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March , 1993. Chester, England.

**” Not I but the world says it:  
All is one.”**

**Heraclitus**

### **Adding Meaning to life.**

For some years I have been working rather intensively with the reflex inhibition program. For those of you who are not so familiar with this term it has its origin in **theories** about so called primitive reflexes in new born babies and infants. The reflexes play a fundamental roll during the first, at least, six months of our life. They are lifelines or if you like survival factors. The first ones, I think, to document the reflexes were Magnus and de Kleijn in 1912. The reflexes were referred to by them as involuntary neuro-muscular activity and studies were done mostly on animals and on what they called "idiots". Over the years many studies in the field have been done, but as far as I know it was Blythe and McGlown who proposed that primitive reflexes that remained "uncontrolled" could be a reason for poor academic achievement in normal children later on. This is very controversial as primitive reflexes are not supposed to remain in normals six months after birth. If they do the children are not "normals" according to most medical doctors. Luckily times are changing! There are now many of us who daily see these primitive reactions in children and there are also many of us who realize that we can do something about them.

What we do is that we give the children exercises, **practical movements**, which are stereotyped from the seemingly random movements the infant does during the first months of life. The exercise program is developed by Dr Blythe after studies on infant movement behavior. Dr Blythe prefers to call the training **Developmental Re-education** which I think is a very proper label for what we are helping the child to do.

Almost every day I meet people, children, teenagers and adults who show signs of these reflexes/reactions when I test for them. Their problems are mainly of an academic nature but also, frequently, they have concentration problems. As I will reveal later, I regard these two as very closely related. I meet these people again at

certain intervals and I can see, and mostly they can see, that there is improvement after training. But how can gentle rocking and stereotyped baby movements change a person who according to accepted science already is shaped, sort of set **in form** and on the way to further development? How can I explain to the parents that their child, who five months ago was unable to roll, creep and crawl, suddenly at the age of ten and without any specific training in the special skills can do it? What about the changes in temper and mood? The habitual introvert becomes more open and outspoken. The child who hates school (and rather often that is mutual) can suddenly cope and things are getting better. **What is** supposed to have happened and **why?**

The majority of scientists do not ask "Why?" and "What for?" These questions are almost forbidden in positivistic empirical science. Only the question "How?" is allowed. This means, only that which exists in time and in local space is supposed to be real.

**Why? and What for?** are connected with value and also with meaning, the subjective, personal side of life. Science on the other hand is objective and independent. Science can measure!

When I initially screen my clients I can score their result. This scoring is also done at every review and as an re-evaluation at the completion of the training program. I have an initial score and a final score, and between them some sort of "sign posts" to show me the way.

