





# **Awakening to Life**

**On the Education of Deaf-Blind  
Children in the Soviet Union**

**Alexander Meshcheryakov**

*with a Preface by Mike Cole*

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Written by Alexander Meshcheryakov in 1974.

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A biography of the author and a number of testimonials included in the Progress Publishers edition have been omitted. A bibliography which mainly included works in Russian and other languages other than English has also been omitted, but where possible references to Marx have been given in *MECW* (Marx Engels Collected Works). A preface by Michael Cole has been added.

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## Preface

Imagine yourself blind and deaf. Even as an adult, such a predicament severely reduces your contact with the world, although you can speak, perhaps read Braille, perhaps be able to navigate your environment with a walking stick and great care. Now imagine that you had become blind and deaf at a very young age, before you had acquired language, before you had become familiar with your surroundings and the traditional forms of behaviour of your community. It is this latter circumstance, growing up blind and deaf from a very young age, that Alexander Meshcheryakov studies in this classic, unique, experience in pursuing the idea that even with such handicaps, human beings are capable of becoming poets, parents, academicians – fully functioning adults.

It was Meshcheryakov's belief, a basic tenet of Russian psychology during the early and mid-20th century, that it is through participation in culturally organised activities with other human beings that one develops. Everyone, even the blind-deaf are born with the capacity of entering human society *if* great care is taken by those around them to immerse them in human culture, including human language, by assisting them to participate in the everyday, mundane, activities of their community.

He approached this problem within psychological framework proposed by Lev Vygotsky, emphasising that specifically human psychological capacities develop through joint, mediated, activity with other human beings. Of course, when a child has experienced several years among adults to whom they cling for life, adults whose own busy lives make difficult, if not impossible, the special, time consuming, labour intensive process of arranging the cultural environment to enable the participation of children, that child is likely to enter a state of 'learned helplessness' where no action they take provides them with satisfactory feedback and they eventually overwhelm their parents' ability to care for them.

No longer actively responsive to the world, they present a huge challenge to therapeutic intervention. But not an impossible challenge, given the will as well as the theoretical and material resources to help them. And, when such help is organised, the children return in full measure the help they received by revealing. Owing to the fact that therapeutic intervention requires adults to be extraordinarily sensitive to the way they organise the child's environment, and the process occurs so slowly and so publicly, processes of enculturation and development that ordinarily happen too quickly to be analysed are suddenly opened up to scientific investigation, generating understand-

ings that help not only blind-deaf children, but society at large which comes to have a better appreciation of the necessary and sufficient conditions so that all children can achieve their full human potential, for their own benefits, and for ours.

For Further reading, see

Bakhurst, D., and Padden, C., "The Meshcheryakov experiment: Soviet work on the education of the blind-deaf," *Learning and Instruction* 1, (1991), 201-215.

Levitin, Karl. The Best Path to Man, *Soviet Psychology*, Vol. 18, No. 1, 1979.

*Mike Cole*

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# Deaf-blind Children

## Introduction

The names of certain deaf-blind persons, who achieved a high level of intellectual development – in particular Helen Keller in the United States and Olga Skorokhodova in the USSR – are widely known. In academic circles the names of their teachers – Anne Sullivan and Professor Ivan Sokolyansky – are also famous. Less well known is the fact that at the present time the teaching of children with severely impaired sight and hearing is no longer a question of isolated cases, but has been evolved as a commonly accepted aspect of practical methodology in the teaching world. The pioneer in instructing deaf-blind children in the Soviet Union was Professor Ivan Sokolyansky (1889-1960), who as early as 1923 brought together a group of children bereft of the powers of sight, hearing and speech in Kharkov. His long series of experiments in the instruction of the deaf-blind was carried forward at the Institute for Research into Physical and Mental Handicaps affiliated to the USSR Academy of Pedagogical Sciences.

This volume represents the first attempt to describe systematically the educational work carried out with the experimental group of deaf-blind pupils at the Institute for Research into Physical and Mental Handicaps between 1955 and 1970 and at the home for deaf-blind children in Zagorsk between 1963 and 1970. Until 1960 this work was carried out under the supervision of Professor Sokolyansky, the founder of the Soviet school of education for the deaf-blind.

