



The Biology of Early Trauma

Connective Tissue as the Biological Foundation of Modern Body Psychotherapy

Will Davis

Trauma is in the Tissue

The earlier the trauma, the more it is in the tissue

Overemphasis on the brain & cognition/awareness/consciousness

“A trauma has less to do with conscious memory than with the inability to calm down the somatic reactions.” van der Kolk

CT research “...one of the most vital relationship in the body has to be the relationship between CT and the neuronal process.” (Oschman, 2012, in Schleip et al. p. 104)

Schleip's Plasticity articles

Ferri - IBPJ 20/1 2021

P. 22 “It is not essential to be aware or conscious of pain for it to alter the development of these systems, (CNS, pituitary, hypothalamus, adrenal glands & immune system, object relations) and cause difficulties and disorders.”

Ferri, P. 19 As an example: “The hippocampus handles the selection and codification of **information** in explicit memory.”

Reich - nerves only carry impulses

I am not so interested in not the final result of selection, codification, interpretation, meaning and its value in awareness and consciousness but in the information coming into the hippocampus, anterior cingulate cortex, amygdala, limbic system,

Where does this information come from?

What is this information?

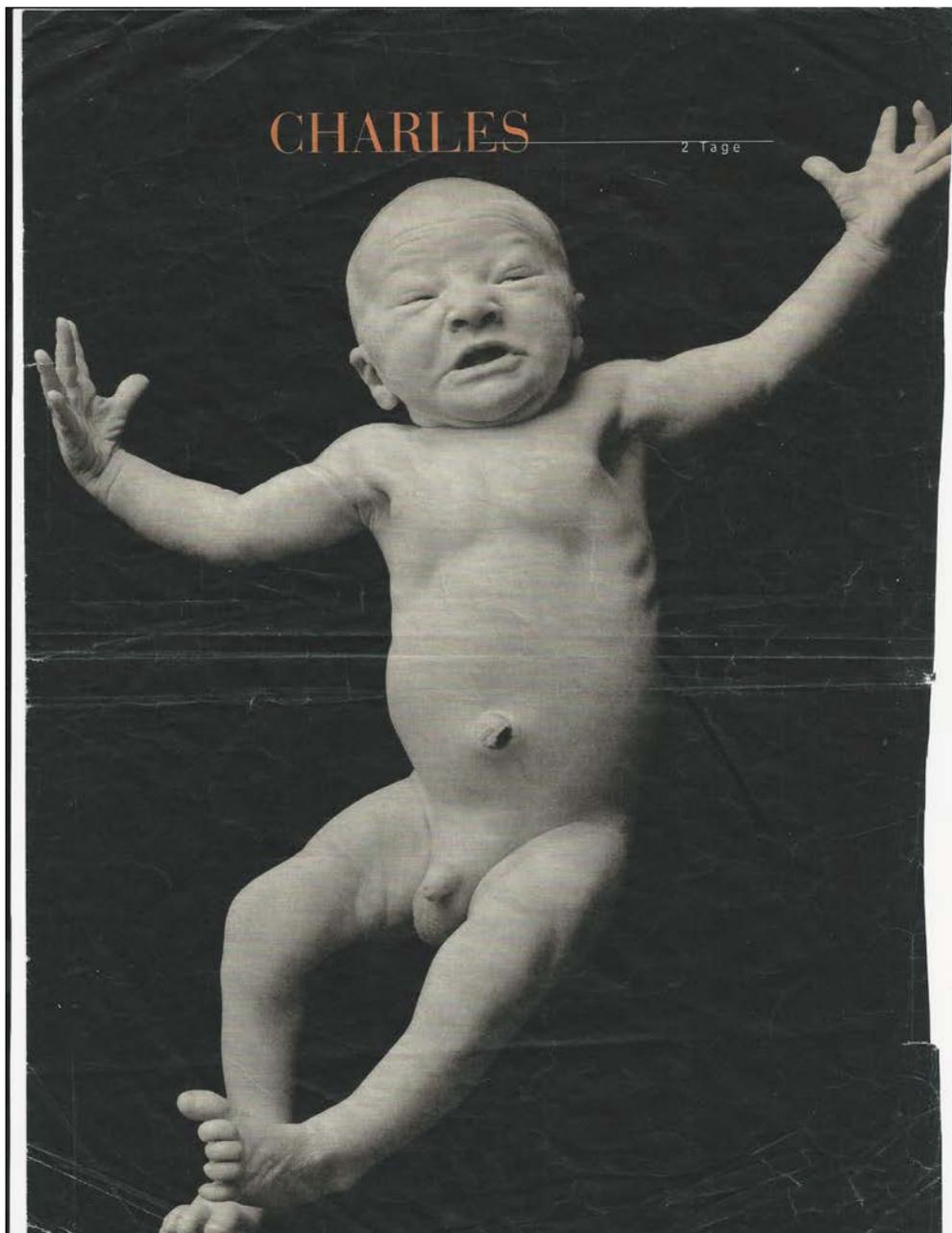
Is it interoception or *interpretive interoception*?