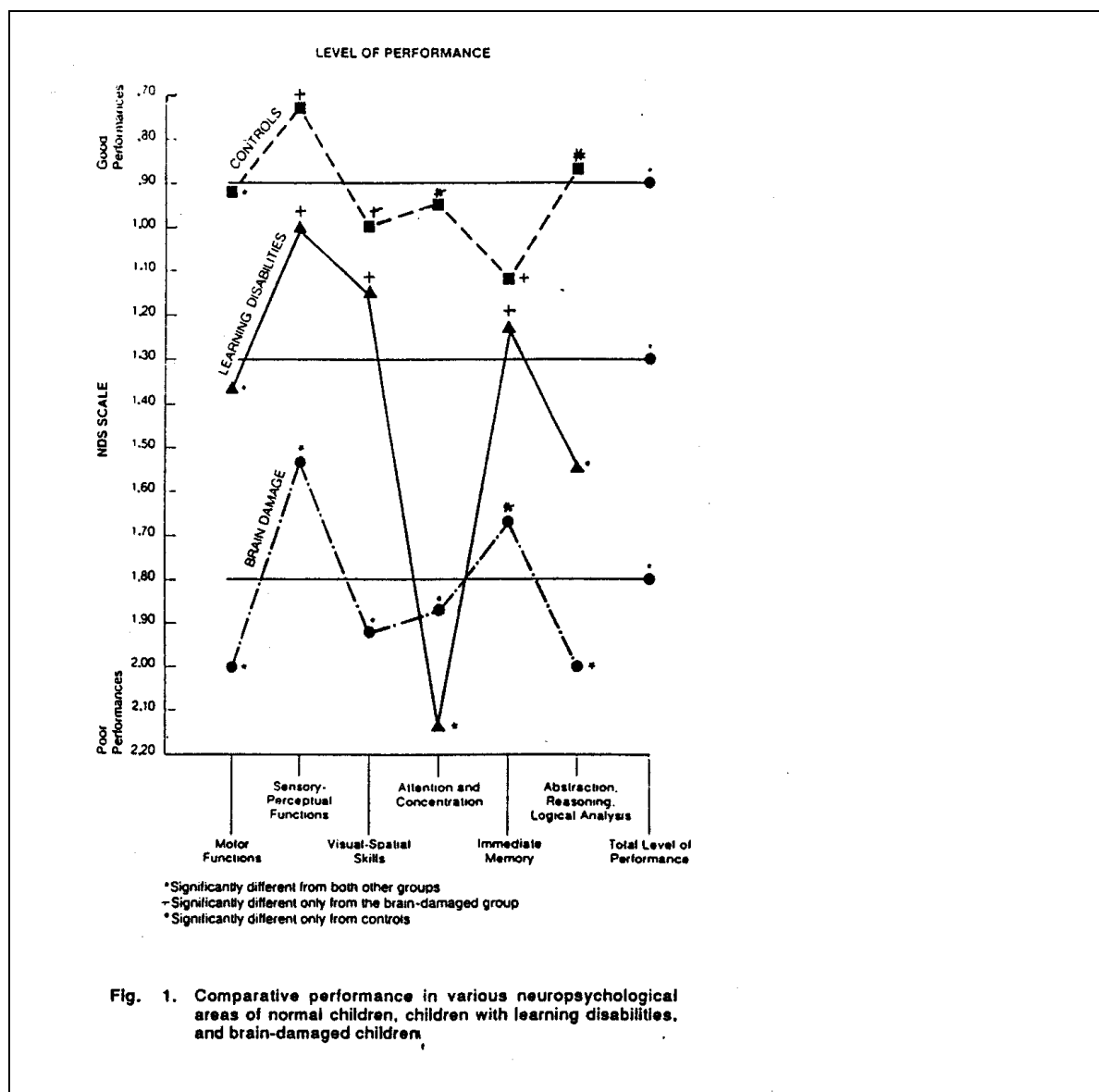
I could just as well manage without knowing "why?" and "what for?" the Asymmetrical tonic neck reflex (**ATNR**) transforms into the **TTNR** (Transformed tonic neck reflex). I could be satisfied just to introduce a new baby movement but I am the curious type. I need to understand what I am doing, and I am not satisfied with simply introducing. This is a big problem because nobody knows exactly why and **the answer does not exist in time and local space**. However a few well known scientists are interested in this area and they have found ways to explain what might be happening in the brain.

My main hypothesis for this paper is that **experience** is of very great importance in our lives, and I fear that "our" children **are unable** to experience fully. The consequence **could be** that their **thinking**, their **behavior** and then also their **value systems** are affected.

The American neuropsychologist Deborah Wolfson used the Neuropsychological Deficit Scale (NDS) in a study on 35 brain-damaged children, 23 learning-disabled and 35 controls. They were all around 12 years old. None of the learning disabled children showed evidence of abnormalities on the physical neurological examination, but each child had significant problems in school.

"The NDS is devised to reflect adequacy of performance in six areas of function: Motor Functions, Sensory-perceptual Functions, Visual-Spatial Skills, Attention and Concentration, Immediate Memory, and Abstraction, Reasoning, and Logical Analysis Skills. The sum of scores for these areas, complemented by scores derived by the occurrence of Specific Deficits and Right-Left Comparisons, comprises the total NDS Score."

