

AN ECLECTIC APPROACH TO VOICE THERAPY

By Åse Ørsted

KEY WORDS

voice theory - therapy
Forchhammer/Coblenzer Method
Pahn Nasality Method
Estill Compulsory Figures
Neurolinguistic Programming

Åse Ørsted, who also has teacher training, has worked in Denmark as a speech and language therapist since 1971. Åse has studied, worked, participated in conferences or run courses in Australia, Austria, Denmark, Germany, Great Britain, Greece, Mexico, the Netherlands, Scotland, Spain, Sweden, Switzerland and the United States of America.

Introduction

On the European continent several methods of voice therapy have been bred. The German textbook *Stimmstörungen* (Voice Disorders) describes no less than eleven different voice methods.

During my Speech Therapy training in Denmark, I learnt two Danish methods of voice therapy, the *Acoustic-Analytic Voice Method* by Egil Forchhammer and the *Accent Method* by Sven Smith. Later I studied the method of *Breathe-Rhythmically Adapted Phonation* by Professor Coblenzer in Switzerland, the *Nasality Method* by Johannes Pahn in Germany and Jo Estill's *Compulsory Figures* in the United States of America.

I work with patients with voice disorders in a large hospital in Copenhagen and lecture in logopaedics at the University of Copenhagen. This theoretical/practical combination has been a rewarding challenge. As I learnt more methods it was easier to meet the individual needs of patients. I was able to integrate the treatments thereby obtaining better results in less time. However, there are some discrepancies and partial incompatibility amongst methods with different scientific and philosophical foundations. By using an eclectic approach I am able to select parts of compatible methods and use them on the different levels of phonation according to my understanding.

Description of Different Voice Methods

A. Viggo Forchhammer — *Rational Voice Method*

Viggo Forchhammer (1876-1967) founded the *Rational Voice Method* in Denmark at the beginning of this century after studies of song and speech in Germany and France. His textbook *Taleovelsler* (Voice

Exercises) which appeared in 1917 was a bible for Danish speech and language therapists for more than fifty years. His method was initially preventive but gradually became used for disordered voice with often poor results. The underlying assumption was that dysfunction resulted from bad habits which should be treated by conscious training of all phonatory functions.

B. Egil Forchhammer — *Acoustic-Analytic Voice Method*

Viggo Forchhammer's nephew, Egil Forchhammer (1906-1978), revolted against this practice, asserting that the only reason a voice functioned unsuitably was that it was *unable* to function. Phonation is a result of co-ordinated subfunctions which influence the whole. Any failing link puts this complex system out of balance.

Egil Forchhammer abandoned any method which chained the speech and language therapist to fixed practices. Following the speech and language therapist's auditory analysis an individual treatment program was designed. He created a method which stressed the freedom and responsibility of the speech and language therapist. This method requires exact knowledge of anatomy and physiology of the larynx, perception of the acoustic characteristics of each voice defect, learning how to re-establish the muscular balance of the larynx, and training a voice to reach its optimal functioning without interfering with its personal character.

C. Horst Coblenzer — *Breathe-Rhythmically Adapted Phonation*

Professor Coblenzer, a German actor now in his late sixties, is employed in Vienna, teaching drama students. He and Professor Franz Muhar, a lung physiologist, conducted research investigating diaphragm function during phonation. Coblenzer created an holistic method for respiration, voice and speech training based on this research, practical experience and a knowledge of *Eutonia* which is Gerda Alexander's system of relaxation and exercise. The purpose of the Coblenzer method is to obtain optimum speech economics, i.e. effective communication without wasting energy.

An important principle is the avoidance of gasps for breath. The phonatory respiration should occur normally, being reflective and silent with relaxation at the end of each breath phrase. To re-establish the natural rhythm of speech and exercises include rhythmical swinging, rocking and balancing, beginning with large oscillations until the rhythm is just felt as a re-creation of balance in the body.

The Coblenzer method also utilizes dramatisations as well as a variety of specific voice, resonance and articulation exercises appealing to the imagination and avoiding meaningless sounds and syllables. This holistic approach is extremely useful in establishing the necessary preconditions for body and mind in successful voice therapy.

D. Johannes Pahn — *Nasality Method*

Dr Pahn is a phoniatic consultant at the Ear, Nose and Throat Clinic, Wilhelm Pieck University, Rostock, Germany. Based on medical-phoniatric knowledge and practice, his method concentrates on economical, instrumental phonation. Larynx-elevating forces are eliminated using the nasalizing principle.

According to Pahn's conviction, most people speak and sing using functional faults. These are learnt by imitation in childhood, when automatic speech programming of the brain, the *dynamic stereotype (DS)*, occurs.

