“Tone split” is a sound change process during which a laryngeal contrast was replaced with a contrast between two tone heights (Haudricourt 1961). The ancient voiced consonants lowered fundamental frequency (F0) of the following vowel (Hombert, Ohala & Ewan 1979). They also involved a relaxation of the glottis, as suggested by Haudricourt (1965), leading to a breathy quality, which also had an F0 lowering effect. This breathy quality is phonologized in Mon-Khmer languages (e.g., Shorto 1967), although some of them seem to be evolving into tonal systems (Abramson & Luangthongkum 2009), whereas lowered F0 is phonologized in Vietnamese, late Middle Chinese, etc. In the latter case, it has been proposed that breathy voice occurred before phonologized lowered F0 (e.g., Pulleyblank 1978, Mazaudon 2012).

In some languages that have completed tone split, such as Chinese Wu dialects, we still find synchronic association between low tones and breathy voice (Cao & Maddieson 1992, Chen 2011). In this study, we focus on Shanghai Chinese (SHC), the urban Shanghai variety of Wu, characterized by its most rapid evolution among all Wu dialects since the recent past, partly due to its permanent contact with Standard Chinese (SC) as well as with migrant dialects. Suppose that breathy voice, as a redundant cue to low tones, will disappear in Wu, as in most Chinese dialects: we predict that this disappearance will speed up in SHC, due to the interference with SC, in which breathy voice does not play any linguistic role.

In order to investigate the evolution in SHC, we recorded transversal data from native speakers of two age groups: 12 young (aged 20-30) vs. 10 elderly (aged 60-80) speakers. They read a list of 32 monosyllabic words, each produced in a carrier sentence. We compared the voice quality between high and low tone syllables, using acoustic measures for spectral tilt (H1-H2, H1-A1, H1-A2) and harmonic organisation (Cepstral Peak Prominence), as well as electroglottographic (EGG) measures. Furthermore, we also conducted a survey on these speakers’ evaluation of their own linguistic competence and usage in SC and SHC.

The acoustic and EGG measures showed an overall breathier voice on low than high tone syllables, and more interestingly, to a greater extent for elderly than young speakers, suggesting a general trend towards loss of breathy voice, as we expected. Moreover, cross-gender variations were also observed: female speakers were more advanced than male speakers in this evolution. This confirms Labov’s (2001, etc.) findings according to which women play a leading role in sound change. Labov’s analyses of English varieties showed that women are more willing to adopt overtly prescribed prestigious forms of linguistic variables to replace stigmatized forms. He called this kind of trend “changes from above.”

The changes described by Labov concern prestigious vs. stigmatized forms in different varieties of the same language. The Shanghai case is somewhat different since two different languages are at stake: SC and SHC (although SHC is called a “dialect”), the former being more prestigious. Within SHC usage, breathy voice was never seen as a stigmatized form that might drive women to reject it. Here, the sociolinguistic shift, which women seem to initiate, would be the increased adoption of the SC system of linguistic variables as a whole.

The global impact of SC on SHC affects different linguistic levels (e.g., Qian 2003), but also speakers’ judgment of their linguistic competence. According to the results of our survey, elderly speakers evaluated their competence in SHC higher than SC, but young speakers were much less confident in their competence in SHC. More specifically, among the young speakers, most women (5/6) judged they were less competent in SHC than SC, and used less frequently SHC than SC, whereas much less men (1/6) made the same judgment. This result suggests a stronger willingness to adopt the prestigious SC linguistic system by Shanghai women than men. Coming back to our phonetic data, women’s more advanced loss of breathy voice is probably related to the stronger impact of SC on SHC. More generally, the influential SC is accelerating the loss of breathy voice as a redundant cue to low tones in SHC.