

I am writing to wish you a very Happy Christmas, and to thank you for taking part in the TIME Project, which is now in its eighth year.

The study is highly active, and has just started to recruit a new wave of participants from around the country.



Our two main current projects are based in Oxford and Edinburgh. In Oxford, Kathryn Atherton, supervised by Chris Butler and a psychologist, Kia Nobre, is investigating whether brain activity during sleep may be the key to the persistent memory difficulties which affect many patients with transient epileptic amnesia (TEA), even after their attacks have long ceased. There are several reasons for thinking that sleep may be important: attacks of TEA often occur on waking, sleep is now known to be an important time for memory formation, and the 'accelerated forgetting' we have demonstrated in many people with TEA is first detectable between 6 and 24 hours after memory is formed. Kathryn has been working hard to set up a method that will allow her to detect changes in memory strength overnight, and she will soon be inviting some of you to visit the John Radcliffe Hospital in Oxford where we have access to the technology and expertise that will make it possible to assess sleep - and its effects on memory - in detail.

In Edinburgh, Serge Hoefjeizers, working with Michaela Dewar and Sergio Della Sala, is investigating the timing of accelerated forgetting in detail, and asking whether it may result from the interfering effects of new learning on what has been learned recently. Serge also has an interest in the possible role of sleep - and quiet wakefulness - in memory and forgetting. Like Kathryn, Serge has been painstakingly producing tests which will make it possible to answer these questions precisely. As the participants in the TIME project are spread throughout the UK (from the Shetlands to Devon), Kathryn will initially approach more southerly, Serge more northerly folk. Serge and his project, however, are mobile, and he is willing (and quite looking forward) to travelling in a good cause.



Fraser Milton and Nils Muhlert, whom several of you know, remain involved in the study. Fraser is now a Lecturer in the Exeter Psychology Department, but is in the final stage of writing up a study of brain activity while participants remember events from their past lives (studied using the Exeter fMRI scanner). The results indicate that, as we suspected from previous work, people with TEA activate parts of the temporal lobes less strongly than normal while recollecting their past: this helps to explain the 'memory gaps' which often appear, and which can extend back for decades before TEA first began. Nils is working in London, investigating the effects of multiple sclerosis on memory and other aspects of cognition, but he continues to think and write about TEA. All the researchers involved in the TIME studies now meet up a couple of times a year, in Exeter, Oxford or Edinburgh, so that we can update one another about our work and generate ideas for future projects.

**Principal Investigators**  
Prof Adam Zeman, Exeter  
Dr Chris Butler, Oxford

**Research Fellows**  
Ms Kathryn Atherton, Oxford  
Mr Serge Hoefjeizers, Edinburgh

**Collaborators**  
Prof Sergio Della Sala, Edinburgh  
Dr Michaela Dewar, Edinburgh  
Prof Kim Graham, Cardiff  
Prof Narinder Kapur, London

Prof John Hodges, Sydney  
Prof Facundo Manes, Buenos Aires  
Dr Nils Muhlert, London  
Dr Fraser Milton, Exeter

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The TIME Project has attracted recent international interest, of two kinds. First, we are receiving increasing numbers of enquiries, via our website, from people around the world who have come to the conclusion that they have TEA. It seems likely that they are often right, but it is sometimes difficult for them to persuade their doctors, as the condition remains under-recognised. We are about to update our website to make sure that people who get in touch by this route find the most current information. Second, epilepsy centres elsewhere in the world are becoming interested in the disorder. Invitations have come in this year from Montreal, Stanford and Bonn to give talks about TEA, and collaborations are likely to follow. We are pretty sure that the condition that you have been helping us to study is not an exclusively British disorder.

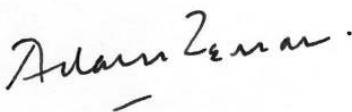
We have published some further papers this year, which will soon be on the website, and a book on the many interconnections between memory and epilepsy which we have helped to edit will appear in 2012 (Epilepsy and Memory – the state of the art: Oxford University Press).

Fund raising for our work has been difficult this year, with grant proposals to the Wellcome Trust and the Medical Research Council which were both highly rated by the panels but not funded. This is a sign of the times, and other researchers are having similar experiences. We are continuing to apply for funds, and, happily, our current funding will enable us to continue our work meanwhile.

We are very grateful to the growing number of participants who have agreed to donate their brains to the project. This provides the best opportunity to learn about the changes in the brain that give rise to TEA and the memory problems that occur with it.

Once again, we are extremely grateful for your help which has made this project possible. If any of you are keen to help us plan our future work, or have any queries or suggestions, please drop me a line.

We wish you a very Happy Christmas and 2012



Adam Zeman

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