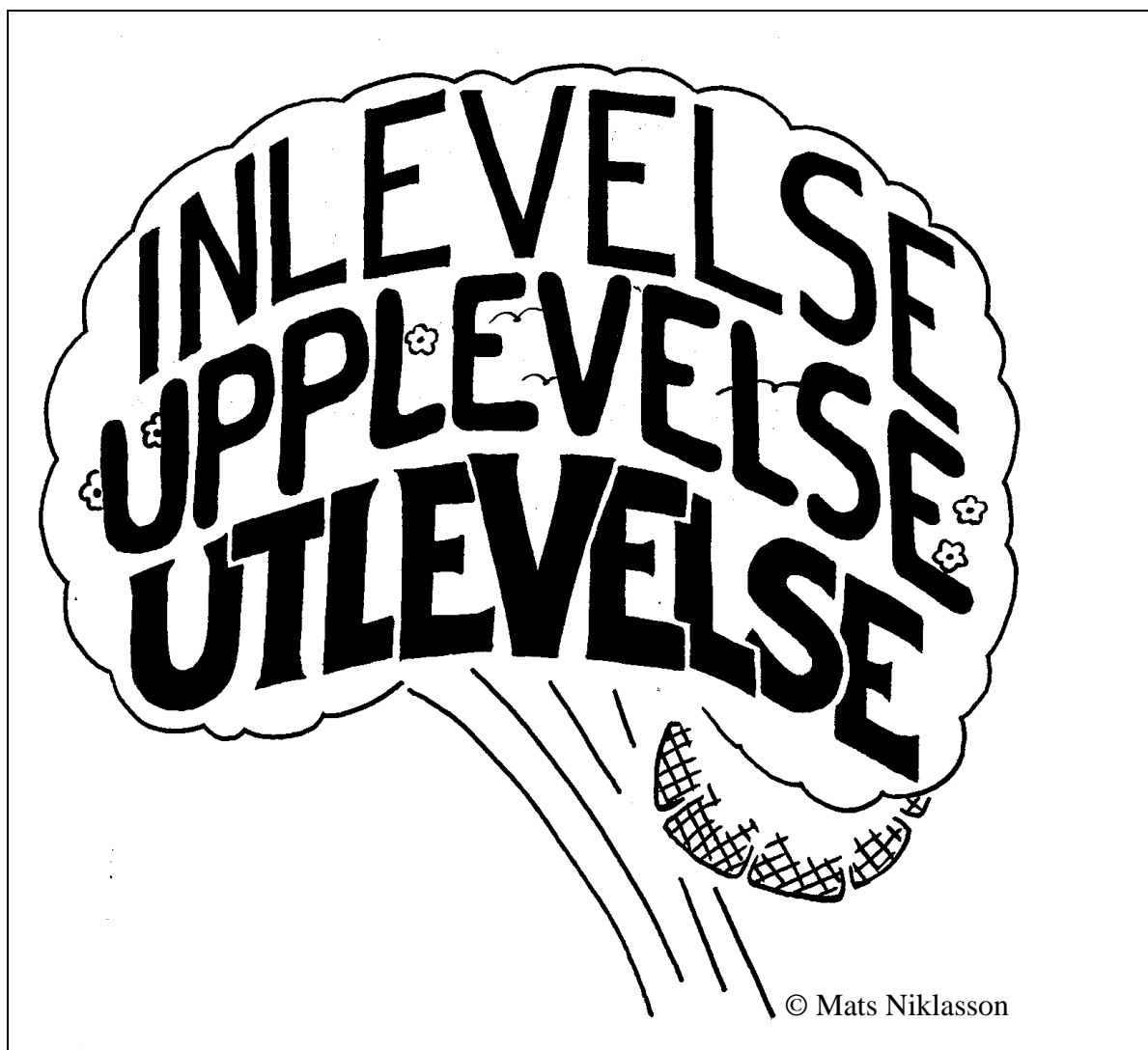
In her **conclusion** Dr Wolfson writes ; "Prior research has indicated that impairment in abstraction, reasoning, and logical analysis has constituted a significant problem for children with learning disabilities (Reitan, 1985; Reitan & Wolfson, 1992; Selz & Reitan, 1979), but the great difficulty that these children have in the area of Attention and Concentration, with relation to other areas of neuropsychological functioning, indicates that they need structured help focused on developing primary attentional capabilities." (See diagram below.)



