



Additional tool:

Download: Phonetogram area measurement program

[www.mpedersen.org](http://www.mpedersen.org) up front program of phonetography.

Unpack and use the exe file to install. The README.doc is a how to for the analysis.

Figure 3. Acoustically around 10 cycles are changed before the electroglottographical swift, at the register shift.

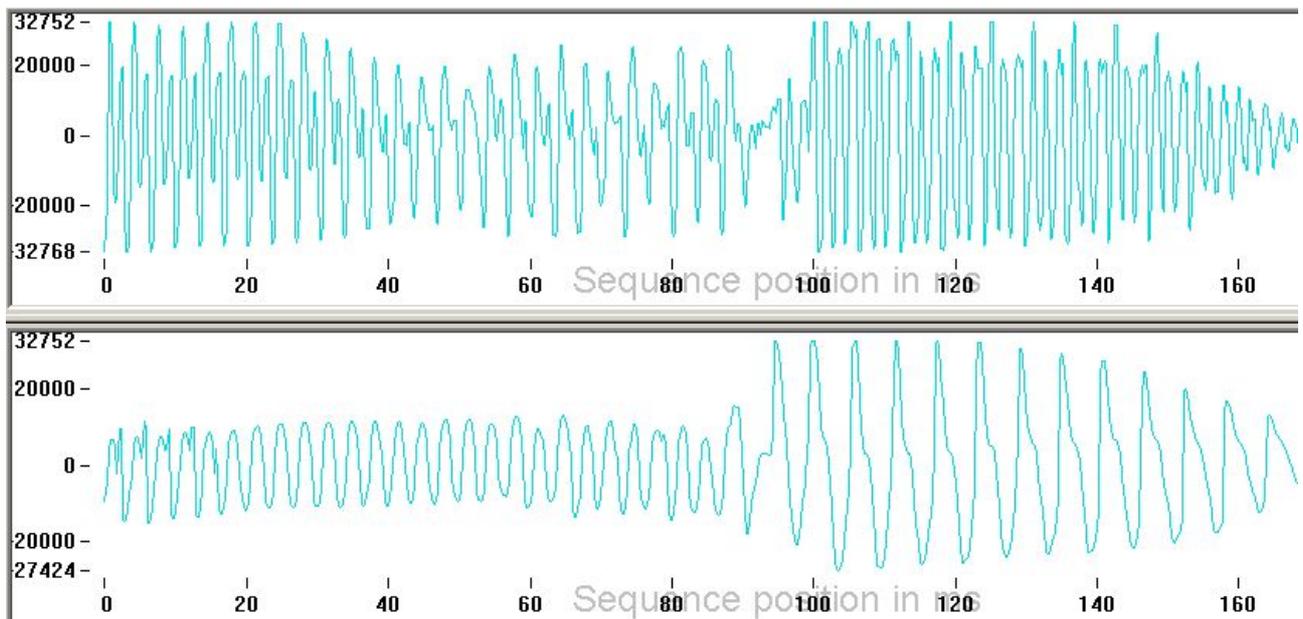
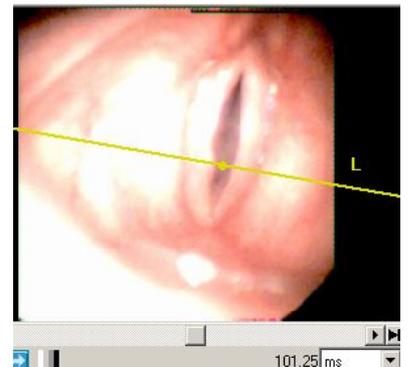
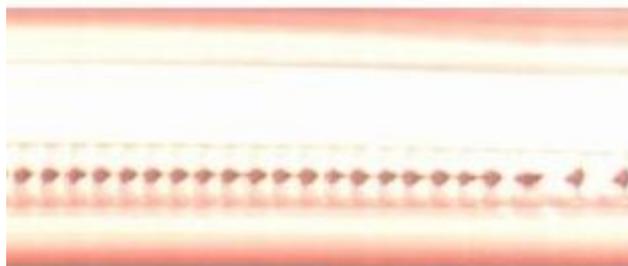


Figure 4. The kymographic film corresponds to the electroglottographical picture



## References

1. Pedersen M(F), Hacki,T, Loebell E (1988) Videostroboscopy of choir boys in puberty (film). Ed. Medizinische Hochschule Hannover. Germany.
2. Pedersen M(F) (1993). A longitudinal pilot study on phonetograms/voice profiles in prepubertal choir boys. Clin otolaryngol; 18 84-9.
3. Pedersen M (1997). Biological development and the normal voice in puberty. Thesis. Univ. Oulu. (<http://mpedersen.org>)