



Today's Neuroscience – Tomorrow's History

Neuroscience has been one of the key areas of biomedical science that the Wellcome Trust has fostered and sponsored for nearly 60 years – in fact the very first 'fellowship' grant awarded by the Wellcome Trust in 1937 was to Otto Loewi, who shared the 1936 Nobel Prize in Physiology or Medicine with Sir Henry Dale for their work on the elucidation of chemical neurotransmission.

The Wellcome Trust has recently funded a research project directed by Professor Tilli Tansey (UCL) and Professor Les Iversen (Oxford) to record interviews with prominent neuroscientists, with the aim of providing resources about contemporary neuroscience for the use of present and future historians, as well as journalists, policy makers etc. Simultaneously the potential to engage young neuroscientists with their own history is offered, and some of the material generated by this work will be used for more general educational outreach activities.

Three major themes in modern neuroscience have been selected for study:

Neuropharmacology

British scientists have played major roles in the development of understanding of how drugs work on the peripheral and central nervous system.

Geoffrey Burnstock has provided new insights about chemical neurotransmission in the autonomic nervous system.

Salvador Moncada is best known for his 1980s research which helped identify what was then described as 'endothelium derived relaxing factor' as nitric oxide.

Ann Silver is internationally known for her pioneering work on acetylcholine in both the peripheral and central nervous system.

Alan North was among the first to study enkephalins at a cellular level using microelectrode recording and other pharmacological techniques.

Psychiatry/Neuropsychology

British scientists have had a major impact in the application of rigorous scientific methods to the complex fields of psychiatry and neuropsychology.

Michael Rutter's research includes childhood psychiatric illnesses, longitudinal studies of school effectiveness, depression and attention deficit hyperactivity disorder.

Uta Frith is a world expert in autism spectrum disorders. She was one of the first in the 1960s to assess the alterations in brain function that underlie autism, at a time when the general view was that autism was an emotional disorder with a psychological basis.

Elizabeth Warrington is a neuropsychologist whose work centres on how neural networks enable us to see, perceive, remember and discuss things.

Richard Gregory is internationally recognized for his new insights into the mechanisms underlying visual perception, those that underlie our consciousness of the external world.

Neuroimaging

The development of non-invasive methods that allow the visualization of the structure and the function of the living intact brain is one of the major achievements of the latter part of the twentieth century.

Peter Mansfield, Nobel Laureate 2003, was responsible for some of the key advances leading to the development of magnetic resonance imaging (MRI).

Roger Ordidge obtained the first reasonable images of human limbs and the first MRI movie images of a beating rabbit heart.

Terry Jones is a pioneer of positron emission tomography (PET) and his emphasis on non-invasiveness and the biological relevance of imaging signals led to many methodological advances.

Richard Frackowiak investigated the physiology of normal and diseased human brain with PET and subsequently MRI, establishing the quantitative steady-state method for measuring human cerebral blood flow and oxygen extraction.

The interviews and transcripts are in the Wellcome Library, London and are freely available at www.ucl.ac.uk/histmed/audio/neuroscience

A limited number of copies for teaching purposes are available from Professor Tilli Tansey
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The Wellcome Trust Centre for the History of Medicine at UCL is funded by the Wellcome Trust as a centre of excellence and is a department of University College London.

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