

A cognitive approach to compound and nuclear stress

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The paper aims at discussing the influence of stress on the memorization of English adjective-noun (AN) combinations (e.g. *young tourist*). Specifically, my objective is to compare the memorization of AN combinations stressed on the adjective (e.g. *YOUNG tourist*) and AN combinations stressed on the first syllable of the noun (e.g. *young TOURist*).

For this purpose, let us emphasize two things. First, while initial stress has traditionally been considered to be a marker of compounds in English (Compound Rule), non-initial stress has been regarded as an indication of phrasal units (Nuclear Stress Rule) (Chomsky & Halle 1968). Second, Kotowski, Böer & Härtl (2014) found a memorization advantage of German AN compounds in comparison to AN phrases. Combining these two facts, we can ask whether English AN combinations with initial stress (e.g. *YOUNG tourist*), a typical feature of compounds, show a memorization advantage in comparison to English AN combinations with non-initial stress (e.g. *young TOURist*), a typical feature of phrases.

In a psycholinguistic study, native speakers of English participated in an auditory memorization experiment on three days. On each day, the experiment consisted of a memorization and a recall phase. In the memorization phase, subjects were asked to memorize non-lexicalized AN combinations (e.g. *YOUNG tourist/young TOURist*) and, as a baseline, existing nouns (e.g. *architect*). One group of English subjects was tested only on AN combinations with initial stress (group EnglishA) and another group was tested only on AN combinations with non-initial stress (group EnglishB). In the recall phase (lexical-decision design), subjects responded to items that they memorized in the memorization phase (response = yes) as well as to items that they did not memorize (response = no). Looking at the response latencies of the existing nouns on all three days together, no significant difference between the groups EnglishA and EnglishB was found. Looking at the response latencies of the AN combinations on all three days together, the analysis revealed that the items with non-initial stress (e.g. *young TOURist*) were responded to significantly faster than the items with initial stress (e.g. *YOUNG tourist*). This result is not surprising because non-initial stress is the “normal ‘unmarked’ stress pattern” (Giegerich 1992: 252) of English AN combinations and a “normal” stress pattern has been found to cause faster response latencies than a marked one (Schiller, Fikkert & Levelt 2004). Looking at the response latencies of the AN combinations on the three individual days, no significant difference between the AN combinations with initial stress and those with non-initial stress was detected.

Since almost all AN combinations used in the study were semantically compositional, a follow-up study investigated whether the interaction of stress and semantic compositionality had an impact on the memorization of AN combinations in English because semantic non-compositionality represents a second typical feature of compounds (Downing 1977). The procedure of the study was similar to the one described above. Specifically, semantically non-compositional AN combinations with initial stress (e.g. *HARD shirt*) and semantically compositional AN combinations with non-initial stress (e.g. *short BRUSH*) were contrasted. Looking at the response latencies of the AN combinations on all three days together, the analysis revealed that the former were responded to significantly more slowly than the latter. Again, this is not surprising as the more normal of the two combination types (e.g. *short BRUSH*) was responded to faster. Looking at the response latencies of the AN combinations on the three individual days, however, an interesting result was found: The former constructions (e.g. *HARD shirt*) were responded to significantly more slowly than the latter

constructions (e.g. *short BRUSH*) on the first day but not on the second and third day (cf. Figure 1). The result is interpreted as a memorization advantage of semantically non-compositional items with initial stress, i.e. items with two typical compound features, as they improved more than the semantically compositional items with non-initial stress, i.e. items with two typical phrasal features, over the course of the experiment.

References

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Appendix

Figure 1: Constructions with two typical phrasal features versus constructions with two typical compound features on the three test days (subject analysis (F₁))

