



doi:10.1136/pn-2023-003698

### CAVE NEW WORLD

Edward Norton Lorenz popularised the metaphor of the butterfly wing flap that through chaos theory's prism later causes a tornado on the other side of the globe. A Fo Ben was reflecting on the comparable effect of a single amino acid change in the transketolase-like 1 (*TKTL1*) gene, which is hypothesised to have driven the rise in the neocortex that distinguishes modern humans from our Neanderthal cousins. We differ from apes, Denisovans and Neanderthals by a single amino acid change in this gene. When placed in organoids or overexpressed in nonhuman brains, the human variant of *TKTL1* drove more generation of neuroprogenitors than did the archaic variant; particularly in basal radial glia, which are the workhorses that generate much of the neocortex. *TKTL1* expression in fetal human neocortex is particularly high in the developing frontal lobe, as evidenced in organoids and when overexpressed in non-human brains.

*Science*. 2022;377(6611):eabl6422.

### A NEW PLAYER IN LAYERS

Your textbooks all need to be returned and revised—as the subarachnoid lymphatic-like membrane joins the pantheon of meningeal layer greats alongside big-hitters such as the dura, arachnoid and pia mater. A primer to the subarachnoid lymphatic-like membrane would include details such as its similarity to the mesothelial membrane lining of peripheral organs and body cavities, encasing blood vessels and harbouring immune cells. It permits direct exchange of small solutes between cerebrospinal fluid and venous blood. The discovery of a fourth meningeal layer encourages A Fo Ben, who delights in the knowledge that all that was taught in medical school was either wrong or

misremembered. What next? A sixth disease rewritten as seventh disease? Diplopia reimagined as triplopia? A 12th cranial nerve?

*Science*. 2023;379(6627):84–88.

### NRG IN TLE

Network control theory (NCT, a term appropriated from engineering) has great potential to identify mechanisms that govern dynamic processes in complex systems—such as the brain. NCT estimates the control energy needed for state transitions based on the structural connectome and reflects the brain's energy efficiency. Studying PET scans of people with temporal lobe epilepsy (TLE) require higher control energy to activate the limbic network than healthy volunteers, especially ipsilateral to the seizure focus. This suggests that energy inefficiency colocalises with pathology. What can this mean for non-seizure-related comorbidities in epilepsy such as cognitive change?

*Sci Adv*. 2022;8(45):eabn2293.

### KNOW THYSELF

Science and speculative fiction tropes include vassals that become 'self-aware' such as Dr Frankenstein's monster. What happens when neurologists become self-aware? How do the rest of the medical faculty see us? Your window into this issue may include Dr Glaucomflecken (figure 1), who himself came back from the dead, or the neurophobia literature such as the recent study, 'The Inappropriate Consult'. This article, which cites the aforementioned Dr, in short identifies that the more you know about the area the greater your expectations are for what constitutes 'core knowledge'; there is no substitute for knowing how a specialty works than having a rotation there; and all internists and neurologist felt that



**Figure 1** William E. Flanary (known as @DGlaucmlecken on Twitter) who skewers neurologists with his close to bone passive aggressive arrogance—'they hate us, because they ain't us'.

general medics needed to know more neurology.

*Neurology Education* 2023;2:e200044.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not applicable.

**Provenance and peer review** Commissioned; internally peer reviewed.

**Data availability statement** No data are available.

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