Can it be altered?

If so, how?

Fetus/infant and baby's response to trauma is a whole body, plasmatic/connective tissue contraction

Moro reflex



Reich's Amoeba Reaction to Shock

Rogers, Encounter, Gestalt, Radix Neo-Reichian

I Discovered:

Rolf & Osteopathic approaches

Studied connective tissue

Oschman - Energy Medicine: The scientific basis

Gave me the beginnings of understanding the biological underpinnings of what I had been observing and experiencing for all these years.

Schleip - Internet writings:

Fascia as an organ of communication

Fascia as a sensory organ

Plasticity Parts I&II

CT & the Nervous systems

Its a continuum:

Early disturbance is a connective tissue/plasmatic response to traumatizing experiences.

Muscles and nerves are not fully functioning

Bones are not fully ossified

The neuromuscular system used in defense later in life is not “online” in the fetus/infant and baby

Schore

There is no choice but to contract towards the center just as Reich showed with the amoeba’s contraction towards the center when threatened.

Later psychosomatic defense mechanisms are neuro-muscular dominant.

FLAME

Life existed for almost 3 billion years without any nervous systems

Organisms, moved, ate, evacuated waste materials, reproduced **and protected themselves** without any nervous system, muscles, cognition or awareness.

“Intelligence without Reason” (Brooks, 1999):

“As evolved creatures, human beings are largely continuous with our forbearers and we have inherited from them a substrate of capacities and systems for meeting our needs and coping with a given environment” (Brooks, 1999, as cited in Anderson, 2003, p. 95).

Reich Vindicated

CT research has shown Reich's muscular armor concept to be correct but, with a "*But*"

A muscle cannot contract and hold for even 20 minutes yet muscles are contracted for over 20 years

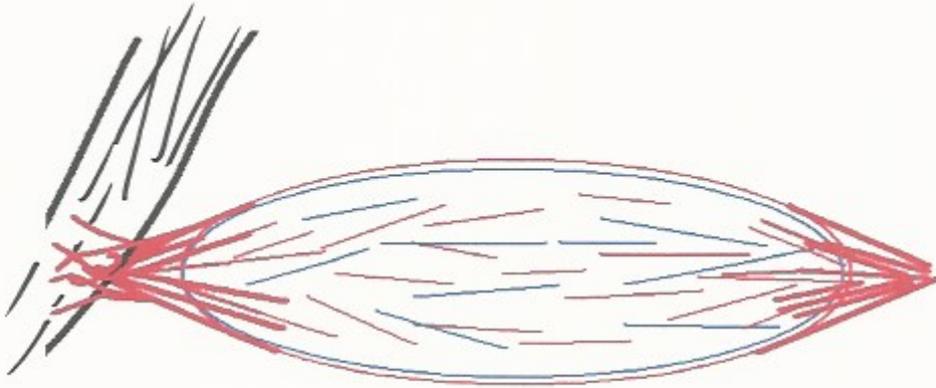
How is that possible and how does Body Psychotherapy and the manual therapies manage to effectively release life long contractions?

But the question is, how can early trauma be maintained?

Answer: The CT aspect of the myofascial system and the Living Matrix

Diagram of the Myofascial System

DIAGRAM I



Bone 
Muscle Tissue 
Connective Tissue 

Connective Tissue's Role in Development and Defense

Connective Tissue is largely responsible for the creation and maintenance of structure

And, Structure is behavior!

Rolf, 1977

In any energy system, however complicated, structure ...is experienced as behavior.

