

Do speakers possess universal sonority preferences? If so, how are such preferences shaped by the phonetic properties of acoustic inputs? We examine these questions by investigating people's sensitivity to the sonority profile of onset clusters. Across languages, onset clusters with sonority rises are preferred to onsets with plateaus, which are preferred to onsets with falling sonority. In previous work (Berent, Steriade, Lennertz & Vaknin, in press), we showed that such preferences constrain the perception of stop-sonorant clusters ( $bl > bn > bd > lb$ ). Here, we seek to determine whether similar preferences apply to s/z- initial onsets--onsets that present systematic exceptions to sonority generalizations. Two experiments examine the perception of s- and z- initial onsets with either large sonority rise (*sm*) small rise (*zm*) plateau (*zb*) and fall (*nb*). For comparison, we also examine the perception of f-initial controls (e.g., *fl, fn, ft, mt*). Our previous results suggest that as markedness increases, onset clusters are more likely to be misperceived epenthetically: Sonority falls were more likely to be misperceived epenthetically than plateaus, which, in turn, were more likely to elicit such epenthetic misperceptions relative to rises. Of interest here is whether such misperceptions generalize to s- and z- initial onsets. This issue was tested in both a syllable judgment task (e.g., does *smuk* include one syllable or two?) and an identity task (is *smuk* identical to *semuk*?). The results suggest speakers perceive s/z- as higher in sonority than other obstruents: Items with a small sonority rise (e.g., *zmuk*) were as likely to elicit repair as items with a sonority plateau (e.g., *zbuk*). Speakers were also sensitive to aspiration as a cue to disyllabicity (e.g.,  $ft^h ek = fet^h ek$ ). Nonetheless, their representation of s- and z- initial clusters cannot be explained solely by the acoustic properties of s/z-initial stimuli, as similar effects were obtained in the perception of their disyllabic counterparts: Disyllabic items whose counterpart is marked (e.g., *nebuk*, counterpart of *nbuk*) were less likely to be misperceived as containing one syllable. We conclude that the s- and z- are more sonorous than other obstruents and such knowledge forms part of the phonological grammar.