**Concepts and methods in typologizing templatic constructions** (oral or poster)

**Problem:** "Templates" are frequently invoked in the descriptive literature to characterize restrictions on the size, shape, or subconstituent ordering of a given linguistic constituent. In principle, devising a general typological framework for the classification of templatic constructions would help answer a range of questions from whether *template* is, in fact, a coherent concept to whether there are significant correlations between various templatic forms and their associated functions. In practice, such work is hindered by the fact that templates are often employed as a kind "wastebasket" device to account for linearization patterns not amenable to more principled analyses (see, e.g., Rice's 2000 critique of Athabaskan verbal templates), making it difficult to (i) straightforwardly identify useful parameters for their typologization and (ii) establish appropriate ways for comparing sets of the formally diverse constructions which appear to be "templatic".

**Results:** This paper addresses these concerns by (i) on the conceptual side, proposing an initial set of typological parameters which characterize prominent formal properties of a diverse set of constructions which, pretheoretically, appear templatic and (ii) on the methodological side, encoding the resulting typological classifications as directed graphs whose elements are defined within a formal ontology instantiating the conceptual typology. These graphs can then be compared using techniques for graph comparison developed in other domains.

Conceptually, the typology rests primarily on the notions of *stricture*, *foundation*, and *component*. *Stricture* categorizes templates from the "outside" according to three possible kinds of restrictions on form: component *order*, constituent *size*, or constituent *shape*. *Foundation* categorizes templates from the "inside" according to whether the restrictions are defined with respect to one privileged component (e.g., a verb root). If there is such a component, the template is categorized as an *arch*. If not, it is categorized as a *span*. The typology also recognizes the need to classify individual *components* of a template across various parameters, most notably whether they are *elastic* (i.e., optional) or *inelastic* (i.e., obligatory). This typology has been applied to approximately fifteen exemplary templates ranging from suffix order in Bantu (Hyman 2003), to second-position clitics in Serbo-Croatian (Zec and Inkelas 1990), to the field-based approach to the German sentence (Kathol 2000), and appears to be sufficient for an initial stage of work.

Methodologically, these typological concepts are defined in a formal ontology using techniques and tools developed for the Semantic Web—a widely-supported set of technologies designed to create flexible, interlinked data sets—and the templates are encoded as directed graphs (comparable to attribute value matrices in frameworks like HPSG or LFG) on top of this ontology. The resulting database of graphs can be readily processed by Semantic Web tools for querying or comparison. An initial application has adapted a graph similarity algorithm from bioinformatics (*SimUI*; Gentlemen 2008) to produce a set of distance scores for each pair of templates in the database, allowing one to use a tool like SplitsTree (Husan and Bryant 2006) to arrive at an initial view how similar or different the various templates are to each other.

**Implications:** While this study covers a relatively narrow grammatical domain, the classificatory parameters it has developed, could, in principle, be applied to a more general typology of constructional form. Its methodology is also potentially of broader relevance and could be of use to any study comparing constructions well-characterized in terms of directed graphs.

**References:** Gentleman R. 2008. Visualizing and Distances Using GO. http://www.bioconductor.org/.; Huson, D.H. and D. Bryant. 2006. Application of Phylogenetic Networks in Evolutionary Studies. *Mol. Biol. Evol.* 23.; Hyman, L. M. 2003. Suffix ordering in Bantu: A morphocentric approach. *Yearbook of morphology 2002*. Kluwer.; Kathol, A. 2000. *Linear syntax*. CUP.; Rice, K. 2000. *Morpheme order and semantic scope: Word formation in the Athabaskan verb*. CUP.; Zec, D. and S. Inkelas. 1990. Prosodically constrained syntax. *The phonology-syntax connection*. CSLI.