

Heart-Brain Connection

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This could have been squeezed into the "Wild Theories" series but I forgot so consider this an "add-on".

The scientific community looks at the brain as though it is the definitive generator of thought and subsequent actions carried out by the body. It's not illogical as the concentration of neurons in the brain (100 billion) is by far the most concentrated found within the body. However, while it may sound a bit cheesy to think about the heart in terms of intelligence, there are some intriguing findings as it pertains to this mass of beating muscle located within the chest cavity. While the heart lacks the neuronal density of the brain, it has been cited to house about 40,000 neurons.

In 2002, the Journal of Near-Death Studies published a study in which heart transplant recipients were evaluated in terms of changes to their personalities that parallel that of the donors. The study consisted of 10 patients (7 males, 3 females ranging from 7 months to 56 years old). Their donors consisted of 5 males, 5 females ranging from 16 months to 34 years old. The results & conclusion were as follows: "Two to 5 parallels per case were observed between changes following surgery and the histories of the donors. Parallels included changes in food, music, art, sexual, recreational, and career preferences, as well as specific instances of perceptions of names and sensory experiences related to the donors (e.g., one donor was killed by a gun shot to the face; the recipient had dreams of seeing hot flashes of light in his face). The incidence of recipient awareness of personal changes in cardiac transplant patients is unknown. The effects of the immunosuppressant drugs, stress of the surgery, and statistical coincidence are likely insufficient to explain the findings. The plausibility of cellular memory, possibly systemic memory, is suggested."



In what is considered one of the most famous cases of cellular memory inheritance via a heart transplant, a woman named Claire Sylvia would author a book titled "<u>Change of Heart</u>". A summary of her experience was published in <u>Journal of New Approaches to Medicine and Health</u>: "On May 29, 1988, an American woman named Claire Sylvia received a heart transplant at a hospital in Yale, Connecticut. She was told that her donor was an eighteen year-old male from Maine, USA who had just died in a motorcycle accident. Soon after the operation, Sylvia declared that she felt like drinking beer, something she hadn't particularly been fond of. Later, she observed an uncontrollable urge to eat chicken nuggets and found herself drawn to visiting the popular chicken restaurant chain, KFC. She also began craving green peppers which she hadn't particularly liked before. Sylvia also began having recurring dreams about a mystery man named Tim L., whom she felt was the organ donor. On a cue from someone, she searched for obituaries in newspapers published from Maine and was able to identify the young man whose heart she had received. His name had indeed been Tim. After visiting Tim's family, she discovered that he used to love chicken nuggets, green peppers and beer."

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These are rather intriguing reports as it leads one to question whether thoughts and feelings only originate in the brain or whether the heart might play a definitive role in a tangible, measurable way.

In <u>2013, the journal Frontiers in Human Neuroscience</u> would publish a study regarding relationships between the heart and brain during autogenic meditation amongst beginning meditators. The results were as follows: "all parameters observed in this study were indices reflecting a degree of ordering or self-organization; heart coherence, EEG alpha activities and the synchronizing relationship between heart coherence and EEG variables."

In 2016, the journal Neuroscience Letters published a study regarding the heart/brain relationship Mindfulness-Based Stress Reduction (MBSR) training. The results were as follows: "Wavelet entropy analysis indicated that MBSR mindfulness meditation could reduce the chaotic activities of both EEG and heart rate as a change of state. However, longitudinal change of trait may need more long-term training. For the first time, our data demonstrated that the chaotic activities of the brain and the heart became more coordinated during MBSR training, suggesting that mindfulness training may increase the entrainment between mind and body. The 3D brain regions involved in the change in mental states were identified."

In <u>2012, BioMedical Engineering and Sciences</u> would publish a paper that cited the rhythms of the heart and brain during sleep. The results were as follows: "Phase synchronization is a measure of interaction between phases of two chaotic systems although their amplitudes are uncorrelated. Here, we investigate the synchronization between heart signals and EEG frequency bands (delta1, delta2, theta, alpha1, alpha2, sigma, beta and gamma) during sleep Stage 1-4 and REM in the healthy and sleep apnea by means of Synchronization Index (SI) and Directionality Index (d). The results showed that in both groups and all sleep stages, there was a strong unidirectional coupling from brain to heart."

If both sleep and meditation are correlated with the potentiality for DMT release as well as Direct Current directional change in the brain, it would appear that there lies the possibility that heart/brain coherence might play a pivotal role in DMT synthesis as well as fluctuations in the electrical flow throughout the body.

There might be some correlation regarding heart/brain coherence and the <u>2015 study in the</u> <u>journal Science</u> that we cited in <u>part 2 of "Wild Theories</u>" citing the potential for 1,000 gene mutations for each neuron. This passage in particular:

"The scientists isolated and sequenced the genomes of 36 neurons from healthy brains donated by three adults after their deaths. For comparison, the scientists also sequenced DNA that they isolated from cells in each individual's heart. That effort yielded mountains of data, and Walsh's group teamed up with Park and Semin Lee, a postdoctoral fellow in Park's group, to make sense of it all."

