

# Plasticity of the brain: the key to human development, cognition and evolution

**Ferrier prize lecture**

**Monday 15 March 2010, 6.30pm - 7.30pm**

**The Royal Society**

Professor Colin Blakemore FRS

University of Oxford and University of Warwick

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## Synopsis

How do our genes program the complexity of our brains? Why is human culture so much richer than that of the Great Apes? And how has human cognitive achievement continued to accelerate, when our genetic makeup has changed very little over the past 100,000 years? The answers might lie in the adaptability and plasticity of the brain.

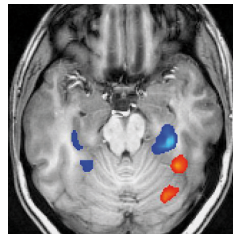
Development of connections in mammalian brains is specified not so much by precise instructions as by general rules, including adaptive mechanisms to fine-tune the connections between different levels in each pathway. And evolution has discovered genetic mechanisms that enable neurons to change the strength of their connections in response to the pattern of activity passing through them. Such plasticity gives us the capacity to remember and learn, and it helps to match our perceptions, thoughts and motor skills to the nature of the world around us. Brain plasticity, although genetically determined, enabled humans to escape from the informational limits in the blueprint of their genes and propelled them into a new phase of evolution.

## Speaker

Professor Colin Blakemore FRS is Professor of Neuroscience at the University of Oxford and also holds a Professorship at the University of Warwick. From 2003 to 2007 he was Chief Executive of the Medical Research Council.



Professor Colin Blakemore FRS  
University of Oxford and University of Warwick



Regions of the cerebral cortex that are more strongly activated during viewing of photographs of human faces (red) and of man-made objects (blue).

*Admission free – no ticket or advance booking required. Doors open at 5.45pm and seats will be allocated on a first-come-first-served basis.*

*This event will be broadcast live on the web at [royalsociety.org/live](http://royalsociety.org/live)*

*Visit our video archive at [royalsociety.tv](http://royalsociety.tv)*

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