

cranial intelligence blog

random thoughts on biodynamic craniosacral therapy and stuff we like

TRE: Tension and Trauma Releasing Exercises

October 15, 2010 in [Post Graduate Courses/ CPD, Trauma](#) | by [Steve Haines](#) | [Leave a comment](#)

David Berceli's tension and trauma releasing exercises (TRE) are an amazing tool for helping the body let go of deep, chronic patterns. They are remarkably simple and the process of change they facilitate is very easy to self regulate. The goal of the exercises is to start a self directed tremoring process. The tremors are completely natural and release tension and trauma held in the body. Once you have learnt the exercises, and can feel and allow the tremors, you just let the body do its own healing and clearing out of overwhelming experiences. It really can be that easy.

I am currently studying with David Berceli and I am very impressed with both him and the effectiveness of the TRE process. One of the big draws for me is his huge experience, he has worked in over 30 different countries and with hundreds of thousands of people. He developed the exercises as a way of safely helping groups of people in war zones and natural disasters. I am intrigued by the possibility of working with trauma in groups. His style of teaching, and focus on honouring the responses of the body, are very similar to cranial work. For example, he talks a lot about offering stillness and presence as people tremor. I will be starting to run some groups once a month in London and hopefully some workshops, with Riccardo Cassiani, later in 2011. You can find out more about London groups here: [TRE in London](#) and about TRE here: [Main TRE website](#)

The next section is copied from a [blog by David Berceli](#). I like it as I recognise the difficulty of trying to get people to sense their bodies. It can be done, and cranial work has much to offer to support body awareness, but TRE is more radical. Once the tremors are occurring there is not much else to do, for client or practitioner, except, maybe, remembering to breathe.

'Many times clients have come to me telling me that many spiritual books, gurus, guides, coaches, etc., give them mental exercises to try to 'sense' their bodies, 'feel' the tension inside, 'imagine' being calm or 'focus' on your tension. This is a true and positive way to guide people to eliminate tension and restore calmness. But for many traumatized people, this cognitive method of directing the brain to observe the body is an impossibility. Their brain's ability to be this refined in their thinking processes has been disturbed. If they are not able to perform these mental functions, it often leaves the individual feel more helpless and hopeless.

The TRE Process is a way out of this cognitive dilemma. Instead of simply reading a book and trying to use reflective exercises, this book provides an amazing alternative. This book contains physical exercises designed to elicit a natural response in the body that organically leads the individual to deeper feelings and sensations in their body.

What is most useful is that when using these exercises, the cognitive process is actually unnecessary. The individual can actually daydream, watch TV, listen to their favorite music, etc. There is no cognition necessary because the TRE process actually does the work for the person. It releases stress without having to 'work at it' or 'think about it'. As it reduces stress, it allows the individual to begin to physically 'feel', 'sense' and 'inhabit' 'their body without having to try. It is the natural outcome of TRE Process.

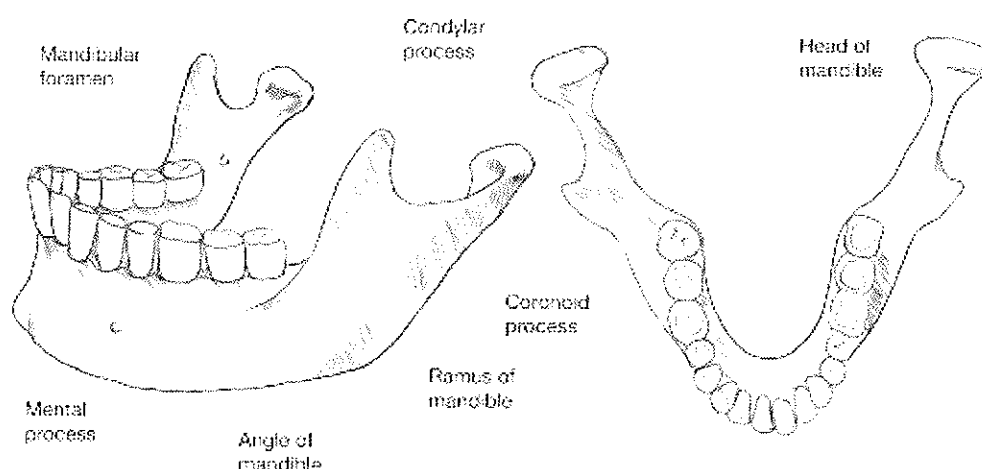
By coming into their bodily sensations without having to cognitively try to do so, feelings of defeat, hopelessness and helplessness are replaced by feelings of success, hope and self-empowerment.'

David Bercei Aug 28, 2010 <http://www.namastepublishing.com/blog/author/david-bercei>

0 0 Like This

No evidence that braces work for jaw pain: Cochrane Review 2010

October 5, 2010 in [Anatomy](#) | by [Steve Haines](#) | [2 comments](#)



Just came across the following Cochrane review on TMJ disorders (TMD) (Luther et al 2010). Cochrane reviews are the gold standard in evidence based medicine, they do meta-analysis of all the available data. Ben Goldacre (2008), author of *Bad Science*, pays a long homage to the importance of Cochrane reviews in his book. The text below is the summary from a review done in July 2010. They often come up with surprises (natural health approaches frequently get a kicking), great line at the end: 'we do not know the real cause of TMD at present'. Not sure what to make of it all really, it certainly affirms how complex an area the jaw is to treat; alignment should not be the only goal of treatment. There may be a few unhappy dentists and brace wearers out there if they come across this review. I assume braces still work for straightening teeth but there is no evidence that they work if the goal is to prevent TMD. (Also just found there is a 2004 Cochrane review (Al-Ani et al 2004) saying there is not enough evidence for whether or not splints worn at night work – wow again. There is also a review saying grinding of teeth surfaces by dentists, 'occlusal adjustment', has no evidence to support it relieving TMD (Koh and Robinson 2003))

Orthodontics for treating temporomandibular joint (TMJ) disorders

There is no evidence about the effects of different types of orthodontic braces for problems associated with the joint between the lower jaw and skull. When the joint between the lower jaw and the base of the skull is not working well (temporomandibular disorders (TMD)), it can lead to abnormal jaw movement or locking, noises (clicking or grating), muscle spasms, tenderness or pain. TMD is very common, and it is believed by some that it may be caused by the occlusion (the way the teeth bite), trauma or psychological stress. There is also a belief that the pain associated with TMD is similar, in that respect, to low back pain and may be related to variations of a person's individual pain perception. Changes in the way the teeth meet can be produced by the use of active orthodontic

appliances. This review found that there is no evidence from trials to show that active orthodontic treatment can prevent or relieve temporomandibular disorders adding support to teeth not being part of its cause. It is suspected that we do not know the real cause of TMD at present.

