Paradigmatic conservatism: a case of defectiveness

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1. Defectiveness. Systematic paradigm gaps occur in many languages (Iverson 1981, Baerman 2010) including Hungarian (Hetzron 1975). Defectiveness is phonotactically motivated in Hungarian: certain cluster-final verb stems can only occur before a vowel-initial suffix alternant. These defective stems systematically lack subjunctive/imperative forms (e.g. *két(e)l-je* 'should doubt'), potential forms (e.g. *két(e)l-het* 'can/may doubt') and adverbial participle forms (e.g. *két(e)l-ve, *két(e)l-vén* 'being/was in doubt') and sometimes other forms, too (e.g. *két(e)l-jük* PRS.IND.DEF.1PL and *két(e)l* PRS.IND.NDF.3SG). The missing forms would contain a consonant-initial suffix or would not contain a suffix at all, though forms in other moods and person/numbers occur freely. Defectiveness affects about 70 CC-final verb stems; the grammaticality of the relevant forms varies depending on the individual stems and speakers (cf. Lukács et al. 2010, Csényi 2022).

2. Constraints on filling gapped cells   Assuming that defectiveness is disadvantageous and there is a pressure to supply the missing forms, the question arises why the relevant forms are not supplied either by (i) 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 CCC or CC# clusters would arise (e.g. *kétl-ek* 'doubt-PRS.IND.NDF.1SG' but *kétl-het* 'doubt-POT', *kétl* 'doubt-PRS.IND.NDF. 3SG'). Strategy (ii), vowel insertion between the stem-final consonants, does occur in the system and is available for another class of stems but is unavailable to repair the gaps in the paradigms of defective stems. In this other stem class a vowel occurs breaking up final clusters (cf. *ötl-ök* 'dream up-PRS.IND.NDF.1SG' *ötöl-het* 'dream up-POT', *ötöl* 'PRS.IND.NDF.3SG').

3. Paradigmatic conservatism   The systematic irreparability of defective forms can be explained if the attested patterns of the verbal ***paradigm*** are taken into account. Three lexical ***suffix types*** and five lexical ***stem classes*** are relevant here: their stem-final/suffix-initial CV-structures differ from each other in at least one cell of the paradigm. The suffix type determines the occurrence of the stem-initial ("linking") vowel: in type (-V), linking vowels always occur after C-final stems, in type (-C~V) the vowel occurs after CC-final stems, and in type (-C) there is no linking 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 relevant CV-structures of the suffixed forms are the following (in the last column stem classes are labeled by 3-tuples of the penultimate segment (V or C) of the stem occurring before the three types of suffixes). Each stem class is identified by a unique scheme based on their CV-structures: the stable stem classes (1. VC-stems: [**V V V**] and 4. CC-stems: [**C C C**]), the two alternating stem classes: 2. [**C V V**], and 3. [**C C/V C**], where the latter shows a systematic vacillation before C~V-suffixes and the defective stem class whose C-suffixed forms are missing: 5. [**C C −**].

stem classes:	examples:	-V suffixes (e.g. *-k* 1SG)	-C~V suffixes (e.g. *-na* COND)	-C suffixes (*-va* ADV.PCP)	stem scheme
1. VC-stems	*ápol* 'care'	VC: áp**o**l-ok	VC: áp**o**l-na	VC: áp**o**l-va	[**V V V**]
2. VC~CC (a)	*kotor* 'scoop'	CC: kotr-ok	VC: kot**o**r-na	VC: kot**o**r-va	[**C V V**]
3. VC~CC (b)	*ugr-ik* 'jump'	CC: ugr-ok	VC: ug**o**r-na / CC: ugr-ana	VC: ug**o**r-va	[**C C/V V**]
4. CC-stems	*ring* 'slue'	CC: ring-ok	CC: ring-ana	CC: ring-va	[**C C C**]
5. defective	*sikl-ik* 'slip'	CC: sikl-ok	CC: sikl-ana	− : *sik(o)l-va	[**C C −**]

What is it that prevents the repair of defective verbs? The list of stem classes above is **exhaustive** and their membership is **lexically determined** (i.e. is not uniquely identified by the phonological shape of the stem). We propose that a principle of **paradigmatic conservatism** applies here: *only conservative phonological repair is possible*; i.e., if a repair occurs, it must target an existing paradigm class. We also assume the minimality of repair (a central tenet of Optimality Theory). **Minimality/locality** requires that *phonological repair cannot affect forms where the repair is unnecessary*. Given the five stem classes, the irreparability of defectiveness is straightforward: filling the gapped cells would be paradigmatically non-conservative and/or non-local (not minimal). Five possible repairs are considered below: (a) is not conservative, (b), (b′) and (c) are not local (all of these involve vowel epenthesis in the stem), and (d), simple concatenation, is a violation of phonotactics. (The second column shows the repaired hypothetical stem class schemes resulting from the repair; repairs are emboldened and non-local repairs are underlined.)

repair strategies:	[C C −] ↓	target class	repair sites: sfx. types	new form(s)	violation(s)
(a) epenthesis with C-suffixes	[C C **V**]	–	(-C)	*sik**o**l-va*	**non-conservative** (no such stem class)
(b) epenthesis (conservative)	[C C/**V** V]	3.	(-C) (-C~V)	*sik**o**l-va* *sik**o**l-na*	**non-local** (unnecessary repair, too)
(b′) epenthesis (conservative)	[C **V** V]	2.	(-C) (-C~V)	*sik**o**l-va* *sik**o**l-na* **sikl-ana*	**non-local** (unnecessary & destructive repair)
(c) epenthesis everywhere	[**V** **V** V]	1.	(-C) (-C~V) (-V)	*sik**o**l-va* *sik**o**l-na* *sik**o**l-ok*	**non-local** (double unnecessary repair)
d. no epenthesis	[C C **C**]	4.	(-C)	*si**kl-v**a*	**ungrammatical** (phonotactics)

To sum up, these gaps arise because it is impossible to repair them conservatively, i.e. without producing some novel (unattested) paradigm type. This ties in with recent research linking some paradigm gaps to lexical conservatism (Steriade 1997, Pertsova 2005) and permits a promising approach to the learnability of gaps. How can speakers know that an empty cell is a gap rather than just containing a form they have never encountered (a special case of the Paradigm Cell Filling Problem, cf. Ackerman et al 2009)? We suggest that they can because based on (i) some other known forms of the same paradigm and (ii) the other paradigms (the possible types), they will know that the cell cannot be filled conservatively.

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