

Events in language, cognition and the brain

Overview

In this course, we will explore how we store and retrieve the meaning of words and expressions associated with actions and events, and how we process and remember event information when we watch movies or read stories. Along the way, we will discuss potential differences that may emerge in event representations in different language, and how we represent the temporal duration of past events or events we talk about.

Lectures

1. Theories of meaning and conceptual representations
2. Language comprehension: from verbs to sentences and stories
3. Common representations across event perception, memory and language
4. Event representations across different languages
5. Representing time in memory and language

Readings

Lecture 1

- McRae, K. & Jones, M. (2013) Semantic memory, in *The Oxford Handbook of Cognitive Psychology*, Reisberg D. (ed.). Oxford University Press.
- Binder, J. & Desai, R. (2011) The neurobiology of semantic memory, *Trends in Cognitive Sciences*, V. 15, no 11. pp. 527-536.3.
- Pulvermüller F. (2013). How neurons make meaning: Brain mechanisms for embodied and abstract-symbolic semantics. *Trends in Cognitive Sciences*, 17, 458–470.
- Mahon BZ, and Caramazza A. (2008). A critical look at the embodied cognition hypothesis and a new proposal for grounding conceptual content. *Journal of Physiology - Paris*, 102, 59–70.

Lecture 2

- Ferretti, T. R., McRae, K., Hatherell, A. (2001) Integrating verbs, situations schemas, and thematic role concepts, *Journal of Memory and Language*, 44, 516-547.
- Zwaan RA, and Radvansky GA. (1998). Situation models in language comprehension and memory. *Psychological Bulletin*, 123, 162–182.
- Kamide Y, Altmann GTM, and Haywood SL. (2003). The time-course of prediction in incremental sentence processing: Evidence from anticipatory eye movements. *Journal of Memory and Language*, 49, 133–156.
- Moody, C. L., and Gennari, S. P. (2010) Effects of implied physical effort in sensory-motor and pre-frontal cortex during language comprehension, *NeuroImage*, 49, 782-793.
- MacDonald M, Pearlmutter N, and Seidenberg M. (1994). Lexical Nature of Syntactic Ambiguity Resolution. *Psychological Review*, 101, 676–703.

- Speer NK, Reynolds JR, Swallow KM, and Zacks JM. (2009). Reading stories activates neural representations of visual and motor experiences. *Psychological Science*, 20, 989–999.

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Lecture 3

- Zacks JM, Speer NK, and Reynolds JR. (2009). Segmentation in reading and film comprehension. *Journal of experimental psychology. General*, 138, 307–327.
- Zacks JM, Speer NK, Swallow KM, Braver TS, and Reynolds JR. (2007). Event perception: a mind-brain perspective. *Psychological bulletin*, 133, 273–293.
- Hanson C, and Hirst W. (1989). On the representation of events: a study of orientation, recall, and recognition. *Journal of experimental psychology. General*, 118, 136–47.
- Swallow KM, Barch DM, Head D, Maley CJ, Holder D, and Zacks JM. (2011). Changes in events alter how people remember recent information. *Journal of cognitive neuroscience*, 23, 1052–1064.

Lecture 4

- Majid, A., Bowerman, M., Kita, S. Haun. D., Levinson, S (2004) Can language restructure cognition? The case of space, *Trends in Cognitive Science*, 8, pp108-114.
- Gennari, S. P., Sloman, S., Malt, B., and Fitch, T. (2002). Motion events in language and cognition, *Cognition*, 83, 49-79.
- Papafragou, A. Hulbert, J. Trueswell, J. (2008) Does language guide event perception? Evidence from eye movements, *Cognition*, 108, 155-184.
- Malt, B. C., Gennari, S. P., Imai, M., Ameel, E., Tsuda, N., and Majid, A. (2008) Talking about walking: Biomechanics and the language of locomotion, *Psychological Science*, 19, 232-240.

Lecture 5

- Grondin S. (2010). Timing and time perception: a review of recent behavioral and neuroscience findings and theoretical directions. *Attention, Perception, & Psychophysics*, 72, 561–582
- Coll-Florit, M. and Gennari, S. P. (2011) Time in language: event duration in language comprehension, *Cognitive Psychology*, 62, 41-79.
- Faber, M. & Gennari, S. P. (2015) In search of lost time: Reconstructing the unfolding of events from memory, *Cognition*, 143, 193-202