# Deriving Suffix Ordering in Polysynthesis: Evidence from Adyghe[1]

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Adyghe (North West Caucasian, Circassian) is a highly polysynthetic language, that is, in this language a huge part of purely syntactic information is encoded by means of morphology (for problems connected with description of polysynthetic morphology see, for instance, Rice 2000). Adyghe illustrates perfectly how rules analogous to syntactic ones can regulate affix ordering. We claim that main principles underlying morphological structure of Adyghe are the *principle of scope correspondence* and the *principle of left branching* and provide various arguments in favor of this view based on the behavior of the Adyghe suffixes (for an account of the "prefixal" part of the Adyghe word see Testelets 2004).

Traditional descriptions (Kumakhov 1964, Smeets 1984) tend to represent Adyghe morphological structure in terms of template morphology mostly postulating a one-to-one correspondence between morphological slots and morphemes. However, there are several facts about Adyghe that challenge such treatment.

• Some suffixes show properties of morphological heads (Hapelmath 1992): addition of a new suffix may essentially change the distribution of the whole, e.g. argument structure or aspectual class. The head is always placed to the right of its dependent(s). In the syntax of Adyghe the same order of head and dependent(s) is observed in neutral contexts.

There is some kind of morphological recursion: addition of a past tense marker to a wordform already containing the same marker turns preterite into pluperfect, see (1). The tense marker "shifts" the meaning of a wordform back on the time axis turning it into preterite whereas the second instance of the tense marker "shifts" the meaning of the whole even more back functiong as a "retrospective shift" marker and supplying the wordform with the pluperfect semantics (see Plungian & van der Auwera 2006 for an overview of diverse ways of pluperfect marking). Morphologically it is not a single marker – the sequence of two *-ʁɐ* can be broken so the place of the second *-ʁɐ* depends on what precedes it; the marker doesn't have some fixed position.

Left branching follows semantic interpretation: an element always has wide scope with respect to part of a wordform to its left and narrow scope with respect to what is to its right. A morpheme can never be placed to the left of what falls under its scope. This is the principle of scope correspondence. For instance, the habilitive ('to be able to') always falls under the scope of the suffixal negation; a periphrastic construction with matrix verb must be used to reverse their scopes, see (2).

Principle of scope correspondence along with the principle of left branching helps to explain several phenomena challenging template approaches. The position of various aspectual operators relative to the simulative morpheme therefore entirely depends on their scope, see (3a) and (3b). The situation denoted by the simulative morpheme ('it seems that P' / 'to pretend P') and the situation denoted by the stem ('P') may have their own temporal reference and negation; they may fall or not fall under the scope of aspectual operators.

The important fact about Adyghe is that mutual compatibility of suffixes knows no limits except possibility of reasonable semantic interpretation. Even tense, aspectual and modal values are expressed using compostional combinations of morphemes. Word-and-paradigm (Aronoff 1994, Stump 2001) approaches fail to describe such system adequately – unless we intend to multiply 'property bundles' we want to be realized and consider a calculus of all combinations of suffixes to be a paradigm.

The rules governing the morphological structure of Adyghe words are similar to

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those according to which sentences are built. The clear and comprehensive principle of compositionality underlies these rules and regulates order of morphemes, which are ranked on the basis of their scopes according to the left branching structural principle. We show that both approaches demanding strict positions for morphemes and approaches trying to arrange them in a paradigm will crash confronting the semantics-oriented syntax of Adyghe wordform.

**Examples:**

(1)  a.  sə   təʁwase   txəλe-m   se-ʒa-ʁ
        I    yesterday  book-ERG  1SG.ABS-read-PST
     'Yesterday I read a book.'

     b.  sə   txəλe-m   se-ʒe-ʁa-ʁ
        I    book-ERG  1SG.ABS-read-PST-PST
     'Once I read a book.'

(2)  təʁwərəʁwə-xe-r        č'eš'-re            [[č'əje-ŝwə-r]-ep]
     owl-PL-                night-DISTR          sleep-HBL-DYN-NEG
     'Owls aren't able to sleep at night.' vs. * 'Owls are able not to sleep at night'.

(3)  a   a-r              [[neʁəfə-ŝwe]-ž'ə]-ʁ
        that-ABS          pale-SML-RFC-PST
     '(S)he seemed to be again pale.'

     b.  a-r              [[qe-neʁəfə-ž'ə]-ŝwa]-ʁ
        that-ABS          pale-RFC-SML-PST
     'S(h)e seemed again to be pale.'

**Abbreviations:**

ABS – absolutive, DISTR – distributive, DYN – dynamic stem, HBL – habilitive, IPF – imperfective, NEG – negation, PL – plural, PST – past tense, RFC – refactive, SML – simulative.

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