

An obligatorily gradient grammatical effect?

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A recurring theme in work on lexically gradient phonological processes is that gradient and categorical processes often mirror one another: structures that are categorically banned in one language may be present but underrepresented in another. A common interpretation is that when possible, speakers use the same constraints to encode both kinds of effects. A more radical position is that when speakers encounter gradient processes with no categorical counterpart, they do not encode it grammatically (Becker et al. 2007). In this talk, I discuss a type of pattern that appears to be common as a statistical trend, but is rare or unattested as a categorical restriction in adult languages: “ganging up” effects in which unrelated marked structures co-occur less often than expected by chance. I argue that although such restrictions do not mirror categorical effects, they are nonetheless best modeled grammatically as the interaction of standard markedness constraints. I suggest that the discrepancy between the typology of gradient and categorical effects is due to a learning bias that makes categorical restrictions of this type unstable.

A simple example comes from English. English phonology readily allows stop+liquid onset clusters (*brown, green, blue*) and s+stop coda clusters (*tusk, best, lisp*). However, combinations of these structures (*grasp, grist, brisk*) are far less numerous than expected given their independent frequencies, and many combinations are unattested (**trVsp/*drVsp, *plVsk/*blVsk*, etc.). The counts in (1), based on the 6292 monosyllabic lemmas in CELEX, show that in the aggregate, coda sC# clusters are at least as common as their singleton s# counterparts. By contrast, (2) shows that in the presence of an onset cluster, coda clusters are rare. Preliminary experimental results indicate that speakers’ intuitions reflect this difference: doubly marked words like *glisp* are assigned lower acceptability than words with #gl or sp# alone.

Gradient ganging up effects are intuitive, but as Pater (2008) notes, they cannot be derived with standard implementations of OT or Harmonic Grammar. I show that they can easily be captured with a modified procedure that segregates markedness and faithfulness violations (Albright, Magri and Michaels 2007). However, given that we do not find categorical bans on doubly marked forms, we must ask whether these gradient effects truly reflect a grammatical preference, or whether they are due to some other (perhaps task-dependent) type of evaluation. I argue that a unified grammatical analysis is desirable on several grounds. First, acceptability of doubly marked forms can be predicted from acceptability of individual clusters, which in turn follows straightforwardly from well-understood markedness constraints. A separate component would largely duplicate the grammar to achieve very similar predictions. More important, doubly marked forms may in fact be banned in stages of L1 acquisition. This, too, is most economically modeled with the very same mechanism. I suggest that the lack of categorical ganging effects in adult languages is not due to the fact that they are impossible grammars, but rather that they emerge only under very special weighting conditions which are at odds with mastery of singly marked structures. Thus, they are unstable states that the model is unlikely to remain in.

(1) Clusters are common with singletons

Onset	s#	sC#
bV	10	17
dV	7	5
gV	8	6
pV	15	11
tV	3	9
lV	12	12
rV	3	16

(2) Combinations of clusters are rare

Onset	s#	sC#
grV	11	3
trV	7	3
plV	6	1
drV	3	0
glV	3	0