

FROM THE EDITOR

Hearing from you

Charles Day

In July 1989 Anne Cutler and her collaborators published a letter to *Nature* entitled “Limits on bilingualism.” The paper reported the results of an ingenious experiment to determine whether people who are fluent in two languages nevertheless favor one over the other.¹

The two languages in the study, English and French, were chosen in part because French has much clearer boundaries between syllables than English does. Being able to segment words into syllables helps in the comprehension of spoken French but not spoken English.

In a previous study, Cutler and her collaborators played recordings of unrelated words to monolingual French speakers. The subjects’ task was to listen for sounds at the start of words that were either consonant-vowel, such as the *ba* in *balance*, or consonant-vowel-consonant, such as the *bal* in *balcon*. As soon as they recognized the specified sound, they pressed a button. Consonant-vowel syllables are far more common in French than consonant-vowel-consonant syllables are. The subjects recognized *ba* tens of milliseconds faster than they did *bal*. When English speakers were given the same test with English sounds and words, they exhibited no difference in recognition time. Evidently, syllable segmentation is an acquired ability.

For the 1989 study, Cutler and her collaborators repeated the experiment on English–French bilinguals. But first they asked their subjects the question, “If you had to lose one of your languages to save your life, which would you keep?” The ones who would keep English performed like English monolinguals on both tests. But the ones who would keep French performed like English monolinguals on the English test and like French monolinguals on the French test.



GROUP CHAT 2001 by Diana Ong

The researchers concluded that the concept of a mother tongue is valid: People do have a dominant language. Their second conclusion was that syllable segmentation is not only acquired; it can be acquired only if your mother tongue uses it.

Cutler’s paper was not reported in *PHYSICS TODAY* in 1989, but it could have been. Linguistics is a field that rests partly in acoustics, which rests partly in physics. Just as important, members of the Acoustical Society of America have been receiving *PHYSICS TODAY* since the magazine’s first issue in May 1948. If you browse the table of contents of the March 2017 issue of the *Journal of the Acoustical Society of America*, you’ll find papers on such subjects as hearing loss in humans, a photo-acoustic method for taking fingerprints, big brown bats’ response to loud noise, and vibration damping using an acoustic black hole. And if you turn to page 34 of this issue you’ll find an article by Emily Myers on how humans process sound into meaning.

In the sense that speech perception would not typically be covered in a university physics course, the topic lies outside mainstream physics. But it very much belongs in *PHYSICS TODAY*. If you know of other nonmainstream subjects that *PHYSICS TODAY* should cover, I’d like to hear from you. My email address is cday@aip.org.

Reference

1. A. Cutler, J. Mehler, D. Norris, J. Segui, *Nature* **340**, 229 (1989). **PT**