

# STRESS IN MORPHOLOGY-DEPENDENT SYSTEMS WHEN MORPHOLOGY IS ABSENT: A CASE STUDY FROM L2 GREEK

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**AIM:** TO INVESTIGATE WHICH STRESS PATTERN EMERGES AS THE PREFERRED ONE IN THE ABSENCE OF MORPHOLOGICAL CONDITIONING IN L1 AND L2 GREEK

## 1. BACKGROUND

**GREEK AND RUSSIAN:** Systems with morphology-determined stress. Stress is lexically-encoded and is assigned on the basis of a grammar-specific principle (e.g. headedness, edgemostness, etc.)

(Halle 1973, 1997; Kiparsky & Halle 1977; Melvold 1990; Idsardi 1992; Alderete 1999, 2001a,b; Malikouti-Drachman & Drachman 1989; Drachman & Malikouti-Drachman 1999; Revithiadou 1999).

- (1) **RUSSIAN:** neuter nouns in -o (NOM.SG), -a (NOM.PL)  
 a. zérkalo /zerkal-o/      b. zerkalá /zerkal-á/      'mirror'  
 (2) **GREEK:** feminine nouns in -a (NOM.SG), -on (GEN.PL)  
 a. thálasa /thalas-a/      b. thalásón /thalas-ón/      'sea'

The **phonological default** (=non-lexically inflected stress) is **Initial** for Russian, (1a) and **APU** for Greek, (2a).

### RESEARCH QUESTIONS:

- Q1:** How is stress shaped when morphology is at its weakest? Does the phonological default coincide with the emerging (=preferred) stress pattern?  
**Q2:** Which pattern arises as the preferred L2 strategy?

## 2. PREVIOUS EXPERIMENTAL STUDIES

### FACTORS DETERMINING STRESS PLACEMENT

**RUSSIAN** (Nikolaeva 1971; Crosswhite et al. 2003; Fainleib 2008; Lavitskaya & Kabak 2011a,b)

- Type of final segment: C-final words → U stress; V-final words → U or PU stress
- V-final words: There is a discrepancy between U (Fainleib 2008) and PU (L&K 2011a,b) stress.
- Vowel quality, word length and syllable type of PU play negligible or no role in stress assignment (L&K 2011a,b contra Nikolaeva 1971)

**GREEK** (Revithiadou, Nikolou & Papadopoulou 2011)

- Type of the final segment: C-final stems → U stress; V-final stems → U or PU stress depending on (a) word size and (b) whether the V matches a specific morphological class marker

**CONCLUSION:** Phonological default ≠ Emerging default

## 3. HYPOTHESES ON L2 ACQUISITION

**HYPOTHESIS 1 - THE DEFAULT VALUES HYPOTHESIS** (Van de Pas & Zonneveld 2004)

The L2 speaker (over)applies the most unmarked pattern, i.e. the phonological default.

**HYPOTHESIS 2 - THE PHONOLOGICAL ACUTENESS HYPOTHESIS** (based on Kijak 2009, and building on Dupoux & Peperkamp 2002; Dupoux et al. 2008; Vogel 2000; Altmann & Vogel 2002; Altmann 2006)

L1 speakers of a lexical stress language internalize the abstract representation of stress in their *Mental Lexicon*, hence they are more **acute** in the perception and production of stress in other languages, esp. when the target-system in L2 is typologically similar.

## 4. METHOD

### PARTICIPANTS

**Experiment 1:** 21 native speakers of Greek; Mean age: 18.1 years old

**Experiment 2:** 20 Russian speakers of Greek; Mean age: 29.55 years old; Residence: 52.50 months; Proficiency: 90.10/99

### PROCEDURE

**Elicitation task:** Read out 140 sentences containing an **acronym** or a **pseudoword** (filler)

2940 items (acronyms & fillers) from experiment 1 and 2800 items from experiment 2: 5740 items in total

### ITEMS

**Factors controlled:** (a) The type of final segment (C vs. V), (b) The size of the word (2 σ vs. 3σ words), (c) The effect of syllable type: close vs. open PU