For the full review click here: <http://www2.cochrane.org/reviews/en/ab006541.html>

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Al-Ani MZ, Davies SJ, Gray RJM, Sloan P, Glenny A-M. (2004) *Stabilisation splint therapy for temporomandibular pain dysfunction syndrome*. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.: CD002778. DOI: 10.1002/14651858.CD002778.pub2

Goldacre, B. (2008) *Bad Science*. London: Fourth Estate.

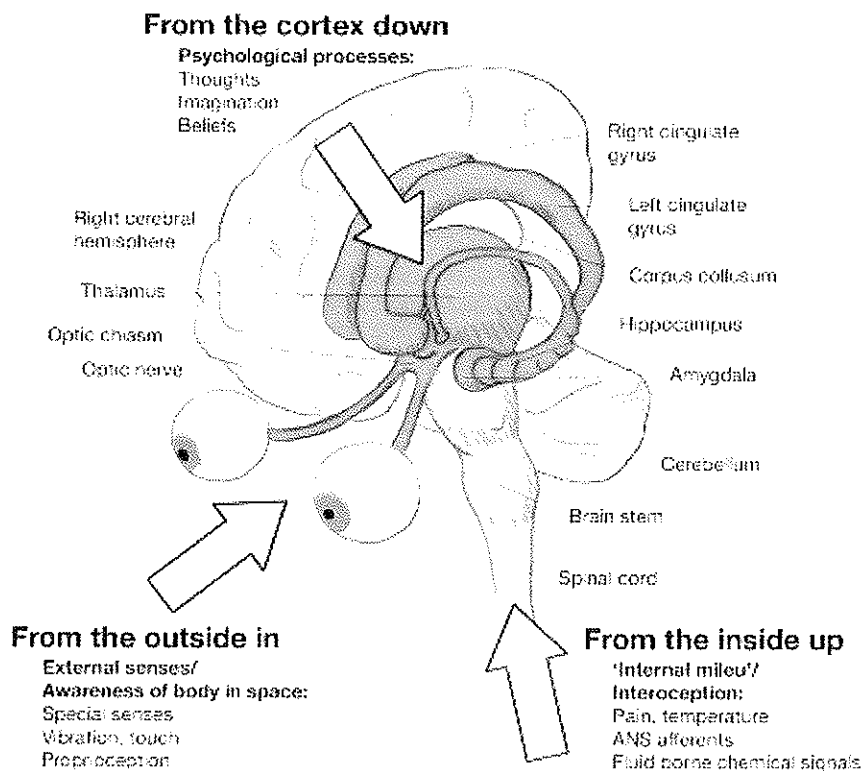
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1 0 Like This

Adapting insights from the Social Nervous System model to cranial work

October 4, 2010 in [Neurology](#), [Trauma](#) | Tags: [Afferent](#), [Social Nervous System](#), [Dura](#) | by [Steve Haines](#) | [Leave a comment](#)



Sources of information into the deep brain centres that control our primitive reflexes to being overwhelmed

We can frame three essential principles on how the nervous system works that are relevant to cranial work:

One: Essential reflexes can hijack the functioning of the whole body.

The most important reflexes to understand are

- Flexor withdrawal (the response when we step on a pebble, it involves the whole of the spinal cord and interferes with control of the whole musculoskeletal system)
- Sympathetic overactivation (fight, flight, flooding)
- Parasympathetic overactivation (freeze, dissociation)

These reflexes are discussed more fully in Sumner and Haines 2010. It is very hard to function effectively if we are contracting away from an irritant, stressed/ unsafe or not present.

Two: Evolutionarily newer functions inhibit older functions.

'The three circuits are organized and respond to challenges in a phylogenetically determined hierarchy consistent with the Jacksonian principle of dissolution. Jackson proposed that in the brain, higher (ie, phylogenetically newer) neural circuits inhibit lower (ie, phylogenetically older) neural circuits and "when the higher are suddenly rendered functionless, the lower rise in activity."' Porges 2009 (1) (N.B The three circuits referred to are communication, mobilisation and immobilisation)

The social nervous system is engaged first as part a hierarchy of responses if we are threatened.

The polyvagal theory of Stephen Porges (2003, 2009) develops the basic trauma model and lists a hierarchy of responses, each involving progressively older evolutionary responses of the autonomic nervous system: communication (social nervous system), mobilization (sympathetic nervous system) and freezing (parasympathetic nervous system). In humans the first responses are about communication and orientation. According to the principle of Jacksonian dissolution (see the quote above) the newer social nervous system inhibits the stress response of the sympathetic nervous system. In turn mobilisation inhibits freeze.

Initially, with any perceived threat there is an communication or orienting response, an engagement with our environment to gain more information. In the orienting response, the person locates and assesses the source of the threat. There may then be a communication, for example, using negotiation or social skills to address the threat. In this stage a mouse may sense a hint of cat and sharpen its hearing and smell, open and move its eyes and turn its head to gain more information. There is a temporary stilling of the heart, breathing and posture. In humans this orienting response is highly developed and frequently includes communication. This is based on our previous experiences of attachment to figures of safety, we can sooth and reassure ourselves in contact with others.

The social nervous system links together cranial nerves V, VII, IX, X and XI. They control sucking, swallowing, voice, breathing, middle ear muscles, heart rate, ingesting, facial expression and head movements. This response comes from a newer part of what was classically considered part of the parasympathetic nervous system (2). A big part of the social nervous system involves signals along the 'new vagus', a myelinated (therefore quicker) tract

controlled by the nucleus ambiguus (3). Porges contrasts this with the old unmyelinated vagus which is controlled by the dorsal motor nucleus and initiates the freeze response.

Upright posture is also a relatively new function.

Communication and social interaction are considered drivers for increasing brain size and complexity (Attenborough 2002). Standing upright, via our unique human upright posture, is also considered an evolutionary selective pressure on increasing brain size (4). It takes a lot of neurology to overcome gravity and balance and walk on two feet. It is relatively new neurology. Porges makes the case that the phylogenetically newer neural circuits of communication inhibit older stress response. I would argue that the same could be said of the parts of the nervous system that deal gravity and movement. **When we open our heart, lift our chest, expose our more vulnerable front as we stand upright and walk freely we become more human.**

Three: We can 'reboot' the nervous system. Improving afferent input will improve the functioning of the whole nervous system.

'Approximately 80% of the vagal fibres are afferent and provide important information regarding the visceral state.' 'The central regulator of the vagus in the brainstem is both an input and an output of other feedback systems; the vagal system becomes a component of a more integrated neural feedback system and a portal to neural systems in other areas of the brain.' ***'There is a strong neuroanatomical and neurophysiological justification to predict that stimulation of the vagal afferents would change activity of higher brain structures.'*** Porges (2003) (Bold added)

The section highlighted in bold in the Porges quote above is the really hopeful part for bodyworkers. If we can stimulate any single afferent to the brain stem and limbic system we will improve the activity in the whole nervous system. An example from the work of Porges of this principle in action:

The Listening Project.

