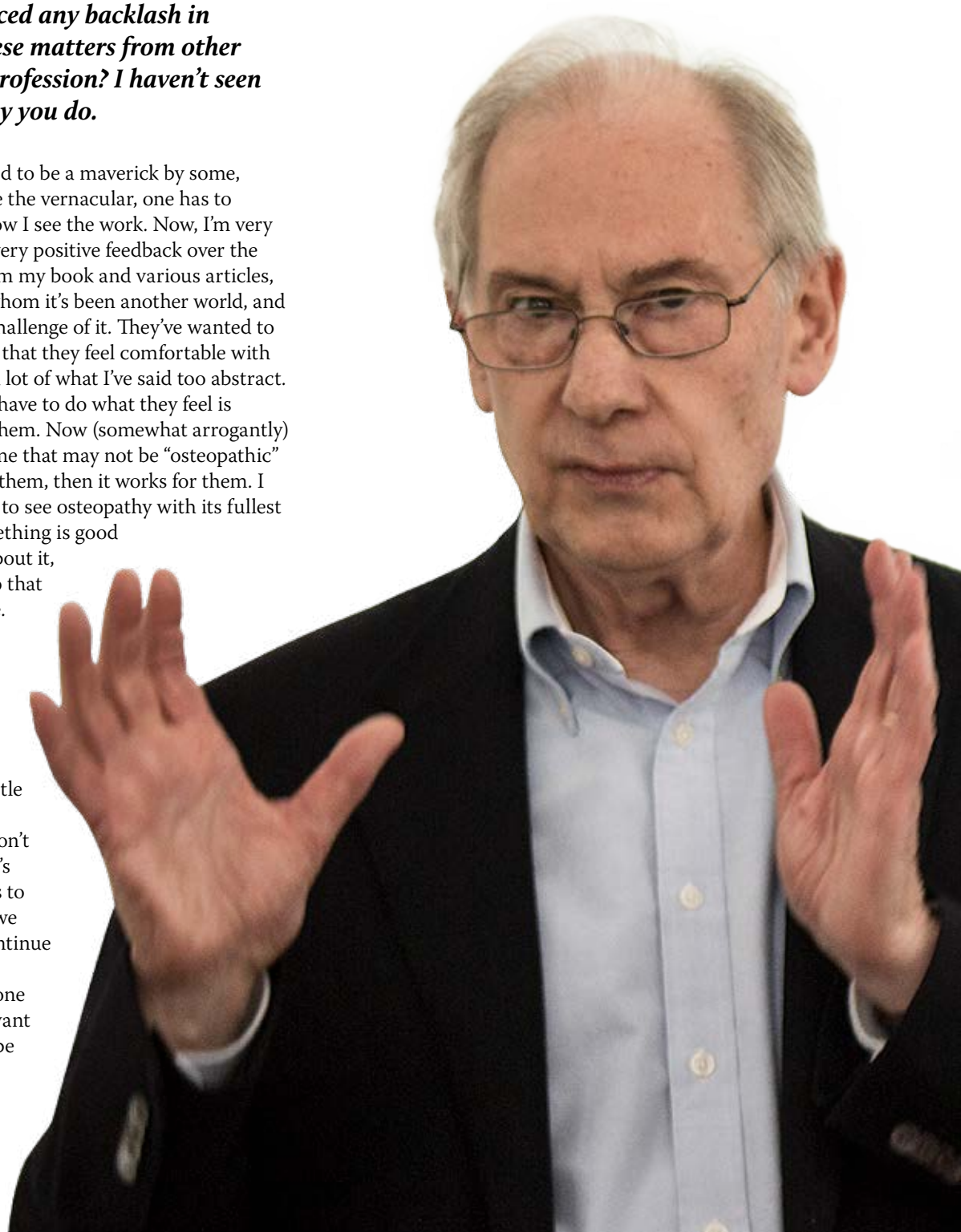
between the ways you conceive of the patients' material—what we might call their lesion pattern—and your sense of the patients' potential norm. I put it that way deliberately because I don't suggest for a minute that we should be molding everybody to an ideal. But what I am saying is that there is a potential for an element of resolution at this moment, and we become a bridge between those two states. That is, I think, how the phenomenon known as entrainment comes about in osteopathy. Entrainment is something that James Oschman talks about a little, and other scientists refer to it in other aspects of science (I believe they call it "phase conjugation"). So in this context, I think we have a very special role, and that is to be maximally receptive to the lesion state but totally aware of the potential for that patient. And I think we preform that bridge function.

