

## CONDUCTIVE EDUCATION

with special reference to severe Athetoids in a non-residential centre

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The education of severely handicapped and speechless Athetoid children is a daunting prospect. Sight, hearing and speech are frequently impaired. Sitting or standing balance are lacking and they are unable to crawl or otherwise move along the floor. Neither is it possible for them to focus their eyes on an object nor use their hands to grasp or steady themselves. Physically hypersensitive to sound and touch, also psychologically unstable, they are difficult to treat because of their antipathy to change and dislike of being handled.

The normal child is enabled to learn much through the interaction of his senses and bodily movement, and by relating to his own body image some portion of what he sees, hears and feels. But, unable even to explore his own body, the Athetoid child cannot extend himself to conceptions such as the legs of a chair or the face of a clock—a stranger within his own gates, experiencing continual defeat which slowly robs him of all desire for independence and makes him increasingly reliant on others.

In view of the above, is it not fallacious to assume that the Athetoid is capable of learning amidst the hubbub and distractions of the normal classroom? Contrary to the generally held view, "he will soon get used to it," in practice, the teacher is obliged to remove him from the other children to some quiet corner to gain attention and concentration for what little time is available.

Not only abnormally distractable by sound, touch or visual stimuli, but also lacking the ability to select or exclude any of these which come his way, it is not surprising that the normal practice of moving the Athetoid from room to room to meet one person after another in the shape of Physiotherapist, Occupational Therapist and Speech Therapist adds to insecurity and confuses to such an extent as to deny the benefits he might have obtained under conditions attuned to those of the brain damaged child.

Neither will existing teaching techniques devised for normal children suffice. Nor will therapies assist, unless—and this is the very essence of the problem—all the different aspects of education, whether physical, mental or therapeutic, are so integrated under conditions deliberately suited to the child's brain damaged condition as to make it possible for him to learn.

To avoid distraction—quiet surroundings. To prevent confusion—one therapist only in place of three or more now employed. To lay down and reinforce new motor patterns—repetitive work and a set time-table. To establish motivation and foster stimulation—treatment in groups. These are the parts which in their aggregate amount to "Conductive Education", the most promising method of learning for the severely handicapped Athetoid child.

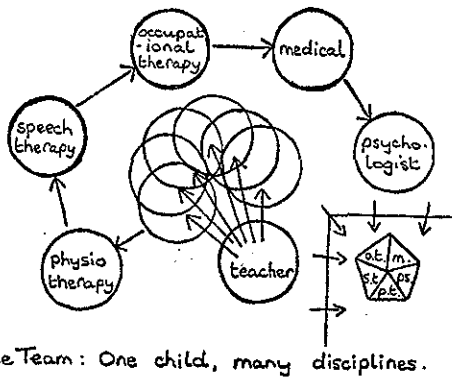
Professor Andras Petö, who recently died at the age of 74, originated Conductive Education and founded the "State Institute for the Motor Disabled" in Budapest for the treatment of children afflicted with Cerebral Palsy, Dystrophies, Paraplegias and Spinal Bifidae. The Institute is a residential pre-school training centre, and the children leave after 1-2 years able to participate either in normal education or education for the handicapped.

Professor Petö originated a simple method of treatment, both profound and ingenious. He believed the reason treatment is handled by a variety of therapists

relates more to the fact that these therapists have acquired specialised skills rather than to the disability of the child. For example, three separate skills are involved in teaching a child to feed itself. Firstly, the Physiotherapist teaches sitting balance and the movement of hand to mouth; secondly the Occupational Therapist is concerned with the holding of the spoon and the adaptation of the tool to the situation; thirdly the Speech Therapist handles problems related to the mouth, the tongue and swallowing. These three separate disciplines handled by three different personalities must, he argued, confuse the child.

### Conductive Education

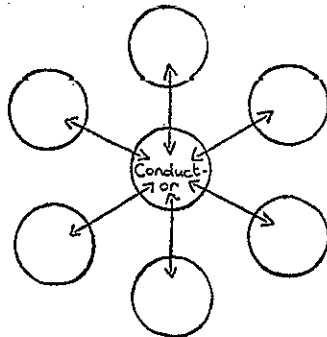
Professor Petö strove for a unity of approach to the treatment, education and management of the Cerebral Palsied child and achieved this by creating a new profession—that of the “*Conductor*”; by adopting a method of treatment called “*Rhythmical Intention*”, and by arranging for the children to work in *groups* while adhering to a *rigid time-table* and a *long-term programme* in surroundings that are free of all distractions.