As the term functional only implies absence of organic findings, Pahn suggests some diagnostic labels which indicate causes and treatments, such as *usogenic*, *organogenic* and *psychogenic* voice disorders. These groups are further divided into differential diagnoses indicating the original cause.

In treatment one of the following procedures may be appropriate:

1. Partial correction, i.e. changing single parts of the *DS*
2. Voice rest
3. Systematic construction of a totally new *DS*, i.e. new programming.

Initially treatment is intended to achieve precise and economical adjustment of the larynx. When the correct adjustment has been achieved, activity of the articulators will be added.

The most suitable and economical way of increasing voice intensity is to develop and adjust a "metallic quality" in resonance. The advantages of nasalizing are:

1. An increase in the resonance chambers by lowering the larynx
2. More resonatory adjustability and freedom in choice of resonance
3. Less exhaustive
4. A totally different sort of phonation due to new programming
5. A total relaxation of oropharynx, nasopharynx and velum

The larynx is kept in a calm position and the nasalizing is gradually left out until a desirable level of resonance has been achieved, keeping the acquired high harmonies.

The Pahn method has proved beneficial especially with hyperkinetic functional voice disorders, professional voice users and clients with vocally demanding jobs. To me it seems that Pahn's nasal resonance quality has an element of twang, and the "singer's formant" as described by Estill. Objective examination will be necessary to establish how the special "metallic quality", together with the nasalizing, is acquired.

E. Jo Estill — *Compulsory Figures*

Jo Estill is an American voice consultant. Since 1973, after a career as a singer, she has studied voice quality — physiologically, acoustically and perceptually. Estill is associated with Haskins Laboratories in New Haven.

Thorough knowledge of the anatomy and physiology of the speech organs is necessary. The Estill Method — like Pahn's — is instrumental but, unlike the Pahn Method which is anchored in the Western European traditional aesthetic ideal, Estill has undertaken to describe any voice quality that can be produced by the human vocal instrument.

Estill described different voice modes, in terms of vocal tract shape, vibratory patterns of the vocal folds and the amount of energy necessary to maintain each, using diagnostic procedures such as electroglottography (EGG), electromyography (EMG), high speed videofilm with endoscopy and stroboscopy. In this way she has established that each vocal mode has its own reproducible pattern, clearly different from other modes. Estill's method is probably the most scientifically based one currently on the market. Some of her techniques are very useful in the treatment of specific voice defects.

Strategies

A. Building Rapport: Neurolinguistic Programming (NLP)

Before starting therapy it is important to establish rapport with the patient. I would like to introduce some NLP concepts, useful to the speech and language therapist, such as *mirroring*, *matching*, *leading* and *calibrating*.

1. *Mirroring* — exact imitating of the client's posture, movements, breathing pattern and perhaps also vocal pitch, modulation and intensity. This has to be done discretely.
2. *Matching* — also a form of imitating, although not necessarily symmetrical or in the same system, e.g. the client's breathing rate might be *matched* by small movements of a hand or foot.

When done correctly *mirroring* and *matching* will lead to a sensation of agreement and understanding between client and clinician.

3. *Leading* — if, for instance, the client is hyperventilating you may gradually slow down your corresponding hand movements and in this way induce the client to slow their rate of breathing.
4. *Calibrating* — by observing and responding to the client's physiological reactions, such as facial colouring, it is possible to make ongoing adjustments to enhance rapport.

B. Assessment

Now it is time to start one's analysis, comparing observations of the client with one's own model of phonation. My model of the levels of phonation looks like this (Figure 1).

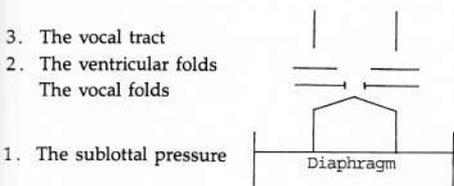


Figure 1: The levels of phonation

The three levels of phonation are:

1. The *subglottal pressure*, dependent on the diaphragm, which is connected with the abdominal and intercostal muscles and total body motor function. From this level the energy necessary for phonation is collected, akin to "bellows".
2. The *vocal folds* are set into vibration by the subglottal pressure. Too strong or too weak air pressure will cause strain on the vocal folds, resulting in hypercompression or hypocompression. The ventricular folds may be involved and cause damage to the true vocal folds.
3. By reshaping the vocal tract, resonance of the voice can be varied from strident to sonorous, to dull. At the same time the vibratory pattern of the vocal folds is indirectly influenced.

