

# Biodynamic Massage Therapy, Change and the Nervous System

Shaun McCallion is an Occupational Therapist who has specialised in working with clients who have neurological damage. He has studied normal movement from a neurological perspective. Normal movement therapists act as a kind of external proprioceptive system for clients whose own faculty has received some kind of disruption. Though a different discipline to Biodynamic massage therapy, it is still about flow and inter-play. As clients re-learn patterns of physical functioning, their sense of self becomes re-integrated and sometimes invested with new qualities that somehow transcend their former being. A number of advanced normal movement therapists have evolved to encompass training in and practising Cranio-Sacral Therapy.

Lesley McCallion is a Biodynamic Massage Therapist, Occupational Therapist and Holistic Aromatherapist.

Together they write about their mutual interest in working with the body and the overlapping of their individual approaches.

In this article we are focusing primarily on one or two facets of Biodynamic Massage Therapy because we want to look at the way physical interventions/massage assist the processing and integration of sensory information and hence contribute to the sense of oneself and the sense of oneself in relation to others. Through trying to consider the neurological, developmental and psychological impact of Biodynamic massage we also look at some elements of its meaning and potential for supporting clients as their process evolves.

While looking at differing elements of the nervous system and at the different approaches and interventions available in Biodynamic massage, the client/therapist relationship can seem to become shadowy whereas it is figural to the entire process. It is important to remember that “while Biodynamic Massage has a repertoire of techniques, these are secondary in the process of healing to the skill of simply being with another (the client) without demand.” (Westland 1996)

The impetus for writing the article came from a shared interest in working with the body and inspiration from a mutual reading of Roz Carroll’s article, “How Many Senses have we?” (1999). In mapping our differing approaches we were excited by some of those experiences of working with individuals that were held in common, particularly those that focused on different aspects of integration of the body/mind. The common themes were contact, interaction, change and the nervous system. We were also struck by the fact that movement, balance and tone in the body are a direct reflection of the brain’s movement, balance and tone.

The most powerful way to perceive this is through the hands. Through this perception with hands on the client’s body, the therapist is in direct contact with the brain and hence

the mind. Body, consciousness, thought and emotion are potentially accessed with extraordinary immediacy. The hands both respond to and influence what the person is doing because they are in relationship to the individual. So hands are both receptive and dynamic, listening and speaking as they are in contact with the client’s body.

Furthermore, the therapist’s intentionality is transmitted to his/her hands. Intentionality is about potency, entertaining change, bringing your energy in to the client’s sphere of perception. The intentionality in the hands is an embodiment of curiosity. In normal movement work there is also an intention to convey that “I believe that we can (potentially) change”.

The therapist’s side of the dialogue with hands is brought about by a mind set involving openness and curiosity and with some clients might typically go something like:-

“I am here.”

“Where are you ...?”

If the client’s body does not respond, the therapist’s touch may then say ...

“You are here”.

Such a dialogue may form the basis of a number of sessions and may be profound grounding work. It will depend upon what the client is bringing to their massage therapy.

There is further scope for this dialogue through therapeutic intent that approaches the physical work of massage with open questions such as: “What if...?” and “How about ...?”

Of course, with other clients an intention that says simply, “I am here; there is nothing you have to do”, may be more appropriate but in all cases, the bulk of the “dialogue” is mediated by the sense organ of the skin and proprioceptive organs in joints and muscle fibres.

### Proprioception

Andrea Olsen and Caryn McHose (1998) refer to proprioceptors as ‘Self-Receivers’ and Roz Carroll (1999) defines proprioception as meaning ‘to receive oneself’. Amongst other things, we were struck by the notion /challenge/ question implicit in this idea of ‘How am I receiving myself in the world?’ and ‘How do we go about helping someone to receive themselves when this sense has been disrupted?’

Receiving oneself can be further broken down into some quite specific information relayed by proprioceptors:

- the position of body parts
- the pattern of postural tone in the body as a whole
- the direction and quality of movement

Proprioception is the key to body/mind integration. There are three major groups of proprioceptive receptors, which help provide important information: -

- muscle spindles (register contraction of muscle fibres)
- golgi tendon organs (register stretch on tendons)
- joint kinaesthetic receptors (register joint position)

Proprioception allows us to develop patterns of integrated and flexible motor output from the nervous system, resulting in muscle tone, reflex activity and sophisticated patterns of movement which are then performed automatically, without conscious thought, against a background of automatic feedback and postural tone.

