

The Listener as a Source of Sound Change: An Update.

John J Ohala
University of California, Berkeley

My presentation will be an update with some revisions on the paper "The listener as a source of sound change" published in 1981 as well as related papers published subsequently. First, arguments will be presented to reinforce the claim that sound change is free of teleology, i.e., purposeful change – neither on the part of the speaker nor the listener. Related to this is that the product of sound change does not yield a better or optimal means of vocal communication. Second, I will link the original claims to the mechanism of sound change and its manifestation in languages' segment inventories exhibiting 'maximal utilization of available features' (MUAF). Third, I will revisit and revise my claims about the features eligible for dissimilation vs. those not eligible. Fourth, I will revisit and re-emphasize my claims that sound change can be regarded as 'nature's speech perception experiment'. Finally, I will update my claim that the mechanisms of sound change can be studied empirically, i.e., in the laboratory – as foreseen by von Raumer, Brücke, Rosapelly, Rousselot, and others more than a century ago.

=====

The connection between [ATR] and voicing in obstruents.

ATR, Advanced Tongue Root, was originally introduced to describe some vowel contrasts, especially in certain West African languages showing a kind of vowel harmony that couldn't be stated with any other available vocalic feature. But accounts of some sound patterns in certain Northern Sarawak languages (Borneo) by Blust (2000) and Vaux's (1992) analysis of the diachronic phonology of certain Armenian dialects suggest a link between more fronted vowels and voicing in obstruents. (Whether such vowels have any commonality with the ATR vowels in vowel harmony has yet to be determined.) The hypothesis to be argued for is: vowels with an expanded pharynx, -- typically front vowels --, expose more compliant surface area to the impinging oral pressure and in that way can accommodate more of the air flowing into the oral cavity and delay the moment when the pressure drop across the glottis is too low to provide sufficient airflow for vocal cord vibration. I will give an account of our efforts to provide empirical support for this hypothesis. To date these efforts have largely failed. But I will review other cases supporting the claim that the compliance of vocal tract surfaces influences voicing during obstruents.

Blust, R. A. 2000. *Low-Vowel Fronting in Northern Sarawak*. *Oceanic Linguistics* 39: 85-319.

Vaux, B. 1992. Adjarian's Law and Consonantal ATR in Armenian. *Proc. 4th Int'l Conf. of Armenian Linguistics* (ed. By J. Greppin). Caravan. 271-293.

=====

Ethological factors shaping human language.

It has long been observed that in agonistic situations (face-to-face competitive encounters) size and maturity matters. Animals, including humans, exploit their intrinsic size and maturity in such situations and also utilize plastic signals (i.e., those that can be modified) to enhance their apparent size. Morton (1977) showed convincingly that vocalizations of mammals and birds could also be used to project apparent size: low F0 to convey bigness and high F0, smallness (because F0 of a vibrating mass such as

the vocal cords or, in birds, the syringeal membranes, correlate inversely with their mass and these in turn, correlate with overall body mass, *ceteris paribus*). In a 1984 paper I argued that humans do the same and called this the 'frequency code'. The frequency code, I argued, helps to explain cross-language use of F0 for questions vs. statement, the use of certain vowels and consonants in sound symbolic vocabulary of size (e.g., English *teeny* vs. *humongous*), the origin of the smile, and the sexual dimorphism of the vocal anatomy. Although I will have to abandon the term 'frequency code', I now want to argue that plastic and cosmetic modification the eyes and eyebrows can be explained by similar principles of how apparent size and maturity can be conveyed. If true, it would help to explain (a) some the facial expressions displayed during spoken language and (b) what has been called the "prosody" of the sign language of the deaf. If my speculations are accepted they have implications for current controversies as to how emotions are expressed and, indeed, what counts as an emotion.