



# Susan Ryrie *Therapies*

## December 2023 Balancing the body

I have often read claims that various complementary therapies can balance, or restore balance to, the body. This month I am taking a quick look at this, and at the idea of homeostasis.

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Have you ever looked at the description of a complementary therapy, seen that it 'restores balance to the body', and wondered what that meant? I have. It was quite some time ago, before I trained in use of the Bowen Technique, but I remember thinking, well it sounds as if it should be good, but I don't really understand what they mean. So, I am going to share a bit about my own understanding of this statement, and also the idea of 'homeostasis'.



First, balance within the body, in the sense of muscular health. Even when we are not moving, our muscles are working; they need to hold us upright, or seated, or any other position we choose, against the downward force of gravity. The same is true for our horses and dogs. Muscles work by contracting. They get shorter, and they pull, creating tension.

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To hold the body in a correct posture, each muscle needs to be pulling by just the right amount – it needs to be holding the correct amount of tension.

If some muscles are pulling too hard, and some not hard enough, then the body shape will become distorted. This can feel uncomfortable, or even cause pain. Have you ever tried to pitch a tent – the old fashioned sort with guy-lines? It can be surprisingly difficult to get the tensions correct, but if they are not, then the whole structure feels unstable. Restoring correct balance to the body is like adjusting the guy-lines.



Tensegrity is a relatively new field of engineering and architecture. It involves joining thick, rigid elements and thin, flexible elastic elements. A musculoskeletal system can be thought of as being constructed in the same way.

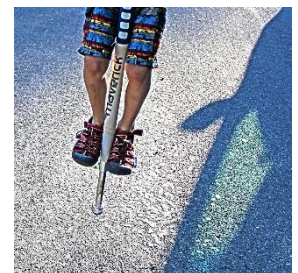
Bones are rigid elements, and muscles are elastic elements. When people think of the body as a tensegrity structure, they refer to biotensegrity. Studying these structures is increasing our understanding of how animal bodies move. The picture is a tensegrity sculpture

(photographed in Kolkata by Biswarup Ganguly, and copied from Wikipedia).

Compare this to the tent (above), and your own MSK system.

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Tensegrity structures are flexible, but remarkably strong for their size. This sounds like a recipe that mother nature would want when designing a ‘body’. They are also remarkably good at storing, and then releasing, energy. This is a strategy that horses use when they trot. They sort of use their legs like pogo sticks! For a horse, trotting over ground poles takes less effort than walking because of this effect.



Manhattan Toy  
Skwish Classic...

The Skwish Rattle is another example of a tensegrity structure, and you might have seen one of these. If you get a chance to play with one (!) have a go at ‘skwishing’ it down flat and watching it ping back when you let go. Have a go at twisting it, then letting go. In both cases, the work you do to skwish or twist is being stored in the elastic elements, and released when you let go. The same can happen in our bodies, and our horses’ and dogs’. Energy can be stored in muscle and tendon through stretching, and then released; or in something called fascia through small rotational movements, and then released.

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As well as thinking about energy being stored and released, notice how movement flows through the rattle. When you displace one element, every other element responds. When you stretch one elastic element (simulating weaker tension), the tensions in every other elastic element adjust to maintain the balance. This is a lovely illustration of why in Bowen, NST and Emmett we take a holistic view of the body; if one muscle is tight, others will be affected, and the pain may be felt in a different area from the one that originally 'caused' the problem.

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The flow of movement through a tensegrity structure illustrates the graceful, fluid movement of a professional dancer, or perhaps a bird in flight. Contrast this with the movement of an amateur dancer, whose body braces, and blocks the flow.

You can see this every Saturday evening on BBC1! A consequence of bracing in this way is that forces become highly concentrated in a small region of the body, rather than being shared throughout the body. This puts extra strain in those areas, causing extra wear, and possible injury through torn muscle, tendon or ligament. Training to ensure good *quality* of movement - fluid, flowing, avoiding bracing – should always be carried out before increasing the *quantity* of movement. Using therapies to balance the body can release areas of bracing, allowing the body to regain correct function as a tensegrity structure, so that movement flows and strain and wear are reduced.



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So on to homeostasis. This can be defined as 'the state of steady internal conditions maintained by a living system'. This is much more than just