**Experimental conditions** (10 items per condition): CV.CV, CVC.CV, CV.CVC, CVC.CVC, CV.CV.CV, CV.CV.CVC

#### SAMPLE IN GREEK:

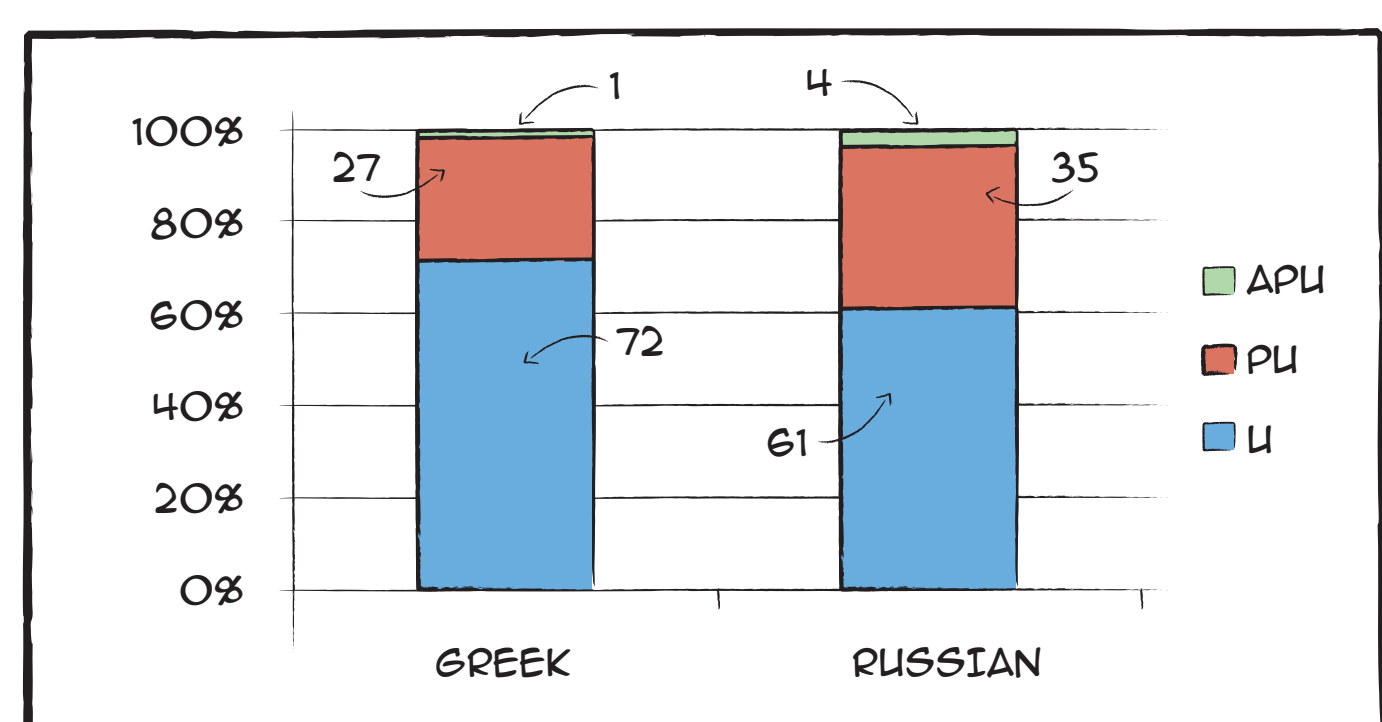
- O/H/To ..... (ΘΑΣΤΑ) δεν ισχύει πια.
- O/H/To ..... (ΑΚΕ) υπερασπίζεται τους αγρότες.
- O/H/To ..... (ΛΕΧΘΟΣ) πέταξε μακριά.
- O/H/To ..... (ΟΑΣΤΙ) οργανώνει σεμινάρια τον άλλο μήνα.
- O/H/To ..... (ΠΟΣΚΙ) δεν είναι έτοιμο.

#### TRANSLATION:

- The (masc/fem/neut) ..... is not valid. [θasta]
- The (masc/fem/neut) ..... defends the farmers. [ake]
- The (masc/fem/neut) ..... flew away. [lexθos]
- The (masc/fem/neut) ..... organizes seminars next month. [oasp]
- The (masc/fem/neut) ..... is not ready. [poski]

