Inter-paradigm conservatism and minimality motivate paradigm gaps in Hungarian

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Paradigm gaps. Idiosyncratic and systematic paradigm gaps are attested and have been analysed in many languages (Halle 1973, Iverson 1981, Albright 2003, Baerman et al. 2010). Systematic defectiveness may have various sources: phonological, morphological and lexical patterns, the reliability of generalisations and frequency distribution. We discuss another motivation: *inter-paradigm conservativeness* and *minimality.*

Hungarian paradigm gaps are phonotactically motivated: certain CC-final verb stems can only occur before a vowel-initial suffix allomorph to avoid some triconsonantal clusters (e.g., Hetzron 1975) and thus systematically lack forms with suffixes that are always consonant initial. Examples include subjunctive / imperative forms (e.g. **két(e)l-j-e* 'doubt-SBJV-DEF.3SG'), potential forms (e.g. **két(e)l-het*), adverbial participle forms (e.g., **két(e)l-ve*) among others. The gaps are unrelated to meaning or morphosyntactic value. There are about 70 CC-final defective stems; the grammaticality of the relevant forms varies depending on individual stems and speakers reject or hesitate to accept them (Lukács et al. 2010, Csényi 2022).

Filling gapped cells. Defectiveness is paradigmatically unexpected and there is pressure on speakers to supply the missing forms (e.g., Lukács et al. 2010). Nevertheless, the relevant forms are not supplied either by (i) a simple combination of the relevant stems and suffixes or (ii) concatenation plus repair that is otherwise available in the system. Strategy (i) is not possible because gaps occur where phonotactically illicit clusters would arise (e.g., *kétl-ek* '-NDF.1SG', *kétl-i* '-DEF.3SG', etc. but **két**tl-het* '-POT', **két**tl-d* '-SBJV.DEF.2SG', etc.). Strategy (ii), vowel insertion between the stem-final consonants, is applicable to another class of stems (cf. *öt**tl**-ök* 'dream up-NDF.1SG', *öt**tl**-i*, *öt**ö**l-het*, *öt**ö**l-d*, but is generally unavailable to repair the gaps in the paradigms of defective stems (**két**e**l-het,* **két**e**l-d*). The question is why?

Verbal paradigm patterns. There are five relevant lexical *stem classes* and three *suffix types* whose stem-final/suffix-initial CV-structures differ in at least one paradigm cell. The lexical suffix type determines the occurrence of the suffix-initial vowel: in type -V, a vowel always occurs after C-final stems, in type -C/V it only occurs after CC-final stems, and in type -C there is no suffix-initial vowel. Verb stems may be stable VC-final, stable CC-final, and there are two stem classes with vowel–zero alternation (VC/CC-final stems). The pre-suffixal CV-structures are shown in the table below (the second column labels each stem class with a 4-tuple of the penultimate segment (V=1 or C=0) of the stem in the base form and before the three types of suffixes). Each stem class is identified by a unique four-tuple scheme based on their CV-structures: the stable stem classes: class (a) VC-final stems: ⟨1|1,1,1⟩ and class (d) CC-final stems: ⟨0|0,0,0⟩, the two alternating stem classes: class (b) ⟨1|0,1,1⟩ and class (c) ⟨0|0,01,1⟩, where the latter shows a systematic vacillation before C/V-suffixes, and the defective stem class (e) whose C-suffixed forms are missing: ⟨0|0,0,–⟩.