The pathologist, Ingber on the cellular level down to the DNA:

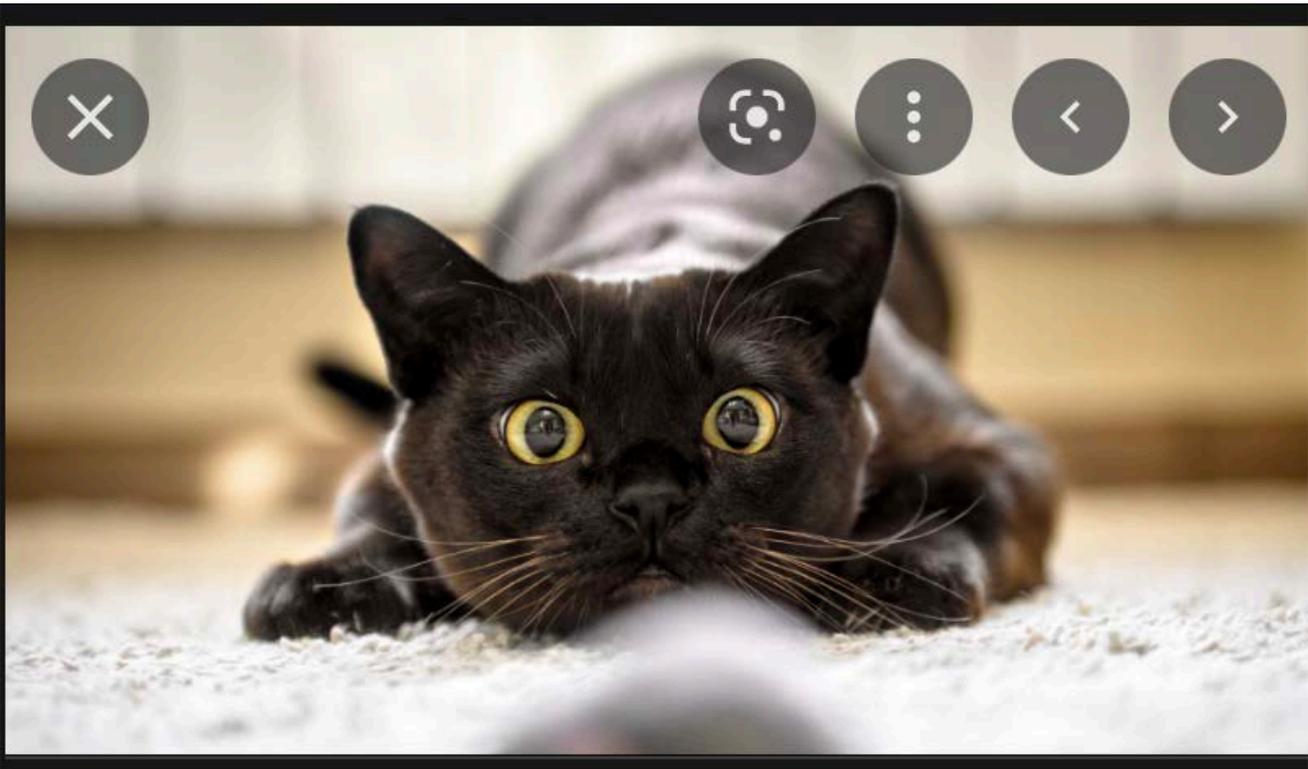
The manner in which a structure shapes itself and holds its subcomponents together in three-dimensional space; \hat{O} is what defines the way the structure as a whole will behave. (Ingber, 1998, p. 56)

We can safely work with the CT state releasing contraction and trauma



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Change the structure and the experience of oneself changes and the resultant behavior changes

