

Dear

I am writing to wish you a very Happy Christmas, and to thank you for taking part in the TIME project. The project has flourished this year with several publications describing work completed recently with your help, and an infusion of vigour from the arrival of some keen, young colleagues.

The publications include two scientific articles describing work undertaken by Nils Muhlert and Fraser Milton over the past few years. Nils' paper provides evidence that people with transient epileptic amnesia (TEA) forget real life events more rapidly than their spouses, even though their memory is unimpaired on the day of the event. This work used an experimental camera, SenseCam, to build up a photographic diary of a day's events which could then be used as the basis for memory testing. Several of you joined Nils on trips to zoos and stately homes in the course of this study (*Accelerated forgetting of real life events in Transient Epileptic Amnesia*. *Neuropsychologia*, 2010;48:3235-3244). To everyone's regret in Exeter, when the funding for this project came to an end Nils moved to London to work on a project at the Institute of Neurology, to our great loss and their gain.

Fraser's paper reports that, as many of you have told us, memory for autobiographical events throughout the lifetime is affected by TEA (*Remote memory deficits in Transient Epileptic Amnesia*. *Brain*, 2010;133:1368-1379.) Fraser has also reported an unusual but very intriguing case involving a person with TEA who had lost autobiographical memories extensively. Following some intense episodes of *deja vu*, a number of long-lost memories returned in rich detail: this suggests that in TEA memories sometimes become temporarily inaccessible rather than being permanently destroyed (*Transient epileptic amnesia: deja vu heralding recovery of lost memories*. *Journal of Neurology, Neurosurgery and Psychiatry*, in press). Fraser has recently completed a third study, using functional brain imaging (fMRI) to investigate why people with TEA find it difficult to remember their past. The results are being analysed as this letter is written, but a preliminary look suggests that the problem may lie in the medial temporal lobe, a brain region known to be crucial to memory which our previous work has implicated as the likely source of attacks of TEA. Fraser has recently become a permanent member of the Psychology Department in Exeter.

Other publications this year include a paper reviewing recent work on TEA (*The syndrome of Transient Epileptic Amnesia*. *Current Opinion in Neurology*, 2010;23:610-616) and a chapter in a book devoted to the psychology of forgetting (*Accelerated Long Term Forgetting*. In *Forgetting*, ed Sergio Della Sala, Psychology Press, 2010).

If you are interested in looking at any of the published work, it should all be available on the TIME website, which is being maintained by the first of our new arrivals, a very capable 3rd year Psychology student from Plymouth University, Amber Simler, who is spending this year working with the team. See <http://www.pms.ac.uk/time>.

All this new activity requires ethical approval. We have recently been giving the go-ahead to begin work on these new projects and to renew the recruitment of recently diagnosed patients with TEA to the TIME study.

Two new lines of study are just getting underway. In Oxford, Kathryn Atherton has begun a period of research supervised by Chris Butler, whom almost all of you know, and Professor Nobre, a cognitive neuroscientist.

Kathryn will be finding out whether the explanation for accelerated forgetting in TEA may lie in sleep, as sleep is now thought to be important for the 'consolidation' of memories. Kathryn plans to identify whether the benefit of sleep for memory is reduced in people with accelerated long-term forgetting, and whether there is anything unusual about sleep in people with ALF that could account for their memory of people with TEA may be more vulnerable than usual to interference by mental activity after learning. An early goal will be to study how memories change over the hours and days after they are first acquired. Serge is funded by a grant from Epilepsy Research UK. We are very glad to have Kathryn and Serge on the team. They will be in touch with many of you over the next couple of years to ask whether you might be willing to help with their studies. We are waiting to hear whether a third project will be funded by Epilepsy Action. This would enable us to conduct a follow-up study of the 50 patients whom Chris Butler initially recruited to his study of TEA. We are keen to revisit you all – if you are willing to see us - to discover whether memory stabilizes, improves or deteriorates following diagnosis and treatment of TEA.

Many thanks to those of you who have agreed to donate your brains – decades from now we hope – to the TIME 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. This kind of work needs long-term planning.



Kathryn Atherton



Serge Hoefeijzers



Amber Simler

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, please drop me a line. We are encouraged to involve participants in research planning these days – and it seems an excellent idea!

With all best wishes for Christmas and the New Year,

Adam Zeman

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