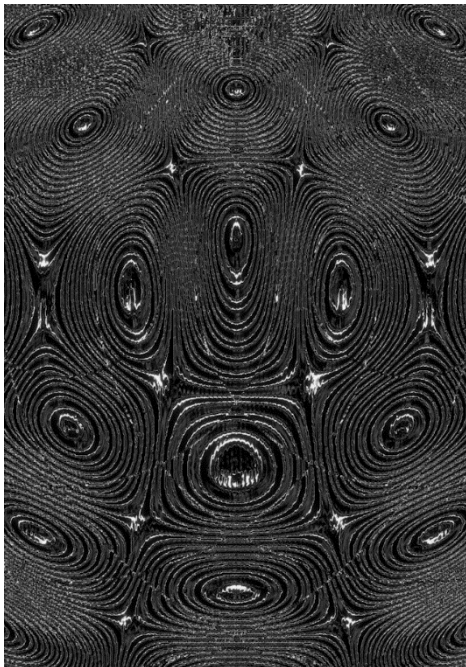
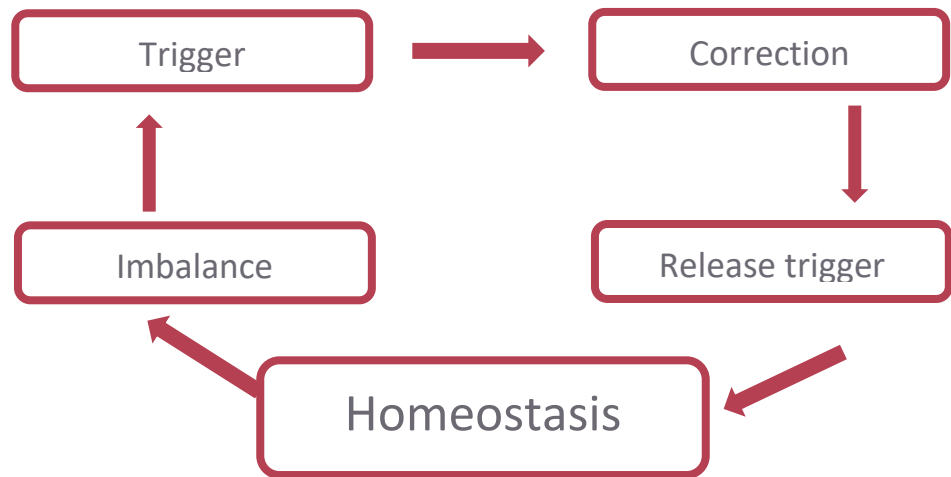
muscle tension. It can refer to many different states of the body; for example, temperature, pulse rate, respiratory rate, the amounts of different hormones circulating within the body, the composition of the blood and so on.

Good, steady, stable values are all conducive to good health. In contrast, swings in these parameters can indicate that the body is stuck on a roller coaster of highs and lows, and struggling to maintain a healthy condition.

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Stability is maintained within the body by numerous feedback loops. A simple example is the breathing reflex; when the concentration of carbon dioxide in the blood falls below a certain level, the reflex is triggered to initiate the next in-breath, which raises levels etc.



Now, stability and feedback loops get me all excited, because they were a big part of the work I did when I was researching in applied mathematics in my previous career. It is a huge topic in mathematics, and I love the added layer of understanding the mathematics gives me when I think about homeostasis. In particular, I realise how strongly stable a steady state within the body can be; yet at the same time, how difficult it can be to regain it once it is lost. What does that mean? While you are reasonably healthy, things can stay that way without too much difficulty. But if the body becomes too stressed in some way, it can be remarkably difficult to regain good health and well-being.

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The idea of stability could make a whole new topic for me to explore and explain, but it would be rather geeky! So, perhaps best left? But if you are really interested in this, [send me an email](#) with the subject STABILITY and I will put together a special edition Monthly Roundup just for the geeks!

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You can feel a feedback loop at work in your body if you close your eyes when standing. Do you notice a slight swaying (the movement is the Trigger), and your body making Corrections (in muscle tension) to maintain your balance? Postural sway can be measured if you, your horse or dog stand on pressure plates. It can give an indication of core strength.

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Another feedback loop we are all familiar with is one that helps maintain body temperature. On hot days the body produces



sweat to enhance loss of heat from the skin, whereas on colder days blood vessels contract to prevent loss of heat from the skin. Notice the sequence of



Trigger, Correction, leading back to Homeostasis. When an imbalance occurs, this causes the Trigger to act, leading to Correction and back to Homeostasis. And so on.

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Strengthening of muscle is also the result of a feedback loop. After working hard, muscles acquire small (hopefully!) areas of damage. This work, and damage, is the Trigger. The Correction follows on *after* the Trigger; the body repairs and 'upgrades' the muscle. This sequence is really important. The strengthening benefits of exercise happen *after* the exercise. In order to devote resources to the task of 'repair and upgrade' the body needs a time of *rest*. Without this time of rest after exercise, damage can continue to accumulate and result in actual injury.



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I have heard Bowen Technique described as 'rebooting' or 'resetting' the body – a bit like those times when you need to shut down your phone or PC and start it up again. I love this analogy. It makes me think of resetting those triggers in the feedback loops, bringing everything back to where it needs to be before starting up again, allowing a time of stability before you set those feedback loops running again. Rebalancing. A simplification, but useful.

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This brings me full circle back to the idea of balancing the body, which is very fitting since we have been discussing loops. So, 'restoring balance in the body', is regaining homeostasis; remember, everything is nice and steady, ticking over beautifully, without the need for the Triggers to be active, or large Corrections to be made. It is a state where the body is not under stress or duress. It is a state of calm and relaxation, which is exactly what I commonly see during a session of Bowen, Emmett or NST therapy.

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I hope you have enjoyed exploring these ideas.

And as we go through the Christmas season, I hope are finding time for rest and relaxation and 'resetting', alongside the celebrations.

Have a very Happy Christmas, and a very successful New Year.

I will be taking a quiet break, but will be back here again in January. Susan

