



Research Networking Programmes

Short Visit Grant or Exchange Visit Grant

(please tick the relevant box)

Scientific Report

The scientific report (WORD or PDF file – maximum of eight A4 pages) should be submitted online within one month of the event. It will be published on the ESF website.

Proposal Title: Phonological aspects of affix ordering in German and Polish

Application Reference N°: 7019

1) Purpose of the visit

The ordering of affixes in a word has been addressed by a large body of morphologists in the past four decades. A wide range of factors possibly determining affix ordering (including grammatical, psycholinguistic, cognitive or statistical) has been taken into consideration. Contributions of the Host, Dr Stela Manova, to the topic of affix ordering have been focused on the derivation of already derived words of the type BASE-SUFFIX1-SUFFIX2. Manova's analysis of several typologically different derivational systems (i.e. Bulgarian, Russian, English and Italian) lead to the observation that there is a systematic relationship between SUFF1 and the lexical category of SUFF2. There is a clear tendency for SUFF1 to select only one SUFF2 belonging to a major lexical category, i.e. nominal, verbal and adjectival. This approach takes the syntactic and semantic information into account.

Since my linguistic interests are centred on phonology, Manova's model of SUFF1-SUFF2 combinations was planned to constitute a testing ground for the study on the phonology of such combinations. From the phonological perspective, a structural tendency observed by the Host was expected to be reflected in the parsability of suffix combinations. The degrees of parsability can be linked to various phonological effects, for example, marked phonotactics emerging at morpheme boundaries. The idea of (il)legal phonotactics betraying the presence of a morphological boundary was proposed by Dressler & Dziubalska-Kolaczyk (2006) and constituted the basis

for putting forward a hypothesis that consonant clusters emerging at morpheme boundaries in fixed and predictable combinations differ from each other. The phonological criterion selected for the study was *Net Auditory Distance* (NAD) of Dziubalska-Kořaczyk (2014), which allows to specify degrees of cluster markedness.

The objectives of the project were twofold, serving the Host and the applicant. The first goal of the visit was to get acquainted with the structure and working of the model advocated by the Host and support the Host's analysis of previously collected Polish data. This task was intended to be completed within the first week of my visit. The analysis of the phonological properties of the collected SUFF1-SUFF2 combinations was planned to be carried out during the second week of my research stay in Vienna.

2) Description of the work carried out during the visit

During my stay in Vienna, I had the opportunity to work with the Host on every day basis. Several discussions with the Host made it clear that a comprehensive study of German suffixes, comparable to that carried out for Bulgarian, Russian, English and Italian, would require an exhaustive set of suffix combinations. Inventories of such combinations extracted by Manova have been based on a systematic dictionary/corpus search. A set of German suffix combinations, which I had collected in the course of my work, turned out not to be representative enough. Gathering an exhaustive inventory which would allow for an adequate and insightful comparison with previous studies of the Host would necessitate the use of electronic dictionaries or corpora, in the absence of which the Host and I decided to focus on the analysis of Polish during my visit. As a result, the 2-week visit was devoted to the study of Polish, for which the following tasks were completed:

Week 1

- 1) getting informed about the model advocated by the Host; assumptions, methods of analysis and formulated generalizations based on numerous discussions and reading of Stela Manova's contributions
- 2) discussing rules of morphological parsing in Polish necessary for search and further analysis of suffix combinations, being provided with guidance regarding parsing in other Slavic languages
- 3) checking and modifying a list of SUFF1-SUFF2 combinations in Polish which had been previously collected and analysed by the Host and collaborators
- 4) studying literature on Polish morphology and morphonology (among others Burkacka 2015, Grzegorzczkowa 1998, Grzegorzczkowa & Puzynina 1984, Kowalik 1998, Kowalik 1977, Manova 2015, Nagórko 2001, Rubach 1984, Szpyra 1995, Szymanek 2010, Waszakowa 1993) and performing internet queries in order to identify new suffix combinations
- 5) planning future publications and conferences

Week 2:

- 6) preparing a draft of a paper on SUFF1-SUFF2 combinations in Polish; writing up a paper section on Polish morphology based on literature available in the University of Vienna libraries (e.g. see above)
- 7) performing a tentative analysis on phonology of identified suffix combinations in Polish, which involved the following steps:
 - a) extracting suffix combinations with SUFF1 suffixes ending in a consonant and SUFF2 suffixes beginning with a consonant
 - b) listing of clusters emerging at suffix boundaries
 - c) determining phonological features of individual cluster segments in terms of the IPA categories (place of articulation, manner of articulation, sonorant/obstruent contrast)
 - d) performing calculations using the NAD model in order to determine degrees of preferability of clusters (cf. section 3).

