Colin Blakemore (born 1944) is a British neurobiologist at Oxford University and Warwick University specializing in vision and development of the brain. He was formerly chief executive of the British Medical Research Council (MRC). He is best known to the public as a communicator of science but also as the target of a long-running animal-rights campaign. According to The Observer, he has been both "one of the most powerful scientists in the [UK]" and "a hate figure for the animal rights movement".

Background

Born in Stratford-upon-Avon in 1944, he was educated at King Henry VIII School in Coventry and then won a state scholarship to Corpus Christi College, Cambridge, England, where he gained a first-class degree in medical sciences, then completed his doctoral studies at the University of California, Berkeley, USA as a Harkness Fellow. He returned to join the faculty at Cambridge, before moving to the University of Oxford at the age of 35 to become Waynflete Professor of Physiology and a Fellow of Magdalen College.

Colin Blakemore was director of the James S. McDonnell and MRC Centre for Cognitive Neuroscience at Oxford for eight years. He has served as president of the Biosciences Federation (now the Society of Biology), the British Neuroscience Association and the Physiological Society, and as president and chairman of the British Association for the Advancement of Science (now the British Science Association). He is a Fellow of the Royal Society, the Academy of Medical Sciences and Academia Europaea, and an Honorary Fellow of the Royal College of Physicians, the British Pharmacological Society, the Society of Biology and Corpus Christi and Downing Colleges in Cambridge.

Blakemore has been honoured for his scientific achievements with prizes from many academies and societies, including the Royal Society, the Swiss Academy of Medical Sciences, the French Académie Nationale de Médecine, the Royal Australian College of Ophthalmologists, the Royal College of Physicians and the BioIndustry Association. In 1996 he won the Alcon International Prize for research relevant to clinical ophthalmology. He has eight Honorary Degrees from British and overseas universities and is a foreign member of several academies of science, including the Royal Netherlands Academy of Arts and Sciences, the National Academy of Sciences of India and the Chinese Academy of Engineering. He won the 2010 Royal Society Ferrier Award and Lecture.

Despite a serious illness in his teens, Blakemore developed a lifelong interest in fitness and sport, especially long-distance running. He has completed 18 marathons and won the veteran's section for the British team at the Athens Centenary Marathon in 1996.
Research

Colin Blakemore's research has focused on vision, the early development of the brain and, more recently, conditions such as stroke and Huntington's disease. He has published hundreds of scientific papers and a number of books on these subjects.

His major contribution to neuroscience is the part he played in establishing the concept of neuronal plasticity, the capacity of the brain to reorganise itself as a result of the pattern of activity passing through its connections. Blakemore was one of the first, in the late 1960s, to demonstrate that the visual part of the cerebral cortex undergoes active, adaptive change during a specific period shortly after birth, and he argued that this helps the brain to match itself to the sensory environment. He went on to show that such plasticity results from changes in the shape and structure of nerve cells and the distribution of nerve fibres, and also from the selective death of nerve cells.

Although initially controversial, the idea that the mammalian brain is 'plastic' and adaptive is now a dominant theme in neuroscience. The plasticity of connections between nerve cells is thought to underlie many different types of learning and memory, as well as sensory development. The changes in organisation can be remarkably rapid, even in adults. Blakemore has shown that the visual parts of the human cortex are 'taken over' by the other senses, especially touch, in people who have been blind since shortly after birth. After stroke or other forms of brain injury, reorganisation of this sort can help the process of recovery, as other parts of the brain take over the function of the damaged part.

Blakemore's recent work has emphasized the variety of molecular mechanisms that contribute to plasticity and has identified some of the genes involved in enabling nerve cells to modify their connections in response to the flow of nerve impulses through them. He summarised research on brain plasticity in his 2005 Harveian Lecture to the Royal College of Physicians.