"We could identify mutations that happened really early, before the brain existed, and we found that cells that had those mutations were nestled next to cells that had totally different mutations," Woodworth says. In fact, the scientists found, a particular neuron might be more closely related to a cell in the heart than to a neighboring neuron."

Perhaps if a person's heart and brain are operating in sync, this would then equate to neurons in the heart and neurons in the brain being expressed the same from a genetic standpoint?



The release of atomic power has changed everything except our way of thinking... the solution to this problem lies in the heart of mankind. If only I had known, I should have become a watchmaker. (1945)

— Albert Einstein –

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In <u>2004, the book titled Bioelectromagnetic Medicine</u> was published which would include a chapter titled "<u>The Energetic Heart</u>" by Dr. Rollin McCraty. McCraty would cite a <u>1989 study</u> <u>published in the journal Advances in Biomagnetism</u> which measured the electromagnetic field of the heart and brain.

From "The Energetic Heart":

"The heart generates the largest electromagnetic field in the body. The electrical field as measured in an electrocardiogram (ECG) is about 60 times greater in amplitude than the brain waves recorded in an electroencephalogram (EEG). The magnetic components of the heart's field which is around 5000 times stronger than that produced by the brain, is not impeded by tissues and can be measured several feet away from the body with Superconducting Quantum Interference Device (SQUID)-based magnetometers."

The one "wild theory" I've intuitively come across in regards to Gamma waves is that the electromagnetic strength of the heart acts as the amplifier to an idea. In essence, if a thought resonates in the heart which correlates with a neuron, that message gets sent to the brain creating a Gamma Wave spike. The larger the group of neurons in the heart focusing on a specific concept, the greater the surge of electricity, Gamma Wave spike, and CSF flow to the brain. When taking in the entire body of data, it would appear that in order to tap into this potentiality, one would need to quiet the mind to "listen" to the heart. It all sounds very esoteric but once again... this is theoretical postulations based on the best available data that we have currently.

Dr. Paul Pearsall was one of the most extensive researchers and writers as it pertains to heart transplant memories. While not all heart transplant recipients would undergo dramatic personality changes if any, he did cite some commonalities in people who did seem more susceptible to personality changes. Dr. Pearsall would cite 18 distinguishing traits for these people including good emotional IQ, environmentally sensitive, sensual, animal lovers, music-loving, creative types, and more inclined to be easy going. He notes that these traits were similar to the characteristics of easily hypnotized subjects. The vast majority of the subjects who experienced distinct personality changes were women.

This is rather intriguing based on our review of the Corpus Callosum and how it relates to hypnotizability, intelligence, and meditation. A <u>1995 study in the journal Neuroreport</u> would cite that "forebrain volume-adjusted size of the corpus callosum was larger in women than in men".

It almost seems as though the greater the Corpus Callosum... the greater the hemispheric communicative potential... the slower the dominant brain waves... the greater the ability to tap into the messages from the heart which might induce a Gamma wave spike. As counter intuitive as it may sound, it would appear extremely important to be able to tap into the amplification strength of the heart in order to maximize one's full intellectual capacity. There are numerous recent observations published in multiple scientific journals outlining the link between Dementia and Alzheimer's disease (which have both been linked to Corpus Callosum atrophy) and a desynchronization of the heart/brain connection/rhythm: <u>Cardiovascular Psychiatry and Neurology</u> (2009), <u>Netherlands Heart Journal</u> (2012) & (2013), and the <u>Journal of Alzheimer's Disease</u> (2014).

I don't believe it is a coincidence that sleep and meditative states lead to increased coherence between the brain/heart which just so happen to revolve around states that appear to be distinctly related to DMT synthesis. Perhaps that is a sickness of society... too much cerebral

activity... not enough heart based intellectualism.

I think the heart might just be the key to unlocking secret pathways that lie within the mind.

(The complexity of the human body is immense especially as it pertains to dynamics of the communications of organs and constant fluctuations based on input parameters. It wouldn't surprise me if the entire endocrine system and even the digestive system somehow played a role in DMT synthesis if the conditions were ideal. We've touched upon the primary suspects but I'm sure it goes much, much deeper than everything we've presented.)

PS. To stay in the esoteric lane... it's amusing that the circulation of blood in the heart appears to flow in a figure 8 pattern. That's an "infinity" sign for the spiritually inclined. The fact that the <u>Journal of Psychiatry published a paper in 1973</u> citing that DMT forming enzymes were found in human red blood cells (RBCs) and that RBCs undergo intracellular pH increases from Chloride Shift which then travel the "figure 8" through the heart prior to reaching the brain lead us to believe that there is some magic going on there. Wild unadulterated speculation... yes.

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