Anthony Martin Halliday, BSc, MB, ChB, FRCP, FBCS (1926–2008)

Photograph taken at Queen Square in March 1989.

Dr. Anthony Martin Halliday died on March 18, 2008 at the age of 81, having suffered from long-standing pulmonary fibrosis. Dr. Halliday, always known as Martin, was respected throughout the world for his pioneering work on evoked potentials; his death is a major loss to clinical neurophysiology.

Halliday was born in Liverpool on August 19, 1926 as the fourth son of Sir William Halliday who later became Principal of King's College, London. Martin was an extremely clever boy who passed the entrance examinations to both Oxford and Cambridge at the age of 15. However, he was too young to be accepted to these Universities and chose instead to study Physiology and Medicine at the University of Glasgow where he gained his Bachelor of Science degree before he was 20, and the degrees of Bachelor of Medicine and Surgery at the age of 23.

Halliday's particular interest in neurophysiology crystalised in 1949 when, as part of his National Service in the Royal Army Medical Corps, he was posted to the Physiological Section of the British Army's Operational Research Unit. These were the early days of the ''cold war" and the Berlin Airlift was in full swing. The Allies were flying around the clock to supply essential materials to West Berlin by air. In order to protect the pilots from falling asleep and crashing during long flights, Halliday studied finger tremor physiologically and showed a good correlation with fatigue and sudden sleepiness. His study attracted the interest of Dr. Arnold Carmichael, the first director of Neurological Research Unit at the National Hospital, Queen Square, who invited Halliday to join his department in 1952. There he worked with an exciting group of young colleagues, including George Dawson, John Bates, Peter Nathan, Pat Merton and May Smith. Halliday soon joined the permanent staff of the unit, went on to head his own Medical Research Council unit at the National Hospital, where he remained until his retirement.

Martin Halliday's name will forever be associated with his greatest scientific contribution, his pioneering work on the pattern-reversal visual evoked potential and its clinical applications. Up to that time, visual evoked potentials could only be elicited by flash stimulus, and it was

Halliday who introduced the technique of pattern-reversal as a robust, but sensitive stimulus for obtaining the evoked potentials, and in collaboration with Ian McDonald proved its usefulness in detecting subclinical or previous optic nerve lesions in patients with multiple sclerosis. This technique opened an entirely new field in clinical neurophysiology, and was rapidly adopted as one of the most important laboratory tests for the diagnosis of multiple sclerosis. In the years that followed, young neurophysiologists came from around the world to work with and learn from Martin Halliday; many have gone on to outstanding careers in neurology and neurophysiology and have made major contributions themselves. Of Martin's many collaborators, Jack Pitman played a particularly important role; he joined Halliday's unit after working as Dawson's technician, and with Halliday developed a remarkably sensitive signal average which was fundamental to the evoked potential studies.

Another major contribution of Halliday was his earlier physiological study of myoclonus. His classification of myoclonus into pyramidal, extrapyramidal and segmental myoclonus published in Brain in 1967 pioneered the subsequent works in this field, and his proposal of pyramidal myoclonus led to the current concept of cortical or cortical reflex myoclonus.

In 1978, one of the authors (H.S.) spent a year as a visiting scientist in Dr. Halliday's laboratory because he shared a common interest in three topics: evoked potentials, multiple sclerosis, and myoclonus. H.S. studied movement-related cortical potentials during his stay in Queen Square. Beautiful electrophysiological data published from Halliday's laboratory could never have been achieved without the excellent measurement and placement of electrodes by Martin's wife and frequent co-author, Lisl Halliday. H.S. well remembers the day when he showed Halliday some data suggesting the possible occurrence of a Bereitschaftspotential (readiness potential) before tics in patients with Gilles de la Tourette syndrome. Ever careful, Halliday was concerned about possible artifacts arising from the facial grimacing so often seen in these patients, and it was decided not to publish the data. H.S. believes that this particular episode was the most important of many lessons that he learned from Halliday.

Halliday was a prolific and elegant writer, with over 200 papers and many chapters to his name; many of the scientific achievements by Halliday and his students are put together in the book he edited, Evoked Potentials in Clinical Testing, published (2nd edition) in 1993. He was an early member and later president of the EEG Society (now the British Society for Clinical Neurophysiology), which also awarded him their Grey Walter medal in 1989. He was an honorary member and gave named lectures for many other national societies of neurophysiology and neurology. For many years he was on the Editorial Board of the EEG Journal, and in 1985 he was convenor of the 11th International Congress of EEG and Clinical Neurophysiology in London.

From early days there was another, very different aspect to Martin Halliday's life. Strongly influenced by his mother who was a member of a school of Yoga, he became interested in Yoga and Eastern philosophy, and he served as the Chairman of Shanti Sadan (Temple of Peace) in London from 1963 to 2006. Halliday was loved by so many people as a typical British gentleman with a delightful sense of humour, but at the same time with great humility. In fact, it could be said that he shared many of the attributes of Mozart's piano music, which he so loved playing and listening to. H.S. remembers all too well a subsequent visit to Queen Square; severely jet-lagged after a long flight, he fell asleep while seated between McDonald and Halliday in the front row of Covent Garden Opera House, to the amusement of his hosts but his own lasting embarrassment!

Martin Halliday is survived by Lisl and remembered with respect and huge affection by many former students and colleagues throughout the world.

Nicholas Murray
Honorary Consultant, Clinical Neurophysiology,
The National Hospital, London

Hiroshi Shibasaki [1]
Emeritus Professor,
Kyoto University Graduate School of Medicine
Tel.: +81 75 572 6468; fax: +81 75 571 8877
E-mail addresses: shib@kuhp.kyoto-u.ac.jp

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[1] Present address: Takeda General Hospital, Neurology Department Ishida, Fushimi-ku, Kyoto 601-1495, Japan.