Deaf-blindness as a subject for research is distinctive in that the absence of sight and hearing and the dumbness resulting from the latter, rob a child of the chance to communicate with people around him (unless he receives special instruction). This isolation precludes the deaf-blind child's mental development. The instruction of such a child involves the unique task of deliberately shaping a whole human personality. In cases where the task before the researcher is the deliberate shaping of a phenomenon, conditions are provided for ascertaining the laws underlying the nature of the phenomenon in question and its patterns of development. This book aims at demonstrating, on experimental and theoretical data pertaining to the behaviour and mentality of the deaf-blind, certain factors and patterns underlying the emergence and development of human behaviour and the human mind as such.

There are of course certain features peculiar to the development of the deaf-blind child; however, this research was focussed primarily on establishing patterns of normal development.

The theoretical significance of results achieved in the rearing and instruction of deaf-blind children consists in the fact that these experimental data substantiate beyond doubt dialectical-materialist concepts of the social nature of the human mind.

This book investigates aspects of the early mental development of the child in *the course of its training in practical day-to-day behaviour*.

It is hoped that it will be of interest not merely for specialists working with handicapped children but also for a wider audience interested in the mental development of normal children.

The author was assisted in carrying out the research for this study and collecting the required material by the teachers at the Zagorsk home for deaf-blind children, and also by members of the Department for the Study and Instruction of Deaf-blind Children at the Institute for Research into Physical and Mental Handicaps affiliated to the USSR Academy of Pedagogical Sciences: senior research worker R.A. Mareyeva, and teachers G.V. Vasina, L.V. Pashentseva and A.Y. Akshonina.

# Part One

## Problems of Deaf-blindness

### Chapter I

#### Problems and Methods of Research

The teaching of deaf-blind children constitutes something in the way of an experiment in the field of psychology and specialised pedagogy. The aim of this experiment is to determine and exploit in practice, by means of special instruction, the potential for developing cognitive functions in children bereft of both sight and hearing and, as a result of their deafness, of speech as well.

Deaf-blindness is, as a rule, the result of an illness, entailing the loss of both sight and hearing. The diseases vary from one child to another, as also does the course the disease takes. In addition, the way of life provided for the child after such an illness varies as well, depending on the attitude adopted to the child's handicap by the adults in its family: in some families the child is cosseted to an inordinate degree, which serves to hold back its development even more, in others children are trained to become somewhat self-sufficient. This means that no two deaf-blind children are identical in their rate or level of development.

At the same time a certain pattern of development does emerge common to all deaf-blind children.

The main approach used in our work has been clinical study, with the development of an individual child followed over a long period. This method involves charting special features of the activity of the child and describing its relationships with the people around it. Broadly speaking, it should take account of all factors responsible for the fundamental changes taking place in a child's mind at each new stage of its development.

The investigation embraces three major stages: the conditions obtaining in the period immediately preceding that being studied; analysis of mental changes during the period under investigation; and definition of newly emergent prerequisites for those mental changes, which are to be fundamental to the next period in the child's development.

The pupils discussed in this book were studied over periods of varying duration. Observation of the development of Julia V., Seryozha S., Yura L., Natasha K., Natalia Sh. began long before a

special school for deaf-blind children was opened. The majority of the children referred to have, however, only been studied since they entered the special children's home in Zagorsk which opened in 1963.

This book does not contain all the data collected, but only such material as is relevant to the overall theme. There is for instance no mention of the problems involved in pursuing the normal school curriculum (it is worthwhile pointing out here that a group of older pupils from the Zagorsk school, after completing their secondary education, went on to graduate from the Psychology Department of Moscow State University).

Here we are dealing mainly with the study of deaf-blind children's mental development at the initial stage of the formation of human behaviour.

During this initial period of deaf-blind children's rearing and instruction mental systems are evolved. One is the system of basic human needs motivating behaviour, needs which develop as practical day-to-day skills are acquired; also the first images which regulate actions in regard to objects and which later form a system of thought through image and action, understood as the internalised reflection of the child's practical functioning. The next important system is thought with the use of signs (gestures and words), understood as the internalised reflection of the child's practical intercourse with the people around it in conjunction with objects and actions involving the latter.