Proprioception helps to form the unique mapping that dictates how the person sees him/herself in the world because of the information provided to form the body schema, a conceptual awareness of the body which in turn forms the basis for body image to develop. Body image is the individual’s picture of his/her own body and feelings towards it, and is an important factor in the development of self-image. Self-image is the unique view of one’s own being, an amalgam of all the beliefs attitudes and values about oneself and one’s worth and meaning in the world.

Self-image is also reliant on the worth and meaning reflected to us by others. In a sparse or sterile environment or one where contact with other has felt “too much” one may not receive such feedback. The therapeutic relationship in the massage is a systematic way of engendering the potential for an integrated self-image.

Montagu (1971), writing of the significance of touch, puts it succinctly; “Tactile stimulation appears to be a fundamentally necessary experience for the healthy behavioural development of the individual... Supplying that need, even in adults, may serve to give the individual the reassurance he needs, the conviction that he is wanted and valued and thus involved and consolidated in a connected network of values with others.”

He further states (1971) that: “Deprivation of this experience (body contact) has been experimentally shown to produce the most atypical movements and postures.”

It is movement of the body that gives proprioceptive feedback since the receptors are sited on the whole in muscle that moves. Posture is taken to be an aspect of the body’s movement.

It is possible for a client to be seated, lying down or standing without truly taking their base of support. For those individuals it is argued, there is less proprioceptive feedback than for someone who can take their base of support and stand their ground.

The key task is to help someone to accept their base of support i.e. be fully in that place rather than looking as though they are in it while being simply vertical in space. The inauthentic position involves the individual in fighting for stability and balance and impedes their true potential for adaptiveness and flexibility. Supporting and working with this difficulty can be helpful with those clients whose conflict is with their “being” in the world and their degree of presence.

In practice there are a variety of ways we might work with such a client. For example we could work on the trunk to mobilise energy held in the back or torso that needs to flow down into the legs. It has been speculated

that monkeys and humans have gravity sensors in the viscera making work on the trunk particularly important for feedback from the legs to be facilitated. We might encourage greater muscular fluidity in the buttocks and legs and invite the client to “feel their feet” in a variety of ways. All these interventions provide tremendous enrichment to proprioceptive sensors.

Proprioceptors depend largely on stretch and so movement increases proprioceptive feedback. It follows that the “frozen” muscle/tissue state we try to work with in Biodynamic massage therapy decreases proprioceptive feedback and hence neurologically decreases the client’s sense of self.

Proprioception can be disrupted by unresolved trauma, which robs the individual of their normal body schema. The trauma may be physical and/or psychological since body and mind are not separate. Trauma elicits the startle-reflex pattern, characterised by:-

- Inspiratory Reaction
- Flexor Reaction that is adequate to fund extensor reactions.

Boyesen (1974) writing of the startle-reflex pattern said “If the instinctual response is hindered or sufficient relaxation is prohibited, the organism will develop minimal startle-reflex patterns, with concomitant muscular tensions, respiratory inhibition and posture deformations”.

The techniques of “lifting” are described as appropriate to counter the effects of the startle reflex. It is interesting that in this technique, offered to the client with the appropriate therapeutic intent and manner, the therapist acts as an external enricher of proprioceptive feedback where much of the movement available to the client is based around rotation. Rotation is seen to be one of the most powerful ways of influencing muscle tone through the Central Nervous System (CNS). It can be used therapeutically to enhance proprioception. Moving the body through rotation has a profoundly ‘normalising’ impact on the CNS. Any normal rotatory movement in the body has a normalising and integrating effect on muscle tone within muscle groups. This in turn sends messages via the autonomic nervous system to the brain switching on the sympathetic nervous system, mitigating towards the relaxation phase of the vasomotoric cycle. Excessive amounts of abnormal rotation for prolonged periods are unhelpful.

In normal movement therapy, abnormal proprioception is gently disrupted in the context of a trusting relationship between client and practitioner. Disruption occurs by taking the body somewhat out of the range of the abnormal movement pattern, giving the individual’s nervous system an opportunity to re-establish/remember the normal proprioceptive body schema.

