Necrologium Svend Smith (1907–1986)
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The Danish phonetician and speech therapist Svend Smith was born in Copenhagen in 1907. Along with language studies at the University of Copenhagen he also attended a course in speech therapy and received a diploma in 1930. After his graduation (in Danish and English) in 1932, he studied phonetics in Hamburg with Pan-concelli-Calzia in two periods in the thirties. In 1944 he defended his thesis for the Danish doctorate. From 1932 to 1967 he taught at the Institute for Speech and Language Disorders in Hellerup, from 1958 as head of the laboratory. 1967–1975 he was professor of phonetics in Hamburg. He was secretary of the International Association of Logopedics and Phoniatrics 1959–1965, and in 1983 he was nominated honorary member of this association.

Svend Smith has made substantial contributions both to phonetics and to logopedics. His thesis Stødet i dansk Rigssprog ['The Stød in Danish Standard Language', 1944] is a pioneering work in various respects. It is the first thorough instrumental study of the Danish stød, it contains a new theory concerning its production, and it represents one of the first applications of electromyography to phonetic studies. The Danish stød is generally described as a constriction (in older works a closure) of the vocal folds, which takes place in the latter half of a long vowel or in a sonorous consonant following a short vowel. Based on electromyograms (using surface electrodes) of the abdominal muscles Smith advanced the theory that the constriction of the glottis is a reflex innervation due to an abruptly rising and falling subglottal pressure, which in its turn is caused by a ballistic contraction of the expiratory muscles. He describes this contraction as the first phase of the stød (which may also contain a stronger articulation of the initial consonant), and the constriction of the glottis as the second phase. Acoustically, the stød is characterized by a falling amplitude (which Smith ascribes to the fall in subglottal pressure) often ending in irregular vibrations. This theory seems plausible, but it is dubious whether it can be upheld. Later investigations have shown that the decrease of amplitude precedes the fall in subglottal pressure, and that most speakers show a strong innervation of the vocalis muscle which cannot be due to the rise in subglottal pressure. But Smith is certainly right in emphasizing that the stød is a type of dynamic accent. His theory is connected with his view that normal stress is also a respiratory phenomenon not involving any primary compression of the vocal folds.

Smith’s thesis is his most comprehensive publication, but internationally he is better known for his studies of the vibratory movements of the vocal folds. In a paper in Folia Phoniatrica [6, 1954] he describes this movement in detail on the basis of a close study of the Bell film and of his own stro-boscopic pictures. In this paper he emphasizes that the movement starts from below and that the vocal folds are sucked together. In the beginning of the fifties he also started a series of experiments with artificial larynxes and came to the conclusion that a loose sliding surface
attached to the body of the larynx at its upper rim was necessary in order to obtain vibrations of the type he had found in the film and in his pictures. He called his theory the membrane-cushion theory. Later, a similar distinction between ‘cover’ and ‘body’ was proposed by M. Hirano on the basis of anatomic studies. Smith described his experiments with artificial larynxes in papers in Larynx et Phonation [1955], Folia Phoniatrica [9, 1957] and in the Proceedings of the Int. Congress of Phonetics in Helsinki, 1961.

Smith has also published papers on nasality, airflow and pitch. In his later years, he concentrated his efforts on critical studies of the electroglottographic method. Through a series of experiments he came to the conclusion that the electrodes function as a type of low-pass impedance and that the glottograms do not simply represent the opening and closing of the vocal folds, but are influenced by acoustical and mechanical factors, e.g. the resistance in the tissue [see e.g. his paper in Hamburger Phonetische Beiträge 40, 1982].

His studies of the vocal folds and of electroglottography were, of course, closely related to his work as a speech therapist. His main contribution in this field is the creation of a therapeutic method called ‘the accent method’, which he developed during many years and described in the book Ac-centmetoden [1978], in cooperation with Kirsten Thyme [German translation 1980, Die Akzentmethode und ihre theoretischen Vor-aussetzungen]. It is a general method which does not involve direct correction of specific insufficiencies, but aims at a general improvement of the normal function of the voice. It consists in rhythmical vocal exercises combined with swinging movements and using abdominal breathing and a low chest voice. It is generally accompanied by drum beating. This is assumed to lead to a general relaxation of the chest and throat muscles and to be particularly useful for the treatment of stuttering and functional diseases. It has been adopted by quite a number of speech therapists in various countries.

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Smith was also interested in the history of phonetics and logopedics, and many of his papers start with a long historical introduction.

Svend Smith was not an easy person. He could be rather self-promoting, but he could also display a disarming self-irony. He was an ingenious experimenter, who obtained remarkable results with very simple means: He had trained his voice and his tongue movements to produce vowels in series like [i e ø a] or [e ø o], so that the strongest harmonics of the formants stood out quite clearly and could be identified on a piano. He built a good recording room by means of egg cubicles, and his first larynx models consisted of a vacuum cleaner
a piece of bicycle tube
pieces of foam rubber and two matches (to simulate the stiffness of the vocal processes). He also enjoyed demonstrating that excellent ‘electroglottograms’ could be produced by holding the electrodes a few centimeters in front of the mouth when speaking and placing a piece of fresh meat between them. There was a strong element of play in many of his inventions but his enthusiasm for research was genuine and lasting. When retired he built up a laboratory in the basement of his house and continued thinking out new experiments and working until the day before he died at the age of 78.

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