This mental evolution occurs in the case of deaf-blind children through the appropriate activities performed jointly by pupil and teacher. Thought through image and action ensues as purely physical needs are restructured into human needs, as actions are mastered, which constitute a child's day-to-day behaviour in a tangible object-environment. This means that the main objective at this stage of a child's rearing is the moulding of his domestic behaviour and the fostering of self-care skills.

Thought with the use of gestures and words takes shape as children come to master means of communication. The main objective for the teacher at this stage is the fostering of communication activity, which makes the child a part of human society and allows him to assimilate social experience on the basis of sign systems.

In the writing of this book, it became clear that little would be gained from describing the whole course of some one child's development, since some children attained one new mental capacity most clearly and vividly, and others another. So, in describing one or another stage of development we would take as our example the child

in whom the activity in question was most fully developed and in whose behaviour the patterns underlying the activity were manifested most clearly of all.

This book represents a summarisation of the results recorded during the teaching of fifty pupils at the Zagorsk children's home for the deaf-blind and of an experimental group trained at the Institute for Research into Physical and Mental Handicaps.

However, prior to launching wide-scale research into the development of these children in the course of instruction, a number of practical problems had to be resolved: firstly, deaf-blind children who were educable had to be singled out; secondly, an educational establishment had to be set up to provide special facilities for the care and teaching of the deaf-blind. The third organisational task was the training of teachers and the preparation of teaching material – programmes and aids that would enable the teachers to start teaching deaf-blind children. Information was available about 340 deaf-dumb-and-blind and deaf-blind people, of whom 120 were under the age of twenty. Later it emerged that this number included individuals who were not only deaf and sightless, but also suffered from varying degrees of mental retardation.

It soon became clear that the information we had received concerning the number of deaf-blind subjects was incomplete, however, it allowed us to urge the need of the organisation of a special home, where they could receive specialised tuition. After permission had been obtained<sup>1</sup>, it then became necessary to train teachers for the new school as quickly as possible. Special classes for these teachers were held at the Institute for Research into Physical and Mental Handicaps from August 1962 to May 1963. The lectures for these courses were given by the senior research staff at the Institute.

The Institute's department for the study and instruction of deaf-blind children prepared essential teaching materials by the beginning of the academic year (Sept. 1, 1963) when studies were due to begin. O.I. Skorokhodova, R.A. Mareyeva, G.V. Vasina and V.A. Vakhtel all played an active part in this preliminary work.

Each day the results obtained in instructing the children were recorded in special registers, and at the end of each school term<sup>2</sup> a detailed progress report was drawn up which was thoroughly analysed.

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1 A considerable contribution was made to the organisation of the home for deaf-blind children by Olga Skorokhodova.

2 The Russian school year is divided into four terms called "quarters." – Tr.

In order to carry out certain parts of the research programme, the pupils were set special subjects for essays, forms were filled in and specially arranged conversations were conducted. Laboratory experiments were set up for more detailed study of certain matters; for example, the building-up of communication by means of word language was investigated in the course of a laboratory experiment involving cyclographic methods evolved by our research team, which enabled us to analyse the perception of language elements both in its 'conversational' (or dactylic for the deaf-blind) and written (Braille) forms.

The specific nature of instruction of the deaf-blind, which involves the moulding of the human mind in the course of a specially designed educational programme, makes it possible to formulate and discuss from a novel point of view certain major problems, which go beyond the narrow confines of deaf-blindness, such as the formation of the human personality in ontogenesis, the definition of what the personality entails, the correlation between social and biological factors in the formation of the human mind.

Research into the progress of the deaf-blind is important not only for our understanding of the children under investigation and the proper organisation of their care and instruction, but it also helps us to understand certain patterns of development found in children with normal sight and hearing. The emergence and development of behaviour and mentality in the normal child is not confined to the framework of a specially designed educational programme. The range of factors which influence a child in one way or another and mould its personality is enormous and therefore most difficult for assessment. A child learns a great deal in the context of its everyday life, i.e. without any specially designed process of instruction. A child is not given special instruction in the skills of speech or thought, imagination or perception, but masters them nevertheless.

