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MEN ARE FROM PARS RETICULA, WOMEN ARE FROM VENOUS SINUS

Birds do it, bees do it—so why should we not have sex differences? The structural connectivity of 949 8–22-year-olds was analysed using diffusion tensor imaging. The group averages of male participants (45%) showed greater supratentorial within-hemisphere connectivity; whereas females had more connections between hemispheres, the converse was seen in the cerebellum. Are there fundamental differences between the sexes that permit the female brain to connect the analytical and intuitive, and for men to favour perception and coordinated action? Are these differences innate, or do they result from differential activation of networks over time? It would be humbling to have to recognise that every stand-up comic had scooped the scientific community on this issue.

Proc Natl Acad Sci USA 2013.

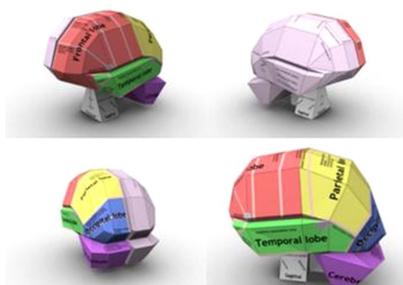


Figure 1 The company selling origami brains has just folded: Treat yourself and download an origami brain from: www.martinpyka.de/paperbrain/

STROKE/NOT A STROKE

If men and women are sometimes accused of speaking a different language, some of us actually are. The Welsh language has been dismissed by many—most recently I heard it described as *parceltongue*—Harry Potter's snake speak. However, a smattering of Cymraeg, allied to some physicianly medicine was needed to unravel the case of the Welsh-sparing dysphasia. After unremarkable baseline tests, in a 39-year-old bilingual woman with sudden onset loss of expressive English speech, her thyroid status was checked. Her free thyroxine was low, TSH very high and her anti-thyroid peroxidase antibodies 338 IU/mL (normal <38). The return of her ability to converse in the English language coincided with the restoration of normal thyroid function—taking 6 weeks to correct fully. If the mechanism is unclear, the encouragement to request inexpensive tests to identify readily treatable mimics of stroke is more readily apparent.

Lancet 2013;382:1608

BUT SIR, HE MADE ME DO IT...

We all enjoy playing games with friends, but researchers from the University of Washington have recently taken this to extremes. With the aid of real-time biofeedback courtesy of an EEG cap, some cabling, and a transcranial magnetic stimulator (TMS), two researchers played a computer game together. The twist? Well, one researcher saw the screen and but merely thought about moving his hand towards the target when it came into view. The resulting EEG signals were converted into a

trigger that passed into a second room and caused a TMS machine, placed over another researcher's motor cortex, to be activated. This led to an involuntary twitch in the second researcher's finger, which pressed a button on the game console, releasing a shot at the target. Impressive, as the second researcher couldn't see the screen, but it's probably not going to produce a high score in *Grand Theft Auto*.

FEAR AND LOATHING IN ZEBRAFISH

Eleanor Roosevelt is quoted as having offered the advice, 'Do one thing every day that scares you.' If you were a zebrafish this may include tackling these mechanised beasts (figure 2). Researchers have demonstrated that the reactions to these threats are modifiable by giving zebrafish different amounts of alcohol. Animal models of anxiety may help us better understand the neurobiology of fear. However, answering, *Daddy what did you do at work today?* with, *I terrorised drunk fish with a bionic heron* reminds us that sometimes animal models are a step divorced from the human condition. *PLoS ONE* 2013;8:e69661.

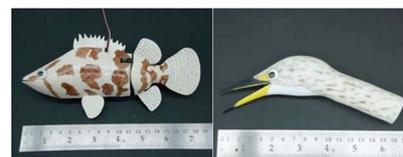


Figure 2 Left: a robotic Indian leaf fish, Right: a mechanical heron. Both are natural predators of zebrafish in the wild. Not pictured is a cyborg-scientist, the major threat to zebrafish in the lab.