Voice problems are usually combined with insufficient or wrongly adjusted air pressure and a narrow placing of the resonance, so that the small delicate vocal folds have to do most of the work during phonation. Therefore voice therapy will aim at balancing the three levels in all cases.

C. Therapy

At level 1, *body posture, tone, balance, movements and breathing* will be assessed. If a client is stiff and clumsy, some preliminary work has to be done. Here all of Coblenzer's relaxing, balancing, stretching and strengthening exercises are recommended, for instance, balancing on a wobble board or, while walking, balancing a bean bag on your head or a stick on the palm of your hand. The exercises may be performed with phonation such as the "litany" exercise where one stands on the floor with feet apart, swinging in circles while chanting monotonously.

These exercises reduce body tension and concentrate attention. As introverted clients learn to relate to objects outside themselves their self-confidence and capacity for emotional contact gradually improve.

Rhythmical rocking and swinging exercises have a relaxing effect and help to introduce the *Breathe-Rhythmically Adapted Phonation*. The push and pull principle is used in the strengthening exercises. When pushing and pulling, energy to counter tension is evoked in the client's body and a natural support effect is achieved.

At level 2, the laryngeal level, vocal qualities such as *glottal fry, hoarseness, breathiness* and *harshness* are assessed. The intrinsic muscles of the larynx can be trained using the Forchhammer exercises.

1. *Adduction* — small clicks in the throat, improving the interarytenoid muscles.
2. *Internal (vocal fold) exercises* — glottal onsets, firm and hard, to improve glottal closure.
3. *Pitch — registers* — gliding exercises from high to low pitch with support on the way down to increase the range of the voice.

4. *Compression* — start with a deep, breathy voice and *increase* air pressure, which will increase vocal pitch and tightness so that the voice is well compressed, then *decrease* air pressure again leading to a deeper and softer voice. It is important that there are *no constrictions* in and around the larynx (Figure 2).

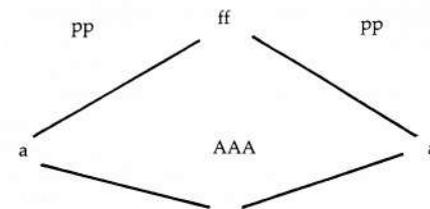


Figure 2: Compression

At level 3, resonance is assessed as *hyponasal, dull, dampened, throaty, sonorous, hypernasal or strident*. The vocal tract may be re-shaped in different ways by nasalizing, laughing, crying, yawning or twanging.

By *nasalizing*, the velum is relaxed. The exercises sound extremely ugly but are very efficient. The fundamental exercises go like this (Figure 3).

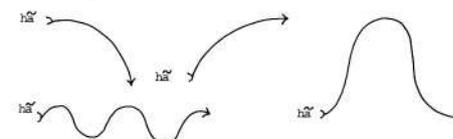


Figure 3: Pahn's fundamental nasalized exercises

As previously noted, Pahn's nasal quality has some similarity to the twang function described by Estill. Louder output is achieved with less energy expenditure (while I use some Estill techniques with good results, the conditions of Estill training preclude my describing them here). The Forchhammer resonance exercises open up the nasal cavity by means of nasal consonants like this (chanting monotonously):

me neng e nem
ma nang a nam
mo nong o nom
moo noong o noom
mee neeng ee neem

thus making the voice more sonorous.

Yawning lowers the larynx into a deep relaxed position and should be used with the exercises at level 2. It is a very gentle, relaxing exercise, as is *laughing* and *crying*. All exercises on level 1 and 3 are beneficial when working with organic as well as functional voice disorders. The Forchhammer exercises on level 2 should only be used with closure deficits such as adduction recurrent nerve paralysis and in the absence of oedema, vocal nodules, polyps, papillomas, contact ulcers etc. The gliding exercises are beneficial in any case.

Issues for Discussion

Is it possible to delegate specific functions to individual laryngeal pairs? Among others, the Danish founder of the Accent

Method, Sven Smith, a speech and language therapist and phonetician, claims that the intrinsic laryngeal muscles function as a sphincter and that phonation is due to a self-sustained vibratory system. It seems that Estill, with her *Compulsory Figures*, has proved the connection between voice qualities and the physiology involved.

In some cases a compensatory dependency between intrinsic and extrinsic laryngeal muscles can be detected so that the same voice quality can be achieved by alternative physiology. The rising pitch will usually result from contraction of the cricothyroid muscle but it has been suggested that approximation between the thyroid and cricoid cartilages might be executed by contraction of the sternothyroid muscle as well. Even if some voice qualities may be performed in alternative ways it does not mean that the phonatory system is totally unpredictable.