It is of course impossible to take into account and follow up all the diverse factors in a child's environment which exert an influence upon him. In order to investigate the significance of any one particular factor it would be necessary to isolate it artificially from the others and keep track of its effect thus isolated. In the usual development of a normal child it is virtually impossible to separate him from the diversity of his environment – such isolation would be technically impossible to provide and impermissible from the educational angle. Indeed, this is why it is so difficult to pinpoint the true significance of one or another particular factor in the usual process of a normal child's development. The achievement of the fundamental mental milestones, in particular at the initial stage, under ordinary condition proceeds so imperceptibly, that all we are able to see is the end result

of the development while the actual process leading up to it escapes us. On the other hand, objective results in the study of behaviour and mentality can only be obtained if the various environmental influences affecting a child have been taken into account.

Highly complex mental functions and processes which emerge in the course of a child's development, appear simple and ordinary, because they are so familiar and can be observed every day. Not until a particular function is impaired or delayed in its development do we realise how complex it really is.

For a child bereft of sight, hearing and speech, sensitivity to the impact of diverse factors in its environment is curtailed to a catastrophic degree. In the case of the deaf-blind the opportunities offered the researcher for assessing and controlling external influences are so much greater than in normal circumstances, that this control can be extended to virtually all significant factors affecting development. Apart from opportunities to control the external influences the researcher also has the chance to make a most detailed assessment (particularly during the initial stages of development) of all results obtained, i.e. new knowledge and the level of child's general development. Deaf-blind children develop differently not only from children with normal sight or hearing, but also from children who have one handicap, being deaf *or* blind.

If a child is born *with defective hearing or loses its hearing in early childhood*, then he will not learn to speak the natural way, i.e. via imitation. Yet such a child can *see*. He apprehends gestures visually, he learns to imitate gesticulations. By means of gestures he expresses his desires. His eyes enable him to apprehend the behaviour of the people around him and he begins to imitate them. Then with the help of special methods he can be taught to speak.

If a child is born *sightless or loses his sight as a result of an illness in early childhood*, then he will of course be robbed of all visual impressions. Yet he is rescued by his *hearing*: he can hear his mother's steps as she walks up to him and hear the words she utters. Through his imitation of speech sounds he learns to talk. Speech enables him to extend his opportunities for contact with the people around him. Through this contact a child bereft of sight is able to develop human behaviour patterns and mental capacities.

The situation is quite different for the deaf-blind child. There are two main factors which set apart the deaf-blind child from his normal counterparts.

The first and most obvious is that the deaf-blind child forms all his ideas of the external world by means of touch.

The second less obvious but more important point is that these children are bereft of the usual means of contact with people around them and unless special arrangements for that contact are organised, these children are condemned to a life of complete isolation. This means that their minds cannot develop. Therefore the main difficulty in teaching a deaf-blind child lies in the need for the teacher to take into account the whole wealth and complexity of human behaviour and mentality, and to be able to mould and develop the child's behaviour and mind using specially elaborated methods.

Professor Sokolyansky summed up the predicament of the deaf-blind child in the following words: 'The deaf-blind child possesses a normal brain and the potential for normal mental development. However, while possessing that potential he can never achieve even the most insignificant degree of mental development relying on his own efforts. Without special instruction such a child remains a complete mental cripple for the whole of his life'.

While in the case of normal children much development takes place without special educational intervention or control, for the deaf-blind *each* mental step forward has to be the specific objective of a specially devised educational process.

While mistakes or oversights committed in the education of an ordinary child can be corrected or compensated for outside school, or in the course of practical experience, such corrections are impossible in the case of deaf-blind children. If a teacher overlooks something in the complex arsenal of the human mind and does not make it the subject of a special teaching task to be achieved through a specific didactic strategy, this means that an aspect of a pupil's mental potential remains neglected and denied the chance of development. Such omissions cannot but disrupt the harmony of a child's whole development.

The deaf-blind child is shut off from normal human contact, and this isolation is the reason for his mental under-development or degradation. This means that the deaf-blind child is a being as yet bereft of a human mind, while possessing the capacity for full mental development.