13 ***Have you experienced any backlash in speaking about these matters from other colleagues in our profession? I haven't seen many think the way you do.***

I realize I'm probably considered to be a maverick by some, or to be unorthodox. But to use the vernacular, one has to speak one's truth, and this is how I see the work. Now, I'm very fortunate that I've had a lot of very positive feedback over the years from my lectures and from my book and various articles, but there have been some for whom it's been another world, and they haven't even wanted the challenge of it. They've wanted to maintain the kind of paradigm that they feel comfortable with and they have probably found a lot of what I've said too abstract. But that's okay because people have to do what they feel is comfortable and accessible to them. Now (somewhat arrogantly) I would say that some of the time that may not be "osteopathic" in my terms, but if it works for them, then it works for them. I shouldn't judge it, but one tries to see osteopathy with its fullest potential; when you know something is good you want to tell other people about it, as well as generate more of it so that more and more of it is available. It is, as I've said, one of the greatest paradigm shifts in the medical science and yet the number of people across the world who might subscribe to that idea is probably very limited. It probably sounds a little arrogant to speak as if we have something very special. But I don't really think it's an arrogance; it's something that is very precious to us and we want to promote it, we want to teach it, we want to continue it. This is why I said in my final remarks this morning that it's one of those enduring truths: you want to be able to help the students be inspired by, to be energized by, and to devote their lives to.

14 ***In conclusion, there is a quote by M. Chagall I would like to finish with. It reads, "Art is the unceasing effort to compete with the beauty of a flower and never succeeding." With that said, is there still work to be done?***

Always, yes. That brings to mind those Japanese ceramicists who would dedicate themselves to making the same bowl their whole lives knowing it would never be perfect; that dedication—knowing that perfection would always elude them but still trying their hardest—that is very moving for me. But I think perhaps that that notion is a beacon for everyone.



Blind Faith vs True Faith in Osteopathy

by Darren M. David

Osteopathic education is anything but easy, demanding an almost obsessive pursuit of the subjects required to master the discipline. Time is at a premium, and while there is a massive array of learning materials within the osteopathic cannon, osteopaths in training must be guarded of their time so as not to detract from mastering the core concepts and principles that lead to developing a strong osteopathic mindset. When a supplemental resource is recommended by an instructor, it is added to a list of works that are outside of the core curriculum, but are at the same time crucial to one's osteopathic education. This list is often reviewed, and from time to time, a text is selected as a complement to one's studies. Yet it is important for new and eager practitioners to be realistic about their time: to either dive into further study or put the book aside and return to the job at hand—learning osteopathy. When a text does resonate, however, it reverberates deeply, at which time it accelerates the course of understanding to such a degree that it changes the osteopathic mindset established through the education process. One such work for this author was God Mechanic, recommended in my 4th year of study.

Upon reading this book on the 'Horse Doc' Dr. Huls, one thing stood out beyond his autobiography, patient testimonials, and insights: his faith in the profession. Dr. Huls' conviction lead to an honest and personal discussion with myself about how perceptions change during one's osteopathic education. The central change that comes to mind is indeed that of faith. For those learning osteopathy, that notion of faith is essential to one's continuation and progress through his/her education whether the patient gets better or not have little control over the outcome despite being taught that treatment happens off the table.

