Fascia as Metaphor and Narrator: Glossary of Terms

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ANTERIOR INSULAR CORTEX (AIC)

Part of the cerebral cortex. Craig (2009) suggests that the AIC plays an important role in the consciousness of the body, and the sense of self. The AIC is also believed to be active in interpersonal experience, and also regarding homeostasis and emotion. Free nerve endings in the fascia lead directly to the AIC.

AUTONOMIC NERVOUS SYSTEM (ANS)

Acts as a control system that is only partially consciously accessible. It regulates the heartbeat, digestion, respiration, and sexual arousal among other things. It is divided into the sympathetic (SNS) and parasympathetic (PNS) nervous systems. An active SNS activates muscles for potential movement, creates a sense of alertness, and sends oxygen to the sensomotoric system. The PNS regenerates and fosters introspection. It sends blood to the digestive tract, and away from the muscles.

BUCKMINSTER FULLER

Was strictly speaking not an architect, but an interdisciplinary inventor and visionary. While he is often credited with the invention of tensegrity, it was actually his student Kenneth Snelson who put him on this track.[1]

EXTRACELLULAR MATRIX (ECM)

The molecules outside the cells. The ECM provides structural and biochemical support to the cells. The notion of environment lays within the ECM. ECM refers to the totality of extracellular substances in the connective tissue. “To allow trillions of cells to stand up and walk around in an organismic fashion, the ECM must invest in every tissue, be permeable, vary widely, be able to remodel itself, transmit forces precisely.” (Thomas Myers, 2012).

FREE WRITING

Sometimes also called automatic writing. The idea is to not compose or plan while writing, but rather use motoric impulses for writing. Some suggest that the pencil should never leave the paper, but flow in a continuous line. The writing does not strive to be grammatically correct or create a coherent content. It is associative. [2]

FORM

"Everything that expresses itself generates a form." (Kussmaul, fascia research diary, 10.8.2016).

"The organ of shape is the specific structure which makes possible the spatial co-existence of cells in an aggregate which operates as a unity, as a whole system. Thus, shape is synonymous with the very existence of a metazoan, or a multicellular animal." (Varela; Frank; 1987,8).

ICOSAHEDRON

A basic tensegrity model with 20 faces, or sides. See also tensegrity.

INTEROCEPTION

A comprehensive perception of our whole physical and emotional being. Sensory receptors for interoception are located in fascial tissues throughout the human body (Schleip / Jäger 2009, 89). Interoception is related to homeostasis, the body's constant attempt to be in a dynamic balance regarding metabolism, blood pressure, body water, body temperature, and other components. This homeostatic balance is reigned by the autonomic nervous system. "Interoception, which relates to mostly subconscious signalling from free nerve endings in the body's viscera – as well as other tissues, informing the brain about the physiological state of the body. While sensations from proprioceptive receptors are usually processed via the somatomotor cortex, signalling from interoceptive endings is processed via the insula region in the brain, and is often associated with an emotional or motivational component." (Schleip 2012,79).

INTERSTITIAL FLUID

The main component of extracellular fluid. The concentration quotients of salts (NaCl, KCl, CaCl2) in interstitial fluid and in ocean water are nearly identical (Meert 201 d2). The tissue cells are surrounded by interstitial fluid.

KENNETH SNELSON

Inventor of the term "floating compression", later termed "tensegrity" by Buckminster Fuller. He developed the first tensegrity like structures as a student of Buckminster Fuller.[3]

LIQUID (CAPILLARY) BRIDGE

A liquid bridge is a phenomenon based on capillary action: "Capillary action (sometimes capillarity, capillary motion, or wicking) is the ability of a liquid to flow in narrow spaces without the assistance of, or even in opposition to, external forces like gravity. The effect can be seen in the drawing up of liquids between the hairs of a paint-brush, in a thin tube, in porous materials such as paper and plaster, in some non-porous materials such as sand and liquefied carbon fiber, or in a cell. It occurs because of inermolecular between the liquid and surrounding solid surfaces. If the diameter of the tube is sufficiently small, then the combination of surface tension (which is caused by cohesion within the liquid), and adhesive forces between the liquid and container wall act to propel the liquid."[4]

LIQUID CRYSTALS

The behaviour of water depends on its environmental situation. Its behaviour is different for bulk water or for enclosed water. In liquid crystalline water, water molecules move together, like a school of fish, without losing mobility (Meert 2012). It becomes more stable, more viscose and absorbs certain spectra of light. Water molecules build dipoles. Meert concludes that it is linked to the flow of energy and information. (See also piezolelectricity.) The organic crystals comprising the myofascial system are composed of long, thin, flexible filaments such as actin, myosin, collagen, and elastin. The result is flexible rather than rigid crystals. In fact, they are best described as liquid crystals (Oshman 2012).[5]

PARASYMPATHETIC

See Autonomic Nervous System.

PIEZOELECTRICITY

Electricity resulting from mechanical stimulation or pressure. The pressure brings about a change in the dipolar structure in certain solid materials. Piezoelectric systems can convert motion from the human body into electrical power.

PROPRIOCEPTION

Informs us about spatial relationships within the body and of the body within the environment, i.e. to know where to move our arm or leg behind us without seeing it. It is our joint position sense and our sense of locomotion. Proprioception has both conscious and unconscious aspects, the latter ones being expressed in reflexes such as the righting reflex. “The architecture of the fascia plays an instrumental role in the process of proprioception. It can do so by mediating forces that cause deformation of receptors (which in fact represents the main stimulus for mechanoreceptors) that are not directly attached to the fascia itself” (Van der Wal 2012, 82).

SYMPATHETIC

See Autonomic Nervous System.

SYSTEM THEORY

An interdisciplinary field studying a variety of systems. It ranges from management, economics to cybernetics, psychology and information technology to ecology and biology. Terms related to system theory are complexity, interconnection, dependency, hierarchy, relationality, emergence, adaptivity, and others. The icosahedron is a model for a small system.

SANDCASTLES

The relationship between sand and water is complex. Despite generations of children creating sandcastles, the mechanics behind them are only recently fully understood – with implications on a variety of fields such as earthquake engineering, farming, and physics.[6]

TENSEGRITY

Islands of compression in an ocean of tension. Lightweight, prestressed structures that find application in many fields from architecture to medicine. See also icosahedron, Kenneth Snelson and Buckminster Fuller.[7]

VISCEROCEPTION

The ability to sense our organs. This system operates largely outside of consciousness and depends on the autonomic nervous system (Adam 1998,4). Some scientists do not differentiate between viscероception and interoception. Newer findings suggest the differentiation between both.

NOTES

1. See also www.grunch.net/snelson/rmoto.html.
2. See also Sabina Holzer's Tracing the Invisible on automatic writing in this volume, and faculty.buffalostate.edu/wahlstrl/eng309/Freewriting.pdf.
3. Read more on www.kennethsnelson.net [01.02.2017].
4. Capillary Action – Liquid, Water, Force, and Surface – JRank Articles. Science.jrank.org [Retrieved 18.06.2013].
5. See also vimeo.com/185506813.
6. See also whyfiles.org/shorties/sandcastle.html and science.nasa.gov/science-news/science-at--nasa/2002/11jul_mgm [01.02.2017].
7. To see how a tensegrity model behaves, watch here www.youtube.com/watch?v=Y-Ny3BfhVdw [01.02.2017].