Thus the unique task arises of a deliberate moulding of a child's human behaviour and mind, keeping in view all factors influencing a child.

This deliberate and specially organised training and instruction provide opportunities for examining the human mind as such. In this connection the works of Olga Skorokhodova are of tremendous



value. In a review of her book *How I Form a Picture of the World Around Me* the prominent Soviet psychologist, Alexei Leontiev wrote:

‘The leitmotif of this work is the idea that the deaf-blind are people capable of learning a good deal and finding a place in life for themselves, if only they receive the necessary instruction: while nature has robbed them of sight and hearing they still have other ways of discovering the world open to them – touch, vibrations etc., of which maximum use should be made by those investigating mental and physical handicaps and ways of compensating them. This is without doubt a correct and important consideration, important in the sense that it compels us to approach in a more sensitive, concerned way those who at first glance seem condemned beyond hope to the most miserable existence, and to have more faith in their chances of success.

‘Yet there is another side to the education of deaf-blind children which must be singled out and emphasised, namely, the tremendous philosophical and psychological significance of work with the deaf-blind, to which the attention of all our scientific community should be drawn. In one of his letters to Skorokhodova Maxim Gorky wrote that the study of man cannot be furthered through experiments on dogs, rabbits, guinea-pigs and that ‘we must have experiment on man himself’.

‘Deaf-blindness is the most extreme experiment on man, an experiment devised by Nature herself, and one which enables us to probe one of the most complex and awe-inspiring phenomena – the inner mechanism of the emergent human consciousness in the objective relationships which mould that consciousness’.

## Chapter II

### Early History of work with the Deaf-blind

Traditional or empirical psychology, which first came forward with the idea of the ‘awakening’ of a child’s mind in general, and that of deaf-blind child in particular, was theoretically inconsistent from the outset. The theoretical inconsistency of empirical psychology stemmed from the fact that its proponents examined man as a being that feels, perceives, memorises, etc., but not one that acts. Marx put forward an idea, which has had fundamental significance for truly

scientific psychology, to the effect that man shapes his mind as, together with other people, he *transforms* the world.



*Olga Skorokhodova with her teacher  
Professor Ivan Sokolyansky*

‘He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature’s productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature’.<sup>3</sup>

From the Marxist point of view it is above all man in action who should be investigated and only then man who feels, perceives and discovers. In the twenties and thirties of this century an attempt to apply the theory of historical materialism to phenomena of the development of the human mind was made by Lev Vygotsky. Vygotsky’s research paved the way for a new approach to the study of the mind not only viewed from the historical angle, but also in the context of man’s development as an individual. Research in the sphere of genetic psychology by Soviet psychologists Alexei Leontiev, Alexander Luriya, Alexander Zaporozhets, Pyotr Galperin and Daniil Elconin and others carried forward the ideas formulated by Vygotsky, who sought to reveal the significance of objects and norms of human culture, and also of intercourse between adult and child for the development of the latter’s mind. This research provides theoretical justification for regarding the moulding of a child’s mind as his assimilation (appropriation, in Karl Marx’s words) of social experience. This trend in psychology, in which an active approach is combined with an understanding of the individual mind as an essentially social formation, is now predominant in Soviet psychology. Among Soviet educationists and philosophers ideas concerning the role of practical activity in man’s mental development are elaborated by Evald Ilyenkov, Felix Mikhailov and Vassili Davydov.

The main theoretical propositions advocated by this school of psychology are corroborated and further elaborated in the practical work of rearing and instructing the deaf-blind, and in the theory underlying that practical work. The whole of the human mind is the

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<sup>3</sup> Marx, “Capital” Volume I, *MECW* vol. 35 p 187.

fruit of active, practical interaction between the individual and other individuals in an environment created by means of human labour: such is the fundamental principle on which we have attempted to build up both our practical methods for developing the minds of deaf-blind children and also a theoretical analysis of this work.

