

Culture, Embodiment, and the Senses

Thursday, 08 December 2005

Reading

- NCCAM, *Expanding Horizons of Healthcare: Five-Year Strategic Plan 2005-2009 V.S.* Ramachandran and Sandra Blakeslee, *Phantoms in the Brain: Probing the Mysteries of the Human Mind*, chapters 3 and 11, pp. 39-62 and pp. 212-226.
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When reading the Five-Year Strategic Plan, pay attention to the type of language they're using as to how to study alternative medicine. Keep in mind they're a government agency – how the state is intervening in what is called *bio-politics*, the politics of the body (recall Schepers-Hughes and Lock's political body). Recall the two films, *The Knowledge of Healing* on Tibetan Buddhism and the one on Chinese medicine, and how these healing traditions are becoming global but also how they're being studied scientifically. What is behind this, what is at stake, and how does it relate to issues of the market? How is it that a government institution frames what it views as important in terms of regulating/supporting complementary medicine? What is motivating this effort?

Student presentation

Ramachandran's initial research was on vision, but his most recent research is on phantom limbs.

The first part of chapter 3 characterizes god as a cartographer and explains the mapping of stimuli in cortex.

Phantom limbs occur often when person loses a limb with different manifestations (e.g. phantom limbs of woman born without arms or hands stuck to shoulders). *Phantom fingers were illusory, but the pain was real.* People experienced debilitating pain from non-existent limbs!

Ramachandran designs ways to mediate phantom pain, e.g. tricking the brain into thinking there are two arms in a contraption with mirrors. For half of the people, this allows them to believe they're actually moving – this can be a great **source of healing** particularly because for some, the brain eliminates the phantom [and the pain] altogether.

The pain could be due to clumps of nervous tissue at the end of the amputation being irritated, and the brain reading irritation as pain. It could also be due to a re-mapping where neurons grow to the wrong places – this one is inherently pathological. But ultimately, phantom pain isn't particularly well understood. Ramachandran gives several examples of this **pain memory**, e.g. soldier reliving grenade pain.

Ramachandran explores asks, are phantoms due to a genetically determined body sense or non-genetic factors like mapping? It seems to be a complex combination of both. It seems that people who lose their limbs in a very slow progressive fashion (like leprosy) don't experience phantoms. If amputated, then they do get phantoms, and event of the entire limb.

The **brain has several representations of the body**: what is going on right now vs. what

should be going on.

“...your body image despite all its appearance of durability, is an entirely transitory internal construct that can be profoundly modified with just a few simple tricks.” (Ramachandran 1998: 62) Recall Klima!

Chapter 11 discusses connections between mind and body:

Pseudocyesis – A woman’s body was mimicking pregnancy. A possible explanation was that she swallowed air. The signs that are shown are the ones that are easier to mimic – and these are hormonally controlled. There is some leeway in the hormonal control of body, and a person’s emotions can profoundly influence those hormones. pseudocyesis is higher in cultures that place special value on having children (occurs in Haiti, for example). 1 in 200 women in America experience it. Interestingly, women stop being “pregnant” exactly 9 months after they start – so it’s a seemingly well-regulated phenomenon. It’s a disease/syndrome with physical manifestations that are enormously complex, driven by **cultural pressures**.

Spontaneous remissions of cancer also occur. There is also the supposed ability to hypnotize warts. Warts sometimes disappear from one side of the body – so it isn’t an immune response, otherwise they’d be gone altogether. The suggested explanation: autonomic nervous system shrinks the blood vessels that feed these warts.

There is also the argument of **conditioning as a source of disease**. People allergic to roses can have allergic response to a *plastic* rose. Also, mice were fed an immuno-suppressant in food along with saccharine. But when the drug was taken away [and the saccharine remained], they continued to be immuno-suppressed even though the drug was absent.

Ramachandran goes on to discuss the **structure of medical science**. Most medical scientific research is “brick-laying.” Things that would not fit under the paradigm would often be ignored. Researchers must therefore strike a **balance between interesting anomalies and insignificant phenomena** (phantom pain vs. Elvis sightings).

Additionally, he stresses that it’s important to strike an appropriate a balance between blind faith in exotic things simply because they’re exotic and the opposite view of refusing to believe in them because they don’t fit into our world view.

Chapter 10 explores **laughter** (why laughter evolved, why we laugh), a bit of evolutionary psychology here. What seems to make something funny is that something happens that is unexpected and instead of being dangerous it turns out to be trivial. Ramachandran also notes how laughter is a social signal and a marker of creativity. Laughter is processed in same part of the brain as fear.

Evolutionary psychology is a difficult pursuit – among scientists there’s support for a more balanced approach. We can’t say that everything evolved for a purpose – evolution happens on the basis of the raw materials available. For example, bonobos smile as sign of submission – this gets turned in human evolution as a sign we consider positive.

Chapter 12 discusses **qualia**. These are sensations with a subjective quality (like explaining the color yellow to a blind person), e.g. what things feel like, look like. To a degree, they are

untranslatable since they're so dependent on the senses. Ramachandran tried to get around this by hooking people up to each other's neuropathways but this can't work because brains of different people aren't interchangeable (like how dreams are personal interpretations of random neural firings).

Qualia are flexible in output. In order to have qualia, one has to have **memory capacity**. We remember that there are a lot of things with that specific property. The **quality has to be different from the actual experience**, seeing vs. eating a banana

The self interprets qualia but also brings a purpose to them.

Ramachandran's **different kinds of the self:**

- embodied self
- passionate self (cares about things in life, tags events/people with emotional significance)
- executive self (decisions)
- pneumatic self (memory)
- vigilant self (consciousness)
- unified self (reality as happening to the organic whole self)
- social self (body-politic)

Professor James' commentary

Ways of interpreting the self:

self as contiguous with physical body vs. extension of self beyond the body (unbounded self)

Ramachandran's **experiments are rituals** embedded in a neuroscientific framework.

- ∞ This links to Desjarlais' discussion about how shamans are affected and how they **change orientation** to their own body, to time, and to the community when working with someone.
- ∞ This chapter gives other ritualized experiments by which we can change our sense of self and how we are oriented in our bodies.