The study by Dr Wolfson indicates that we might need to focus on concentration. But **what is the origin of concentration?** I think we have to start searching in ancient times, among the oldest animals, the ancestors to human beings. In their comparatively simple brain the **reticular formation** in the brain stem was the centre for **sensory integration**. This part brought all other parts together. The reticular nuclei made connections with neurons in the whole nervous system. Information came from all the different sensory channels and was then spread to the whole brain. As time went by the demands on the nervous system increased.

To be able to catch a prey and to avoid becoming prey oneself, the animal had to have the skill of coordinating its movements. The animal also had to have a sense of orientation in space. For these reasons the **vestibular system** developed. So, from very remote ages until the birth of modern man, and even onwards, the reticular formation and the vestibular system have continued to develop together. In modern man the main purpose of the reticular formation is to regulate the level of "wakefulness" or even better, **the level of consciousness**. The vestibular system continuously provides the Reticular Activating System (**RAS**) with a flow of sensory impulses mainly from the proprioceptors. Without the support of the vestibular nuclei the reticular system loses much of its force. A well-modulated activity in the vestibular system is of great importance for the individual to be able to maintain an appropriate level of consciousness. If the level is too low the result is likely to be **overactivity or even hyperactivity** and automatically a loss of concentration. From this point of view, lack of concentration **could be** a result of malfunction in the vestibular system! If so, this will affect **thinking** and even **behavior**, as **behavior is a function of the entire nervous system**. The vestibular system is connected to our arms via the joint receptors in the neck. To maintain equilibrium of the whole body the vestibular reactions have to be exact the opposite of the reactions from the neck. This means that a well functioning system will make it possible to turn the head towards the pen while writing without the risk of the "penholding arm" stretching out. My opinion is that many of the learning disabled children show **immature** reactions in their limbs. When trying to write and read they can't "hold the line" and have to concentrate very hard. In addition is not only the neck connected to the vestibular, but even the eyes have close connections. When this is understood it is easy to see that children with learning difficulties and/or concentration problems are **using more energy than they actually have**. Almost everything they do requires too much effort. I think it is appropriate to say that they are **caught in a vicious circle** at the brain stem level. Most of their energy have to be spent on compensation for bad balance that, as I mentioned, generates involuntary movements mostly in the arms and hands. No wonder their behaviour is sometimes bad. If it wasn't for their intelligence things could be much worse (fortunately many SL- children and over active children seem to be very bright).

The vestibular system "gives us a relation to gravity" as it detects sensations of equilibrium. Our struggle against gravity also generates the energy or power we need to keep the level of consciousness. The sensation of gravity comes first. Upon this the perceptions from other sensory channels are laid. **What we perceive is what we experience, and from this reality we build our thinking.**



