

passed or whether she has willingly erased her memories of time passing.

*A kind of Alaska* does not touch on another key aspect observed by Sacks: the dramatic and unpredictable impact of L-DOPA on post-encephalitic patients. Their response to the drug initially led to improvements in movement and speech, and ultimately the revelation of full personalities hidden by the disease for decades. However, most patients quite rapidly became both dependent and hypersensitive to L-DOPA, oscillating between uncontrollable festination, tics, torrents of thoughts, and anxiety, and the catatonia in which they had lived for decades. In the play, the audience sees Deborah in the moment when she has been restored to her former self, but it is left to the imagination what actual manifestations of post-encephalitic parkinsonism would have been destabilised by the long-term use of L-DOPA.

*A kind of Alaska*, however, does accurately portray another problem faced by family members of post-encephalitic patients. Families provided essential support and company for these patients and, because of an emotional component in the manifestations of post-encephalitic parkinsonism, sometimes their presence was enough to generate a temporary respite from the most severe manifestations of the disease. However, for family members

who remained close to their dear ones who had the long-term consequences of encephalitis lethargica, the lifetime role of carer had acquired a central meaning in their lives. When L-DOPA administration generated the awakenings in the patients who had survived the acute phase of encephalitis lethargica, some family members reacted negatively because their role of unique carer for every need of the patients was jeopardised by the unexpected, albeit temporary, recovery. In the play, when Deborah is awakened, her sister faces the drama of seeing her years of care, which destroyed her marriage, unappreciated and her role as carer put into question. Moreover, Deborah's sister is forced to make a decision between telling her the truth about what had happened in those 29 years and maintaining the illusion that things had not changed.

Highly praised by Sacks at its opening at the National Theatre, London, in 1982, *A kind of Alaska* remains a seminal play that captures a dramatic moment of self-awareness in a survivor of the encephalitis lethargica epidemic. Thanks to Greig's touching performance, audiences are made fully aware of the pain of awakening in a world that has not waited for those who had fallen asleep.

Marco De Ambrogi

## Lecture

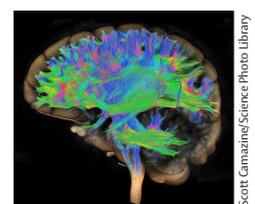
### Individuality rooted in the brain's development

"What makes you, you?" This is a question about the individuality of humans that has long been pondered. Are our brains and our behaviour shaped by nature or nurture? Kevin Mitchell (Trinity College Dublin, Ireland) advocates for the nature side of the argument, guiding his lecture audience through the various processes involved in the development of the brain. Beginning with the basics—the DNA code and how it is transcribed and converted into proteins—he explained how cells differentiate and develop, and how the brain advances in the womb and continues to change throughout life.

After setting this foundation, Mitchell described how these stages of development contribute to the individual differences seen between humans, using twin studies to demonstrate his points—for example, monozygotic twins who grow up in different environments share the same behavioural traits (eg, neuroticism, extroversion) as twins who grow up in the same environment, suggesting that these traits are highly heritable. According to Mitchell, this evidence emphasises that the wiring of our brains dictates innate traits; environment can reinforce and amplify these traits, contributing further to behaviour.

Mitchell's knowledge of the various aspects of genetic development is broad, and he did well to answer the audience's questions, including some more controversial topics regarding brain differences between the sexes and the concept of free will, by linking the basic science concepts with more complex behaviour. One aspect that could have been covered more, which is discussed in Mitchell's new book, *Innate*, was emerging genetic technologies and the implications of using these technologies in medicine. Is the ultimate goal to be able to manipulate human genes to eradicate certain neurodevelopmental disorders such as schizophrenia? When discussing genetics, ethical questions are always at the forefront, and it is clear that as these technologies progress, questions such as this need to be answered and some legal boundaries need to be determined. However, Mitchell's lecture presented a sophisticated explanation on a fascinating subject and highlighted that the nature versus nurture argument is perhaps more inextricable than ever.

Sophie Woolven



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**How the Wiring of Our Brains Shapes Who We Are**

Portland Hall, London, UK  
Oct 24, 2018

#### Further reading

Mitchell, KJ. *Innate: How the Wiring of Our Brains Shapes Who We Are*  
Princeton, NJ, USA: Princeton University Press, 2018