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## Finding like behind the eyes

## JULIA LLEWELLYN SMITH

**SCIENCE** 

Into The Grey Zone: A Neuroscientist Explores The Border Between Life And Death

Adrian Owen Guardian Faber £16.99 \*\*\*

wenty years ago, Kate Bainbridge, a 26-year-old nursery school teacher from Cambridge, came down with a vicious virus that led to her slipping into a coma. In her hospital bed, her eyes were open but she showed no signs of awareness. Doctors declared her to be in a vegetative state: meaning she functioned in body but not – apparently – in mind. There are tens thousands of vegetative

patients like Kate worldwide. Since 1993, when judges sanctioned the removal of feeding tubes from Anthony Bland, a young man left in a similar coma after the Hillsborough disaster, more than 40 people in Britain have been 'allowed to die', their families believing they had no

inner life at all.

But Dr Adrian Owen, a British
neuroscientist, wasn't so sure. In this fascinating memoir he recalls devising a test where Kate was shown images of faces while lying in a brain-imaging scanner some of loved ones, some of strangers. When the results came in, the team were when the results canie in, the can were stunned. Kate's brain crackled with activity when she saw familiar faces, just like the brains of aware people. We felt like astronomers looking for extraterrestrial life who had sent a beep deep into outer space,' Owen writes. 'Except in our case we were sending a beep deep into inner space. And a beep had come back!'

From then, Owen – spurred by the situation of his own ex-girlfriend Maureen, who had been in a coma for years after an aneurysm – was on a mission. *Into* The Grey Zone reads like a thriller as he recounts his teams' efforts to explore this 'grey zone'. There's a major breakthrough when they work out how to get vegetative patients to communicate with them. If the

patients to communicate with them. If the answer to a question is 'no', they're asked to imagine playing tennis, which makes their brain light up in specific ways.

Imagining walking round their old homes triggers different brain responses and means 'yes'. As technology and techniques improve, the neurologists can ask if patients are in pain or want to die; they can even question crime victims left in a coma by an attacker. left in a coma by an attacker.

When Kate's family and carers realised she was conscious, they began talking and reading to her. Within two years she'd recovered full consciousness and was able to describe her ordeal using a word-pad keyboard, recalling the horror she'd felt as she tried to call out but no sound came and staff treated her like an object. 'They they thought I was just a body. It was horrendous,' she said.

Over the years, Owen discovers that about 20 per cent of vegetative patients are trapped in this nightmare scenario, some left ignored for years. In one heartbreaking case, he spots signs of consciousness in a

Canadian patient, but her doctor refuses to tell her family that she may well be aware.

Owen's enthusiasm for his science crackles from the pages. His determination to fight for the scores of voiceless greyzone patients he encounters, to prove they're 'thinking, feeling people' is hugely thought-provoking and deeply moving.



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