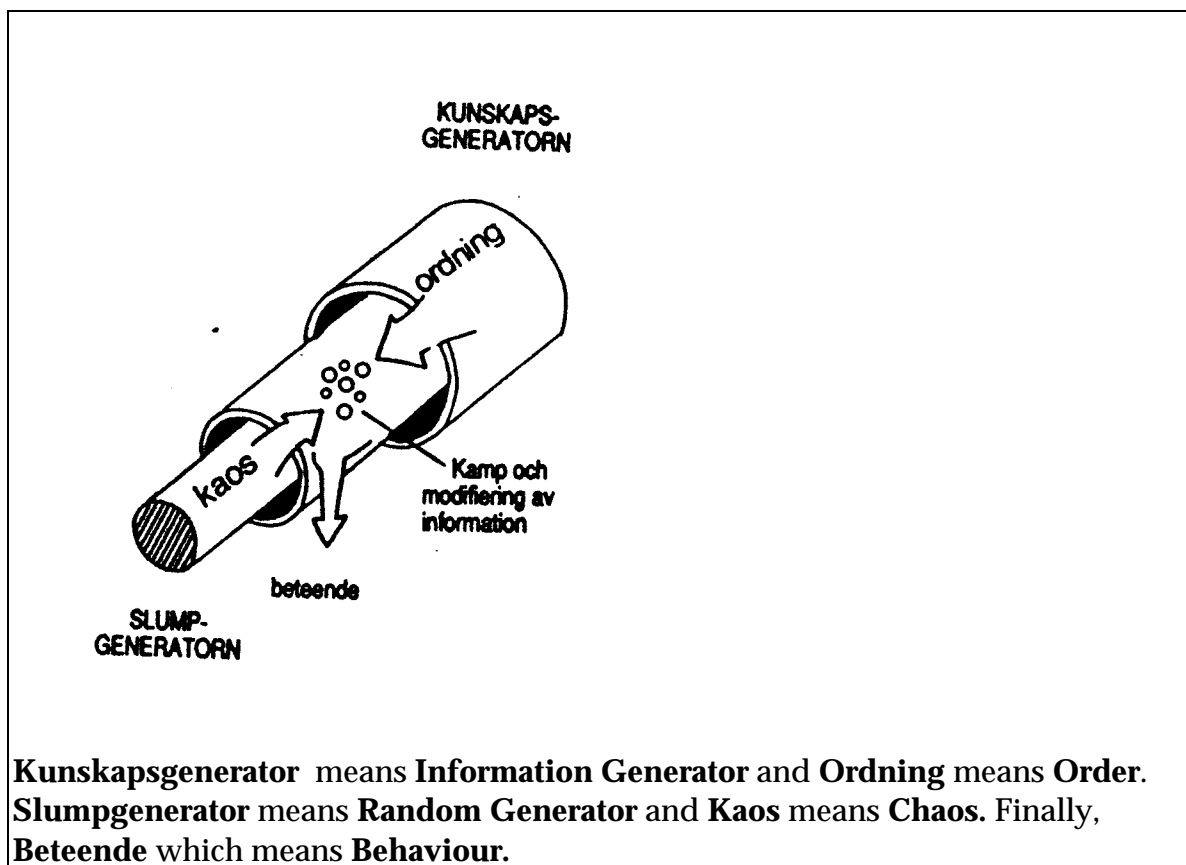
The maturation of the brain follows evolutionary history. This means that the phylogenetically oldest part is first to mature. The process goes from bottom to top. From the **involuntary to the voluntary level** but there are, naturally, many top to down influences throughout the whole maturation process.

On a **brain stem** level we have a relation to gravity, to **movement**. This relation is very **concrete** as it is built on sensations from motion. For me this is the level of **expression, UTLEVELSE**.

Next level is **the limbic system** which very simply could be regarded as being the receiver of **perception**. To perceive is yet another **concrete** way of getting information. For me this is the level of **experience, UPPLEVELSE**.

**The Cortex** is the **abstract thinking** part of the brain. This is the level that generates **order and knowledge**. According to Professor Matti Bergström we have our inherited intelligence and acquired knowledge here. For me this is the level of **insight, INLEVELSE**.

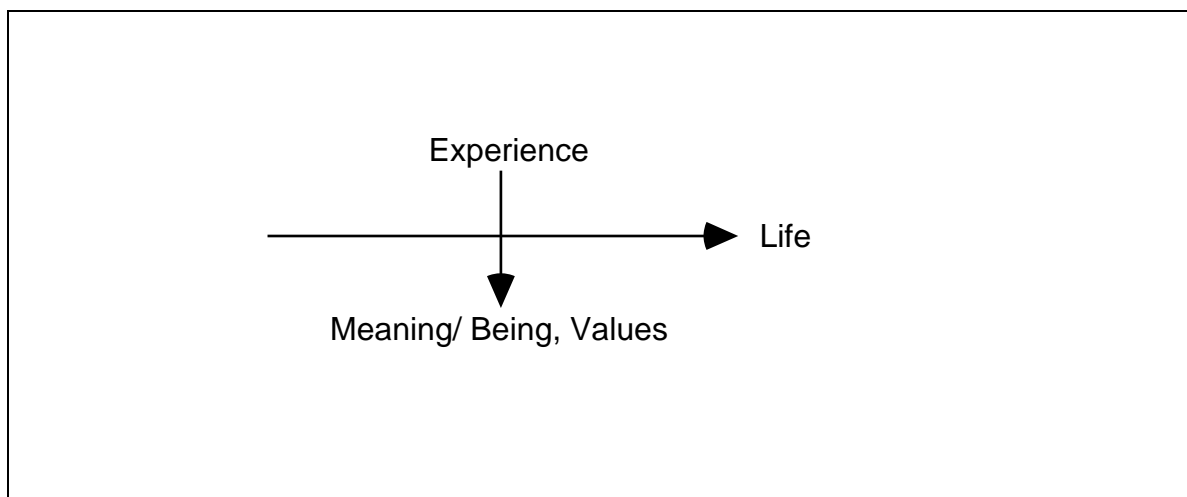
Professor Bergström describes **the brain as a dipole system** and that makes it easier to understand how **values** are related to the work of the brain.