Apart from working on Polish morphology with the Host, time spent in Vienna offered a unique possibility to discuss my work with other prominent linguists. University of Vienna is known to be one of the centres of research on phonotactics, in particular consonant clusters. Contributions of Professor Wolfgang Dressler (Institute of Linguistics, Austrian Academy of Sciences) to the area of phonotactics, also in collaboration with Professor Katarzyna Dziubalska-Kořaczyk from the Faculty of English at Adam Mickiewicz University (AMU) in Poznań, have brought the topic of morphologically-motivated consonant clusters to the forefront of study on phonotactics. Since my project was concerned with the study of consonant clusters emerging at SUFF1-SUFF2 suffix boundaries (the incentive for which was provided by the seminal paper of Dressler & Dziubalska-Kořaczyk 2006), I met Professor Dressler in Vienna to discuss the current proposal.

Moreover, during the second week of my stay I met linguists and colleagues from the Department of English, where Professor Nikolaus Ritt and his collaborators had been working on diachronic phonotactics. Additionally, I was given the opportunity to present my most recent work on consonant clusters in Polish, Russian, English and German to phonologists, morphologists and computational linguists involved in the phonotactic project. The talk *Features and phonotactics: A cross-linguistic perspective on preference in cluster formation* was delivered on the 18th of February at the Department, two days following the completion of the NetWordS grant.

3) Description of the main results obtained

A pilot study on the phonological structure of suffix combinations was based on a subset of person-forming combinations which had been previously extracted by Manova and collaborators. The goal of the study was to investigate markedness of consonant clusters emerging at the boundaries of these suffixes. We found 9 SUFF1 suffixes ending in a consonant; *eń-*, *ciel-*, *arz-*, *ak-*, *ec-*, *nik-*, *acz-*, *ik-*, *un-*, phonetically realized as /ɲ l ʃ k ts k tʃ k n/, respectively. Each of the suffixes combined with several SUFF2 suffixes starting with a consonantal segment, resulting in 28 SUFF1- SUFF2 combinations, represented by the total of 17 different consonant clusters of various length: 8 CC /nn rn rtʃ rk ts k tʃ k n/, 6 CCC /lsk rsk rnj tsf tʃnj ʃsk/, and 3 CCCC /lstf rstf ʃstf/. According to the NAD model, cluster preferability is determined on the basis of well-formedness conditions

established for clusters of various length (CC, CCC) and in various word positions (initial, medial, final). The examined inter-suffixal context yields word-medial consonant clusters, therefore the NAD conditions specified for -CC- and -CCC- medial clusters were used in our calculations. NAD makes no predictions regarding CCCC due to its great complexity, therefore all 4-consonant clusters were classified as dispreferred. The summary of research results is given below;

- 1) There is no strong preferability in terms of NAD among clusters in the examined combinations; a half of clusters was found to be preferred and half dispreferred. As regards the distinction between clusters of various size, CCs tend to be preferred in 65% (e.g. /nn rn tsk/), while 63% of CCCs were found to be dispreferred (e.g. /lsk rnj rsk/)
 - 2) There seems to be no phonological difference in terms of preferability with regard to combinations which are either default or incidental for a particular lexical category
 - 3) A number of SUFF1-final consonants undergo an alternation when combining with a SUFF2-initial consonant, e.g. /ɲ/ > /n/ in *więzień+ny* > *więzienny* 'prisoner > prison (adj)', /k/ > /ts/ in *pływak+ki* > *pływacki* 'swimmer > swimming (adj)', /ʃ/ > /r/ in *mleczarz+ski* > *mleczarski* 'milkman > dairy (adj)'. We expected that alternations would result in the emergence of a preferred cluster as phonology would neutralize the markedness effect introduced by the interference of morphology. However, no such effect was found.
- 4) **Future collaboration with host institution (if applicable)**

During the research visit, the Host and I discussed areas and ways of possible future collaboration. In consequence, we planned to present results of our joint work at two conferences. We submitted an abstract entitled *Word formation in terms of two-suffix combinations: Evidence from Polish* (in co-authorship with Mr Bartosz Brzoza, Faculty of English, AMU) for the 45th *Poznań Linguistic Meeting*, which will be held on the 17-19th September 2015. Currently, we are working on a poster which will be presented at the *Annual Cognitive Science Lecture* on the 28th of April 2015 in Vienna. These two presentations will be based on SUFF1-SUFF2 combinations in Polish collected during my research stay in Vienna as well as by Mr Bartosz Brzoza, who collaborated with the Host in 2014 under the auspices of the NetWordS initiative.

- 5) **Projected publications / articles resulting or to result from the grant (ESF must be acknowledged in publications resulting from the grantee's work in relation with the grant)**

A joint paper on SUFF1-SUFF2 person-forming combinations is planned to be submitted in co-authorship with Mr Bartosz Brzoza.

- 6) **Other comments (if any)**

Apart from conducting a pilot study on morphonology of Polish suffix combinations and initialing work with the Host (1-16 February), this research

stay in Vienna also offered the possibility to meet colleagues from the Department of English. Since I will be involved in a project of *Austrian Academy of Sciences* headed by Professor Nikolaus Ritt, I prolonged my visit in Vienna in order to discuss our joint work and take part in a workshop on diachronic phonotactics (17-20 February), resulting in flight dates diverging from the planned 15-day NetWordS grant (1-22 February).