The Listening Project is ongoing research with children diagnosed with autism. It is led by Stephen Porges (Porges 2008) and uses the Polyvagal Theory as the theoretical basis. The research uses an intervention that provides acoustic stimulation to children during a free-play condition. The intervention has shown promising results in enhancing social interaction and communication behaviors. This is quite incredible research. By challenging the middle ear muscles, and improving the associated neurological control, Porges has demonstrated improvements in the ability of the whole individual.

'The model is an optimistic model, because it assumes that for many children with social behavior and communication difficulties the Social Engagement System is neuroanatomically and neurophysiologically intact. The problem is conceptualized as a functional deficit. Thus, to obtain the desired behavior, our task is to stimulate the cortical regulation of the brainstem system that regulates the muscles of the head. The theory predicts that once the cortical regulation of this brainstem system is engaged, social behavior and communication will spontaneously occur as the natural emergent properties this biological system.' Porges 2008

Understanding the above three principles generates treatment strategies.

Improve information flow.

Any inputs that improve our ability to orient and communicate will inhibit the stress response. One of the most powerful ways of doing this is to offer stillness, space and allow the system to orient to resources and the environment in present time. The extra information from the whole body and the whole field will allow contextualisation of cycling and speedy stories and slow down the stress response. The quick response to the question 'Am I Safe?' is mediated by centres deep in the brain. Simply, we can talk of the limbic system and the brain stem controlling dissociation and activation. These deep brain centres receive information from three sources; from the cortex down; from the external senses in; and from the body coming up. The figure above attempts to show this flow of information (5).

If we are overwhelmed, wherever the information comes from, the amygdala will trigger communication, mobilisation or freezing (Porges 2003). Orienting to the flow of information from the inside of body (interoception) and awareness of the body in space (exteroception) are much more powerful ways of inhibiting the cascade of the stress response than using the cortex down route. It is very hard to think your way out of anxiety, it is much easier to orient and feel your way out. Biodynamic cranial work can use these pathways from the body and the environment to help the system come into present time.

Apply the Vagal Brake.

Porges describes the vagal system as a feedback system consisting of motor pathways to change visceral state, sensory pathways to monitor visceral state and brain structures to evaluate the sensory input and to regulate the motor output. The vagus nerve especially acts to inhibit the sympathetic nervous system. The sympathetics are set to run in overdrive all the time, health depends on an active vagal brake. Thayer and Lane (2000) show that ANS imbalance (causing anxiety, poor attention and immune disorders as shown by proinflammatory cytokines plus other conditions) is due to low vagal tone.

The vagal brake not working causes the sympathetics to be dis-inhibited and the system to become much less flexible in its responses. The interoceptive signals from the organs and internal environment, especially the heart and gut, utilising the heart brain and belly brain, are very powerful tools in inhibiting the sympathetics. They are also essential to our sense of self and our experience of emotion and pain (Craig 2003).

Switch on the extensor muscles.

In overwhelm the sympathetics and flexor muscles are switched on and the extensor muscles are inhibited (6). The flexor muscles are the muscles that we would use, all over our body, to grab hold of a telegraph pole. The extensors allow us to come into a softer, upright, open and receptive posture. Supporting this posture and the reflexes to maintain it can be a useful tool in clinic work. Often in clinic work asking people to feel the back of their body on the table can help engage the extensors. Any movement information (especially spinal joints) provides afferent input (sensory information) to the nervous system that improves the functioning of the whole body and brain.

All animals that evolved to move show strong symmetry around a midline. Supporting balance around the midline is a powerful way of stimulating the neurological control of movement.

Stimulate social nervous system sensory pathways.

The social nervous system nerves listed by Porges are cranial nerves V (trigeminal), VII (facial), IX (glossopharyngeal), X (vagus), XI (spinal accessory). The motor outputs of the social nervous system according to Porges are head turning, muscles of facial expression, muscles of mastication, middle ear muscles, larynx and pharynx, heart and bronchi. The sensory inputs to the social nervous system cranial nerves are interoception (discussed above), sound (the input that changes the tension in middle ear muscles), mucosal linings of the oral cavity, nasal cavity, and sinuses, the teeth, and the sutures, dura, skin and arteries of the cranium (Barral and Croibier 2009 p.13).

For craniosacral therapists the ability to interact with the dura and sutures of the skull is central to the cranial paradigm.

'The cranial dura mater possesses a rich and vast sensory innervation.' Barral and Croibier 2009 p.25

The trigeminal nerve carries most of the sensory information from the dura back to the brain stem. The sensory ganglion of the trigeminal nerve is huge, indicating its importance. Theoretically, therefore, resolving inertia in the dura should offer a burst of afferentation to the social nervous system. (The other big sensory input to the trigeminal ganglion is from the teeth and the periodontal ligaments holding the teeth in place.)

If Porges can switch on the whole nervous system of autistic children by stimulating cranial nerve control of the middle ear muscles, it is hard not to be excited about the possibilities in cranial work of stimulating other social nervous system cranial nerves. Particularly the trigeminal nerve via the dura and teeth and the vagus nerve via interoception. Any interventions that support the functioning of the cranial nerves (e.g. opening of the jugular foramen, opening of the sinuses, free movement of the bones of the cranial base, nerve and blood flow through the carotid sheath, orienting to the ganglions of the cranial nerves) potentially have the ability to 'reboot' the whole nervous system.

Notes

1 The part in double quotes is a direct quote from Jackson. The reference given is: Jackson JH. Evolution and dissolution of the nervous system. In: Taylor J, ed. Selected Writings of John Hughlings Jackson. London: Stapes Press; 1958:45–118.

2 Thanks to John Chitty for pointing out that the new vagus model and the social nervous system are not described by Porges as being part of the parasympathetic nervous system. In Cranial Intelligence I did not fully understand this and was imprecise in saying parasympathetics inhibit sympathetics – what I should have said is the social nervous system and/or the vagal brake inhibits the sympathetics.

3 Porges contrast this with the old, unmyelinated vagus. Freezing relies on unmyelinated vagal efferents originating in the dorsal motor nucleus of cranial nerve X (DMNX) (Porges 2003). The DMNX projects to the heart and bronchi, drastically slowing down the heart and respiration.

4 Jared Diamond (2005) p260 describes becoming upright as a significant jump in human evolution, accelerating development: 'The first (jump), occurring between 100,000 and 50,000 years ago, probably was made possible by genetic changes in our bodies: namely by evolution of the modern anatomy permitting modern speech or modern brain function or both.'

5 The labelling on this diagram has been updated from the version in Cranial Intelligence (Sumner and Haines 2010). I have since read Craig (2003) and Blakeslee and Blakeslee (2007). I like their framing of interoception versus exteroception and moved proprioception to the label outside in/ awareness of the body in space.

