Séminaire de recherche en Psycholinguistique Programme des invités externes 2017-2018

(Mise à jour du 28.05.2018)

- Monday 20th November 2017 (M3393): Dr **Kristof Strijkers** (Laboratoire Parole et Langage, CNRS -& Université Aix-Marseille)
  Embodied representations or embodied dynamics? A neural coding perspective on words.

  Abstract:
  In this talk I will start by discussing an intriguing result we have recently observed: Our pupils dilate or constrict in function of the darkness- or brightness-conveying meaning of words that our brain is processing. This automatic effect of a word's meaning on an involuntary 'out-of-brain' response constitutes quite a strong demonstration of language embodiment, but what does it really mean? Is it proof that word meaning is grounded in sensori-motor systems of the brain (at least for these type of concrete words), or does it rather highlight that (symbolic) word meaning triggers sensori-motor knowledge in an automatic fashion? Put differently, are words embodied or do words generate embodied dynamics? And what it is the difference? In the remainder of the talk I will try to address (though not resolve) these questions by putting 'neural coding' into the embodiment debate: That is, I will try to translate different views on how 'input neurons' bind with 'output neurons' in space and time (i.e., neural coding) to the question how 'meaning' binds with 'sounds' (word production) and 'sounds' bind with 'meaning' (word perception) in space and time (i.e., word coding). These 'neural-to-word coding' frameworks generate different linking hypotheses (i.e., algorithms) of brain-language integration. Current data on the spatiotemporal dynamics of word production and perception are considered in light of these neural-to-word coding algorithms in order to (tentatively) elucidate the role of embodied responses to language, specifically, and the manner in which language behaviour and neural implementation are linked with each other, more generally.

- Monday 4th December 2017 (M3393) : Dr **Sol Lago** (Potsdam Research Institute for Multilingualism)
  What can agreement attraction tell us about bilingual processing?

  Abstract:
  Agreement attraction has been fruitfully used to study the processing of subject-verb agreement in native speakers. But can attraction also be informative for the field of second language processing? I will present studies conducted with Russian and Turkish bilingual speakers of German. These studies used attraction to understand the nature of the representations and mechanisms used by bilingual speakers. For Russian speakers, I will discuss how attraction paradigms can be used to examine the representation of syntactic and semantic structure in a non-native language. For Turkish heritage speakers, I will address whether the same cognitive mechanism underlies agreement comprehension in native and heritage languages. The results of these studies show remarkable similarities in how native and non-native speakers process agreement in comprehension.

- Monday 19th February 2018 (M3393): Dr **Fiona Kyle** (Centre for Language & Communication Sciences Research, City University of London)
Reading and spelling skills in deaf primary school children: predictors and strategies

Abstract:
 Literacy is a multifaceted skill and many deaf children show delays in reading achievement compared to their hearing peers. Despite recent advances in technology that might be expected to support deaf children's literacy development, overall literacy levels do not appear to have made commensurate improvement. Previous research has tended to focus on deaf children's reading ability but in this talk I will examine both reading and spelling development. I will begin by exploring evidence from a series of recent studies that try to account for the huge individual differences observed in deaf children's reading skills. I will then present some longitudinal spelling data which have been analysed for evidence of different types of spelling strategies. The findings will be discussed in terms of what spelling errors reveal about the use of phonological and visual strategies in spelling and the possible implications for deaf children's reading development and remediation.

