

A Probabilistic Approach to Hungarian Paradigm Gaps

Anita Szakay & Gunnar Ólafur Hansson

University of British Columbia

Paradigm gaps have received considerable attention in recent literature on morphological and phonological theory. Most work in this area has aimed at providing formal analyses of paradigm gaps in terms of Optimality Theory (Prince & Smolensky 2004 [1993]) by various means, such as invoking inviolable markedness constraints (Orgun & Sprouse 1999), illicit faithfulness violations (McCarthy & Wolf 2005, Rice 2005), or principles of lexical conservatism (Steriade 1997, Hansson 1999, Pertsova 2005). By contrast, very few experimental studies have explored paradigm gaps from a quantitative perspective. Albright (2003) studied the morpho-phonological factors and speakers' certainty judgments of gapped forms in Spanish verb paradigms, while Lukács et al. (2007) used a lexical decision task to provide empirical support for Rebrus & Törkenczy's (2008) analysis of Hungarian defective verb forms.

Paradigm gaps in Hungarian verb inflection are phonotactically motivated and to some extent lexically and morphologically arbitrary. For verbs belonging to the *-ik* class whose stem ends in two consonants, some verbs have two stem allomorphs available, [CC-] and [CVC-], the former being used before V-initial suffixes, the latter before C-initial ones. Other verbs, however, idiosyncratically permit only a [CC-] allomorph, and this results in gaps in those paradigm slots where the suffix is C-initial, since otherwise an illegal CCC cluster would result. For example, the stem *csukl-* 'hiccup' combined with 3SG (indefinite) subjunctive *-j-on* would result in **csukl-j-on*, which is generally judged impossible due to the [klj] cluster. For this particular verb (and many others like it), a [CVC-] stem shape is typically not considered available, unlike for *botl-* 'stumble, trip', for which the corresponding form would be *botol-j-on*. In other words, some verb stems of the *-ik* class are defective (*csukl-*) while others are "epenthetic" (*botl-/botol-*).

Two aspects of this case are particularly notable and invite a quantitative experimental approach. One is the considerable level of inter-speaker disagreement on whether a given verb is defective or falls into the class of "epenthetic" stems. Thus some speakers may find a form like *csukol-j-on* at least marginally acceptable, and the extent to which this is true seems to vary from verb to verb. Hetzron (1975) notes that in certain dialects the gaps are avoided by one of three repair strategies: (i) acceptance of the "epenthetic" form (*csukol-j-on*); (ii) insertion of a derivational formative (e.g. *-ód:* *csukl-ód-j-on*); (iii) simplifying the marked cluster (*csuk-j-on*). Secondly, the patterning of CC-final verb stems (of the *-ik* class) as defective or as "epenthetic" seems to a certain extent to be correlated with their

phonotactic shape, such that certain factors contribute to “islands of reliability” (Albright 2002) in predicting the behaviour of individual stems. As observed by Hetzron (1975), defective status is primarily characteristic of stems ending in /Cl-/ and /Cz-/, in particular the former. Moreover, within the /Cl-/ category, the quality of the stem vowel matters as well: /oCl-/ and /öCl-/ stems tend very strongly **not** to be defective (cf. *botl-/botol-* above). Finally, it is worth noting that several of the defective verbs in question are fairly common, basic lexical items in frequent use. Low familiarity with the verb on the speaker’s part (which was found to be an important factor for Spanish; Albright 2003) can therefore hardly be playing a major role in this case, though it is quite likely that *uncertainty* (Albright 2006) about the surface shape of the inflectional forms in question is.

The present study aims to reveal the gradient and probabilistic character of gaps in Hungarian verb paradigms by showing that these forms are not ungrammatical in a categorical sense. Rather, they lie at one extreme of a gradient scale of uncertainty that speakers feel when projecting inflectional forms in the paradigm slots in question. To test this hypothesis, a suite of three experiments was carried out with 100 native speakers of the standard Budapest dialect, ranging in age from 13 to 75. The experimental design extends on Albright’s (2003) Spanish study by also eliciting acceptability ratings for alternative verb forms, as well as by including a number of nonce (“wug”) stems as test items to probe subjects’ sensitivity to phonotactic regularities and subregularities in the form-to-form mappings.

In Experiment 1 the participants were asked to give familiarity ratings on a scale of 1–7 for 60 *-ik* verbs with stem-final consonant clusters, based on their 3SG present indicative form: 20 defective verbs with stem-final /Cl-/ or /Cz-/, 20 non-defective (i.e. “epenthetic”) verbs with stem final /Cl-/ or /Cz-/, 10 nonce (“wug”) verbs with stem-final /Cl-/ or /Cz-/, and 10 non-defective filler verbs, all presented in random order. Experiment 2 consisted of a fill-in-the-blank production task for the same 60 verbs, where participants were presented with the 3SG present indicative form and were asked to provide the corresponding potential form with *-hat/-het* (e.g. *botolhat* ‘he may stumble’ vs. **csukolhat* ‘he may hiccup’). In addition to filling in the blank, participants also gave confidence ratings reflecting how certain they were of the form they volunteered. In Experiment 3 participants were asked to provide acceptability ratings on a scale of 1–7 for each of three alternative forms provided for the same 60 verbs. The potential forms were created based on two of the above-mentioned repair strategies employed by non-standard dialects, epenthesis or C₂ deletion, plus an option of leaving the illegal consonant cluster intact. For example, the options provided for the verb *csukl-ik* ‘he hiccups’ were (i) *csukolhat*, (ii) *csukhat*, and (iii) *csuklhat*.

The paper will report on the results from all three experiments, which are currently being analyzed.