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Gaps in initial RT clusters are accidental: evidence from dichotic listening

In languages that allow for initial #RT clusters (R=sonorant, T=obstruent), are gaps in the inventory of #RTs systematic (i.e. mandated by grammar), or accidental? We provide evidence from a dichotic listening experiment that they are accidental. In dichotic listening, two distinct stimuli are sent to the left (L) and right ear (R): English natives for instance perceive *play* when inputted simultaneously with *pay* (L) and *lay* (R). We contrast Czech (presence of #RTs) with French (#TR-only) based on nonce words (in order to avoid interference with lexical properties such as word frequency). Results show that when French natives are exposed to simultaneous T and R and thus have no means to decide on linear order, they systematically perceive #TR, while Czech natives perceive #TR or #RT at chance level. This first result shows that, as expected, the two grammars are different: the non-occurrence of #RT in French is mandated by grammar, while Czech grammar does not induce a bias for or against any #CC.

In a second step, we have probed whether gaps in the inventory of Czech #RT clusters are systematic or accidental (also based on nonce words). Speakers prompted with simultaneous stimuli for, say, r (R) and t (L) have no means to decide in favour of either #tr or #rt. If the gaps are due to grammar, a bias should be observed in favour of occurring #RTs (such as #rt, #lb), against non-occurring #RTs (such as #rb, #rk). In case the gaps are accidental, clusters of both groups are expected to be produced at chance level. Results show that the latter pattern is indeed observed. This suggests that Czech grammar is entirely void of any preference for any type of initial cluster: neither #TR is preferred over #RT (experiment 1), nor occurring #RTs are preferred over non-occurring #RTs (experiment 2). Thus all gaps appear to be accidental.

This result is relevant in the light of what is called the initial CV (Lowenstamm 1999, Scheer 2012). Rather than a typewriting diacritic such as # (SPE) or ω (Prosodic Hierarchy), the beginning of the word is represented by truly phonological material: empty syllabic space (an empty CV unit). Or rather, it may be, on a parametric basis: languages where the initial CV is present are TR-only, while those where it is absent are anything-goes. As a consequence, the cross-linguistic typology is predicted to be *strictly binary*: either a language has the initial CV (TR-only), or it does not (anything goes) – there is no third possibility. This prediction, though counter-intuitive, is supported by the experimental evidence discussed: gaps in #RT inventories are accidental.