STUTTERING – DYNAMICALLY SEEN.
The reflections, observations and interpretations of a non-stuttering clinician through 30 years of stuttering therapy – Eigil Laulund

An understanding of stuttering as a dynamic phenomenon, changing kaleidoscopically by outer and inner circumstances and perceived differently from person to person. This description is founded on a simple definition by Tom Green and Charles van Riper's assumption of a constitutional disposition. These prerequisites established a multiple and accidental complex of factors form the development of every single individual’s speech patterns and eventual stuttering problem. Furthermore, a description of a thesis by Bernard-Thomas Hartman and a model to understand stuttering on different levels by Rune Stenborg and finally the description of a model to understand the therapeutic work to adapt to the presence of a stuttering problem in a more constructive way.

A definition:
Stuttering is-
“reactions on absence of prerequisites for fluent speech”, Tom Green (Green, 07)

Stuttering has been present as a variety in speech in all populations for ages. Stuttering is hard to define and so, far no definition satisfies all claims of precision, delimitation and inclusion.

Fluent speech is together with normal non-fluent speech what we regard as normal speech and in most cases the majority of speech even for stuttering people.

Stuttering is REACTIONS
Neuro-motoric – change of adequate moving patterns (behavioural change)
Emotional – experience of discomfort, criticism, anger, fear, etc. to be avoided.
Cognitive – imaginations and thoughts about incidents in the future in particular how other people think and react.

Over time all reactions tend to become automatic at the same time as they change dynamically in accordance with the individual experience of situation and success in everyday life.

PSI - assessment tool
Perception of Stuttering Inventory (Woolf, 1967)
A questionnaire to create a profile on the perception of patterns related to individual adaption to the presence of a stuttering problem in terms of behavioural change, avoidance and expectancy.

The presentation of the PSI score will often be the first time for a person with an established stuttering problem to realize and understand the role of stuttering in everyday life in regards to controlling physiological and psychological processes.

Neuro-motorically:
an advanced preparedness to cope with the stuttering moment, automatized and initiated quicker than conscious processes can follow, similar to different sorts of survival reflexes.
Seen in this way stuttering is behaviour performed by the person, but not initiated consciously and not replicable by the person spontaneously.

Emotionally:
A hypersensitivity to situations recognized by emotional memory as connected to negative feelings the moment they occur or might be just about to occur. The mind reacts spontaneously to avoid any contact with the anticipated feelings and tends to dominate any other intention in the situation. Very often the person is not even aware of the change of intention, as it is repressed as a defence mechanism.

Cognitively:
Preparedness to constantly analyse anticipations and imaginations of future situations adding consequences, meanings and risks to them with the purpose of defence, as the self-image might be threatened if this or that would happen. Often the “other” person’s reactions or thoughts are given importance. As they are never tested in reality – they will always be “correct”.

The recognition of these three reaction patterns and the adaption and reality test of their value for the individual stuttering person is extremely important for lasting changes in handling of problems connected to stuttering. It plays an important role in planning and effect of treatment.

**Scoring of PSI**

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<th>Scoring</th>
<th>Fight</th>
<th>Avoidance</th>
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<td>Hard</td>
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<td>Medium</td>
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**Dynamics of stuttering**
A discussion of causes and development of stuttering cannot be based on documented scientific data, as they do not exist. Stuttering is still an unsolved mystery. The following is a description of a model to understand the phenomena based on clinical experience and goals for stuttering therapy.

Inspired by Charles van Riper’s final statement (Udtryk, 6, 1994) the following tendencies can be stated:

1. The existence of a constitutional tendency
2. A motoric sequence disturbance.
3. Leading to a need for a postponement behaviour.
4. Repeating or prolonging a syllable or sound offer the needed time.
Primary stuttering
Repetitions and prolongations with continuous airflow (Stromsta 65) (without a neurological disposition this is the same as normal disfluency). It does not disturb development of speech as such, and without complications, it will disappear with increased motoric and linguistic competence.

Secondary stuttering:
Reactions on the presence of non-fluent speech. Might lead to persistent stuttering behaviours and developing of stuttering problems such as negative self-image and exhibited social relations.

Worry Barometer (after SFA video 1979)
A scale to verify the degree of secondary reaction from most to least worrying (8 to 1).
8: avoidance, 7: fear, 6: tensed struggle, 5: change of pitch, 4: change of muscle tonus (tremor), 3: prolongation of sounds, 2: use of neutral vowel (ah), 1: multiple repetitions (>3)

In the period from 1975-1995 it was a common trend in therapy to reverse secondary patterns in the symptoms and reinforce the use of repetitions. Research has questioned the correlation between symptoms and prognoses. No research, however, has been made - to our knowledge - to find tendencies in development of symptoms in children who continue to stutter.