## 5. RESULTS

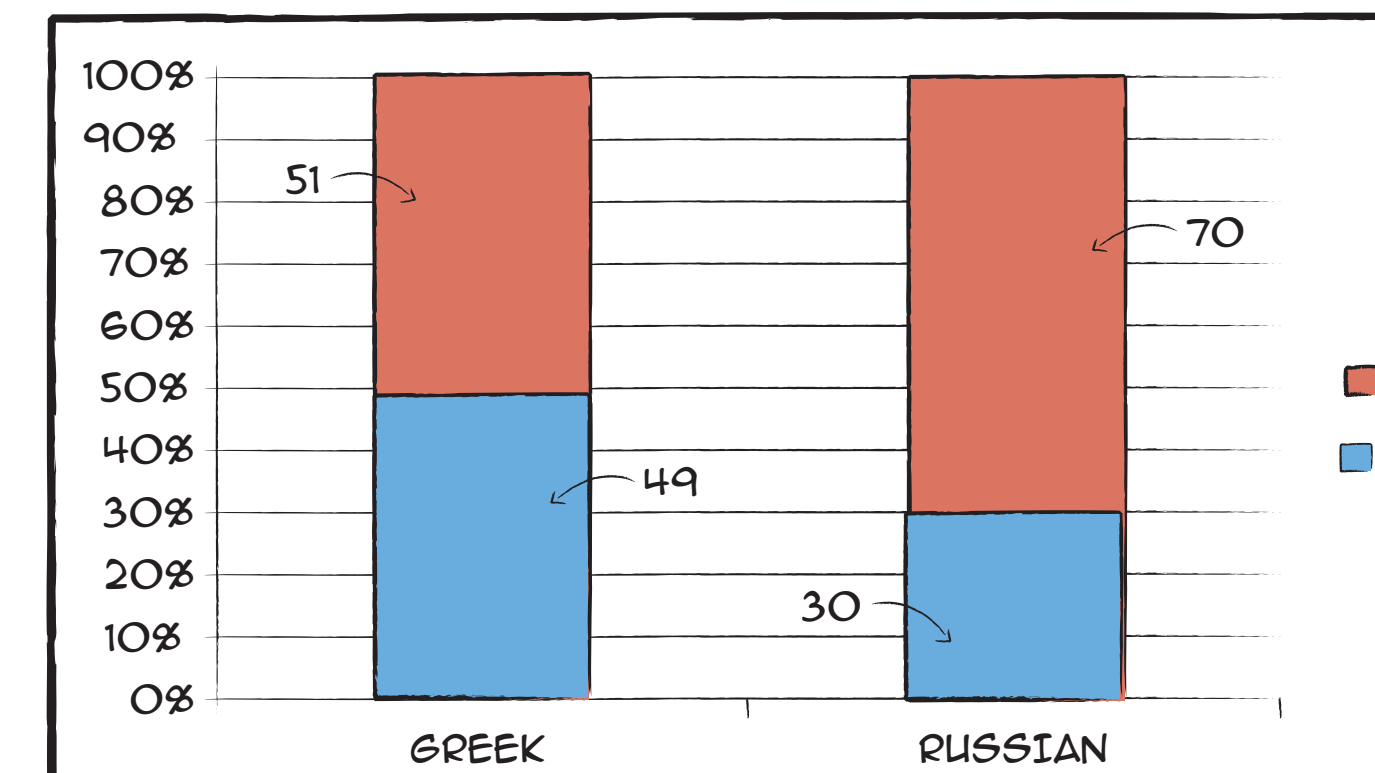
### OVERALL STRESS RESULTS IN C- & V-FINAL ACRONYMS (%)



Gr:  $\chi^2(2) = 981.733$ ,  $p = .000$   
 Ru:  $\chi^2(2) = 595.745$ ,  $p = .000$   
 Gr vs. Ru:  $\chi^2(2) = 46.981$ ,  $p = .000$   
 Cramer's V = .138  
 Contingency Coefficient = .137

- U stress is the preferred pattern by both groups  
 - Higher percentage of PU stress by the Russian speakers