Public engagement and public service

In parallel with his academic career, Colin Blakemore has championed the communication of science and engagement with the public on controversial and challenging aspects of science. In 1976 he was the youngest ever person to give the BBC Reith Lectures and he has subsequently presented or contributed to hundreds of radio and television broadcasts. He gave the Royal Institution Christmas Lectures in 1982-3, and he has written and presented many other programmes about science, including a 13-part series, The Mind Machine on BBC television, a radio series about artificial intelligence, Machines with Minds, and a documentary for Channel 4 television, God and the Scientists. He writes for British and overseas newspapers, especially The Guardian, The Observer, the Daily Telegraph and The Times. He has also written or edited several popular science books, including Mechanics of the Mind, The Mind Machine. Gender and Society, Mindwaves, Images and Understanding and The Oxford Companion to the Body. Since 2004 he has been President of the Association of British Science Writers.

In 1989, when Blakemore was awarded the Royal Society's Michael Faraday Prize for his work in public communication, the citation described him as "one of Britain's most influential communicators of science". Blakemore has won many other awards for his work in public communication and education, including the Phi Beta Kappa Award for contribution to the literature of science, the John P McGovern Science and Society Medal from Sigma Xi, the Edinburgh Medal from the City of Edinburgh and the Science Educator Award from the Society for Neuroscience.

Blakemore has worked for many medical charities and not-for-profit organizations, including SANE, the International Brain Injury Association, Headway, Sense (The National Deafblind & Rubella Association), the Louise T Blouin Foundation, Sense about Science and the Pilgrim Trust. He is President of the Motor Neurone Disease Association and Vice President of the Progressive Supranuclear Palsy Association.

He helped the Dana Foundation of New York to establish the European Dana Alliance for the Brain, an alliance of leading European neuroscientists who are committed to raising awareness of the importance of brain research. A large donation from the Dana Foundation to the Science...
Museum completed the funding for the Dana Centre on Queen's Gate in London, which has become a focus for public engagement with science.

He has been a Fellow of the World Economic Forum, and he is Honorary President of the World Cultural Council, a member of the World Federation of Scientists and a Distinguished Supporter of the British Humanist Association. He is one of the patrons of the Oxford University Scientific Society and an Honorary Member of the Cambridge Union Society.

Blakemore has served in an advisory role for several UK government departments and also for agencies, foundations and government departments overseas. He was a member of the Independent Expert Group on Mobile Phones (the Stewart Committee) in 1999-2000 and he chairs the General Advisory Committee on Science at the Food Standards Agency. He has a long-standing interest in policy on drugs of abuse, and is a Commissioner of the UK Drug Policy Commission and an adviser to the Beckley Foundation.

**Animal testing and animal rights**

Blakemore is outspoken in his support of the use of animal testing in medical research, though he has publicly denounced fox hunting and animal testing for cosmetics.

He came to the attention of the animal rights movement while at Oxford University in the 1980s, when he carried out research into amblyopia and strabismus, conducting experiments that involved sewing kittens' eyelids shut from birth in order to study the development of their visual cortex. Blakemore has said of the research that it was directly applicable to humans, and that "[t]hanks to it, and similar research, we now know why conditions like amblyopia — the most common form of child blindness — occur and are now able to tackle it and think of ways of preventing it."

Subsequently, according to *The Observer*, he and his family "endured assaults by masked terrorists, bombs sent to his children, letters laced with razor blades, a suicide bid by his wife, and more than a decade of attacks and abuse."

In 1992, together with Les Ward of the anti-vivisection group Advocates for Animals, he co-founded a bipartisan think tank called the Boyd Group, to consider issues relating to animal experimentation.

In 1998, during the 68-day hunger strike of British animal-rights activist Barry Horne, Blakemore's life was threatened in a statement released by Robin Webb of the Animal Liberation Press Office on behalf of the Animal Rights Militia. Direct action against him has abated since the prosecution of Cynthia O'Neill for harassing him in 2000.

Blakemore has advocated frank and full public debate about animal research and has worked to persuade other researchers to be more open. He has been chair of the Coalition for Medical Progress, the Research Defence Society and Understanding Animal Research, an organisation devoted to making the case for responsible use of animals in research, which was launched in 2008.