However if abnormal patterns of movement, and hence proprioception, persist unresolved in the individual, then the brain changes the musculature to adapt to this new pattern, even though it may be less integrative and “healthy”. This quality of the brain is called neuroplasticity. Neuroplasticity is the ability of the brain to make new synaptic connections in response to environmental (both inner and outer worlds) demands. The pattern of the connections can be seen as the building blocks on which our ways of thinking, moving and feeling are built. So, neuroplasticity is intimately tied to movement but also to emotional development. In normal movement (as in Biodynamic massage) mind and body are one, though the body is the dominant focus of the work which also strongly influences thought and feeling, whereas in Biodynamic massage it is the bodymind that is contacted and supported towards fuller integration. Therapeutic interventions bring about neuroplastic change and theories of neuroplasticity can help to explain bodily changes that can occur after lengthy regard to one’s process. For example, Ken Dychtwald (1977) recounts changes that occurred to his flat feet (they became more arched) concurrent with changes he consciously made to his grounding in the world.

#### Sensory integration

We have looked at the rich plethora of feedback the client may receive from massage and also at some neurological aspects of the potential for change inherent in the body as it continually responds to this feedback. The sensory information has to be processed and integrated. Not to experience integration, a situation that can occur for many different reasons, has a profound effect.

One client related a dream she had the night before her massage appointment (in this case for holistic aromatherapy) in which she saw her grave. The stone chippings that covered it, on going nearer, turned out to be bits of paper with the individual letters of her name written on them. As she approached, the letters blew up into the air and scattered. On waking this terrified her. She told me that having massage reduced the feelings of being ‘disintegrated’ in this way.

The notion of experiencing something - massage - that provides integration can be borne out through the comments of clients who have multiple sclerosis and who have massage treatment (in these cases, holistic aromatherapy):-

“I feel like a person again now”..

“Oh my leg isn't completely flat anymore, you've plumped it up”..

“I feel put together again”..

“It's as though there's a line going right the way around my body now”.

We would also like to invite you to join in a small experiment that could help you to experience posture as disintegrating/integrating for yourselves.

Firstly, try deliberately standing with your shoulders internally rotated. Take a few moments to experience this as fully as you can.

Notice what happens to your head and neck ... your breathing ....

How does your contact with the ground feel? What happens if you look out at another or at an object in your environment?

After a few moments, feel what it is like to begin to move about, to walk with your shoulders internally rotated to some degree.

Now walk over to your table or worktop and feel what it is like to try to use your hands, maybe to pick something up ...

How do you feel after a few minutes?

Now move from being somewhat internally rotated, slowly through to external rotation and repeat the experiment above, asking yourself the same set of questions and noting how you feel doing the same set of tasks.

Did you experience differences?

We hope you have discovered what you feel but now, how? and why? To answer the how?, we need to explain some of the functioning of the brain and the CNS and to answer the why?, we need to go on a kind of archaeological journey back to our earliest origins as a species!

How?

The integration of sensory information takes place at a sub-cortical level of the brain and so provides a background level of awareness of the self that may never come to consciousness in its own right. Sensory integration has a toning effect on the CNS and this means that it influences arousal, emotion and cognition as well as creativity and imagination. The proprioceptive, tactile and vestibular systems play a major role in sensory integration and have a strong influence on the reticular formation, thalamus and limbic systems in the brain.

Why?

Our evolution as human beings has involved transition from fish to lungfish (an early amphibian), through mammal to man. So the process of sensory integration is directly linked to our evolution from lungfish which came out onto land and had to adapt to an environment involving gravity and without the sensory and chemical cues available through life spent solely in water. Certain neurological and neuroanatomical structures have developed at one and the same time in response to these and other environmental demands. Most importantly, the shoulder girdle and cervical spine ( for upright head position) developed at the same time as the need to develop hearing, speech and visual acuity to cope on land rather than sea. The shoulder girdle and upper spine have neural connections to cerebral nuclei that influence vocalisation, emotion and cognition.

Working with movement and massage, especially of the shoulder girdle can therefore have a dramatic effect.

In conclusion, we have looked at just a few aspects of massage in relation to the nervous system. A vast amount of other elements remain unexplored by us in this brief article.

Perhaps the most important things to say in summary are firstly, that each individual has the extraordinary capability to make unique patterns and meanings from all they experience from feedback to their inner world. Secondly, that just as the whole person is imbued with a greatness that far transcends the sum of any parts we have written about here, so too the Self and self-image we have written about carries with it the notion of something transcendent.

“The Self, small as the thumb, dwelling in the heart, is like the sun shining in the sky.... It may appear smaller than a hair's breadth, but know the self to be infinite”.

(Easwaran 1988)

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