Development
--from stuttering child – to a person with established stuttering and avoidances.
The concept of “spontaneous recovery” in children's stuttering and so called “småbørnsstammen” (infants stuttering) have been central in prevention and early intervention in Denmark in second half of the 20th century. And focused upon again in the 21th century with reference to the research of the team around E. Yairi and connected to the spreading of the Lidcombe Program from UK to Denmark and the rest of Scandinavia.

Research concerning stuttering in children finds early onset of stuttering around the age of 2, and quick spontaneous disappearance of symptoms in a great majority of the children. Specific groups tend to belong to this majority according to statistics, but there is no data on correlations or circumstances in the individual child. Recent Danish research has emphasized two findings: The cause of stuttering is multi factorial, and development is not linear and not reversible (Månsson,05)

This authors view:
The causes are unknown, but circumstances around development of stuttering as a phenomenon and a problem for the individual person are based on a unique and accidental coincidence of (unfortunate) circumstances. Even if the exact figures are unknown it is a fact that the majority of children who starts stuttering stops again after a short time, while a minority continues to stutter.

Postulate on children's stuttering:
The majority stopped stuttering because:
• They happened to use adequate strategies.
• They had enough resources.
• They did not accumulate fear, that they could not cope with.
The minority of the children continues to stutter because:

- They used inadequate strategies.
- They were short of resources in specific situations.
- They accumulate negative experiences that tend to develop fear in specific situations.

In some cases, this will lead to avoidance behaviour, and if inappropriate strategies are implemented it might lead to the occurrence of “a vicious circle” and a continuous development of secondary reactions on an individual level.

**A hypothesis:**

**The minority group could find support in a playgroup for stuttering children as therapeutic intervention.**

Because in the group:

- You can help the child to endure the presence of stuttering, own and others.
- By this, you reduce the need to avoid.
- Maybe decrease the power of the vicious circle.
- And maybe even establish a good circle.

Even if this might not be the case, the child would get a lot of support to feel good about communication and to use its best performance for it – stuttered or fluent. In the group, communication is reinforced and stuttering is not “punished” or seen as unwanted behaviour.

The problems that follow collection of negative experiences with communication are inhibited to grow unrealistically.

**Two Automated systems – Theory of Bernhard-Thomas Hartman.**

The Norwegian-American Bernhard-Thomas Hartman, living and working in Norway for many years, presented on the ISA World congress in Linköping, Sweden 1995 a model.

He described stuttering as an automated neuro-motoric speech program initiated by trigger points in the automated control system for normal speech. To be understood as a reflex in the system to define a stuttering risk and then automatically initiating the defending system – the automated stuttering behaviour – dominating the normal speech program.

Consequently, stuttering is an automated reaction, experienced as involuntary and modification of the reaction can only be indirectly.

Hartman describes in his book (Hartman,94) a possible understanding of how and why this pattern has developed.

When children start to speak – as a consequence of the human language instinct – any language effort it makes brings positive attention in surrounding adults. This expectation is conditioned and the child will expect a reward in the sense of positive attention whenever it tries to speak.

When stuttering occurs, it is an act of speaking for the child – it expects a reward. However, when the adult reacts with a quite different attitude, the child will become confused. In cases where this is repeated, a situational learning of negative patterns and reactions might take place and give stressful reactions connected to the speech control system.

It is interesting that both Demands and Capacities program and The Lidcombe Program use parental attention as a reward system, and documented high effect. Unfortunately, they do not argue any understanding of the phenomena as a possible reason.
If the above described connection makes sense, it does not matter what ever method is used, so long as the result is more positive attention from important adult persons in speech situations. The therapeutic task will be together with the child to facilitate comfort and close attention in communicative situations with and without the presence of stuttered speech. And for the parents to help them increase their ability to do the same.

**Emotional memory and conscious remembrance of feelings.**
Around 2000 I read two articles on the internet related to personal experience of stuttering by a Swedish neuropsychologist, Ingvar Bergman. He had been studying Hartman's work and focused on Hartman's thesis about stuttering not being a speech disorder. Even though stuttering does disturb fluent speech, it is neither related to development of normal speech nor to the process of speaking. Stuttering is connected to social interaction – communication – with at least to persons involved. As such a psycho-social behaviour based on traumatic experience of social interaction, that causes breakdown of communicative interaction in this specific or similar social environments.

(http://hem.passagen.se/ingvarb/stuttering.htm)

In the second article (http://www.mnsu.edu/comdis/kuster/casestudy/case.html) he summarizes his hypotheses about stuttering as a normal (emotional) reaction to unfortunate (most likely traumatic) circumstances in the individual course of development. Bergman refers to Joseph LeDoux’s, “The Emotional Brain” (1998). J. LeDoux describes two systems of memory of emotion. 1. A subconscious emotional memory based on fear, and 2. A consciously defined remembrance of feelings “memory of emotions”.

