



## Charles Darwin *In Memoriam*

Evolutionary looks at the why of biological and cultural phenomena.

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### Why do Scots and Peruvians "talk like children"?

### The evolution of human accents

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**ABSTRACT:** Natural selection has favored the development of a human language so rich in information, that, additionally to meaning, we can also identify the speaker's sex, emotional state, age, health and social status. Selection has also favored accents and local languages, because they allow the identification of group members (and the exclusion of nonmembers from the group's resources). The brain uses rules to extract that information, and these rules can fail when applied to alien accents and languages, interpreting, for example, anger or infantilism where there are none.

**KEYWORDS:** intonation, length of sounds, language, human evolution, natural selection.



Figure 1: **Scottish accent may be misinterpreted by people from other regions. Image <https://bit.ly/2G244fC>**

A friend, who studied Mandarin, told me that a friendly chat in that language can sound to Spanish speakers as if the speakers were "alarmingly angry". I remembered that comment years later, when a colleague mentioned how sensual British women sounded to him, and I replied that Andean natives and young Scots sounded "sweet and childish" to me.

Why do we interpret some accents and foreign languages incorrectly?

Is there an evolutionary reason?

Yes, there is an evolutionary explanation, and it does not require distinguishing between languages and simple accents: it applies to all any language variety developed by a human group. If there are small differences, mainly affecting intonation and sound length, we call them *accents*; if they are greater, involving vocabulary, we call them *languages* (e.g. García, 2016).

What is the origin of these seemingly unrelated phenomena?

According to Boeckx & Piattelli-Palmarini (2005), the origin is natural selection, which has favored a human language that efficiently encodes large amounts of information. That language also codifies personal characteristics of the speaker, both within a specific social group (with more genes in common) and from another group (fewer genes in common).

An example of how much information can be encoded with minor changes, is the fact that the same three words, in "bring the oranges", may encode an statement, a question or order, depending on context and pronunciation: *They bring the oranges*, *Will she bring the oranges?*, or *Bring the oranges!*

Other characteristics of sound allow us to know, without needing to see the person, if they were pronounced, for example, by a girl, an old person, a sick person, or an angry person or, even if they were said with irony, meaning something different from what it was said literally (Ikeno & Hansen, 2007). We evolve under complex social interactions: it is evolutionarily advantageous if we are not deceived in terms of sex, emotional state, age, health, and social power of the people who speak to us (Boeckx & Piattelli-Palmarini, 2005).

Hostility towards those who speak differently is universal and also has a biological basis (Lippi-Green, 1997; McIntosh, Sim, & Robertson, 2004; Ikeno, & Hansen, 2007; Cohen et al., 2012). The ability to distinguish among members of our own group was favored during human evolution: we need to realize, just by listening to them, if others are genetically and culturally distant, and therefore, if they are more likely to be hostile.

Natural selection may have favored both the evolution of local accents, and their imitation. When a group develops an accent, or language of its own, it gains unity and discriminates against strangers, who are genetically unrelated to the group members, so that they can be denied access to the group's resources. Those who join a group unconsciously acquire the local accent and vocabulary, facilitating their incorporation into the group, something of capital value for survival (Cohen et al., 2012). This unconscious tendency to copy others' way to talk must be the cause of the loud Spanish Caribbean, influenced by the African languages; of the unusual River Plate accent, the result of the assimilation of Italian workers (mainly Neapolitans) into a Spanish speaking population, and of the unconscious accent that travelers pick up even after short visits abroad, a soft accent that is soon lost after return to their original population.

Finally, I will answer the initial question. My brain, educated in the Spanish variant of central Costa Rican, knows the intonation of children, which sound different from adults. That intonation, valid for Costa Rican children, by pure chance, resembles the intonations from the highlands of Scotland and Peru. Therefore, my brain misinterprets speakers from those region as infantilized in their pronunciation. Similar misinterpretations can also affect you, reflecting the immense power of our evolutionary history over our culture.

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