Now let us turn our attention back to the past again. Specialists of many different professions have taken an interest in the problems of deaf-blindness. In the Soviet Union and elsewhere the subject has been treated by psychologists, philosophers, educationalists, specialists in physical and mental handicaps, writers and public figures, not to mention the deaf-blind themselves.<sup>4</sup>

It may at first seem surprising that deaf-blindness has attracted the attention of such a wide circle of writers, including those not connected in any, even remote, way with the study of mental and physical handicaps, this very narrow and specialised branch of pedagogy. Naturally, specialists from various fields have shown varying degrees of interest in the question of deaf-blindness and for a variety of reasons. Nevertheless the question still remains as to why so much interest has been shown in what might appear a narrow, specialist subject. The explanation lies in the unusualness of the very nature of deaf-blindness. The very existence of a person bereft simultaneously of such important senses as sight and hearing and also the power of speech cannot fail to astonish. At first glance it seems that the loss of the main distance-senses and the power of speech would completely cut off such a being from his environment and rob him of all opportunity to make contact with other people. Such a person can after all neither see nor hear; he cannot be shown or told anything. He, for his part, can never say anything. If such a person has been deaf from birth or has lost his hearing in infancy, then he has never heard human speech and does not know that language and words denoting objects and ideas exist. He does not know that there exists a vast object world of infinite variety. Can such a being be moulded into a real person, be taught to work and to think? If so, by what means?

The development of a human being cut off from the world around him, and isolated from society by a wall of silence and darkness cannot but be highly specific in nature: this specific character has attracted the attention of all those who have come into contact with the deaf-blind, seen them, or at least read about them.

When a means of making contact with the deaf-blind had been invented and it was established that it was possible to keep a full reg-

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4 The author gave a bibliography of works in Russian, omitted here.— *Ed.*

ister of all information imparted to a deaf-blind child, scientists received an opportunity of investigating through experiment whether there is something innate in man's mind that develops immanently or whether everything is acquired through the individual's life experience.

In this phenomenon of the emergence of a human being before our very eyes everyone who has taken an interest in deaf-blindness has tried to find confirmation of his own ideas on this subject, to resolve the enigma of the human mind.

Some scholars see in the development of the deaf-blind child the corroboration of the existence of man's innate mental capacities which develop immanently, regardless of the external world. Others see the need for special instruction via the remaining sense organs and the impossibility of progress for the deaf-blind without using this channel of influence as an indication of the absence of any immanently developing mind.

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In the beginning attempts to work with the deaf-blind were closely linked with religion both as regards the organisational side (the children were given instruction in monasteries) and also as regards the content of the instruction they received (predominantly religious). This close bias was natural and logical, for the deaf-blind were held to be marked out by God and thus automatically seen as worthy recipients of church charity.

Religious press wrote a lot, for instance, about a group of deaf-blind brought together at the French convent of the 'Daughters of Wisdom' ('Filles de la sagesse') in Larnay, in the second half of the nineteenth century. According to Louis Arnould, of one hundred and thirty articles devoted to one of the deaf-blind charges of that convent, a certain Marie Heurtin, fifty-eight were published by religious publishing enterprises. Among these were articles such as Senter's 'study' entitled *The Inequality of Spirits According to St. Thomas* or the publication by Canoness Saldern under the title *Three Bricks (Drei Bausteine)*.

Records of achievements in instructing the deaf-blind at religious foundations in Montreal and Brussels, for example, were also used as religious propaganda. The instruction was given by nuns, both at convents and at schools provided for the deaf-blind outside. The principles behind the religious education for the deaf-blind were expounded most fully and forthrightly by the German Pastor Gustaw Riemann who himself worked in this field in Germany. The aim of

this education was, in his opinion, to teach the deaf-blind to 'bear their cross' and to look forward with an easy conscience and with hopefulness to bliss in the other world. In the American press and in the press of a number of other countries it was widely proclaimed that a deaf-blind pupil by the name of Madeleine Wallace from the New York School for the Deaf entered a religious order, thus 'presenting the world with the example of the first deaf-dumb and blind nun', wrote William Wade in 1905.