The subconscious memories of fear are subcortical tracks to amygdala and seem to be burned into the brain for life. According to LeDoux, the best we can achieve is a cognitive control – that we have to work to get to. The subcortical tracks trigger amygdala and emotional reactions (behaviour) before the cortex has a chance to perceive what is going on (see fig.1 “model of intention”). The conscious memory, the system we normally refer to when we speak of memory, is notoriously unreliable and not precise as remembrance always is reconstructed in the light of what initiated it.

**Problem on three levels – Rune Stenborg**
The Swedish Phoniatriat and psychotherapist, Rune Stenborg has illustrated a parallel to the classification of three levels of reactions to stuttering categorized by the PSI survey. This system is very close to the ICF-classification system: body level, activity and participation as well as personality and environment. The model does at the same time give a validation of the seriousness with which stuttering interferes in a person’s life.
Rune Stenborg refers to the Bodynamic-therapist Marianne Bentzen (Bentzen, 93). In a presentation in 1993 she is listing general aspects of emotional development and relation, as prerequisite to containing and adapting traumatic incidences in a persons’ life. Seven areas each connected to typical steps in development. If stuttering is experienced traumatically a similar relationship should be expected to affect the person’s reactions and abilities in handling stuttering incidences.

“Sources of love”: (My headline)
Existence: Prenate - 3 mo.; I am wanted – and I am glad to be alive.
Need: 0-1 ½ yrs. I am full of my own love – and nourished by yours.
Autonomy: 8 mo-2 1/2 yrs.; I give and receive, I help and I am helped, I see you and I am seen.
Will: 2-4 yrs.; I belong with you - and I express all my power.
Love / Sexuality: 3-6 yrs.; I am with you with my sexuality and the caring of my heart.
Opinions: 5-10 yrs.; I have different opinions from you, and we can fight about that and remain trusted friends.
Solidarity / Performance: 7-13 yrs.; I can count on your support for my finest effort, and give you my support for your finest - even when we are competing

**Communicative intention and communicative burden.**
Speculations of how to explain the unstable nature of stuttering have lead this author to focus on a concept of *communicative intention* in a central role.
According to Katzenelson (Katzenelson 04), an intention is a cognitive motivation – the idea of a purpose.
A simple way of saying it could be: stuttering does not occur when you speak – it occurs when you want to say something.
Seen in the light of Rune Stenborg’s pyramid illustration: Stuttering appears when a person wants his communication to succeed and the relationship involved is being of importance to this person. The factors and socio-psychological patterns that are activated are individual and related to the person’s developmental history and experiences. However, it could be stated that communicative success is regarded free from stuttered speech (Model 1: “intention model”).
It has been suggested that handling the moment of stuttering requires a certain amount of extra resources. Weather these resources are at hand varies with the difficulty of the task and the actual state of strength, physically and mentally.
For the understanding of this another concept is introduced: *Communicative burden* – the relative difficulty of the linguistic task, the person’s interpretation of the relation and the expectation of the ability to succeed or the fear to fail.

**Changing stuttering/speech – How and why?**
The perception of stuttering and stuttering therapy is subject to a strange paradox among people as such as well as professionals. It is seen as obvious that the stuttering person should do something to make his(her) stuttering disappear or at least not be present in communication. This in spite of the fact, that stuttering therapists with great experience know that covert stuttering might be causing the most serious problems.
It is also a common experience that stuttered speech that is expected tends to be ignored without any influence on the person’s ability to communicate. Only the element of surprise makes an impression on the listener, and when listeners get used to hear the stuttered speech it is hardly registered unless the communication is disturbed.

You might ask if it is relevant and fair to focus unilaterally on the form of the speech. For decades this has been the central discussion between treatment ideologies. Fortunately, these boundaries have been softened over recent years. Therapists of today approach the problem from many different angles and perspectives.

The decision to make is which perspective to choose – the speakers or that of the listeners? Or both? Stuttering and speech can be changed, but stuttering cannot be treated to disappear. Lasting changes and improvements are related to the amount of work invested.

*It takes courage and counselling.* (Model 2 “smiley model”)

**Model of intention**

![Diagram](image)

*The model is meant to illustrate a person with an intention to communicate something to “an important listener”. This is the very moment for a subconscious recognition of the situation, and a simultaneous reaction to prevent the stuttering moment to occur. The intention changes automatically from wanting to say something to avoid the stuttering moment.*

**Smiley model**

![Diagram](image)

*The model illustrates the possibility to recognize situations that trigger reactions of fear. They can be contained and coped with in a constructive way, when you have learned that you can interfere. What it takes is the ability to be close to the stuttering moment long enough to stop the automatic reaction and implement a better one.*
These two models slowly grew out of a lot of groups together with stuttering school children between 11-14 years of age. Some of them named the model of intention: “krussedulle-modellen”. (the doodle model).
In fact, a good way to express a reaction without a rational goal.
They did not really want to hear about the “Smiley model”. Maybe a way to escape the recognition of its reality. They would prefer to stop stuttering - not yet ready to go for another goal.

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