

## Gaps

Although there are twenty-four possible two- and three-consonant syllable-initial sequences in English containing a voiceless stop, not all of these combinations are exploited in the vocabulary of the language.

Some gaps in the inventory of possible English words include *snool*, *splick*, *sklop*, *flis*, *trok*, and *krif*, although none of these forms violates any constraints on onset combinations found in English. Gaps in a language's vocabulary that correspond to nonoccurring but possible forms are called **accidental gaps**. Occasionally, an accidental gap will be filled by the invention of a new word. The word *Kodak* is one such invented word; its shape conforms to the phonotactic constraints of English, but it only became part of English vocabulary in the last century. Borrowed words such as *robot* (from Czech), *taco* (from Spanish), and *Zen* (from Japanese) are readily accepted into English because their syllable structures conform to the phonotactic patterns of the language.

Table 3.28 in the textbook has shown which syllable-initial consonant clusters involving voiceless stops are permissible in English. Gaps in the syllable structures of a language that result not by accident but from the exclusion of certain sequences are called **systematic gaps**. Certain onset sequences like /bz/, /pt/, and /fp/ are systematic gaps in the pattern of English. They are unacceptable to English speakers and never occur in spoken English. Instead, such sequences will be adjusted phonologically when they are pronounced in spontaneous speech. This can be seen in the case of borrowings from other languages into English. Many Greek words beginning with *ps-* and *pt-* have been absorbed into English, as the spellings of *psychology*, *psoriasis*, and *pterodactyl* attest. In all of them the impermissible syllable-initial clusters *\*ps-* and *\*pt-* have been reduced to *s-* or *t-* in onsets of spoken English. However, when these same forms occur word-internally, where their syllabification is different, the lost segments may resurface. For example, the *pter* of *pterodactyl* means 'wing'; both consonants are heard in the word *helicopter*, where English syllabification has resulted in a structure *he.li.cop.ter* in which the members of the cluster *pt* belong to different syllables.

Other words that violate phonotactic constraints commonly appear in spoken English, including *pueblo* [pweblow], and *Tlingit* [t̚lɪŋɪt]. The fact that such words and pronunciations occur in spoken English even though they violate phonotactic constraints is due to the fact that some phonotactic constraints vary in their strength. Thus, the sequences *\*ps-*, *\*pt-*, and *\*bz-* are excluded from the initial position of English syllables because English has a very strong and absolute constraint against allowing stop-stop or stop-fricative clusters in onsets. In contrast, the restriction

against sequences like \**pw-* and \**t/-* in English onsets is due to a weaker and violable constraint on stop-sonorant onset sequences with the same place of articulation. Thus, a labiovelar glide is not usually permitted to occur after a labial consonant, and an alveolar stop such as /t/ is not usually permitted to precede an alveolar /l/ in English words, but as our examples show, this constraint is violable.