6 Ida Rolf quoted by Lyons 2010: 'She said that if there is no psychology, there is only perverted physiology. Dr. Rolf believed that all negative emotion is expressed through the shortening of the extensors'

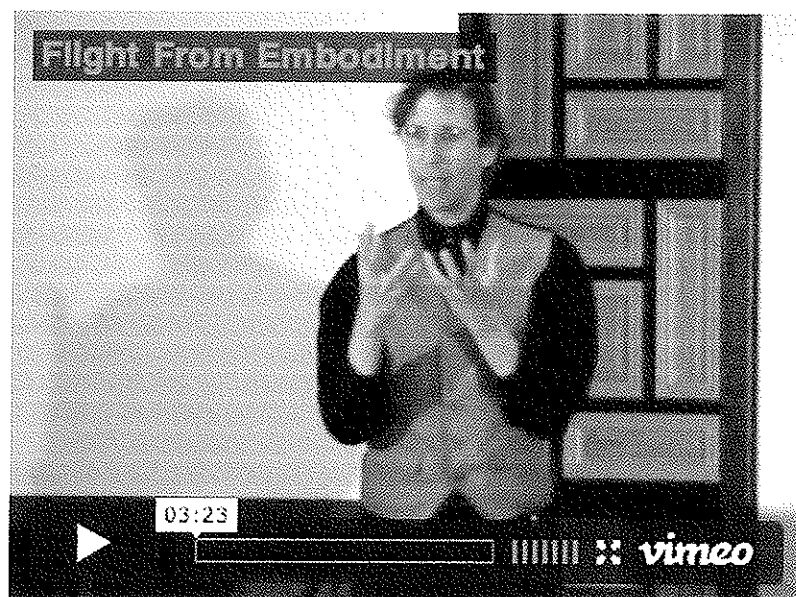
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3 0 Like This

‘Flight From Embodiment’ by David Abram

September 13, 2010 in [Biodynamics](#), [Trauma](#) | by [Steve Haines](#) | [1 comment](#)



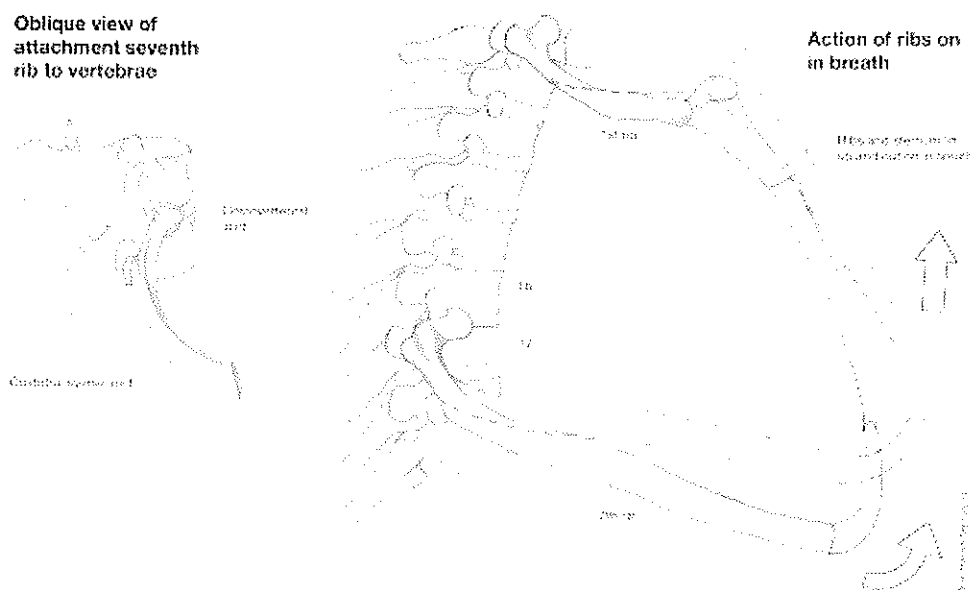
David Abram's writing is amazing. His talks are up there as well by the looks of it, the short video above is wonderful on the struggle to be in a body.

He has a new book out – 'Becoming Animal'. His first, 'The Spell of the Sensuous', is the best book on perception I know.

4 0 Like This

The ribs and some Sutherland biomechanics

September 2, 2010 in Anatomy, Biodynamics | by Steve Haines | 5 comments



The bony thorax, made up of the ribs, thoracic spine and the sternum is frequently under appreciated. Two of my favourite chiropractic teachers were very keen on adjusting ribs. One of them used to tell a story, that has stayed with me, about a client with at least a two year history of persistent, intermittent, and distressing abdominal pain. There were lots of investigations via her doctor, unsuccessful medications and diet interventions. He described how one adjustment to the lower left ribs solved the problem.

Ribs are often implicated in stubborn shoulder issues, hard to treat back pain, breathing restrictions, chest pain, organ problems and abdominal dysfunction. Seat belts and car accidents, falls, carrying heavy bags and children are common causes of dysfunction. Cracked ribs are famously painful and can hang around for a very long time. Orienting to the thoracic spine, the whole space of the thoracic cavity and its fillings and connections and following the inherent treatment plan is often enough to help clear issues. However a few times a year I find myself needing to focus on the ribs and sternum much more specifically in order to support change.

At the back of Sutherland's book 'Teachings in the Science of Osteopathy' there is a treasure trove of osteopathic techniques (Lippincott, H.A. 1949). You may remember it as the section with the slightly strange pictures of people sitting on Sutherland's knee or of clients twisting and tuning as he holds the the body in a particular way. The language is very technical, it is all about 'ligamentous articular strain', and it is very easy to skip over. There is though an approach to working with ribs that I like and will discuss below.

'The operator holds the "bolt" while the patient turns the "nut" to release the fixation.'

