

## LA MÉTHODE EXPÉRIMENTALE EN SCIENCES DU LANGAGE

### ◆PART 2◆

**29 juin 2010**

Université de Neuchâtel  
Faculté des lettres et sciences humaines  
Espace Louis-Agassiz 1  
**Salle R.N.02**

Organisation & contact :

Cécile BARBET & Violaine MICHEL  
[cecile.barbet@unine.ch](mailto:cecile.barbet@unine.ch), [violaine.michel@unine.ch](mailto:violaine.michel@unine.ch)

### ◆ 09.00-10.30

#### **Negation in the brain: a case study in neurolinguistics**

*Andrea MORO* (Università Vita-Salute San Raffaele di Milano)

In this talk, I try to show that theoretical linguistics and neuropsychology converge in a non-trivial way by illustrating three distinct case studies based on neuroimaging techniques (in particular, Positron Emission Tomography, i.e. PET scan and fMR). In the first preliminary experiment, by using an invented language I will provide evidence that syntax, the unique component of human languages, selectively correlates with a complex left hemisphere neural network involving both cortical and subcortical elements (essentially, a deep component of Broca's area and the nucleus caudatus). In the second experiment, I will show that manipulating artificially created non-recursive grammars does not activate the same neural network, providing evidence that the very absence of this type of grammar among the languages of the world cannot solely be regarded as a purely conventional, *i.e.* historical, fact but it is rather the effect of the neurofunctional architecture of the brain. As a third case study I will explore the neural correlates of negation addressing the issue concerning the relationship between language and the representation of the world: specifically, I will show that negation can partially inhibit the fronto-parietal motor planning circuits that are activated while interpreting sentences associated with simple actions.

### ◆ 10.30-11.00 *QUESTIONS & PAUSE*

### ◆ 11.00-12.30

#### **How to test for pragmatic competence in the case of informativeness.**

*Napoleon KATSOS* (University of Cambridge)

A growing body of developmental research documents that children below the age of 5 fail to derive quantity implicatures (e.g. the inference from 'some of the books are red' to 'not all the books are red'). In this course I review several of the experimental paradigms that have been used to evaluate children's competence and highlight that they do not take into account some key aspects of this inference, namely that it is defeasible and it is not part of truth-conditional content. These properties are particularly important when the experimental paradigm requires participants to make a binary judgment (correct or incorrect; true or false; right or wrong) on the felicity of the critical utterances: participants who notice the pragmatic infelicity may nevertheless not consider it grave enough to warrant the rejection of the utterance. I discuss recent experimental work which shows that children are indeed able to derive quantity implicatures when we use paradigms that take these aspects into account. Overall I propose that some of the major experimental methodologies used to study the acquisition of semantic and syntactic competence should not be copied over to the study of pragmatic competence without significant modifications.