*Conventional arrangement for the treatment of Cerebral Palsy*

*The child moves from room to room and from therapist to therapist*

The Team: One child, many disciplines.



*Conductive Education: One room, one Conductor, one group*

The Group: many children, one discipline

### The Conductor

He visualised each group of children as a unit which he compared to an orchestra; the *Conductor* controlling the group while acting as nurse, teacher, physiotherapist, occupational therapist and speech therapist to the children in her particular group—“who fetches the pot must also teach”, said Professor Petö. He insisted the emphasis must be on the child learning instead of receiving treatment. The *Conduc-*

tor shows how particular tasks are accomplished and regulates the working pace, but only in order that the child may himself master the different skills required for normal living. In this way treatment is related to the accomplishment of tasks rather than to the child's individual symptoms.

As well as imparting a sense of security to the child, the most significant advantage of the Conductor, as compared with the normal teacher-therapist situation, lies in the possibility of taking immediate advantage of any improvement in speech, function or physical ability by relating it at once to other aspects of the child's efforts. In this way a powerful reinforcing effect is gained. A sense of order is also borne in the mind of the child as he gradually realises that it is equally important for him to learn all tasks from sitting on the pot to reading.

The profession of Conductor is now recognised by the Hungarian State. The girl-trainees come to Professor Petö's Institute at the age of 18 after completing their high-school. They are then trained for four years simultaneously in the Institute and at a teacher training college.

### **Rhythmical Intention**

*"Rhythmical Intention"* is the term used to describe the method by which the child learns normal movement patterns, functional skills, how to speak and the purpose of speech. Pavlov describes why the brain must be freed of all other activities if new paths are to be formed. Luria, as a result of many experiments, has also described the influence of speech on voluntary movement. Thus, when the children speak in unison at a very slow tempo, they exclude other stimuli and are enabled to concentrate on the task in hand.

The Conductor may say, "I hold my ears". The children will repeat very slowly and loudly, "I hold my ears" (the intention), and while counting from one to five (the rhythm), they carry out the movement.

This slow, loud chanting is heard continuously from all parts of the Institute in Budapest. It is beneficial in important respects:

- (a) It enables the children to work for very long periods without a break.
- (b) It develops speech and language and encourages the children to speak loudly in all positions, so assisting their breathing and articulation.
- (c) It enables them to move in normal movement patterns by establishing contact between the higher centres of the brain and the trunk and limbs.
- (d) At the same time the children establish a firm body-image and ideas of position in space; a matter of the greatest importance as stressed elsewhere in this article.
- (e) It furthers concentration.
- (f) It enables the children to work actively. "You must not touch the child", said Professor Petö; and with the exception that the Conductor very occasionally fixes a head or a limb, the children in each group work unaided, thereby gaining a strong element of motivation; an impetus lacking when handled by the therapist.

"I put my right foot on my left knee", "I turn on my side", "I lie still",—these exercises and thousands of others are regarded as tasks or segments of tasks directly related to function. After a very short time the child understands that he folds his hands on his chest and stretches them towards the ceiling to help him sit up, or that touching the floor in sitting will help him to remove socks and shoes.

In this connection it might be of interest to determine whether set sessions of Rhythmical Intention would benefit children of low mentality but with no symptoms of physical damage.

Professor Petö did not use intelligence tests to decide whether a child would be likely to benefit from Conductive Education. He based his judgment on the child's ability to participate in Rhythmical Intention. Providing the child understands what is expected of him, and is capable of making an effort, he is regarded as educable and capable of participating in the work of a group.

### **The Group**

A *group* consists of a number of children of like age afflicted by the same disability. Whether composed of Quadruplegias, Diplegias, Hemiplegias or Athetoids, each group functions as a Unit; the children being set the same tasks and together learning the same skills. This particular form of organisation was not adopted as a matter of convenience, but as a means whereby the attention span of each child could be increased. Learning to stand, sit, eat, undress, etc., every child is encouraged and tries to emulate the success of other group members; they applaud and stimulate each other along their road to independence.

During our first visit to The State Institute, we sat beside Professor Petö watching a group of children who had been exercising slowly and laboriously for several hours on their wooden plinths. At lunch time we rose to take our leave. Without turning his head, Professor Petö said, "The little boy in the corner is trying to stand up by himself today for the first time. No one will leave this room until he has accomplished his task." After a further 45 minutes of effort, during which time the remainder of the group continued their standing practice, the boy succeeded in his efforts to stand. A photographer was called, and the boy said, "Come back this afternoon and I shall stand without holding on". This incident not only demonstrated Professor Petö's appreciation of the boy's efforts and his timing of a successful situation, but also to what degree these factors and the group situation influence the child's confidence and motivation.

