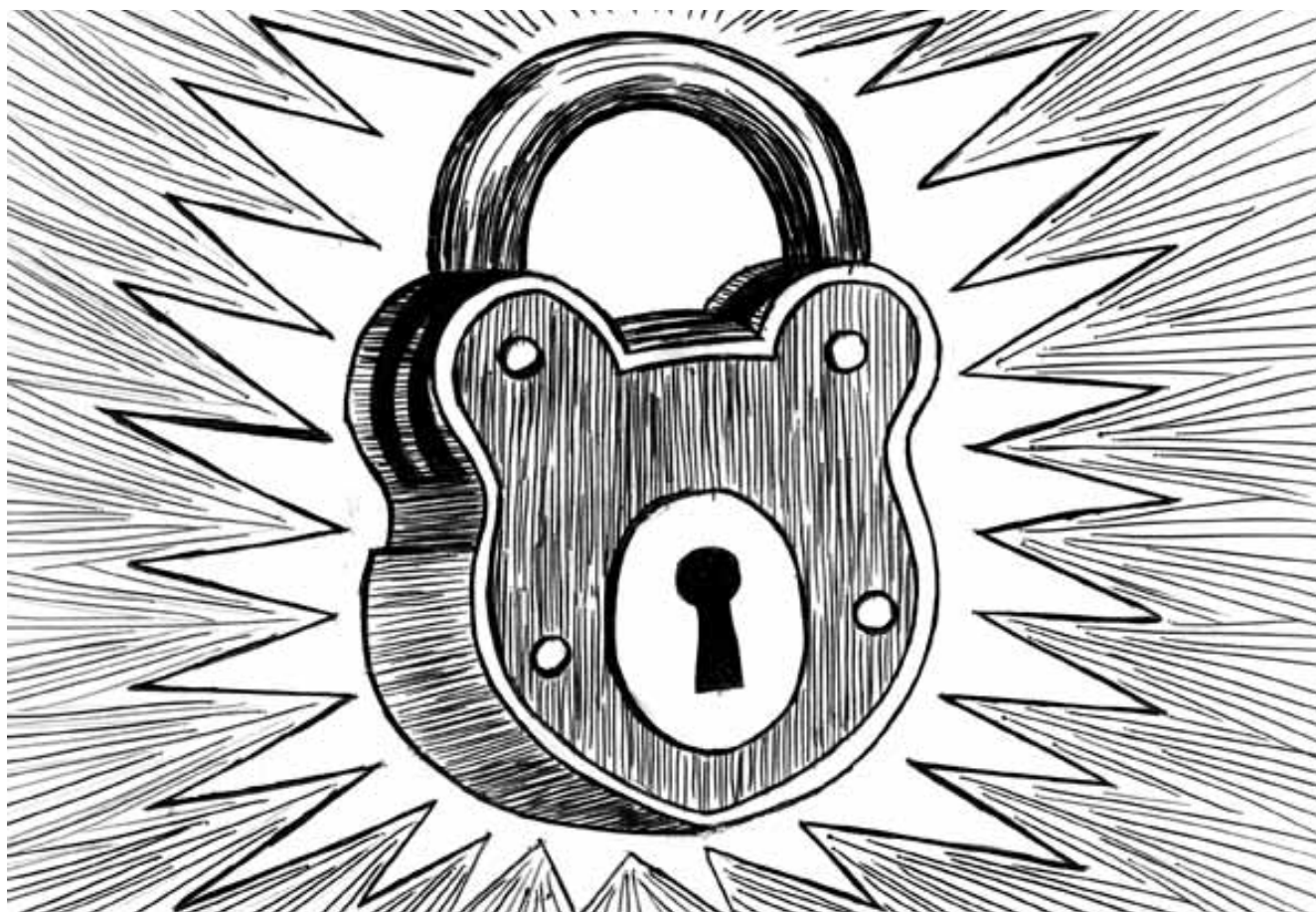


The grey papers

When grey takes a break from refereeing between black and white, this affable diplomat decorates our offices, coats our old movie reels in layers of dust and packs the inside of our skulls with things to think about. May we present grey's very own papers, chronicling film archives, boring suits, life after prison, the brain, and Belgium's legion of starving artists, along with a profile of those shoe scraper thingymajiggies that the posh of yore used to stop dragging horse shit through the parlour. Who said grey was boring? We should be bloody grateful.

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“The vegetative state is one of the least understood and most ethically troublesome conditions in modern medicine”



Altered states

Hello? Can you hear me? Yes, in here, in your head. You can? Good, that means you're conscious. It may sound strange, but you're the only one who knows you're conscious. Of course, you can let others know by talking or interacting with them. But what if you were conscious, but unable to express it? What if you had been involved in an accident resulting in severe head trauma and were pronounced to be in a vegetative state, even though you could in fact see and hear us, but you couldn't tell us or show us? How would you let the outside world know you're in there? These are questions that keep people like Professor Dr Steven Laureys, head of the Coma Science group at the Liege Hospital, and Dr Adrian Owen of the Cambridge Sciences Unit awake at night. And rightly so: an estimated 41 percent of patients declared to be in a vegetative state are wrongly diagnosed and are, in fact, to a lesser or greater degree, conscious. The problem? Consciousness isn't all-or-nothing. It consists of two components: arousal (wakefulness) and awareness (of the environment and the self). And although several scoring systems

have been developed to assess consciousness, no machine on earth can measure it objectively. Consciousness doesn't have clear boundaries: where does it begin and where does it end? Consciousness remains one of life's greatest mysteries. How to quantify it, and how does it change in altered states of sleep, hypnosis, anesthesia, coma or a vegetative state, a term used to describe patients that are awake but unaware of themselves or their environment? The vegetative state is one of the least understood and most ethically troublesome conditions in modern medicine, notes Professor Owen. To complicate matters, patients in a vegetative state also look awake: their eyes are open, they breathe without assistance and can move their head, body or limbs and even grunt, smile, cry or groan occasionally, albeit always as seemingly purposeless reflexive responses to external stimuli. But how can we be sure a reflex is not, in fact, a voluntary action? Owen and Laureys caution that "The diagnosis of vegetative state should be questioned when there is any degree of sustained visual pursuit, consistent and reproducible visual fixation or response to threatening gestures." And if one showed none of these promising signs, would that exclude any possibility of consciousness? Let's

reenact an experiment that was done to measure the conscious awareness of a 23-year-old woman who was declared to be in a vegetative state after sustaining severe traumatic brain injury in an accident. As in the experiment, a fully conscious person (you) will be the control, to help scientists measure activity in the brain of both the patient and the control. Ready? First, imagine if you will, playing a game of tennis. See it? Now imagine visiting all the rooms in your house, starting from the front door. Done? Here's the startling result: scans showing the brain activity of the young woman would be indistinguishable from yours. Her brain would show activity in exactly the same areas as yours just has. Despite fulfilling the clinical criteria for a diagnosis of vegetative state, this patient retained the ability to understand spoken commands and to respond to them through brain activity, rather than through speech or movement. Moreover, her decision to cooperate by imagining particular tasks when asked to do so represents a clear act of intention, which confirms beyond any doubt that she was consciously aware of herself and her surroundings, states Owen. Aware, but unable to express it via any means other than brain activity. Fittingly, it's called locked-in syndrome. (SC)