Sutherland (1990 p.246)

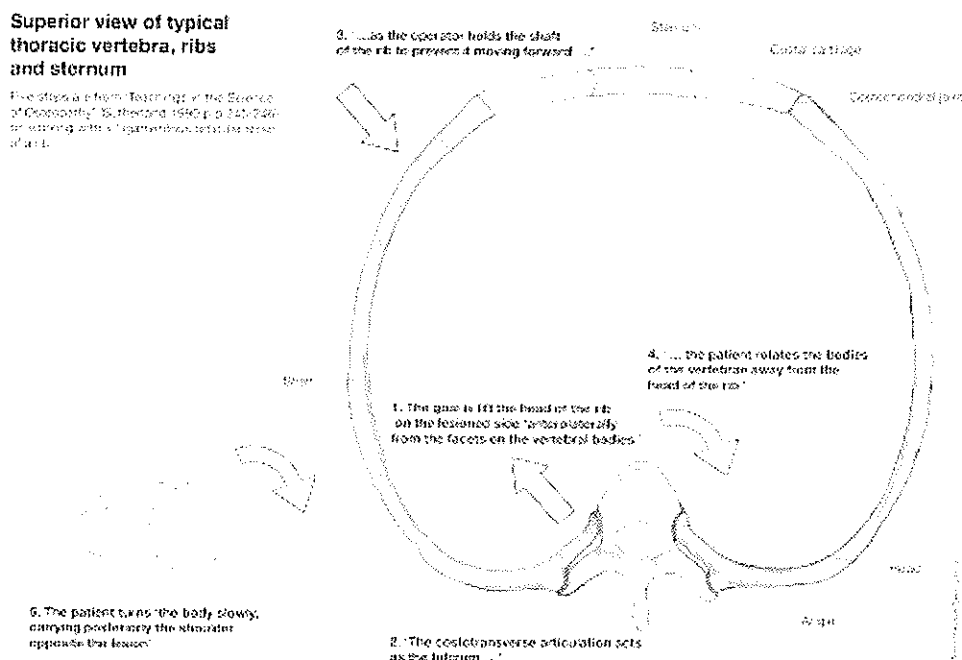
'Of greatest importance, however, is the mental equipment of the operator, his ability to visualize the structures concerned in the lesion, and keen tactile sense common to osteopathic physicians.'

Sutherland (1990 p.235)

Ignoring the assumption that osteopaths are men, the second quote above sums up for me why it is useful to be able to relate in detail to the anatomy. An intelligent system will know that you know. If you understand and have a felt sense of the specifics, then change will happen much more quickly. You may not want to try the principle of the bolt and nut (in this case the bolt is the rib, held by the practitioner, and the action of the nut is the patient turning their spine) but being clear on anatomy and exploring Sutherland's insight into how the rib can move in health will be useful. I try and be playful when I am focused on specifics, I try not to want things to change, at some stage I find that I can widen out my awareness to hold the detail in relationship to a wide field of action. That is actually the moment when things shift. But I often ask questions, try different hand positions and need to be clear on the anatomy before the right relationship emerges. As long as I can perceive when the system says no I find it is ok to be inquisitive. Cranial work is much more than just sitting hopefully in space with your hands over a general area. The structure of the body is not arbitrary, evolution was very precise. We need to be skillful in our appreciation of the detail of the form.

Superior view of typical thoracic vertebra, ribs and sternum

Five steps in a film: *Teachings in the Science of Osteopathy*, Sutherland 1940, p. 247/248, or working with a rib: *Principles of Osteopathy*, Sutherland 1940, p. 247/248.



The diagram above attempts to summarise an approach by Sutherland to working with the ribs. With my skills it's fairly ambitious to be able to be so clear about using the costovertebral articulation as a fulcrum to open the attachment at the rib head. **What I do like about the approach is getting the client to twist their spine.** Whilst holding the rib (the bolt) I get them to twist both ways and, fairly arbitrarily, choose the twist that seems to help the most. This 'turning of the nut' by the patient really helps me clarify the anatomy under my hands. (If you get the client to twist towards you it probably opens the costovertebral articulation a little more).

My upper hand is in contact with the shaft and/ or the costochondral joint, my fingers underneath the thorax are on the angle of the rib, slightly lateral to the spine. Another tip is to hold a few ribs and get the client to take big breathes to help you make sure you are holding the rib correctly – the downward angle of the ribs means your fingers are not directly above and below each other. The contacts under both hands should move together when they are on the

same rib. Also, as the client breathes in and out it will help you be aware of restricted ribs, they often feel hard, fixed and tight.

To treat: I will get the client to slowly make a twist until I get a sense of the rib, ask them to take a breath and hold the breath, I widen my awareness and then they breathe out. Sometimes I ask them to keep holding the twist for a few cycles of breathing. Then I ask them to let go of the twist. In the relaxed state I often get a strong sense of the the rib shifting laterally and taking up space, often followed by a surge in potency. It feels fabulous as the rib slides towards you, it has worked a treat for me a number of times. I hope it helps you too.

References

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Sutherland, W.G. (1990) *Teachings in the Science of Osteopathy*. Portland, OR: Rudra Press.

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‘as if I was cupping a bowl of water’

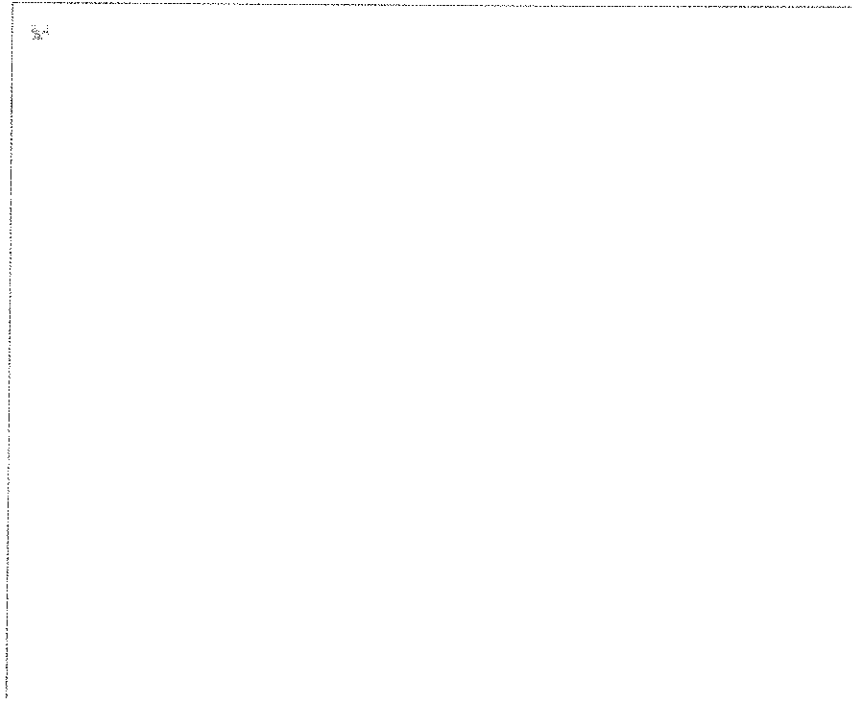
August 19, 2010 in [Biodynamics](#) | by [Steve Haines](#) | [1 comment](#)