**At the MRC**

In 2003, Blakemore succeeded Professor Sir George Radda as the head of the Medical Research Council, a national organisation that supports medical science with an annual budget of more than £700 million. The reputation of the Medical Research Council had been damaged by what was perceived as financial mismanagement, the introduction of unpopular funding schemes and a lack of transparency in its dealings with researchers. Blakemore launched a national roadshow to consult the scientific community and quickly changed the mechanisms for handling funds, rationalised the grant schemes, introduced new forms of support for young researchers and overhauled the communications policies of the MRC.

He maintained his research activity in Oxford during his period of office and said "I want to be seen as the scientist, not the bureaucrat at the top. No, I want to be seen as the scientist in the middle."

Blakemore initiated a comprehensive review of the MRC's strategy and argued for a stronger commitment to clinical research and to the translation of basic research into benefits for patients. These actions anticipated Sir David Cooksey's 2006 "Review of UK health research funding", which resulted in closer working between the MRC and the Departments of Health, but which
recommended that "funding levels for basic science should be sustained". In the Comprehensive Spending Review at the end of Blakemore's term of office, the budget of the MRC was increased by more than one third over three years.

On the completion of his appointment at the MRC in 2007, Blakemore returned to a Professorship of Neuroscience at Oxford. He also holds a Professorship at the University of Warwick and is Chairman of the Neuroscience Research Partnership in Singapore. He was succeeded at the MRC by Leszek Borysiewicz.

Honours controversy

Soon after his appointment to the MRC The Sunday Times published a leaked British Cabinet Office document that suggested he was deemed unsuitable for inclusion in the 2004 New Year's Honours List because of his research on animals - research considered "controversial" by a British government committee that oversees matters of science and technology despite being widely supported by political leaders and the public. In response, he threatened to resign, suggesting in interviews that his position as chief executive was now untenable:

It's a matter of principle. The mission statement of the MRC is explicit. There's a specific commitment to talk to the public about issues in medical research. How can I now go to our scientists, and ask them to risk talking about animal research, when there now appears to be evidence that in secret the government disapproves it, even though in public they've strongly encouraged it?

A parliamentary inquiry investigating the matter implicated the Science and Technology Committee chaired by Sir Richard Mottram. After expressions of support for animal experimentation from then Prime Minister Tony Blair; Chief Scientific Adviser David King; Minister for Science Lord Sainsbury; and the wider scientific community, Blakemore withdrew his intention to resign.

As of 2010, he is the only MRC chief executive unrecognised by the British honours system.

National Institute for Medical Research taskforce

In 2003 the MRC announced plans to consider moving the National Institute for Medical Research, its largest research facility, from its current location in Mill Hill to a new site in central London. As part of the consultation process a taskforce was convened, with Blakemore as chairman, to consider options for the size and location of the new NIMR. During the process a number of senior staff at NIMR, including the then Director, Sir John Skehel, opposed a move being proposed as the only option believing "staying at Mill Hill should be considered."

Robin Lovell-Badge, a scientist at NIMR who was a member of the taskforce, proposed this option be included in the official publication of the taskforce, something that Blakemore and the majority of other members were opposed to. After disagreeing on the issue, Lovell-Badge alleged that Blakemore had twice attempted to "coerce" him into agreement by threatening his job. Blakemore denied the allegations, describing them as "pure invention".

A House of Commons select committee investigated the claims. They found "no specific credible evidence" to support the complaint, reporting the allegation "would have carried more weight had it been made at the time rather than in public during the final stages of the decision making process when relations between NIMR and MRC management had fallen into mutual animosity."

The committee did criticise Blakemore for "heavy handed" lobbying of other taskforce members and reported that a "more independent" figure than Blakemore should have chaired the taskforce. However, the report also criticised unnamed senior NIMR staff for an attempt at "undermining Blakemore's position."

The MRC has maintained its commitment to relocate NIMR and is developing an ambitious plan, together with the Wellcome Trust, Cancer Research UK and University College London, to create a new UK Centre for Medical Research and Innovation, adjacent to the British Library and St Pancras Station in London.