

PHOTOELECTRIC AND VIDEOFLUOROGRAPHIC REGISTRATION OF VELAR
HEIGHT: CALIBRATION OF THE VELOGRAPH

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Gaining insight into the velopharyngeal opening-closing mechanism is important for speech scientists, speech therapists and speech pathologists. In order to give these researchers a simple, reliable and at the same time inexpensive tool for investigation the velograph was developed, a photoelectric probe working on the principle of light reflection from the velar surface (Künzel 1977).

So far, the velograph has only been used for the registration of velar timing and relative velar height since the output of the probe in terms of absolute velar height with reference to a baseline had not been calibrated. This procedure is the subject of the present paper. It will be shown that there are high positive correlations between the output of the velograph and velar height gained from simultaneous lateral X-ray video pictures, both for utterances by the same speaker and by different speakers.

Thus, allowing for a certain tolerance interval, real-time registration of velar height may be obtained by using quite a simple instrument. The limitations of the velograph and implications of the technique for future investigations are discussed.

Reference

Künzel, H.J. (1977): "Photoelektrische Untersuchung der Velumhöhe bei Vokalen: erste Anwendungen des Velographen", Phonetica 34, 352-370.