stem classes:	paradigm pattern ⟨Base| V, C/V, C⟩	Base *-∅/ik* 'NDF.3SG'	-V suffixes e.g., *-k* 'NDF.1SG'	-C/V suffixes e.g., *-na* 'COND'	-C suffixes e.g., *-va* 'ADV.PCP'
a. VC-stems	⟨ 1 | 1, 1, 1 ⟩	*ápol* 'care'	**V**C: áp**o**l-ok	**V**C: áp**o**l-na	**V**C: áp**o**l-va
b. VC/CC (i)	⟨ 1 | 0, 1, 1 ⟩	*kotor* 'scoop'	**C**C: kotr-ok	**V**C: kot**o**r-na	**V**C: kot**o**r-va
c. VC/CC (ii)	⟨ 0 | 0, 01, 1 ⟩	*ugr-ik* 'jump'	**C**C: ugr-ok	**V**C: ug**o**r-na /**C**C: ugr-ana	**V**C: ug**o**r-va
d. CC-stems	⟨ 0 | 0, 0, 0 ⟩	*hord* 'wear'	**C**C: hord-ok	**C**C: hord-ana	**C**C: hord-va
e. defective	⟨ 0 | 0, 0, – ⟩	*sikl-ik* 'slip'	**C**C: sikl-ok	**C**C: sikl-ana	– : *sik(o)l-va

Possible paradigm patterns are subject to a constraint we call *Paradigmatic Support* (PARSUP): a stem alternant of a C/V form is licensed iff it occurs in the Base or the C form. Accordingly, the C/V form systematically vacillates only in class (c), where the CV structure of the Base and the C form differ.

Lexical conservatism. The idea that lexical precedents (listed allomorphs) influence the availability of repair (Steriade 1997) has been applied to paradigm gaps: some gaps occur where the repaired form would contain an unlisted allomorph (Pertsova 2005). This *intra-paradigm* conservatism analysis carries over to Hungarian with a phonotactic twist: the gaps are in paradigms where all the forms have CC-final stems so a VC-final repair allomorph is nonconservative and unavailable while simple concatenation is phonotactically excluded. However, why are gapped paradigms stable and not repaired with forms based on types of stem allomorphs that occur in the same cells in the nondefective paradigms?

Inter-paradigm conservatism and minimality block repair. The systematic irreparability of gaps can be explained if the attested verbal paradigm patterns are taken into account. The list of patterns is exhaustive and constrained by PARSUP. An *inter-paradigmatic* version of *conservatism* applies here: only conservative phonological repair is possible; i.e., if a repair occurs, it must be into an existing paradigm class, the result must satisfy PARSUP. Furthermore, repair must be minimal (cf. Prince & Smolensky 2004). *Minimality* requires that phonological repair should only target gaps and not a cell with a licit form, where the repair is unnecessary. The potential repairs in the list below are ungrammatical or occur only marginally. All except (1) and (3) would create nonoccurring paradigm patterns, i.e., violate PARSUP and/or Minimality (identified after each scheme). Pattern (1) is deficient for a phonotactic reason (independent of inter-paradigmatic conservatism) due to the CCC clusters the repair would create.

Potential repairs for ⟨0|0, 0, –⟩ that occur marginally (changes emboldened, Minimality violations underlined):

1. ⟨0|0, 0, **0**⟩ violates only phonotactics (%*rejl-het*, **čukl-hat* — depends on sonority)
2. ⟨0|0, 0, **1**⟩ violates only PARSUP (%*čuk**o**l-hat*, but **čuk**o**l-nak*)
3. ⟨0|0, 0**1**,**1**⟩ violates only Minimality (%*čuk**o**l-hat and čukl-anak*~%*čuk**o**l-nak*)

Some potential repairs for ⟨0|0, 0, –⟩ that do not occur:

4. ⟨0|0, **1**, **1**⟩ violates PARSUP & Minimality
5. ⟨0|0**1**,0**1**,**1**⟩ violates Minimality twice
6. ⟨0|0**1**,0, **1**⟩ violates PARSUP & Minimality

Potential repairs (4)–(6) above are completely out while (1)–(3) marginally occur. The marginal occurrence of (1) is again phonotactically related: for some speakers a minimal falling sonority profile in C_1C_2 of the CCC cluster is acceptable but a rising one is not for all. We suggest that the difference between (2)–(3) vs. (4)–(6) is due to the number of violations of the constraints: the patterns in the latter group incur two violations, the former only one (recall, filling empty cells is not a violation). We argue that inter-paradigmatic conservatism is necessary to exclude the potential repairs — the deficient patterns (3)–(6) all satisfy intra-paradigmatic (lexical) conservatism but violate either PARSUP and/or Minimality.

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