### **The Room**

The scene must be correctly set to create the most suitable milieu for the group's work—an atmosphere in which the child can concentrate and learn without distraction. *The room* simply furnished with wooden plinths on which the children exercise and which are also used as tables (in Budapest these same plinths also serve as beds) and sturdy wooden chairs without arms to be used as walking aids as well as for sitting. Nothing of the atmosphere of the typical nursery with its paint and pictures, sand and water, music and T.V.—so interesting and stimulating to the normal child who, at one with himself, is ready for exploration. Due to his hypersensitivity and inability to filter stimuli, these educational attractions would only confuse and add to the already crushing weight of frustration which is carried by every severely Cerebral Palsied child.

### **Programme and Timetable**

A *Programme of work* is devised in relation to the capacity and age of each particular group. This will aim to achieve a number of functional skills within a calculated period as, for example: sitting balance, feeding, drinking, drawing, writing, dressing and the like. On the basis of this estimation, together with a thorough analysis of the movements involved, a *daily time-table* is set which includes meal times and toilet training, both of which are regarded as part of the day's work. Exercises are promoted in supine, prone, sitting and standing—all directly related to the task in hand.

With the intention of maximising concentration and minimising anxiety, Professor Petö insisted that the children should anticipate the rhythm of the day's work which, in Budapest, proceeds from 7 a.m. to 7 p.m. Any child can recite their timetable and they know this will not be varied until everyone in his or her group has mastered those tasks they set out to achieve.

The condition of the severely handicapped Cerebral Palsied child invalidates any short cuts to success. As with the concert pianist and ballet dancer, who practice for many hours daily to perfect their finer movements and skills, the brain-injured child needs hours of repetition and reinforcement to establish a longer attention span and new normal motor-patterns. Although the working day in Budapest lasts from 7 a.m. to 7 p.m., which is only feasible in a residential situation, we thought it might be possible to achieve results in an existing day centre where the children have a shorter working day. With the approval of Professor Petö and with the help of Dr. Graham Fagg and the Luton Spastics Group this was arranged under the auspices of The Spastics Society.

Since August 1966, we have at the Lady Zia Wernher Centre in Luton carried out this system of Conductive Education with a group of eight severe Athetoid children. Since the population coverage of this area is relatively small, we were unable to select children of a narrow age variation or to mix speaking and non-speaking children. Those who qualified for the group by nature of the definition and severity of their condition, varied in age from 3 to 12 years, and all of them were non-speaking.

The children attend the Centre daily for 6 hours, during which time they work through a set time-table without a pause and without need of a rest. This can only be described as a modified system, since the working time in Luton amounts to 6 hours a day, 5 days a week, as against 12 hours a day, 7 days a week in Budapest; also in between each working period the child readjusts itself to home conditions whatever they may be—indulgent, deprivatory, chaotic—or ideal.

It is inevitable that the child who arrives on Monday morning is different from the child who leaves on Friday afternoon and, to a varying extent depending on the nature of the child, Monday morning implies starting all over again. Although we may have gained the co-operation of parents in the ordering of their child's home life, one cannot humanly eliminate the indulgence of parents towards a loved and severely handicapped child for whose dilemma they feel the weight of responsibility and, in some cases, guilt.

Taking into consideration the disadvantages of a modified system, the children have shown remarkable improvement in every aspect of development; physical, mental, emotional and social.

### **Physical**

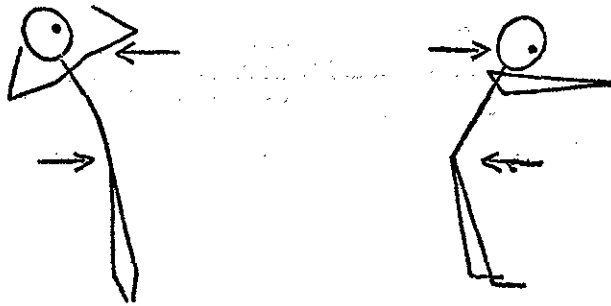
The physical change required in these children can best be described by diagram. (see next page).

The severe Athetoid before training is completely asymmetrical, and capable only of movement in anti-functional patterns. Consequently, our aim in training is symmetry leading to the mastery of basic positions and movement patterns permitting effective function.

