

Studies of the production of stable sociolinguistic variables show a fine-grained determination by social class, social context and internal linguistic environment. This report deals with an experimental investigation of listeners' ability to discriminate the frequencies of such variables in the stream of speech.

In Experiment 1, responses to the variable (ING) were investigated by asking judges to rate a series of trials by an applicant for a job as a news broadcaster. The script contained ten tokens of the variable. The trials included seven different frequencies of /in/: 0%, 10%, 20%, 30%, 50%, 70%, and 100%. The trials were identical in all respects except for the (ING) variants, which were excerpted from trials in which the speaker used all /in/ or all /ing/, and then spliced into a "carrier" recording. Listeners were asked to rate each trial on a seven-point scale ranging from 1: "Perfectly professional" to 7: "Try another line of work."

An initial series of experiments was carried out with undergraduate subjects at the University of Pennsylvania in Philadelphia and the University of South Carolina at Columbia. An Inland North Euro-American female was the speaker in the Philadelphia experiments; at Columbia, subjects heard this speaker and a comparable series of trials by a local Euro-American male. The results for all groups showed a consistent logarithmic response to the frequency of /in/. When mean ratings were plotted against frequency, a logarithmic curve accounted for more than 96% of the variance for subject groups at Philadelphia (N=23 and 36) and for both trials for the Columbia group (N=55). These results show that subjects monitor frequency continually throughout the experiment and respond asymmetrically to the marked variant /in/ in this context.

In Experiment 2, listeners were tested for their sensitivity to linguistic constraints. In this experiment, subjects were asked to judge the efforts of actors auditioning for the part of a local construction worker, or construction worker's wife. The ends of the seven-point scale were labeled 1: "Completely natural" and 7: "Completely unnatural." The script for the audition included five occurrences of (ING) in present participles and five in nouns (such as ceiling). In one version, all progressives used /in/ and all nouns used /ing/. This follows the distribution that is found in spontaneous speech below the level of conscious awareness. In the second version, this distribution was reversed: progressives used /ing/ and nouns used /in/. The actor in the Philadelphia experiments was a Philadelphia African American male; the South Carolina experiments obtained evaluation of this speaker along with two African-American female speakers, one from Philadelphia and one from Columbia. Four of the five Audition trials registered a significant shift towards "unnatural" ($p < .001$) when the linguistic constraints were reversed. There was no significant difference for the South Carolina female speaker. These results indicate that linguistic constraints that are not consciously perceived by members of the speech community may still have a significant impact on the subjective responses of native speakers.