

The complexity of language perception: Social information and biases

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Learning objectives. After reading these notes, you should be able to:

- explain how social information is carried by the linguistic signal;
- identify benefits and drawbacks to how social information affects perception;
- define reverse linguistic stereotyping; and
- identify aspects of life in which discrimination can occur due to linguistic profiling.

1 Some effects of social information on perception

A linguistic signal not only carries information about what is being said; it also carries information about aspects of the identity of the person producing the signal: their gender, age, sexual orientation, ethnicity, socioeconomic class, etc. (Foulkes 2010). Their audience, in turn, can make use of this information, so their perception of the linguistic signal is complicated by social factors beyond just the physical properties of the perceptual system; our brain also accesses our previous experiences, social knowledge, stereotypes, expectations, and other kinds of nonlinguistic information.

Making use of this social information can have very low-level effects below the level of our conscious awareness. For example, when presented with words that are ambiguous between similar words, like *shack* and *sack*, or *ship* and *sip*, listeners identify a greater portion of the intermediate words as *shack* and *ship* when they believe the voice comes from a woman rather than a man, and conversely, as *sack* and *sip* when they believe the voice comes from a man (Strand and Johnson 1996).

Similarly, when American English listeners hear an audio file with something that sounds like the word *mass*, they may hear it differently depending on who face they are shown. When they see a Black person's face, they tend to hear the file as *mast*, but when they see a white person's face, they tend to hear it as *mass* (Staum Casasanto 2008).

Findings like these suggest that when listeners are primed about aspects of the identity of the speaker, such as gender or race, they make use of sociolinguistic knowledge about how they expect different groups to speak, which can cause them to hear the exact same raw acoustic signal in different ways depending on their perception of the other person's identity.

This phenomenon could be beneficial from an efficiency standpoint, since it allows us to use social information as part of our overall linguistic repertoire, helping us disambiguate noisy signals and convey information about our identity without having to be explicit about it. However, this kind of social information in language perception can also have negative effects.

2 Reverse linguistic stereotyping

Reverse linguistic stereotyping occurs when perceived group membership affects speech perception to the point of causing willful misunderstanding and negative judgments of the speech signal (Kang and Rubin 2009). For example, native speakers of Canadian English are perceived as less accented and more intelligible when their voice is presented in combination with their faces if they are white,

but as more accented and less intelligible if they are Chinese. When the faces are not shown, with audio only, there is no difference between groups (Babel and Russell 2015). This judgment typically stems from prior biases (Rubin 1992), and listeners may thus choose to exert less effort or energy into decoding the linguistic signal (Lippi-Green 2012). Because we constantly use these biases to analyze and interpret incoming language, it is important to be mindful of how we evaluate someone else's language, especially in forming judgements about intelligibility or accentedness.

3 Linguistic profiling in housing and employment

A related effect is reported in much work on housing discrimination, as in the pioneering work of John Baugh (reported in Purnell et al. 1999). Baugh is fluent in three different accents of American English (white, Black, and Chicano), and used all three with the same script to inquire over the phone about advertised housing in different areas of the San Francisco Bay area in California. Overall, when using white-accented English, Baugh got roughly a 60–70% response rate across the board, in all five neighbourhoods. But with his Black and Chicano accents, the response rate was as low as 20–30% in predominately white neighbourhoods.

Jackson and Denis (2025) find the same issue for ratings of job applicants based on their accent. Speakers with different accents were recorded reading the same two sets of scripts: one set representing “good” responses to interview questions, and one set representing “bad” responses. Speakers were rated lower on various measures, including the content of their responses (even for the same script) based on their accents, with speakers of Canadian English rated higher than non-Canadian speakers (Nigerian, Indian, German, Chinese, etc.).

A similar effect can be seen even in just an applicant's name in writing. Hogan and Berry (2011) performed a similar experiment to Baugh's in Toronto, but with email instead of phone calls, using identical wording to inquire about advertised housing, just changing the names of the sender, using stereotypically white, Black, East Asian, Arabic, and Jewish names. They found that nonresponse and additional rental conditions (asking for employment status, a deposit, etc., not required of other senders) were both common forms of discrimination. White and Jewish names had a higher response rate and fewer additional rental conditions than other names, and Black and Arabic names faced the most discrimination of the five groups, with Asian names in the middle.

Thus, based on language, or even just a name that suggests a language, applicants may face unjust barriers to housing and employment.

4 Linguistic bias in the courtroom

Courtroom transcriptions made by court reporters are important archives of legal proceedings serving a variety of purposes. Court reporters in the United States and Canada are certified at high accuracy rates (95–98%), but in a study by Jones and colleagues (2019), court reporters in Philadelphia performed much worse than this target rate with AAE, around 60% accuracy for sentences, with no reporter in the study getting above 80%, and one getting 18%. Note that this study was performed in ideal experimental conditions, including allowing for repetition of the sentences! Even just looking at individual words instead, their accuracy was only about 83% on average, ranging from a low of 58%

to a high of 91%, all still below the required minimum of 95–98%. Overall, the various kinds of errors the court reporters made altered the fundamental meaning of over 30% of the sentences, as in how the original *he don't be in that neighbourhood* was mistranscribed by multiple reporters as *we going to be in that neighbourhood*.

Note that even correctly transcribing this sentence may still result in a wrong interpretation by a court reporter: *he don't be* is a special construction in AAE (called *habitual*), indicating that the subject is not usually in the neighbourhood (but leaving open the possibility that he is there now), but many people unfamiliar with the linguistics of AAE may wrongly think it means he isn't currently there (leaving open the possibility that usually is there). A misinterpretation here could result in exactly the opposite interpretation from what was intended.

Other errors included outright utter nonsense, presumably under the irresponsible notion that transcribing something at all was better than nothing. An example of this is how one court reporter transcribed *Mark sister friend been got married* as the meaningless *wallets is the friend big*. Again, someone unfamiliar with AAE might not understand the original, even if it had been transcribed correctly. The possessive suffix *-s* is often not used in AAE, and the word *been* used here means 'a long time ago' in AAE, thus, the original means that Mark's sister's friend got married a long time ago.

In addition to the numerous errors the court reporters made, they also revealed troubling attitudes about the speakers, either in their paraphrases (often interpreting criminality where none existed in the original) or in their comments about the speakers (for example, "The tenses drive me crazy!", "What does that mean?", and "I can't stand when people talk like that" for a language they transcribe every day and are supposed to be competent with and professionally neutral towards).

Linguistic biases can also affect juries and their opinion about the credibility of witnesses. Rickford and King (2016) discuss a number of examples, focusing on the 2013 trial in the United States of George Zimmerman, who had been accused of second-degree murder for killing Trayvon Martin. A key witness in the murder trial was Rachel Jeantel, Martin's close friend, who he was on the phone with while being stalked and attacked by Zimmerman. Jeantel provided six hours of testimony that formed a significant portion of the prosecution's case against Zimmerman. She reported on events as she had heard them over the phone, but her testimony, delivered in her native AAE, was ultimately disregarded by the largely white jury, and Zimmerman was acquitted.

After the trial, one juror explicitly said that she found Jeantel "not credible", and another juror said that Jeantel's testimony was not brought up at all in the entire 16+ hours of jury deliberation, reporting that her testimony played no role at all in the verdict. In essence, a murderer may well have been set free because of unjust racist attitudes about language.

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