- Monday 5th March 2018 (M3393): Prof **Laurie Tuller** (Institut de Sciences du Langage, Université de Tours – INSERM U 930 Imagerie et Cerveau)
Identification d'un trouble du langage chez les enfants bilingues

Abstract:
L'identification d'un Trouble spécifique du langage (TSL/DLD) chez des enfants qui grandissent dans un contexte bilingue présente un défi clinique particulier: comment savoir si des difficultés linguistiques seraient dues à un trouble ou à un manque d'exposition/d'utilisation suffisamment longue/fréquente/riche ? Nous présenterons des résultats d'une étude portant sur 95 enfants bilingues en France, âgés de 5 à 8 ans, dont la langue familiale était l'arabe, le portugais ou le turc et dont la moitié était suivie en orthophonie pour un TSL. Le but était de déterminer l'exactitude diagnostique de deux outils développés spécifiquement pour ce contexte, une épreuve de Répétition de non-mots et une épreuve de Répétition de phrases. Ces outils font partie d'une "boîte à outils" développée dans l'Action COST IS0804 appelée Language Impairment Testing in Multilingual Settings (LITMUS; voir Armon-Lotem et al., 2015). Puisque l'exactitude diagnostique (sensibilité et spécificité) dépend nécessairement du mode de sélection de l'échantillon et l'estimation du statut clinique véritable des individus dans l'échantillon, nous adressons spécifiquement le problème des pratiques actuelles concernant le "test de référence" et le mode de sélection des participants pour des études dans ce domaine.

- Monday 19th March 2018 (M3393): Prof **Petra Hendriks** (Neurolinguistics and Language Development Group, Center for Language and Cognition of Groningen)
Perspective shifting and the interpretation of person, time and space by children with Autism Spectrum Disorder

Abstract:
Children with Autism Spectrum Disorder (ASD) have been found to experience difficulties with their production of deictic pronouns (producing pronoun reversals such as saying 'you' when meaning 'I') and temporal expressions (e.g., using fewer temporal expressions in story-telling). These

difficulties may be caused by these children's difficulty to shift perspective. If true, it is expected that children with ASD will also experience difficulties in their interpretation of these expressions. In collaboration with Jessica Overweg and Catharina Hartman, I investigated this hypothesis by testing 48 Dutch-speaking children with ASD aged 6-12 and 43 typically developing peers on linguistic tasks assessing their understanding of deictic pronouns ('I' and 'you'), temporal conjunctions ('before' and 'after') and spatial prepositions ('in front of' and 'behind'). We also administered tasks to measure Theory of Mind understanding, cognitive inhibition, cognitive flexibility and working memory. In this talk I will present some of the findings of this study.

Jessica Overweg, Catharina A. Hartman, & Petra Hendriks (in press). Children with Autism Spectrum Disorder show pronoun reversals in interpretation. Journal of Abnormal Psychology.

- Monday 16th April 2018 (M3393): Prof **Wolfram Hinzen** (Catalan Institute for Advanced Studies and Research, University of Pompeu Fabra & FIDMAG Germanes Hospitalaries Research Foundation, Barcelona)
  Two windows into the language-cognition interface: nonverbal autism and formal thought disorder
  Language necessarily connects to cognition, since every utterance expresses a thought and involves reference to objects in the world that the thought is about. Yet throughout its recent history, linguistic theory has worked with simplified models of language that seek to identify the constraints on linguistic variation while keeping thought constant. What, then, is language like when thought itself varies? This talk summarizes two lines of research from my lab (www.grammar.cat) opening two new windows on this question: 1. Patterns of language variation seen when neurotypical thought disintegrates, as in adults with schizophrenia and formal thought disorder (FTD); 2. Cognition and nonverbal communication in (so far barely studied) school-age children with autism spectrum disorders that never develop language in any modality, whether in production or comprehension. Our studies on (1) seek to identify linguistic markers of spontaneous speech exhibiting FTD, a phenomenon clinically identified through disorganized speech but rarely analysed linguistically or linked to language in neuropsychological studies. They find such markers specifically in referential devices such as definite noun phrases (NPs) and pronouns. Our studies on (2) seek to identify patterns of nonverbal communication and cognition, when language is subtracted from human cognition. It finds that despite some variation in nonverbal IQ, perceptual symbolic cognition, and gestural communication, our capacity for declarative reference is consistently absent in this population and can apparently never be compensated for. Both lines of research of linguistic and cognitive diversity in humans illustrate links between these two, to which the notion of reference is essential.