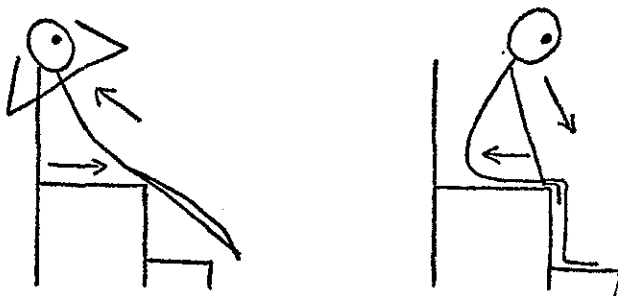
Initially, the child's intense negativism has to be worked through. His fear of the unfamiliar is terrible, and he is completely unfamiliar with the concept of effort, work or active participation. He clings to his only method of expressing himself, which is usually an expression of protest through those patterns of extension which are the most detrimental to function. (Figures 1 and 2).

The group, speaking generally, has learnt in the first year :

1. to lie still on their backs, legs straight, arms at sides, head in the middle;
2. to join their hands together and stretch their arms forward in any position to achieve the symmetrical forward position necessary for all function;
3. to sit anywhere; on chair, stool or end of high plinth, with hands holding the sides;
4. to maintain a tight grasp with both or only one hand, essential for security while learning control of positions or performing skills;
5. to get up and down to pot alone; to sit alone and manoeuvre about the floor on pot;
6. to stand alone holding on as in diagram;
7. to walk alone pushing chair, either with straight arms or with arms over the back;
8. to sit unaided and remove shoes, socks and trousers; to put on trousers and coat;
9. to drink unaided, some to eat unaided, to wash hands and clean teeth;
10. of eight non-speaking children, three have conventional Athetoid speech, five have imitative Athetoid speech, seven pronounce all vowels, six pronounce 6 consonants accurately. There is a general changeover from the use of gesture and non-specific sound to the careful use of speech and language for communication.



1. Standing before treatment 1a. Standing after treatment.



2. Sitting before treatment 2a. Sitting after treatment

## **Mental**

A year ago, the concentration of the children was non-existent; now, children of four years can maintain their concentration and participation in a demanding class situation for over half an hour.

There is a prevalent opinion that it is necessary to remove all need for balance with arms, headrests, wings, sloped backs and various strategically placed straps, before a child will be able to give his full attention to an intellectually demanding stimulus. We have found this to be quite untrue. In fact, when the children were placed in situations demanding the maximum effort of balance, we found their participation and concentration increased both in time and degree. It became apparent where motivation is so slow to develop, the children must be so placed that their maximum is always demanded of them. Anything less than this allows a slackening of intent and ambition, and a relapse into both physical and mental lethargy. The developing motivation must be fed by the attainment of planned sequential achievements, and this can only be done in a constantly demanding environment. It is a cycle of cause and effect.

Memory is now very good in some of the children, in others still shortlived. They have learned about thirty poems and songs (not nursery rhymes) which they can repeat and use to illustrate relevant situations. Perceptual awareness is excellent generally, both in relation to self, self in space, position and direction; shape, form and colour and design perception are all developing well and being used in practical applications.

## **Emotional**

The delayed emotional reaction, followed by the exaggerated response of laughter or screaming which the child cannot bring under control, is the familiar picture in Athetosis. This liability which comes as a product of extreme physical and emotional insecurity, gradually lessens as it is brought consciously under control by the child. Through never giving in to a child's outburst, but quietly insisting that he works through it until success is achieved, he realises that it is an obstruction to his progress and ambitions; instead of using his emotions to over-ride the adult resistance to his will, he works to overcome his own emotional weakness. These painful outbursts which were so frequent a year ago, are very rare now. Laughter and tears come and go during the day as in any group of small children.

## **Social**

By working actively together in a group situation, the children, previously aware of and concerned with only their own predicament, through daily contact become a part of the shared predicament of the group. From the moment of their merging into the group situation, their recognition of the struggles and successes of the other children and their ability to appreciate these in the light of their own, brings about a slow emergence of the withdrawn and isolated child. He begins to watch the other children; to observe their problems and to understand their needs both for physical help and moral support. He then, from the basis of his own increasing security, attempts to provide these where he can; reaching out in concern and friendliness to the other children. Now the children constantly help one another on their own initiative; counting for one in difficulties; fixing a hand or foot for a child attempting a hard task; scolding, correcting or praising one another.