

# Cognitive archaeology: identifying and measuring the presymptomatic phase of dementia

<https://www.neurodegenerationresearch.eu/survey/title-of-picognitive-archaeology-identifying-and-measuring-the-presymptomatic-phase-of-dementia/>

## Title of project or programme

Title of PI Cognitive archaeology: identifying and measuring the presymptomatic phase of dementia

## Principal Investigators of project/programme grant

Title	Forname	Surname	Institution	Country
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## Address of institution of lead PI

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## Country

- United Kingdom

## Source of funding information

### Total sum awarded (Euro)

1002463.95

### Start date of award

01-12-2008

### Total duration of award in months

44.5

## The project/programme is most relevant to

- Alzheimer's disease and other dementias

## Keywords

### Research abstract in English

Variations in lead-time between the onset of the earliest symptoms of cognitive inefficiency (or 'mild cognitive impairment'; (MCI)) and clinical dementia have offered insights into the factors associated with the brain's capacity to maintain normal levels of cognitive function in the face of degenerative change (cognitive reserve). However, the diagnosis of MCI is one of expectation, phenotypically heterogeneous, and liable to a degree of self-selection bias. An alternative would be to use a

retrospective approach, looking back at the earliest signs of cognitive change in patients who have already developed dementia. Language abilities are known to decline in early Alzheimer's disease, and many individuals have left records in which evidence of change can be identified, measured and dated. That such records contain signs of developing dysfunction has been clearly shown by the findings of the Nun Study, and more recently the Iris Murdoch text analysis project. Measurement of preclinical language change at regular intervals in a larger population of patients will lead to robust quantification of the length of this phase, and allow examination of the factors associated with a long or short duration. This project will subject archived material, in both spoken and written formats, to a range of data-driven textual analyses that have been validated in the fields of textual classification and scholarship, with the aim of characterizing the nature and timing of the earliest changes in language processing abilities. Subjects will include members of the OPTIMA cohort, a group consisting of patients with dementia and elderly volunteers in whom physical and cognitive indices, including language, are assessed twice yearly until death. Samples of spontaneous speech from first entry into the cohort, and written texts in the form of letters, notebooks and diaries dating back over two to three decades, will be digitally encoded, and classified using a range of automated techniques.

### **Lay summary**

#### **In which category does this research fall?**

- Basic research