- Monday 30th April 2018 (M3393): Prof **Monica-Melby Lervag** (Department of Special Needs Education, University of Oslo) & Prof **Arne Ola Lervag** (Department of Education, University of Oslo)
  Interventions to improve cognitive abilities: background, results, and challenges
  The talk will focus on how longitudinal studies can be used to generate causal hypotheses about cognitive training that can be tested in randomized controlled trials. We will focus on cognitive development and training that have sought to improve skills in three main domains, namely fluid intelligence, crystallized intelligence (language comprehension) and reading comprehension. The

talk will focus on the longitudinal studies that constitute a basis for the training and whether training effects are likely based on these longitudinal studies. Then we will have a closer look at randomized controlled trials that have actually tested the effects from training in these three domains (i.e. fluid intelligence, crystallized intelligence (language comprehension) and reading comprehension. We will discuss these effects in the light of near, intermediate and far transfer.

- Monday 7th May 2018 (M3393): Dr **Andriy Myachykov** (Department of Psychology, Northumbria University Newcastle)
Sentence production: From perceiving to speaking.
Abstract:
The world that we perceive and describe changes constantly. If we believe our descriptions of the world to be accurate and consistent, we must assume that the content and the structure of our individual sentences accurately and consistently reflect the world's constantly changing nature. If so, a comprehensive production system need to model the sentence generation process taking into account this basic assumption: Words, their linear arrangement, and the structures they are inserted in must somehow reflect the corresponding parameters of the observed and described event. In this system, multi-modal perception provides initial information about the event, attention foregrounds relevant/important information for the conceptual analysis, and subsequent language production mechanisms collaborate to generate speech reflecting this input in a regular way. In my presentation I will discuss how multi-modal cueing of the speaker's attention together with varying degrees of accessibility of linguistic and non-linguistic information about the interacting protagonists together affect the sentence production process.

- Monday 14th May 2018 (M3393): Prof **Letitia Naigles** (Child Language Lab & Kids in Developmental Science, University of Connecticut)
What Variability in Children's Language Reveals about the Psychological and Neurological Processes of Language Acquisition: Evidence from Typical Children and Children with Autism Spectrum Disorder
Abstract:
Language acquisition research usually focuses on when/at what age children 'know', for example, the grammatical constructions and lexical principles of their language. Variability in child performance has been considered to be noise, and/or a signal that better tasks/stimuli are needed. In this talk, I will argue that such variability is actually quite revealing of the processes of children's language acquisition, in both typically developing children and children with Autism Spectrum Disorder (ASD). Language and communication impairments are considered to be an important deficit of ASD; however, it is not clear when during development these impairments emerge, nor the extent to which they can be attributed to impairments in core aspects of language per se vs. impairments in other social or cognitive processes. For the past decade, I have conducted a longitudinal study assessing the language development of a group of children recently diagnosed with an ASD, whose language comprehension was assessed using an innovative method for this population, Intermodal Preferential Looking (IPL). In this talk, I will discuss IPL and speech data examining these children's acquisition of grammar and vocabulary; I exploit their widespread variability to illuminate possible roles for social, linguistic input, and (most recently) neurological factors in their language development. I conclude by discussing the implications of these findings for advancing our understanding of autism and of language.

- Monday 4th June 2018 (M3393): Prof **Ianthi Maria Tsimpli** (Cambridge Language Sciences-Department of Theoretical and Applied Linguistics, University of Cambridge)

  Language processing and visual cues: comprehension and inferencing

  Language processing and comprehension in children and adults has commonly been investigated through visual cues depicting relevant events or actions. Good language comprehension presupposes sensitivity to micro-properties of language, e.g. syntax, morphology and macro-properties, primarily sentence semantics and pragmatics. Starting from certain asymmetries between micro- and macro-linguistic skills attested in different populations, I will present some preliminary evidence investigating the contribution of visual cues in macro-properties of language comprehension and inferencing.