The teaching of academic subjects to all these groups of deaf-blind pupils was made subordinate to the overall religious purpose of the education provided for them. If these pupils were taught to speak using words this was not in order that they might communicate with other people, but rather to enable them to 'communicate with God', in other words to learn prayers: if they were taught any history it was of the ecclesiastical variety. The deeply religious French professor, Louis Arnould, author of the well-known book about the deaf-blind *Imprisoned Souls (Ames en prison)*, which has run into dozens of editions, wrote that the purpose of teaching the deaf-blind was to transmit to them the concept of God and that speech using words was only necessary for these children because the language of gesture was inadequate to convey the abstract idea of God.

Echoes of religious teaching are also to be found in assertions made by many bourgeois scholars studying deaf-blindness, who claim to approach the facts with scientific objectivity. Wilhelm Jerusalem wrote in his study of Laura Bridgman of a force awakening the soul through the body, a force that bestows wisdom on a deaf-blind child from above. William James maintained that the progress achieved by the deaf, dumb and blind child Helen Keller demonstrated the existence of a force superior to man's reason. In these and other publications treating the deaf-blind there is always an underlying belief in the primacy and immortality of the soul dormant in the deaf-blind that only needs to be awakened by the impact of outside influences.

As early as 1843, the famous English writer Charles Dickens noted, during a visit to America, the tendentious interest shown by certain Americans in the deaf-blind girl Laura Bridgman. Her teacher Samuel Howe decided from the outset to give his pupil a nonreligious education. However, teachers from the Perkins Institution for the Blind made use of his absence, in order to 'awaken' in the pupil the idea of God and the need to turn to him. Afterwards Howe's 'unsuccessful' attempt to educate Laura Bridgman outside religion was declared to demonstrate that man has an innate need of God.

Revealing in this context is the story of the education of the famous deaf, dumb and blind American woman, Helen Keller. When at the age of ten attempts were first made to inculcate religious concepts in her, no results were forthcoming. Her teacher Anne Sullivan describes the episode as follows: 'At that time a dear relative who was also an earnest Christian, tried to tell her about God. ... When I subsequently talked with her she said: 'I have something very funny to tell you. A. says God made me and everyone out of sand; but it must be a joke. I am made of flesh and blood and bone, am I not?' After a moment she went on: 'A. says God is everywhere, and that He is all love but I do not think a person can be made out of love. Love is only something in our hearts. Then A. said another very comical thing. She says He (meaning God) is my dear father. It made me laugh quite hard, for I know my father is Arthur Keller'".

The resistance of a ten-year-old child to any form of mysticism is both natural and understandable. However, the struggle was an unequal one, soon the 'earnest Christian' relative was joined by other members of the child's entourage. Yet the would-be teachers were in their turn stumped by the small girl's questions: 'Who made God?' 'What did God make the new worlds out of?' 'Where did he get the soil, and the water, and the seeds, and the first animals?' 'Where is God?' 'Did you ever see God?' 'When friends have told her of the great happiness, which awaits her in another life,' wrote Sullivan, 'she instantly asked: "How do you know, if you have not been dead?"' Perhaps the various friends and relatives would have failed in getting the better of the child's common sense if the celebrated theologian of that period, the eloquent preacher Bishop Phillips Brooks from Boston had not intervened.

The authority of this prominent representative of the Episcopalian church in America and the influence of other adults around her undermined the instinctive materialist concepts of the ten-year-old girl and gradually made of her a believer. Bishop Brooks' admonitions provided guidance for Helen Keller for the rest of her life, and it was under his influence that her subsequent spiritual experience and her attitudes to the world and other people took shape. All lectures which she gave, both in the United States and far further afield contained references to God, and religious ideas permeate all Helen Keller's works. She herself wrote that her religion was 'Christian socialism'. Two of her books, *Optimism* and *My Religion*, deal specifically with this subject. Helen Keller's ideas concerning the world around her were typical of those advocated by the idealist philosophers of her times. In her book *Optimism* she wrote: "The things which you see, hear and feel are not reality itself but merely imperfect manifestations

of the Idea, the Principle, the Spirit ...' She saw the history of mankind as the march of the spirit of goodness and humility. Clearly statements such as these were bound to be widely exploited in religious and other idealist publications.