Drawing by Pia Ikonen

Sense of **meaning** in one's life is essential. Exactly what meaning is could be discussed deeply. Probably the answers which emerge would be according to our experience and insight. Professor David Bohm writes that **meaning is being and values are closely related**. As I understand this, in the context of Professor Bergström's dipole system, the creation of **Meaning/ Being** is where **knowledge and chance, chaos and order** meet each other. A new being is constantly in process in relation to the work of the nervous system. In this way **values come from within, hand in hand with experience**.

If you have perceptual problems much effort has probably to be spent on compensation. You have to act in certain ways and you don't have the energy to take a full part in life. Of course this will form your view of the world. Actions and even the thinking will probably be more rigid than flexible. Rigidity prevents creativity, and when you lose your creativity you lose your "power" to dig deeper into life. So any fixed positions means the end of creativity. It is very important to notice that this has nothing to do with what we generally mean by intelligence. Remember that we, according to Professor Bergström, have intelligence as some sort of "hardware" genetically in the brain.



Mats Niklasson

According to Professor Bohm rigidity of mind give hardness in the heart on the emotional side, so there will be difficulties in feeling love. Love is also Meaning, **the deeper side of life.**

Experiences give our life constantly new Meanings. They add another dimension by literally **unfolding** us and allowing us to dig deeper into life.

During the Developmental Re-education programme I can see how new Meaning unfolds in the child as she becomes more open to experience. Through experiences the Being is created. It seems that as you experience more deeply your value repertoire expand and you will gain **insight**. This is vital because according to Professor Bergström, **value controls knowledge.**

(As we are facing much juvenile crime presently this might be worth thinking about. Do we solve the problems by putting more policemen on duty or by imposing more knowledge? My own answer is No. We have to start the change from within).

That is why it is so important to work towards flexibility and wholeness, and I think that is what we are doing by "putting people to a Reflex Inhibition Programme."

This may sound pretentious, but for me it is very real.

**What I have said so far is, that gravitational problems and "primitive reflexes" are not only a hindrance for reading and writing, but they might also be a hindrance for the total human development.**

After studying Bergström and Bohm I think it is time to propose, and I am not the first one, a holistic view of the human being and her development. A wholeness with an implicate order where all possibilities can enfold and become explicit. The energy we need to do this comes from an adequate relationship to **gravity** (perhaps via the electromagnetic force in the cells). Gravity is a very basic ingredient in our lives. Gravity always comes first. The sense of gravity is earlier

than the other senses, therefore the other senses will develop upon the vestibular sensations. This means that Gravity is the **generator of Meaning/Being**.

Regarding the human developmental milestones (rolling, creeping...) it is as if there is an implicate order that unravel and becomes explicit. For example, normally we don't have to teach the baby to crawl. When the conditions are right it will crawl. This new, higher stage, opens up new possibilities for the child to gain new and more advanced knowledge. It will effect both the body and the mind. A new stage of Meaning/ Being is reached.

I think, still following Bergström and Bohm, that we have to stop thinking about development as something altogether hierarchical. When we talk about the **reflexes**, for example, I think we should consider them as **sub-wholes in a wholeness**. Therefore I got very excited when I read a paper by the Dutch pediatrician, Bert Touwen. He wrote:

"How then to account for development if it is not acceptable to think in terms of hierarchical compartments, with the underlying ones complying with the superimposed ones? How can development of a complex system such as the CNS be conceptualized so that the entire system is involved in the developmental process? For an explanation, it is possible to borrow from the field of thermodynamics. The developing nervous system can be considered as an "open system", that is, it exists and grows because of continuous influx of energy and information (Jacob 1977).

