Anything goes: Czech initial clusters run against evidence from a dichotic experiment

Some languages restrict word-initial clusters to TR (T is shorthand for obstruents, R for sonorants), while others also allow for RT, TT and RR. The former, TR-only languages, are represented by Romance and Germanic, while the latter, anything-goes languages, are typical for the Slavic family (with some exceptions such as Belarusian and Bulgarian, also more or less Slovak, which are TR-only). While TR-only languages instantiate words with *all* logically possible muta cum liquida clusters, anything-goes languages only implement a small minority of logically possible #RT, #TT and #RR clusters (while, like TR-only languages, providing for all #TR clusters). By far the most #RT-friendly languages within Slavic are Czech (28 different #RTs) and Polish (20 different #RTs) (against 16 in Russian, 12 un Ukrainian, 5 in BCS etc., see Scheer 2007). There are 126 logically possible #RT sequences in Polish (6 sonorants, 21 obstruents), though, and the 20 existing clusters thus represent about 16%. Czech has 108 possible clusters (6 sonorants, 18 obstruents), and hence the 28 #RTs found amounts to only 26%.

So what about the gaps? Are the missing #RTs in Czech, Polish etc. accidental or systematic gaps? The zero hypothesis is of course that for each language, the set of occurring and non-occurring clusters shares some property. Despite extensive inquiry and exhaustive lexical records, though, previous studies have to admit that neither set forms a natural class in any sense (e.g. Cyran & Gussmann for Polish). An argument in favour of the accidental gap option is that all #RTs in Slavic came into being through the loss of yers in a #C_1-yer-C_2 sequence, and that the identity and distribution of C_1 and C_2 was free (= accidental) in Common Slavic. In that case, though, a prediction is made to the effect that non-occurring #RTs are lexical accident: grammar does not prohibit them, and they could enter the language tomorrow (in loans, acronyms etc.).

This talk proposes to test the prediction that really anything goes in anything-goes languages with the experimental technique of dichotic perception. In dichotic experiments, subjects are exposed to two distinct stimuli through two distinct perceptive channels. They then perceive neither: the brain has fused them into something that is not present in any perceptive input. The best known case is the McGurk effect (McGurk & MacDonald 1976): a doctored video shows the film of somebody who pronounces a [g], which however is matched with the sound track of [b]. The perception is [d]. Dichotic effects may also be achieved with two distinct audio channels, perceived through the left ant right ear. Cutting (1975) has shown that English natives perceive *play* when inputted with *pay* (left ear L) and *lay* (right ear R). Interestingly, the perception *play* is still achieved when *lay* has a 50 millisecond lead on *pay*, i.e. when in the physical input the #l precedes the #p. That English natives will not perceive *lpay* is understandable since (1) there is no such lexical item (while there is *play*) and (2) their TR-only grammar prohibits #lp.

This experimental setup has a direct bearing on the accidental gap hypothesis for Slavic anything-goes languages: if the hypothesis is correct, the grammar of Czech speakers for example does not prohibit any #RT, independently of whether it does or does not occur in some lexical item ((2) above). Like English natives, however, the perception of Czechs may be guided by the existence of a lexical item that instantiates a given #RT ((1) above). We have run an experimental setup with 10 Czech natives along the dichotic protocol mentioned (39 word pairs distributed over all types of #CCs: TR, RT, TT, RR), and report on preliminary results. What we can say for the time being is that the lexical bias (1) is strong and masks eventual grammatical decision making (2). That is, there is a strong statistical effect favouring the perception of the target that is an existing lexical item, as compared to the alternative target which is not. For example, on an input {dousit (R), rousit (L)} speakers will report that they perceive *rdousit* "to throttle" (while *drousit* is not a word in Czech). This behaviour extends to all types of clusters, and is pervasive even if the non-existing target is favoured by a 50 millisecond lead ({dousit (R), rousit (L, 50 ms later)}.

In order to have the stimulus assessed by the grammar (rather than by a simple lexical access), we thus need to get the lexical bias out of the way. This can be done by choosing fusion targets that do not exist for either cluster, e.g. ({ráš (R), táš (L)}: neither tráš nor rtáš exist. In this case, speakers need to rely on their grammar in order to make a decision, and the prediction is that they return exactly what the input provides: tráš if táš has a 50ms lead, but rtáš in case ráš has a 50ms lead. Experimental evidence along this setup will be presented.

References

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