The notion of faith is inconstant, and deserves some direction to better articulate what is meant by this abstract noun. For those in the early portion of their education, their confidence in osteopathy is a blind faith. They are engaged in the subject, see amazing things by their instructors and mentors, and read of amazing feats resulting from astute and effective osteopathic treatment. They, of course, are not able to achieve these same standards, but they have a faith in both the process and in their hard work. Even if what they do during their treatments in early osteopathic life has limited effectiveness, those treatments are performed with the conviction that they are supposed to work. This supposition is very interesting, for it is based on the premise that while osteopathy is beyond their reasoning and application, it is still supposed to work. They argue for their craft, study it deeply, but continually are faced with failures in their attempt to enforce the deep powers of unleashing the body's ability to self-correct.

As apprentices emerge from their education, they soon realize that the fruits of their labour are far from wasted, and intentions become realized with practiced repetition. As this becomes more habitual, the expectation of the outcome of treatments become different. The body is given the opportunity to reconstitute itself based on the symmetry and returned motion of its parts by the removal of the osteopathic lesion. Whether or not the patient gets better or not is no longer the focus. While practitioners always want the patient to get better, they have little control over always; it really comes down to the realization that, as Dr. Huls and Dr. Still explain, osteopaths are God's Mechanics, and just as much as we might hope for patients to get well—relying on their constitution and vitality to do so—whether they achieve health or not is just as much part of a providential understanding of a will greater than our own.

The work is done when the work is done. This notion, as axiomatic as it might sound, is something that had been a personal struggle for this author, who went through that phase of always wanting patients to feel better directly after treatment, even though I was taught that treatment happened off the table. Failure to achieve this level of confidence without going through that phase of blind faith, yet always wanting the treatments to succeed, is part of the learning process. What remains to be developed, after all the hard work of study and practice have paid off academically, is a cultivated, organic appreciation of the osteopathic lesion that leads one down a life-long path, eventually getting closer to this providential understanding—being a mechanic of the Divine Will, whatever that means in this modern day where "faith" denotes something different for so many.

While this understanding of one's role as a manual osteopath is still maturing, it is exciting to set forth with a knowledge that when the work is done, it is the body's will, as much as any other, that guides our hands to something closer to that union of the physical and spiritual realms Still was so deeply exploring in his gift to the world.



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Fractals in Osteopathy

by Meagan Henrich

It has been intriguing observing my classmates begin their Osteopathic journey as I too begin my first year of studies. We each have a unique background, personality, and thereby lens through which we study the essential sciences and are inducted into osteopathic thinking. We are thankful for the training Robert Johnston provides us all at the CAO, and his contributions to Dr. Still's observations of natural law. Both men have provided us with principles; thus, their guidance lives on within us as individual practitioners who uniquely contribute to the science of osteopathy.

As I take on the challenge set before me, I find myself synthesizing my past academic experiences in relation to osteopathy. My background synchronizes study in mathematical physics and experience in a human cadaver lab assisting in teaching and prosecting. My lens has been focused lately on the natural occurrence of chaotic fractal geometry in anatomy and human development, physically and mentally. This idea is not novel to the natural sciences; however, it offers the osteopathic student nuanced insight into their personal studies and future practice.

Mathematics is the absolute quantitative language that describes the laws of the physical realm with respect to space and time. Its syntax accurately defines physical principles from throwing a baseball to fluid dynamics within a blood vessel. It is the natural law of motion through time, defining structural mechanics and thereby influencing function. The basic principles of physics permeate our studies as electricity is the basis of force and movement production. Additionally, energy—both chemical and gravitational—too sustains life, allowing physical expression of the body and mind in space through movement. Principles of pressure, density, gradients, leverage, stress, strain, friction, tension and compression are utilized by the body, and are respected by the osteopath.

The architecture of the living being seems chaotic. I recall as a child drawing my interpretation of the circulatory system as a complicated squiggle of red and blue crayon lines inside an outline of a human body. Upon closer inspection, the dynamics of the structural organization of the body is quite simple, and obeys a code. The recurring geometry we observe is fractal and is the axiom of similar highly irregular iterative patterns, invariable at any scale of observation.