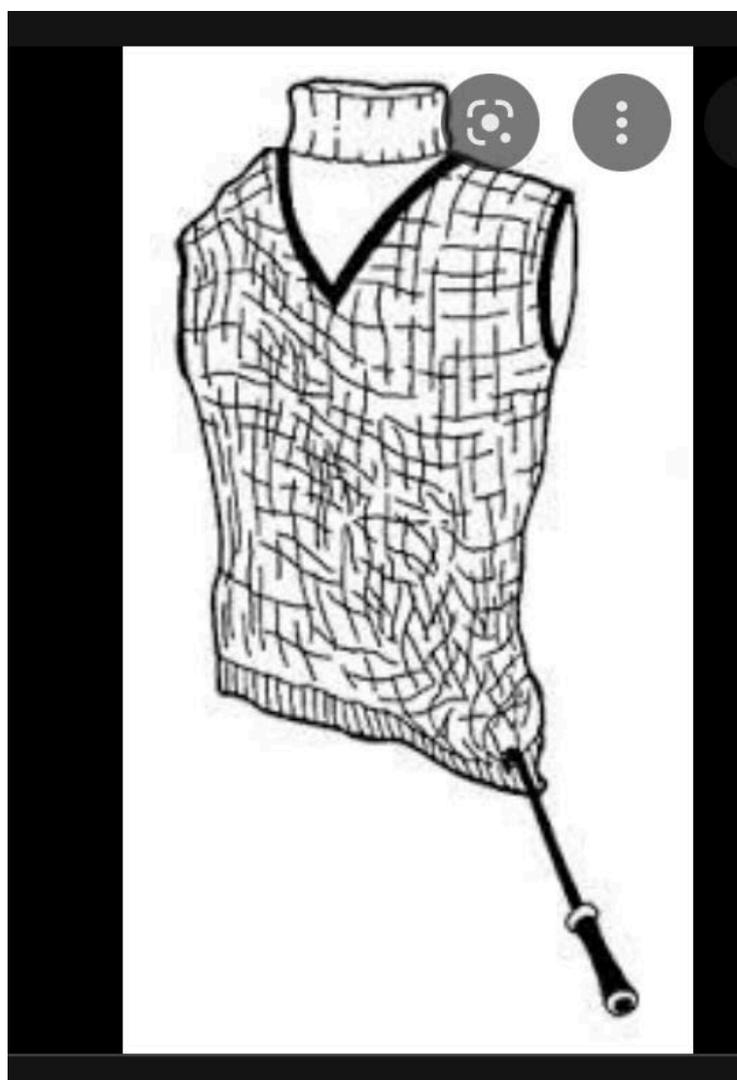






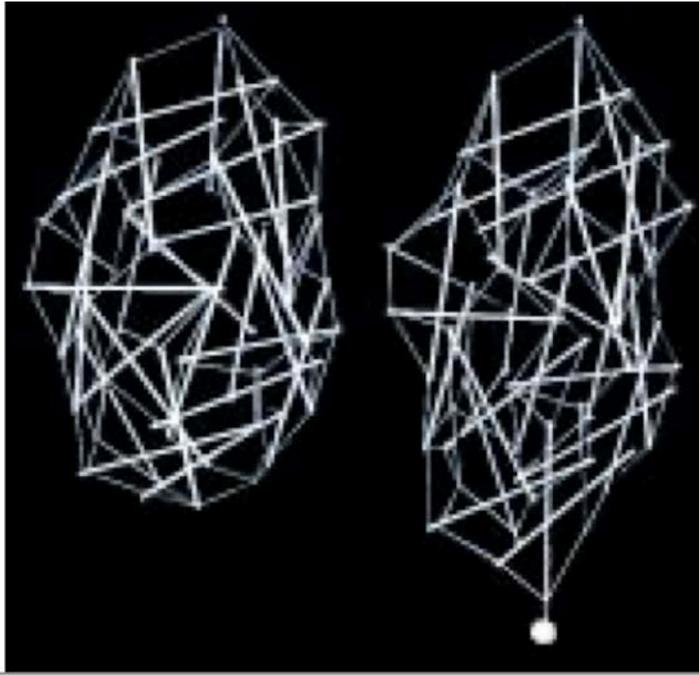
The Problems start when....

Stress — physical, emotional, psychic — changes the CT state



LINEAR STIFFENING occurs in a tensegrity structure because structural members reorient themselves to lie more in the direction of applied stress (downward in the right-hand view).

Working with Dimitrije Stamenovic of Boston



No Surprises for the Central Nervous System

Points&Positions Touch Technique

Shiatsu/Acupressure

Points



Positioning



Concerning Body Psychotherapy

Fibrotic Build-up — On the physical level CT comes in and builds itself up to support another stressed tissue in line with the direction of the stress

Fibrotic build-up

Knots in the tissue

Dehydration the tissue causing changes in fluid movements on the macro level and reduces and distorts energetic transmissions: misinformation

The tissue becomes rigid and its sensitivity changes creating altered self experiences

Interoception

CT as inert “packing” material

Now seen as: One of our richest sensory organs

Quantity of receptors in fascia rivals the retina of the eye

Fascia has 6 times more sensory nerves than muscle tissue

It is our most important perceptual organ

Free Nerve Endings

And Interpretive Interoception

Here is where the Trauma Lives

All sensory input is interpretive - Myers & Kendal

We have no direct contact with external reality

4 patients - The same touch — as well as talking — can then be experienced as caring, invasive, dangerous, sexual, indifferent, too close, too far away depending on each patient’s tissue state determined by their personal history

Stressed tissues distort the interpretations

Abused patients don't want to be touched is not true

They want to be touched. But you have to know how to touch them.