An open system is not in equilibrium, but in a "dynamic" state. For open systems which are far removed from equilibrium, Prigogine introduced the term "dissipative structures", i e, structures with the specific property of reacting to very small changes in information from their environment by reorganization and reordering of the whole structure."

**Order is here a generator for order. As a result the structures will grow stronger** (see drawing on page 6).

"The developing nervous system can be regarded as being far removed from equilibrium, and during development many small environmental variations impinge on this system. It is quite possible that it acts as a dissipative structure: as a consequence of small changes (environmental, but also morphological) it reorders and reorganizes its whole structure in a predictable way, resulting in an efficient and highly reliable functional system".

A baby's, what we traditionally call "primitive reflexes" but as Touwen prefer to call reactions or responses, may be expressions of this **sequential development of the CNS with its relative Normalcy or Pathology**.

"In this concept, reactions and responses have their own significance in the infant's neurological repertoire, as expressions of age-specific dynamic states of the developing nervous system."

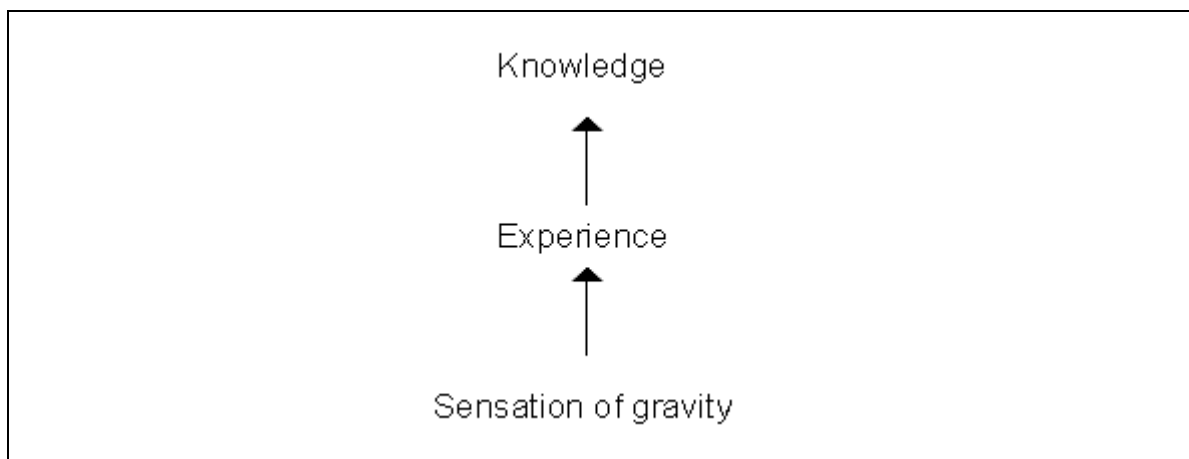
Therefore, when I screen for the presence of aberrant reflexes, I am also checking the **maturation level of the nervous system**.

I look upon my work not only as a way to help my client to perform better academically, but also, and maybe foremost, as a way to help him grow nearer wholeness, to become a more integrated human. I think that if you are integrated you are also better prepared to face the problems you meet in life. You will function **body and mind together**.



What the world needs is not only the creative insight of Meaning but also a creative communication. This means that each one **must be able** to listen to his/her own creative insight and take it up themselves instead of having it imposed by someone else.

The education system today is, in my opinion, very much a matter of trying to impose knowledge. This is very much the reality for "our" children who are mostly slow learners and always have to employ strategies to survive. Just to **be** is very often quite enough for them. They need the soil for knowledge to grow in and **this soil is Experience**.



Mats Niklasson

Our mechanistic, information-based society makes it probable that all of us, to some degree, become relative "**value-invalids**", but especially high at risk are those children and youngsters with perceptual problems. According to Matti Bergström ; " Lack of ability to see things as a whole and to evaluate them, to see alternatives and select among them is a big danger."

"We can expect that a human race overloaded with pure knowledge and lacking the value-capacity and a sense of Meaning cannot prevail in natural selection."

We have to see the importance of **building knowledge from within**. On Meaning and Values.

**We have to add Meaning to life.**

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