Their highly complex nature is symbolically captured in elegant yet rudimentary mathematical equations and can be used to understand shapes, sounds, and motion.

With respect to fractal geometry, a visualization experiment can simplify the general nature of this phenomena. Imagine yourself standing at the base of a mountain (be it the figurative Mountain of Osteopathy or otherwise). As you observe the mountain as a whole, you note it has a wide base, variable-sized crevasses, irregular blocks, and a jagged peak. As you scale the mountain, you may observe smaller bases, crevasses, irregular blocks and peaks which possesses this same geometric pattern. As a curious student of natural law, you pick up a small rock, and too notice this looks like a miniature scale of the mountain. Should you have petrographic inclinations, you would note that in a thin section under a microscope, the crystal structure and arrangement of materials, again, resembles the shape of the mountain. Mountains, snowflakes, rivers, trees and clouds are all natural examples.

In essence, fractal geometry can be described as the occurrence of a functional unit of a system that grows and branches cyclically until you observe the final product, which appears to be the same as the functional unit. As the fingerprint of nature, fractals exhibit variability and in their organized chaos as they are ultimately imperfect, and mathematically are dictated by the genetic code.

The reader may take a moment to challenge themselves to identify such patterns in anatomy.

Accepted fractal anatomy includes the nervous and circulatory systems, inclusive of the brain and cerebellum, and pulmonary vessels. Upon further inspection of the nature of these anatomical features, it is apparent that the systems that nourish, control and supply the body's tissues are fractal-based. Systematically developing from conception to adulthood in a grow-branch-grow pattern, from the smallest unit of the system to the system as a whole, the pattern is iterative.

Developmentally, does not the nervous system—from the microscopic structure of a multipolar neuron or purkinje cell to the global nervous system from the brain to the distal nerves—look similarly repetitive on each scale? From the brain tissue, tracts, spinal cord, plexuses and cauda equina, distally along the nerves, and finally to the nervous cells themselves, the unit is self-similar and iterative at each scale. In fact, purkinje cells can be modelled through fractal mathematics to predict their growth patterns.

Zooming in from the entire body's arterial supply to the complexity of the hepatic capillary bed, we again find the iterative, complex branching network to be the epicenter of the whole body's nourishment and communication system. As the understanding of the mathematics evolves, cell membranes and proteins, heart rates and heart beats are too classified as fractals.

All of these instances of anatomical and physiological fractals are organized imperfect chaos that form and function as instructed by the genetic code. The self-similarity results in high-level complexity and control. Fractal geometric optimization of the economic vitality of the human being is guaranteed via rapid, diffuse, and efficient transport of the life-giving and sustaining elements, unifying all structural components of the being. This is of great importance to the osteopathist; as Still said, "*the more we know the architecture of the God of nature, and the closer we follow it the better we will be pleased with the results of our work.*" (Osteopathy, Research, and Practice, 1910, p. 516).

In my osteopathic infancy, I cannot help but notice the similarity of the fractal patterns in our professional development. As we evolve as students and Osteopathic Manual Practitioners, we demonstrate fractal-based thinking as our understanding of the science grows and branches. Mr. Johnston guides our assessment process, osteopathic diagnosis and treatment, with the Rule of 9, as described in the 4th issue of the CJO. The global, local, focal triad hones in from the whole body to a system or specific structure of interest in determining dysfunction. The other triads of superficial, intermediate, deep, and primary, secondary, and tertiary, also demonstrate the iterative scaling nature of fractal geometry, and the interrelated cause and effect integrative branching pattern extended though each concept.

I see the possibility of the art of practitionership exhibiting this pattern as we learn and grow with our patients. Dr. Still wrote: "every day the sun rises, it shines upon more brilliant osteopathic thinkers." (Osteopathy, Research, and Practice, 1910, p. 508).

What I find so beautiful about this mathematical concept is that it encourages us to embrace the imperfections in the patterns of natural growth and allow ourselves to be imperfect yet fully committed to our development for the benefit of ourselves, our patients, and osteopathy.

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