This is known as characterological responses to contact and relationship.

A filtering system developed on past experiences both positive and negative

Functional Analysis Body Psychotherapy

Instroke to the Matrix



CT on the Macro level

Ligaments, tendons, fascia, cartilage, and muscle

Reich's functional units

Interconnected

It is not a matter of individual muscles that become spastic, but of muscle *groups forming a functional unit from a vegetative point of view.* (Reich, 1967, p. 269)

Recent research in Connective Tissue

Fascia, van der Wal (2009)

Anatomical structures — muscles, tendons, bones — do not exist separately. They flow into each other and **become the next thing**.

Back Pain - “**Functionally coupled CT units**” whereby “...due to the coupling between the thoracolumbar fascia, muscles and other large fasciae systems, one has to be very cautious in categorizing certain muscles exclusively as belonging to the arm, spine or leg.” (Vleeming, In Schleip, et. al., 2010, p. 42)

Movement is based on a “functional **architecture**” as opposed to a “muscular architecture.” (van der Wal, In Schleip, et. al., 2012, p. 86)

For BP, psychological stressors on the myofascial system is the bridge from the psychological to the physical, combining the two different realms.

Psychosomatic functioning

Connective tissue on the Micro Level The Living Matrix and Trauma

Functional Analysis adds:

Extra Cellular Matrix (ECM)

Intra cellular matrix & intra nuclear matrix

Plasma = Ground Substance

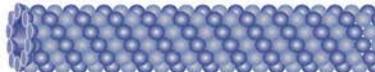
Cell skeleton

Nuclear skeleton

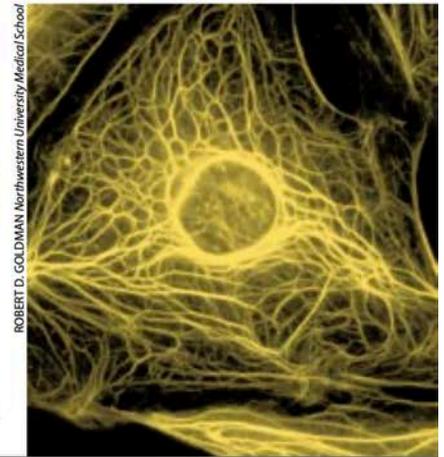
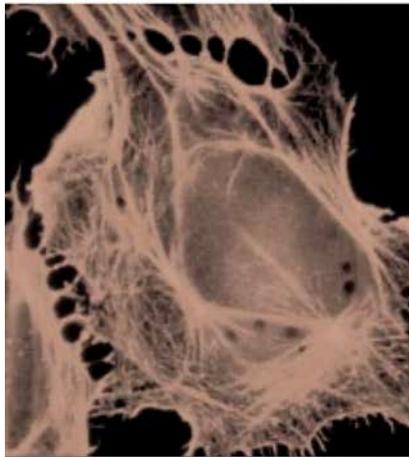
MICROFILAMENTS



MICROTUBULES



INTERMEDIATE FILAMENTS



Macro to micro - Non-neural, instantaneous, body-wide communication system

All biological processes happen within or through some form of CT

Metabolism (Detoxifying)

Nerve impulse transmission

Movement

CT is *The sea within which we swim*

All bioenergies - Heat, Sound, Electricity, Electromagnetism & luminescence – are transported by or through some form of connective tissue

All biochemical transport and activities are dependent on some form of CT

Hormones

Energies moving through the body are information/instructions for the body/mind.

This is the info flooding into the brain from the body that needs selection and codification

No explanation in the four therapy trainings I had for what was happening.

Instroke: “Fetal” Position often taken

Secure, safe, coming home, round, complete

P&P method: Patients went “in” and stayed in with the

Nothing happened and everything changed

Patients reported changes *between* the sessions

Spontaneous ANS alterations:

Changed diet,(health foods, started cooking)

Decreased alcohol, cigarettes, recreational drugs

Sweats at night — spoke of “detoxifying”

Less sleep but felt rested

Took up physical activity or it improved

Lighter, easier, more fun

Sexuality slower, deeper, more satisfying and less often

Developed better emotional borders

“I know what is his and what is mine.”

Self referential statements

I love myself beyond the good and the bad

I felt an extreme presence in the absence of myself

I don't need a man, I need myself.

DMN — Raichle/Libet

Thank You!!

Louise Bourgeois: Men Get Hysterical Too

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