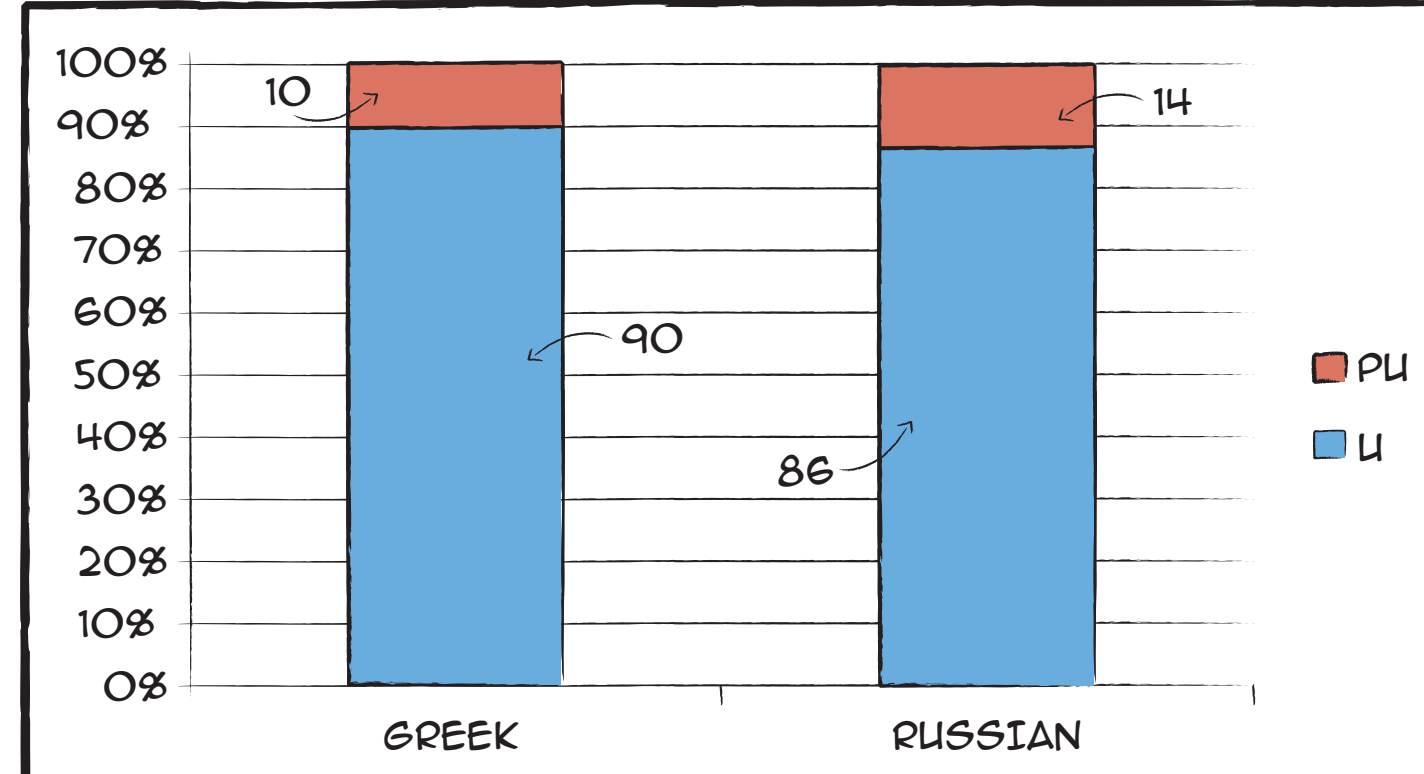
### STRESS RESULTS IN V-FINAL 2σ ACRONYMS (%)



Gr:  $\chi^2(1) = .086$ ,  $p = .770$   
 Ru:  $\chi^2(1) = 62.410$ ,  $p = .000$   
 Gr vs. Ru:  $\chi^2(1) = 30.933$ ,  $p = .000$ ,  $\eta^2 = .194$   
 Cramer's V = .194  
 Contingency Coefficient = .191

- Russian speakers show a significant preference for PU stress  
 - Greek speakers fluctuate between PU and U stress with a clear preference for the latter in 3σ words.