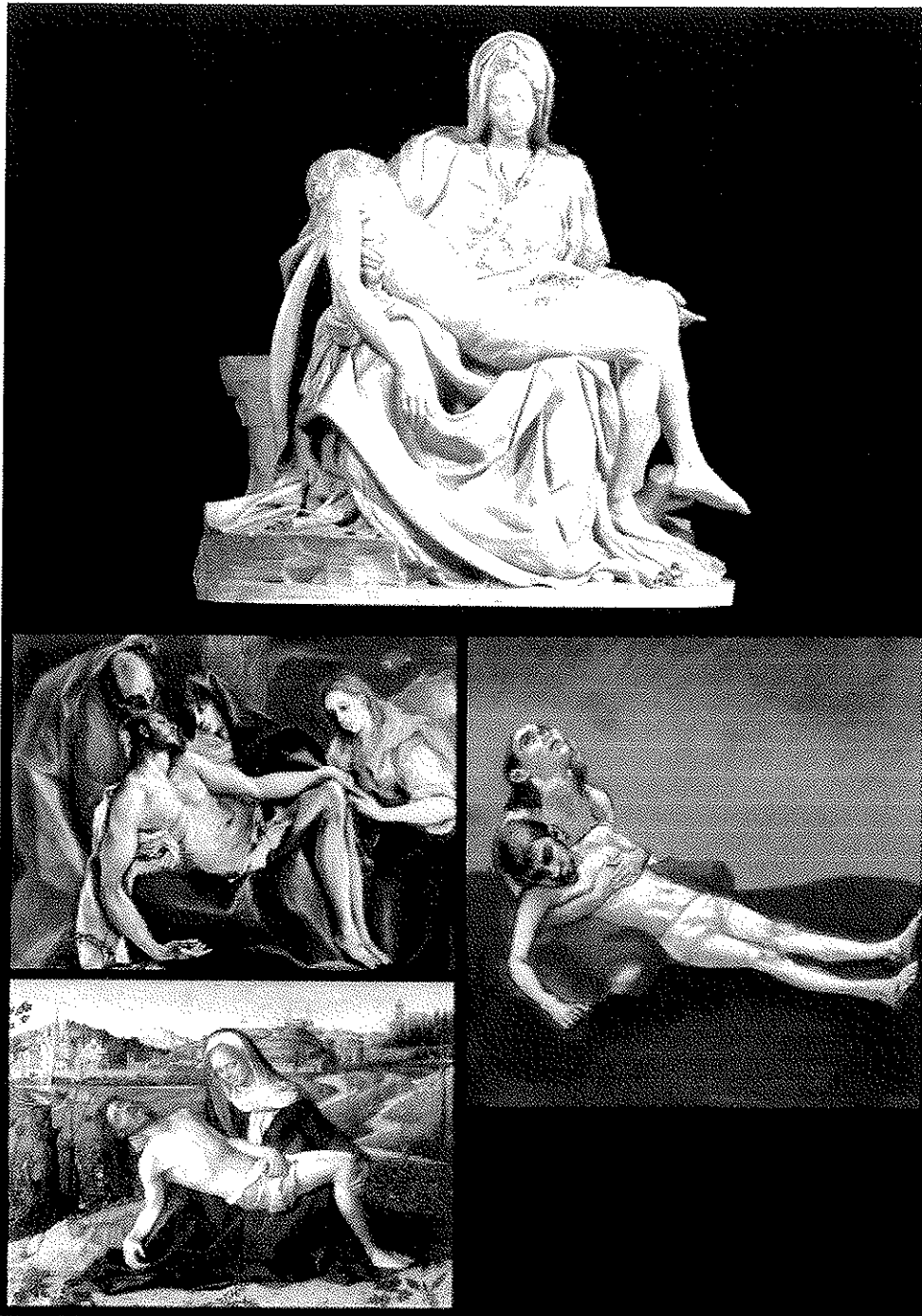
Japanese Prime Minister holding a bowl of tea at a tea ceremony

I love green tea. We travelled in Japan a few years ago and discovered really good quality Sencha and Matcha. My morning cuppa has changed forever. Matcha particularly was a revelation, it is powdered green tea and a taste sensation when prepared well. The preparing it well is the hard bit (1). A full Japanese tea ceremony can take hours. There is a whole philosophy and world view (Chanoyu or the Way of Tea (2)) tied up in the simple act of making, sharing and drinking tea. I am learning to appreciate the power of ritual and consistency as I attempt to improve my matcha making skills. Maybe only the Zen tradition could refine such a simple process to create a rich cultural tradition, with principles such as harmony, purity, and tranquility. The picture above shows how even the powerful can offer respect and humility in receiving and holding a simple bowl.

As I have been treating recently I realise I have been using an image from a video by Michael Shea about holding the body as bowl of fluid. (The actual phrase he uses is 'as if I was cupping a bowl of water' at 55 sec into the video below). There are lots of great principles of biodynamic craniosacral therapy illustrated in the video. How we approach the body in cranial work, the simple act of touching another human, echos many of the qualities of 'Chanoyu or the Way of Tea'. Rituals allow us to deepen into the present moment, they link us to all the times the ritual has been performed before and help us be more open to subtleties and nuances. Consistently meeting the body as if cupping a living bag of fluid is a wonderful orientation.



Not explicit from the video, but also of note, is the name Michael Shea uses to describe the particular hold he demonstrates – pieta. The pieta (pity) is an iconic image that captures the events of Jesus' descent from the cross. It displays the strong relationship between the mother and child. Though it depicts the death of Christ it has served as an important visual in representing both strength and vulnerability. The most famous rendition is Michaelangelo's sculpture which has been used as the standard of almost every other pieta created ever since (3). From a different tradition to Zen, pieta images suggest additional archetypal qualities central to the relationship and holding field we create in biodynamics.



Pieta images. Clockwise from top: Michaelangelo, Paula Rego, Bellini, El Greco

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- (1) My favourite site on tea is <http://www.h4.dion.ne.jp/~horaido/115E-E.htm>
- (2) Okakura K (2005) *The Book of Tea. The classic work on the Japanese tea ceremony and the value of beauty*. Tokyo: Kodansha International Ltd
- (3) http://copperportfolio.multiply.com/photos/album/34/PietaPiedad_Phographic_Icon accessed Aug 2010

2 0 Like This

Arterial and Venous Consciousness

August 19, 2010 in [Biodynamics](#) | by [Ged Sumner](#) | [3 comments](#)

The two greatest forces in the body are concerned with the movement of blood out from and back to the heart. They are two natural opposing forces that establish a deep resonance through all structures of the body. Everything is influenced by the force of their motions. All cells and structures are interlaced with their systems. Fast strong pressured flow out and slow depressured flow back creating the yin and yang of the body systems. The arterial flow is a much more sympathetic action and indeed is controlled by the sympathetic nervous system. Try attuning to your aorta and you will find a uniquely powerful state. The best way to do this is to find the movement of your heart either with your hand on your chest or through your awareness. Once you have the heart you will naturally become aware of blood movement and the strongest flow is into the aortic arch. Follow that with your awareness and it will lead you to the blood midline of the aorta. The potency of the aorta is astonishing. If you are feeling low in energy here is an endless stream of vitality running deep in your system. Just replenish yourself from the river of energy that constantly flows within you! Now get interested in a bigger vessel off to the right and more anterior in the body cavities than the aorta. This is your vena cava and the flow of blood here is totally different. Obviously it's a lot slower and it's rising not descending. When you attune to the vena cava the response is much more parasympathetic – It acts to slow you down. Here is a midline for stress management. It will bring your whole system into a state of repose. So the vascular system has its own autonomic actions through flow of blood. It's fascinating how the body creates these balanced actions in unexpected ways and how these movements and forces not only underpin the body system but also underpin our thought processes and our very consciousness. Watch how your arterial system drives you out into the sensory environment and gears you up for action. Watch how resting switches you into a more venal state. And how you combine the two for smooth functioning throughout your day.

