Propositions Accompanying the Thesis

Πάντα ῥεῖ

Everything Flows

Functional Ultrasound Imaging and Neuromodulation of the Brain and Spinal Cord

1. With the right mindset, the intimate neurosurgical operating room doubles as a vast space for neuroscientific discovery. – *This thesis*
2. fUS-imaging of human brain activity offers more than the gold standard of fMRI or ESM, yet its neurosurgical adoption will remain in the hands of believers. – *This thesis*
3. The dorsal root ganglion as a new target for neuromodulation in spinal cord injury will only see clinical maturity when used in concomitance with conventional spinal cord stimulation. – *This thesis*
4. With the right intra-operative functional brain imaging tool, electrocortical stimulation mapping becomes obsolete. – *This thesis*
5. Studying and treating the human nervous system in its ecological context should be the goal of any neuroscientist, neurologist or neurosurgeon. – *This thesis*
6. It is useless to increase the spatial resolution of intra-operative brain imaging beyond the resolving power of the surgical blade.
7. A neurotechnological implant can be as much of a reminder of a patient's corporeal inability, as the disease it is aiming to treat.
8. Time to think and time to treat should last equally long.
9. While Occam's razor is a useful tool in the physical sciences, it can be a very dangerous implement in biology. – *Francis Crick, What Mad Pursuit: A Personal View of Scientific Discovery, 1988.*
10. The idea that my sucker is moving through thought itself, through emotion and reason, that memories, dreams and reflections should consist of jelly, is simply too strange to understand. – *Henry Marsh, Do No Harm: Stories of Life, Death and Brain Surgery, 2014.*
11. We are struggling with language. We are engaged in a struggle with language. – *Ludwig Wittgenstein, Culture and Value, 1980.*

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