**Syntax is not an Innocent Bystander:**

*“Autonomous” Morphomes are Underlearned*

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**Motivation** Aronoff’s (1994) *Morphology by Itself* is one of the clearest articulations of a model of the grammar in which morphosyntactic features can be potentially completely isolated from the workings of morphology, and in which the units of identity and expone nce are ‘morphomes’, entities that are by definition, completely autonomous of ‘making sense’ from the point of view of morphosyntax. One of the clearest and most recurrent claims of a ‘morphome’ involves the morphosyntactically unmotivated relation between the 1sg present indicative and the present subjunctive in Romance, which constitute what Maiden (2004) identifies as the L-shaped pattern, exemplified here for Portuguese:

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<th>Indic</th>
<th>Sbj</th>
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<tr>
<td>1sg</td>
<td>dig-o</td>
<td>dig-a</td>
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<tr>
<td>2sg</td>
<td>diz-es</td>
<td>dig-as</td>
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<tr>
<td>3sg</td>
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(1)

‘to say’ Indic Sbj ‘to hear’ Indic Sbj

Diachronically, the L-shape is essentially a consequence of the theme vowels that follow the stems causing palatalization. In the II/III conjugation, the 1sg.indic and SBJ forms have in common a [+back] vowel, which enjoys the velar alternant, while the others have a [−back] vowel, with the palatal/coronal alternant. Longer after the cessation of the process of palatalization in verb stems, this L-shaped pattern was apparently extended to verbs lacking a phonological reason for identity between the 1sg and SBJ, such as ouvir.

While not many verbs in contemporary Portuguese that show the L-shaped pattern, many of them are quite frequent and salient. Their pattern of inflectional identity, however, raises the question of why/how the 2sg not included – in other words, *why is the pattern ‘L-shaped’, rather than ‘sideways T’ shaped?*

**Naturalness Biases in Learning** Certainly, the very existence of the term *morphome* is predicated on the fact that (1) is neither phonologically nor morphosyntactically natural. Phonological research enjoys a long tradition of testing whether certain patterns in the lexicon are actually generalized. The work of Zhang et al. (2006); Becker et al. (2011) finds that *unnatural patterns are memorized for the existing items, but underlearned*: not generalized to novel items. Following this logic, as one cannot learn much about the state of speakers’ synchronic knowledge by examining the handful of existing L-morphome verbs alone, we launched an experiment on implicational generalization, using three novel alternations, none of which are extant in Portuguese: p~f, t~s, k~x. Participants were divided into two groups, each of which saw 15 items. The methodology thus followed Wilson’s (2006) design for studying naturalness in phonology, in which each group has the opposite group’s data points “held out” and are probed for generalization.

The *indicative first* group (I → S) was exposed to frames such as (2), and prompted for the 2sg subjunctive form. As participants have exposure to exactly two stem alternants, they can logically choose either to base the 2SG.SBJ on person (2SG.IND) or on the L-shape.
(2) Eu nepo muito rápido, e tu também nefes, embora tu ainda não ____ rápido.
   ‘I nepo1SG.IND very quickly, and you nefes2SG.IND too, even though you don’t ____2SG.SBJ quickly yet.’

The subjunctive first (S → I) group was exposed to frames such as (3), and prompted for the 1sg. indicative form. Again, as participants have exposure to exactly two stem alternants, they can choose to base the 1SG.IND on mood (2SG.IND) or on the L-shape.

(3) Tu nefes muito bem. Caso tu nepas amanhã, eu também ____.
   ‘You nefes2SG.IND very well. In case you nepas2SG.SBJ tomorrow, I’ll ____1SG.IND too.’

Results 250 participants completed the experiment. In the I → S group, participants massively preferred forming the 2.SBJ on the basis of the 2.IND, rather than the 1.IND, with 67% of the responses choosing the fricative form. The overwhelming choice of base, therefore, was chosen on the basis of morphosyntactically identical PERSON.

In the S → I group, by contrast, participants showed little preference between forming the 1.IND on the basis of the 2.IND or the 2.SBJ, with a slight preference (53%) towards choosing the base on the basis of morphosyntactically identical MOOD. The difference between the I → S and S → I groups was highly significant (p < .0001) in a mixed-effects logistic regression in which participant, item, and frame were modeled as random effects.

Discussion Neither group displayed results compatible with the predictions of the L-morpheme theory. Speakers given a chance to base the 2.SBJ form on the 1.IND form largely did not do so, preferring instead to maintain paradigmatic uniformity across Persons. Speakers given a chance to base the 1.IND form on the 2.SBJ also largely did not do so, showing instead a slight preference for uniformity within MOOD.

Our results are a first step towards experimentally testing whether learners extend ‘unnatural identity relations’ in novel inflectional tasks. They suggest that lexical exceptions are memorized, while productive generalization depends on consistent exponence of morphosyntactic features, rather than arbitrary shapes in paradigms.

References


