

HOW STRONGLY ARE MORPHOLOGICALLY RELATED WORDS CONNECTED: EVIDENCE FROM RUSSIAN VERBS

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BACKGROUND. Properties of morphologically related words modulate the access to and storage of the base word (Italian: Traficante 2003; Dutch: Bertram et al. 2000; English: Rastle et al. 2000, Feldman et al. 1999; Czech: Milin et al. 2009, a.m.o.).

In morphologically rich languages, some derivatives are more closely connected to the base word than others, depending on the degree of semantic similarity (e.g. in Finnish: Moscoso del Prado Martin et al. 2004). Among other factors it is also similarity in form.

Previously. The access to the base word is modulated by the summed frequency of its derivatives even though they do not undergo decomposition during lexical access. The effect was observed only for directly derived words, not merely for morphologically related ones (Slioussar & Chuprina 2016).

Current study. We aim to see how strongly direct derivatives of different types are connected to the base word. Factors: form (phonological similarity, shared morphological features) vs. meaning (semantic similarity).

EXPERIMENT

Participants: 47 speakers of Russian (age: 18-55, 37F).

Method: Lexical decision task with masked priming (primes presented for 150ms), *E-prime* software.

Materials: 39 target verbs with suffixed and prefixed derivatives and unrelated verbs as primes. See Table 1, 2. 27 imperfective target verbs. Their *-nu-*suffixed derivatives (semelfactive verbs). 12 perfective target verbs. Their *-va-*suffixed derivatives (product of secondary imperfectivization).

Prefixed primes were produced by adding 13 different prefixes to the base verb.

13 verb stimuli with unrelated primes (to balance the number of related and unrelated primes) and 52 nonce stimuli (half of them with phonologically similar primes).

Word frequency and length of the primes were matched (using the StimulStat database http://stimul.cognitivestudies.ru/ru_stimul/).

Results: See Table 3 and below.

Discussion: A significant difference between suffixed and prefixed primes was found only in the NU group. *-nu-* suffixed primes boost access to their base verb better than prefixed derivatives. Lack of effect in the VA group might be due to the rareness of verbs derived through suffixation and prefixation simultaneously.

The finding suggests that suffixed verbs have a stronger connection to their base verb in the mental lexicon.

Thus, regular and predictable semantic correspondences are more important than phonological similarity and shared morphological features.

Verb (stimulus)	Prefixed prime	Suffixed prime	Unrelated prime
maxat' <i>imperf.</i> wave	po-maxat' <i>perf.</i> wave a little	max-nu-t' <i>perf.</i> wave once	spasat' save
prodat' <i>perf.</i> sell	ras-prodat' <i>perf.</i> sell sth. out	proda-va-t' <i>imperf.</i> be selling	proigrat' lose

Table 1. Examples of verb stimuli and their primes.

Prefixation	Suffixation
- usually preserves all inflectional properties (except for the aspect)	- always changes the inflectional class
- results in partly predictable semantics	- allows for a lesser semantic variability

Table 2. Form vs. meaning properties.

prime	NU group	VA group
prefix	685.2	723.2
suffix	669.2	721.0
unrel	737.9	735.4

Table 3.

Average RTs in the main experiment.

NU group: suffixed << prefixed primes (RM ANOVA, $F_1(1,33)=6.1, p=0.020, F_2(1,26)=6.3, p=0.019$). Both groups: unrelated << suffixed and prefixed primes.

prime	NU group	VA group
prefix	615	617
suffix	589	633
unrel	683	660

Table 4.

Average RTs in the follow-up experiment (60 ms SOA).

NB: A pilot follow-up experiment (10 participants) was held, using shorter prime onset time of 60ms to investigate whether form-related properties would influence earlier stages of stimuli processing. We replicated the same results for NU group as in the main study, although the significance was reached only for derivatives against unrelated controls (Table 4).