

Climate alert! The future's getting more tonal every day

Victor Manfredi, Boston University
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Tonemes pose a dilemma for generative grammar. Either they're irreducibly "autonomous" (Goldsmith 1976) phonological elements that happen to be frequent in a few non-Indoeuropean families thanks to "coincidences of geographical diffusion" (Lieberman 2011), cf. (1), or else they're outdated artefacts of taxonomic structuralism's naive encounter with colonized languages possessing predominantly short or codaless lexical roots (cf. Jones & Woo 1912, Pike 1948). The former option defies structural invariance theories like Universal or Bare Grammar (Chomsky 1957, Keenan & Stabler 2005) and entails that "phonology is different" (Bromberger & Halle 1989), while the latter hocks itself to the promise to reanalyze all paradigmatic pitch contrasts as syntagmatic domains (McCawley 1978, Odden 1985, Purnell 1998, Pöchtrager 2006). Vacuous or arduous is not a pleasant choice.

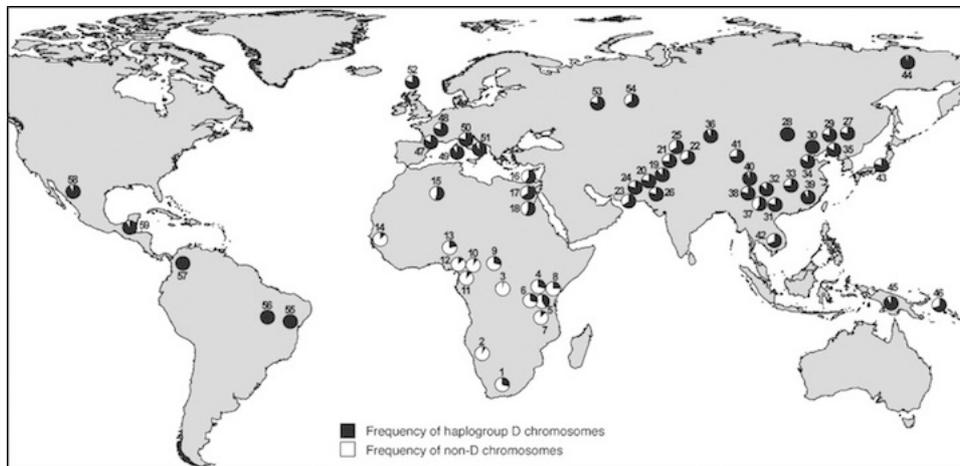
(1)



(Maddieson 2008 via Lieberman 2011)

The good news is, is that the emerging science of biolinguistics offers a way out. Either (2) or (3) gets the job done.

(2) "Tone" is a genetic "propensity to create tonal contrasts" (Lieberman 2007 citing Dediu & Ladd 2007).



(Evans & al. 2005, 1719)

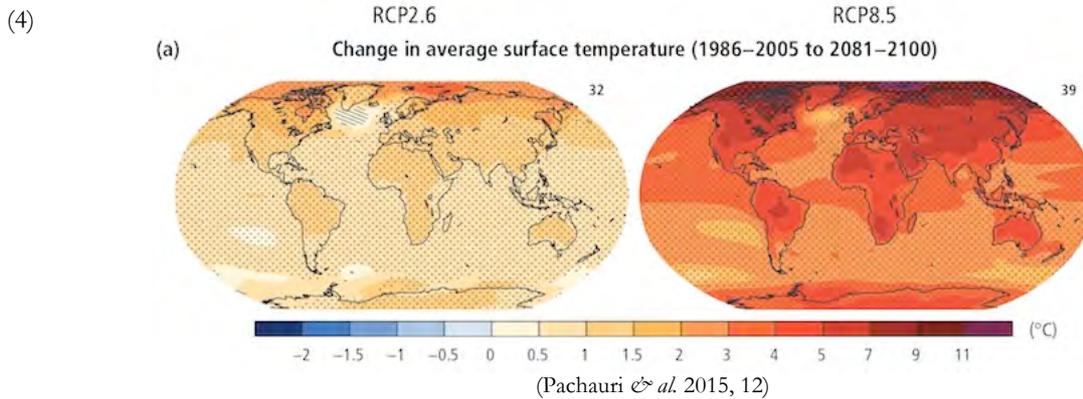
(3) "Tone" like malaria is a hazard of humid tropical lifestyles (Everett & al. 2015), a finding thus far accepted without "any serious controversy" (Lieberman 2015).



Fig. 1. Distribution of languages with complex tone (red dots) and without complex tone (blue dots) in the ANU database. Darker shading on map corresponds to lower MH.

(Everett & al. 2015, 1324)

The matter does not end there, however. Assuming epigenetics (Waddington 1953), climate alone explains everything and makes the following prediction: accelerating global warming throughout this century will produce an increasingly tonal planet, along the lines of (4).



Not all consequences of this prediction are entirely unwelcome. As “non-tonal” languages go extinct, so will the problem of exoticism (Nevins *et al.* 2009, Everett 2005), at least in its prosodic dimension (Sollenberger 2001). Furthermore, as tones proliferate in the wealthy countries of the Global North, The Unicode Consortium™ will discover a commercial reason to encode accent marks in fixed combinations with vowel diacritics, solving currently intractable problems of unambiguous string search and legible cross-platform display (cf. Liberman 2008).

This theory also handles human technological adaptation as well as catastrophic events. For example, if Nigerians ever acquire mass access to electricity and thus to airconditioning, or if global resource wars trigger the onset of nuclear winter, the respective reductions in heat and humidity could put some lexical distinctions of equatorial languages at risk. Consider the three Yorùbá words for ‘sneeze’:

- (5)
- | | |
|---------------------|---|
| Ààšúú! | [<i>Interj.</i> , ‘I am sneezing while in good or satisfactory condition’] |
| Ààšuu! ¹ | [<i>Interj.</i> , ‘I am sneezing while in serious but stable condition’] |
| Ààšùù! | [<i>Interj.</i> , ‘I am sneezing while in critical condition’] |

It would be ironic if, just in ecological conditions when precise terminologies of this kind would prove most useful, they would atrophy phonetically thanks to the aforementioned biolinguistic mechanism. For the sake of future generations therefore, language endangerment NGOs should archive tonally minimal vocabulary without delay. *Save the tones!*

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1. In Yorùbá, mid tone is unmarked.