**Introduction for LSA Poster 2021**

The study we describe here/on this poster/today is part of a larger project in which we are studying the nature of language during the long decline into AD. Known to develop for decades when neural/brain changes studied, many fields are now searching for indicators of the development of this disease prodromally/preclinically.

Our main hypothesis is that there are signs of language deterioration even before AD diagnosis, and our work attempts to identify the nature of these changes. In our poster today we summarize results from one study in our project, one which we think has implications not only clinically, but also linguistically.

The project is inter-institutional (Cornell, Mass General Hospital and MIT) and interdisciplinary (we integrate linguistics, experimental psychology and neuroscience, and both research and clinical work). Working with investigators at Mass General Hospital we are able to study participants with Mild Cognitive Impairment (MCI), and contrast these with Healthy Aging and Healthy Young.

Our project has focused on complex sentences of various types and elicits language production data using experimental designs where hypothesized syntactic and semantic factors can be tested. Because of our previous studies on language methodologies we know that participants’ production of model sentences can reveal both syntactic and semantic processing in generation of the model sentence and overall performance can indicate the effect of these factors in successful or unsuccessful performance.

On the basis of our experimental design and these methodologies, our results not only confirm previously undetected language deterioration in MCI (amnestic MCI in particular), but also begin to identify a critical source of this deterioration.

**Our Poster:**

Our poster, middle column top, reports a basic result from one experiment in which we studied complex sentences with adverbial subordinate clauses with various forms of anaphora. We complement this with study of coordinate sentences. We find that sentences which reflect the computation of free reference are significantly deficited in MCI even while matched sentences which reflect binding are not.

These results appear to us to target deficit at the C-I interface of the Language Faculty, where reference must be computed through cognitive semantic and pragmatic context. (Middle Column of poster). They seem to document Tanya Reinhart’s theory of the unmarked status of binding, with free reference an option where binding does not apply (Reinhart 1983, 2006).

Examples of participant responses on model sentences varying in free reference vs binding are shown on the middle column of the poster.

**Reading the Poster:**

In reading the poster, the left most column provides distilled information on our method for this particular study, and the right most column summarizes selected aspects of results.

The two QR codes (supplemented by web sites) at the mid-bottom of the poster provide details of scoring and a fuller presentation of poster content.

As the QR lists, several of our papers and previous posters summarize and discuss our results, as does a substantial literature on our background.