

ABSTRACTS FROM 'BRAINWAVES' – THE AUSTRALASIAN SOCIETY FOR PSYCHIATRIC RESEARCH ANNUAL MEETING 2006, 6–8 DECEMBER, SYDNEY, AUSTRALIA

Keynote addresses

The neuroscience of consciousness

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Despite the attempts of physicists and mathematicians to model consciousness in artificial systems, there is a need to understand consciousness in a way that caters for the diverse range of chemicals operating in the brain; how else might one explain the various mood-modifying and consciousness-changing effects of specific drugs? We also need to account for disorders such as depression and schizophrenia, and explain how they could arise from the neurochemical context of the holistic brain. In this talk, we shall develop a way of describing consciousness, which on the one hand caters for different momentary states of the physical brain, while at the same time respects the subjective phenomenology that is all too often ignored by scientists. We shall explore a list of properties that would be required of the physical brain, to cater for the subjectivity of consciousness. It might then be possible to test this 'Rosetta Stone' model, in various scenarios of everyday life, and see how such scenarios might be interpreted in terms of functioning of the physical brain.

The NSW Tissue Resource Centre (brain bank) and donor programs: their development and importance for neuropsychiatric research

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Since the 1980s, brain 'archiving' or 'banking' has undergone the greatest social, technological and organizational change in its 200-year history. The NSW Tissue Resource Centre (TRC) was established in 1994 at the Department of Pathology, University of Sydney. The aim of the TRC and linked Australian Brain Donor Programs (ABDP) is to provide human brain tissue for scientific research. The TRC focuses on schizophrenia and allied disorders, alcoholism and motor neuron disease. For the 'bank' to be effective, the TRC needs a wide cross section of the population – that is people who have brain disorders as well as people without disorders (controls). Human brain tissues can be collected either through Departments of Forensic Medicine (DOFM) or through premortem donor programs. At the DOFM, on the day of postmortem, we invite the next of kin (NOK) of deceased persons to consider brain donation for research. We have documented NOK responses to the question of brain donation and 62% of them say 'yes'. We have also reviewed the reasons behind these decisions, which will be discussed. There are several premortem donor programs wherein people sign up during life and donate after death (www.braindonors.org). In 1997, the Neuroscience Institute of Schizophrenia and Allied Disorders (NISAD) established a brain donor program called 'Gift of Hope' for people with major psychiatric illnesses. There are 378 registered expressions of interest and 143 donors have completed the enrollment and assessment process. In 2002, the TRC established a program called 'Using Our Brains', which targets people without illness (controls). Consented donors have repeat neuropsychological assessments throughout their life with a full health, lifestyle and clinical work up. The comprehensive longitudinal profile that results is extremely useful for researchers using TRC tissues. There are over 2000 registered donors and 331 have had their clinical assessments. Many of our premortem brain donors have completed questionnaires regarding