1 0 Like This

Cells talk to cells via the soft tissue matrix

August 5, 2010 in [Anatomy](#), [Fascia](#) | by [Steve Haines](#) | [5 comments](#)

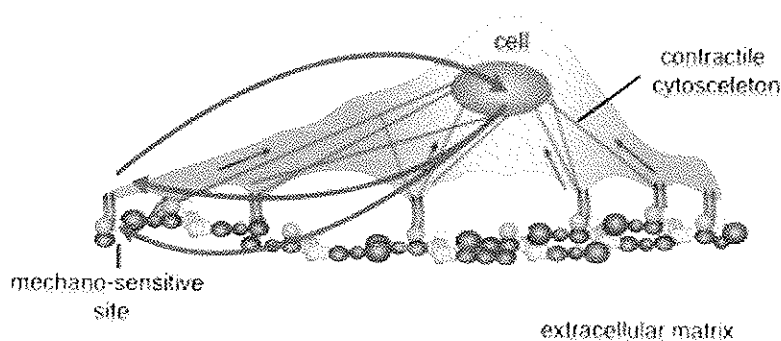


Cells (blue) moving through a matrix of fibres (green)

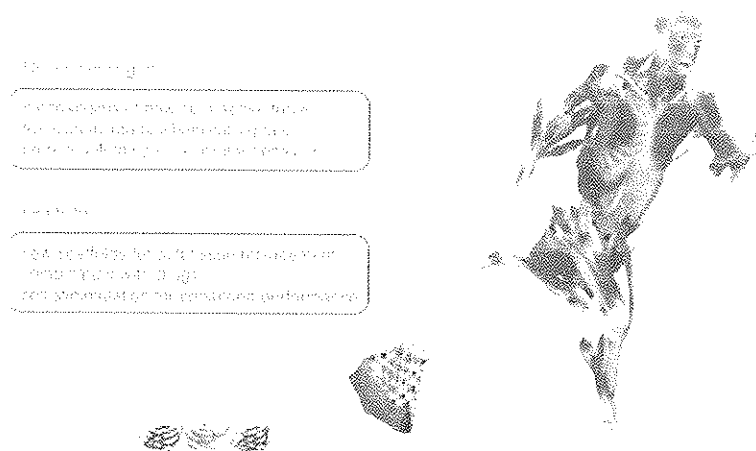
http://www.zurichminds.com/videos/ruth_schwartlaender.html

Click on the link, or the picture, to see a 7 min video 'Ruth Schwartländer: "Why Nano in Technology?"' Her talk describes how cells communicate with their environment by introducing forces into the surrounding complex 3D network of fibres. There is a short film in the video showing cells moving and shaping the surrounding matrix, the still above is from the film. I met Ruth at a social evening in Geneva and really enjoyed talking to her about her research. It was inspiring to meet someone so smart and who could explain some tricky concepts to someone not in her field.

It is now well established that cells talk to cells using mechanical signals transmitted through the connective tissue matrix. This is fantastic research for body workers (1). By influencing the macro scale of connective tissues we are also influencing the nano scale signalling between cells. The extracellular protein matrix connects into the internal cytoskeleton of the cell. Cells do not only talk to other cells by fluid chemical signals, such as hormones, neurotransmitters and cytokines, they also signal to each other by pulls and twists in the protein matrix. Cells sense properties from the matrix which leads to certain behaviours. The contractile cytoskeleton connects the extracellular force bearing network to the inside of the cell. The functions of the cell, its use of DNA to produce RNA to produce peptides, is altered by the signals it receives from its environment.



Ruth's research is about understanding and measuring the strain state in individual protein fibres. She explained how pulling on a long, complex protein chain opens up pockets of molecules that are now available to bind to different receptors on cells. One of the surprising things to have emerged from the research is that there are lots of potential binding sites on the proteins used to make the connective tissue matrix (fibrin-actin (2)). Fibrin-actin is used all over the body. Depending on its strain state the protein can transmit a huge variety of signals, the surprise was that there were not different proteins used in different parts of the body. So the proteins fibres that liver cells use to communicate are the same as the protein fibres in the heart, for example. The heart cells mold and shape the protein fibres differently to liver cells and expose different binding sites on the surrounding scaffold to signal different information.



In a culture dish, when new cells are inserted into a matrix created by other cells they actively sculpt the matrix. The cells are not static or passive. They move around the scaffold and apply traction forces to the protein fibres. The protein fibres unravel and unfold to expose single molecules that can act as new binding sites. By understanding more about the interactions of cells and the soft tissue matrix it is hoped to be able to improve transplants and delivery of site specific drugs.

Notes

(1) This is not a new idea for bodyworkers. We discuss 'mechanotransduction' in the book. Our references are Ingber (2008) and Oschman (2000) below. Ruth's work and video is a new angle on this model and very affirming of the potential of bodywork to influence one of the signalling methods of the body.

Ingber, D.E. (2008) 'Tensegrity and mechanotransduction.' *Journal of Bodywork and Movement Therapies* 12, 198–200.

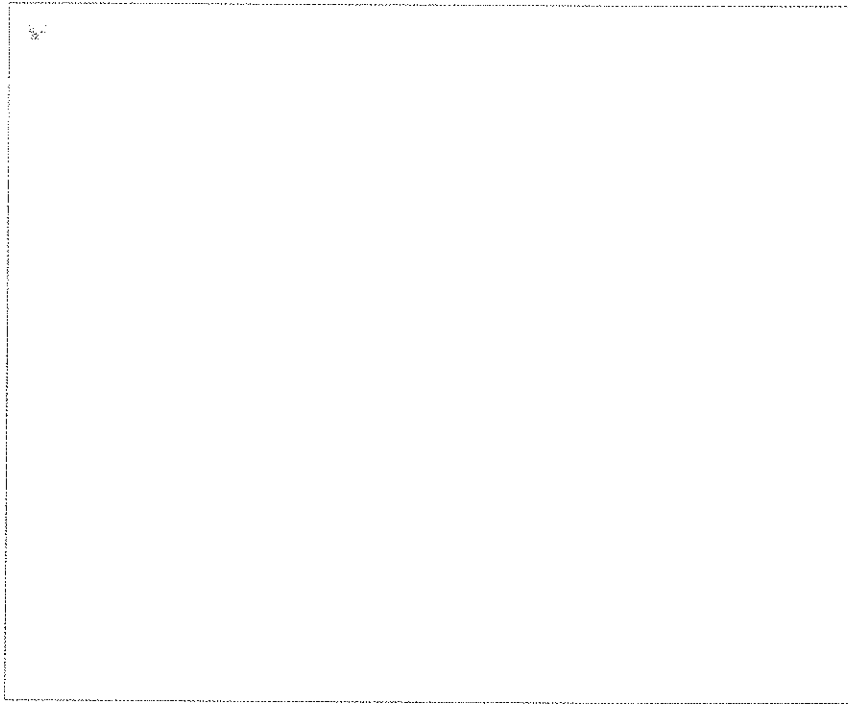
Oschman, J. (2000) *Energy Medicine: The Scientific Basis*. Edinburgh: Churchill Livingstone.