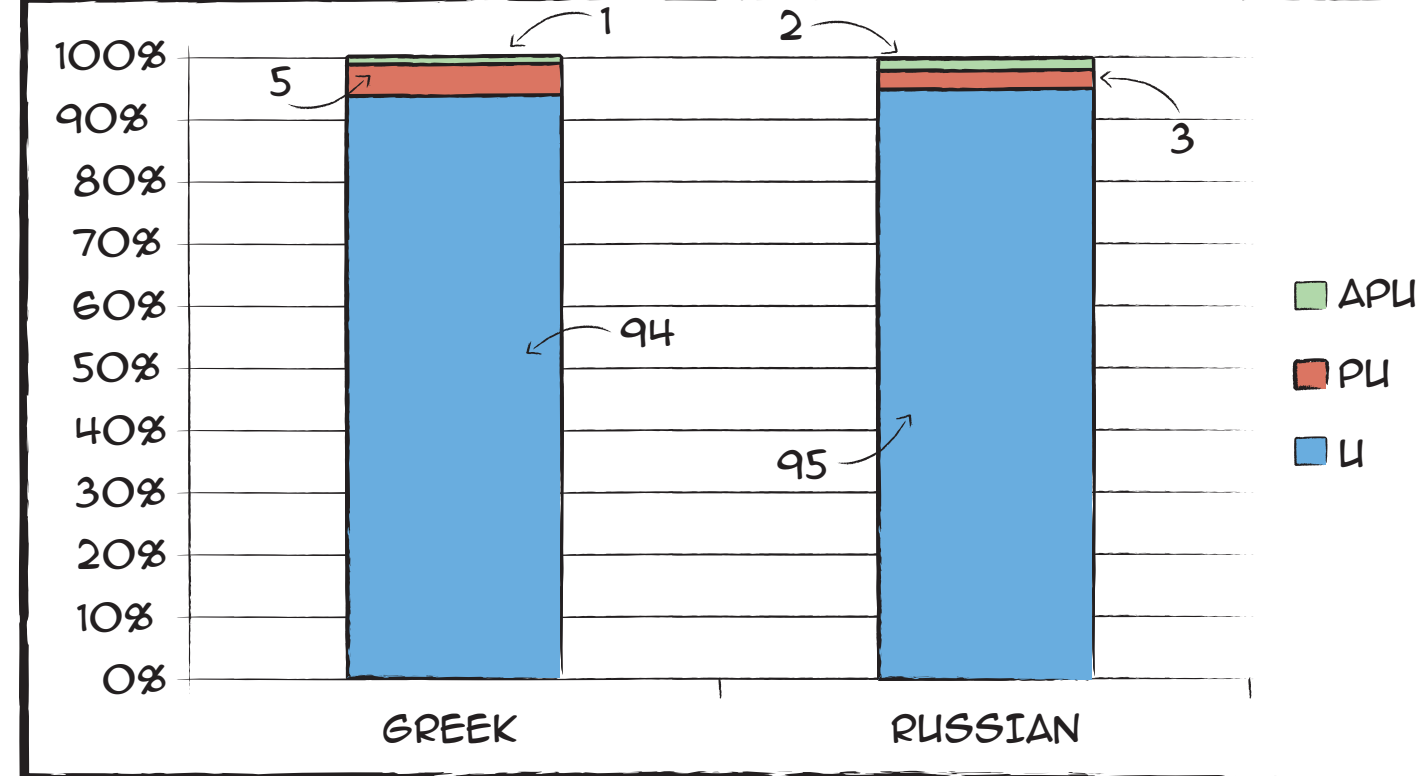
### STRESS RESULTS IN C-FINAL 2σ ACRONYMS (%)



Gr:  $\chi^2(1) = 268.800$ ,  $p = .000$   
 Ru:  $\chi^2(1) = 209.326$ ,  $p = .000$

- C-final words exhibit predominantly U (=stem-final) stress  
 - PU stress is less favored by both groups  
 - APU stress (i.e. the phonological default) is marginal

### STRESS RESULTS IN C-FINAL 3σ ACRONYMS (%)



Gr:  $\chi^2(2) = 346.200$ ,  $p = .000$   
 Ru:  $\chi^2(2) = 336.730$ ,  $p = .000$

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## 6. DISCUSSION

**C-FINAL WORDS:** The two groups converge to stem-final/U stress

**V-FINAL WORDS:** Russian learners show elevated percentages of PU stress. The difference is mainly noticeable in 3σ acronyms with the Greeks showing a distinct preference for U stress and the Russians opting for PU stress

It is not clear whether the preference for PU stress is due to an L1 effect because experimental studies in L1 Russian yielded conflicting results (see L&K 2011a,b vs. Fainleib 2008)

The Russian L2ers had no difficulty to produce the same stress patterns as the Greek speakers and, impressively, in comparative percentages

→ Hypothesis 2 is confirmed

**SELECTED REFERENCES:** [1] Altmann H. & I. Vogel. 2002. L2 acquisition of stress: The Role of L1. Paper presented at the DGfS Jahrestagung, March 2002, Mannheim, Germany. [2] Crosswhite, K., Alderete, J., Beasley, T., & V. Markman. 2003. Morphological effects on default stress in novel Russian words. In G. Garding & M. Tsujimura (eds.), *Proceedings of WCCFL 22*, 151-164. Somerville, MA: Cascadia Press. [3] Dupoux, E., Sebastián-Gallés, N., Navarrete, E., & S. Peperkamp. 2008. Persistent stress 'deafness': The case of French learners of Spanish. *Cognition* 106: 682-706. [4] Fainleib, L. 2008. Default stress in unpredictable stress languages: Evidence from Russian and Hebrew. MA thesis, Tel Aviv University. [5] Kijak, A.-M. 2009. How stressful is L2 stress? A cross-linguistic study of L2 perception and production of metrical systems. Utrecht: LOT Dissertation Series. [6] Lavitskaya, Y. & B. Kabak 2011a. Russian accentual system revisited: Experimental and diachronic evidence. Paper presented at OCP8, 19-22 January 2011, Marrakesh. [7] Lavitskaya, Y. & B. Kabak 2011b. Default stress in Russian: An experimental study. Paper presented at the International Workshop on Suprasegmentals in Acquisition and Processing, 31 May-1 June 2011, University of Konstanz, Konstanz.



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