

## Un/Re-packing argument and event structure restrictions on prefixation: MEG evidence

10:00 – 11:00: Linnaea Stockall, University of London, [l.stockall@qmul.ac.uk](mailto:l.stockall@qmul.ac.uk), Christina Manouilidou, University of Patras, [chmanouilidou@upatras.gr](mailto:chmanouilidou@upatras.gr), Laura Gwilliams, New York University, [laura.gwilliams@nyu.edu](mailto:laura.gwilliams@nyu.edu), Alec Marantz, New York University, [marantz@nyu.edu](mailto:marantz@nyu.edu)

We exploit selectional restrictions on verbal prefixation and the spatiotemporal resolution of MEG to investigate how native speakers process syntactic argument structure and event semantics in real time. We build on linguistic work analyzing the distinct syntactic and semantic properties of different prefixes, and recent MEG studies investigating the neural bases of lexical processing.

Re-, un- and out- vary in which kinds of vP they attach to. Re- attaches low, directly to the affected nominal of a result-stateP: *reopen a door* =  $[[v \text{ open}] [\text{re}[\text{the door}]]]$  ([1],[2]) and cannot attach to unergatives, ditransitives or psych-predicates, which do not contain the right number/type of arguments (\*relaugh, \*reput, \*refear). Verbal un- also requires a change of state denoting vP, but requires that this change be reversible, and involve a return to a 'normal' state ([3]), suggesting a more direct relationship than re- with the lexical root and that the restrictions involve conceptual event semantics: *unbend a wire* =  $[[\text{un}[v \text{ bend}]] [\text{a wire}]]$  (\*unflush, \*unbuild). Out-prefixation also involves an internal argument, but rather than require that the vP independently 'supply' the object, 'out-' adds an internal argument to an otherwise unergative structure: *John ran John outran the bus* =  $\text{John } [[v \text{ ran}] [\text{out} [\text{the bus}]]]$ . Out- cannot attach to obligatorily transitive or unaccusative verbal stems (\*outmurder, \*outfall).

Previous work [5,6] finds that English, Greek and Slovenian native speakers are faster and more accurate at detecting nonce prefixed (English) and suffixed (Greek and Slovenian) words that violate argument/event structure restrictions (arg.viol) than matched nonce words that violate no restrictions, and faster and more accurate still at detecting lexical category violating (cat.viol) affixation such as \*reflat or \*καρεκλατής (karekla-tis/'chair-er').

MEG activity was recorded from 25 native English speakers as they read cat.viol and arg.viol prefixed words and judged their acceptability. In Left-anteriorTemporalLobe (LaTL) we found that for un- and out-, cat.viol items evoked more negative activity than arg.viol items between 335-375ms (out-) and 365-440ms (un-), while re-arg.viol items evoked more activity than re-cat.viol, in an earlier time window (270-320ms). LaTL activity between 170-300ms has been associated with syntactic category entropy [7] and verb subcategorization entropy [8] for monomorphemic words, and thus our results suggest that (a) arg.struc restrictions for re- are parsed as syntactic, and rapidly evaluated, but (b) arg.struc restrictions on out- and un- are not. These later, opposite direction effects appear in the time-window associated with root lexical semantic processing [9], as expected for un-. Combining fine-grained linguistic analyses with fine-grained neuroimaging tools promises to not only confirm key properties of well-studied argument and event structure phenomena, but also provide evidence to understand less studied ones.

Refs: [1] Marantz, 2007. Ms. NYU. [2] Alexiadou, Anagnostopoulou & Lechner. 2014. Handout, York. [3] Horn, L. (2005). MIT Press. [4] Marantz, A. 2009. Handout, Stuttgart. [5] Manouilidou, C. & Stockall, L. 2014. IJL 26:2 [6] Manouilidou, Dolenc, Marvin, Pirtosek. (under review). CLP. [7] King, Linzen & Marantz. (in press). LI. [8] Linzen, Marantz & Pyllkänen. 2013. The Mental Lexicon, 8:.[9] Fruchter & Marantz. 2015. B&L.143.