(2) My memory of the term Ruth used was fibrin-actin. It is not used in the video and google does not help my get a definitive name for the protein she is researching. I am more used to fibrin or actin molecules, she spoke quickly and I had to concentrate to keep up.... All the pictures are taken from the video.

5 0 Like This

Short video interview with Steve about Cranial Intelligence

July 27, 2010 in [Book progress](#) | by [Steve Haines](#) | [Leave a comment](#)



Some extra questions from the interview, but not on the video, that will appear in the Singing Dragon newsletter.

BCST (biodynamic craniosacral therapy) seems like something you can really only master by having hands-on practice. How does your book support this kind of learning?

We were quite shocked to learn that there are videos out trying to teach cranial work as a distance learning course. In the first instance, watching cranial work being performed is like watching paint dry and secondly, students really need constant hands on feedback to support their developing perceptual skills. In the history of cranial work there is a strong oral tradition and preference for teaching by transmission. One of the senior biodynamic cranial osteopaths (Jealous) refuses to write and reluctantly, it seems, has recorded some CD's of him talking. We do not go as far as that, we think there is a value in articulating theory and writing down exercises that people can practice for themselves. Our book is full of meditations and protocols that we have learnt from our teaching experience can work really well to help people more clearly feel their own bodies, other peoples bodies and our common relationship to the natural world. The book is aimed to compliment study on a two year training course.

The book talks a lot about 'potency'. What do you mean by 'potency', and what is its significance for BCST practice?

Potency can be thought of as the cranial word for energy. Energy means lots of things to different people and is often a very fuzzy concept that is used as a catch all to explain interactions that are not well understood. My favourite definition of energy is that it is information moving through a field. A field here meaning a zone of influence. Potency is a term used by Sutherland, the founder of cranial work. In a slightly more precise way than the common usage of energy, it allows us to describe the felt experience of BCST practitioners of an inherent potential in nature and in the body that organises, animates, and communicates. Sutherland used the image of potency as 'liquid light' and the phrase 'the fluid within the fluid' to describe his experience of potency. He was very clear that expressions of potency are mediated through the fluids of the body. Other words commonly used alongside potency are tingling, shimmering, light, vibration, electricity, something moving and windlike. Like the wind in a sail or the heat of the suns rays or the falling to earth of an object, we can perceive the effects of potency but its actual nature is illusive.

The book includes a practice development chapter that covers questions such as ‘Why do you want to become a Craniosacral Therapist?’ and ‘How do I earn a living as a Craniosacral Therapist?’ Why was it so important to include those questions?

Our observation, from running a teaching clinic for CSTs in London, of noticing and talking to other CSTs, of supervising students and practitioners, and being involved in teaching at four different biodynamic schools is that many people struggle to set up a practice once they qualify as a practitioner. They have life changing skills that can dramatically enhance the lives of their potential clients by helping them be in less pain, less emotional distress and have more vitality. However being a skillful therapist does not mean you will be a busy therapist. There are big issues to explore, and additional skills to learn, about being a self-employed, small business person in a competitive private health care market. Adult learners engage with training courses for many reasons, often at transition points in their lives. The questions above are an attempt to get people to think through some of these issues at an early stage in their training. The two year training is very demanding and requires a degree of maturity, self reflection and personal growth. Our experience is that this work can help a wide range of human suffering; people in chronic pain, people who have experienced trauma, people living with serious physical illness and people in profound emotional distress. It is good to realise the likely territory of their future professional life and to understand the commitment it involves if they want to become a practitioner of excellence.

5 0 Like This

Guest Blog by Michael Shea: Biodynamic Operating Principles

July 23, 2010 in [Biodynamics](#), [Guest blogs](#) | by [Ged Sumner](#) | [Leave a comment](#)

I once heard that biodynamic practice is the creative application of a set of principles. Consequently, over all the years I've been teaching and making numerous mistakes both clinically and in teaching Primary Respiration, I have settled on a five step process. This process is called:

- orienting
- synchronizing
- attuning
- disengaging
- and ignition

Each of these states or stages of biodynamic perception are practiced each time a clinician's hands are placed in a new position on a client's body.

Let me just say a few words about orienting. Orienting means that the practitioner establishes a three dimensional sense of their body or an image as the starting point for practice. I like to direct students to sensing every square millimeter of the surface of their skin at the very beginning of a session and then periodically returning to that three dimensionality or wholeness throughout the session. So the starting point of practice is wholeness. But it is wholeness as a felt sense or image. The question is what is the image of three dimensionality. It is that of a transparent fluid body. I simply sit still and imagine that the entire contents of my body is a beautiful, clear, aquamarine ocean and my skin is clear like glass. This is also an image of an embryo, because an embryo is 98% fluid.

So this is the first principle for me in biodynamic practice, which is to establish a very real sensibility around the shape of my body being one single continuum bounded by the skin and its transparency. The study of interpersonal neurobiology demonstrates that when the practitioner

can inhabit a conscious awareness of three-dimensionality, this generates a resonance for the same possibility within the client's brain, nervous system and cardiovascular system.

Finally, orienting refers to stillness and in order to discover one's three-dimensionality, one must also be still as Dr. Becker was fond of saying. Thus the posture of the practitioner is still and the mental thoughts of the mental practitioner begin to slow and enter a space of serenity. Otherwise, three-dimensionality remains difficult or fragmented. This is the promise and possibility of biodynamic practice. To start with wholeness and stay in wholeness as a conscious awareness throughout a session and possibly throughout one's life. In my next posting I will talk about synchronizing.

Michael J. Shea is one of the preeminent educators and authors in the fields of somatic psychology and craniosacral therapy. He presents seminars throughout the U.S., Canada and Europe. He is the author of Biodynamic Craniosacral Therapy Vols 1 and 2 and the soon to be published Vol 3. His teaching programme link is here: <http://michaelsheateaching.com/>

2 0 Like This

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