Regarding therapy, the founders of the different methods from diverse backgrounds such as acting, singing, logopaedics and phoniatrics occupy different starting points on the logopaedic landscape (Figure 4).

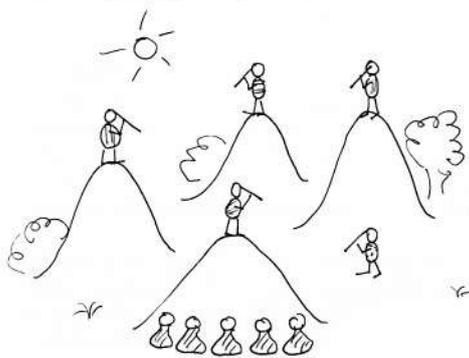


Figure 4: The logopaedic landscape

The area is so complicated that no one can claim to have a complete breadth of view and the definitive truth. For speech and language therapists it is wise to avoid worship of gurus and to think independently.

I want to stress that voice exercises must necessarily be learnt by practical training with corrections in a workshop. I have had the pleasure of working with Australian speech and language therapists on two visits to your country. Perhaps we shall meet some day!

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Alison Bagnall

VOICECRAFT - THE ESTILL MODEL

(An interview with Alison Bagnall)



Helen Tiller

Australian and overseas speech pathologists and professional voice users have, over the past few years, participated enthusiastically in a range of Voicecraft Workshops offered by Adelaide speech pathologist, Alison Bagnall, and her colleague, professional singer Helen Tiller. Alison is a Churchill Fellow, a Chartered Practitioner of the Estill Model and a Member of the Australian Feldenkrais Guild.

In Alison's words, the voice or vocal instrument has, for a long time, been hidden from view. Today, due to the advent of sophisticated research tools, we are able to study the voice — through sophisticated imaging, acoustic analysis and through auditory perceptual studies — using instruments that remove much of its mystery. For AASH members who have not yet had the opportunity to attend workshops devoted to the Estill Model, Alison describes Voicecraft as follows:

Voicecraft differs from more traditional voice training, as the study of voice production is separated from the art of singing. No voice quality (e.g. opera, belting- Broadway sound) is given preference over any other. Breathing techniques, the focus of traditional singing teaching, are de-emphasised. Aesthetics are excluded and the quality of the voice is not limited by range. Rather, Voicecraft develops mechanical expertise, including the differentiated use of the various critical parameters of the larynx and vocal tract (e.g. control of the vocal folds, height of the larynx, aryepiglottic sphincter, velar port, tongue and body posture).

As Alison explains, singers require such skills prior to applying their knowledge of music to achieve artistry and actors also benefit from developing such skills. A speech pathologist, similarly, is dependent on mastery of vocal technique for optimum success in devising

remediation techniques to develop normal vocal function. *Voicecraft can make the voice and voice production a little less intuitive and mysterious and a little more predictable. The process of reorganising vocal technique requires the introduction of awareness of optimal vocal function to an individual's nervous system. Knowing your vocal instrument and how to use it automatically frees more time to concentrate on communicating the message — in whatever context it is being delivered.*

Members who have experienced Voicecraft Workshops and are interested, themselves, in becoming Chartered Practitioners of the Estill Model, will be pleased to know that an accreditation certification course is being considered. This is likely to include a minimum attendance at Workshops (including a testing of knowledge), background courses in the science of voice production, a thesis or research project, teaching under supervision and practice teaching.

For further information, contact:
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Voicecraft International
226 Melbourne Street, North Adelaide
SA 5006
Ph. 08 239 2088

Useful Articles

Estill, J. (1982) The control of voice quality. In V. Lawrence (Ed.) *Transcripts of the 11th symposium: Care of the professional voice*. NY: The Julliard School.
Estill, J. (1988) Belting and classic voice quality: Some physiological differences. *Medical Problems of Performing Artists*, 3, 37-43.

Useful Videos

How is my voice different from your voice. Produced by "Newton's Apple" Available from Voicecraft.
The operatic voice. Produced by Alison Bagnall. Available from Foundation Hospital, North Adelaide SA 5006.

WELL SPOTTED . . .

Jayne Comins
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. . . In England's leading satirical magazine *Private Eye* (March 1994). Speech and Language Therapists have made it at last — or rather, ours has!

WELL SPOTTED . . .

. . . in the *Journal of Communication Disorders*, 24 (1991), 51-58. Authors Solberg, Fowler and Walker found that an Autochromatic Tuner, a relatively inexpensive device designed to assist musicians in fast-tuning their instruments, compared favorably with the Visipitch and Florida I as a valid and reliable measure of vocal fundamental frequency. An autochromatic tuner appears to be an effective and inexpensive clinical alternative.