In almost every newspaper or magazine article about Helen Keller she was declared to be a woman of genius, outstanding and possessed of knowledge purely on account of her extraordinary gifts. It was thus implied that other deaf-blind people, lacking such unique genius, could not hope for any significant success in their studies.

The Russian writer Maxim Gorky, who took an interest in deaf-blindness and had a profound understanding of it, wrote in a letter to Ivan Sokolyansky (25/8/1933): 'I saw Helen Keller in 1906 in New York, it was none other than William James, in Harvard, Boston, who advised me to "acquaint myself with this 'wonder'" ... Helen Keller made an unpleasant, even grim impression on me: she appeared to be an affected, very temperamental and extremely spoiled girl. She talked about God and how God disapproved of revolution. In general she reminded me of those "blessed" and "holy" nuns and "pilgrim women" whom I have seen in our villages and convents. She was surrounded by a collection of old maids, who flustered round her as if she was some kind of parrot, whom they had taught to talk. ... It was quite obvious, that Keller was a business proposition for her retinue'.

This aura of the miraculous and the halo of the superwoman remained with Helen Keller to the end of her days (she died in 1968). Photos were published in journals and newspapers showing her in the company of film stars and statesmen. She was invited to receptions given by presidents and kings. She was and indeed still is written about as some extraordinary phenomenon. F.N. Doubleday, the editor of the magazine *Outlook for the Blind*, wrote in the June 1955 number, that to stand in the presence of Helen Keller was like standing before some superwoman possessing six sense organs denied to ordinary mortals and using them to penetrate more deeply the riddle of human existence.

All this fuss and publicity did of course place Helen Keller in a unique position and to a large extent impeded efforts to reach a correct understanding of the problems connected with deaf-blindness and to make adequate arrangements for the instruction and care of the deaf-blind.

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Literature on deaf-blindness published outside the Soviet Union, consisting of articles, chapters in textbooks on psychology and special pedagogy, and whole special monographs, gives accounts of actual experiments in the teaching of deaf-blind children, which are of considerable interest.

There exist several big monographs describing a large number of individual experiments in instructing the deaf-blind and developing their potential. The works of Wilhelm Jerusalem published in German gave psychological analysis of material relating to the development recorded in the case of the first deaf-blind child to receive special instruction, namely Laura Bridgman, who had lost both sight and hearing at the age of two. A book by another German psychologist, William Stern, treats the history of Helen Keller's instruction. The American William Wade published a monograph entitled *The Deaf-blind*, which describes the cases of 83 deaf-blind children. Some of them were pupils of the Perkins Institution for the Blind (Boston, USA). Records of instruction for deaf-blind pupils at Larnay (France) are to be found in the book *Imprisoned Souls* by Louis Arnould. It was in Larnay that success was first achieved in instructing a pupil blind and deaf from birth, namely Marie Heurtin. A detailed record of her progress was compiled by Arnould.

In his monograph on the deaf-blind the Dutch scholar H.S. Lenderink cites data drawn from eighty programmes for instructing the deaf-blind from a number of countries.

In Germany, in the 1890s a special group of teachers for deaf-blind children was formed on the initiative of Pastor Gustaw Riemann at a home for cripples in Nowawes near Potsdam. Riemann himself taught the children. Later he made public his religious and pedagogical views in a monograph entitled *Deaf-blindness (Taubstum und blind zugleich)* and a number of articles.

An institution specially devised for the deaf-blind was set up in Venesborg (Sweden), which incorporated school rooms and a workshop. Detailed accounts of the teaching and care of the deaf-blind in that institution were published in *Collected Reports from the Institution for the Deaf-blind* in Swedish.

The many other authors who have at various times written on the subject of deaf-blindness include M. Anagnos, abbé Carton, I. Hall, S. Howe. The majority of these authors did not make a special study or show interest in the condition of the deaf-blind child before any specialised instruction was provided. They concentrated their attention on the period during which a pupil or pupils received instruction and on describing the development of such children while they were be-



ing taught to use language. Those authors who commented on the state of the deaf-blind child before he received instruction, were unanimous in describing him as an extremely undeveloped and primitive being. In Helen Keller's book *The Story of My Life* which provided the main source with regard to the psychology of the deaf-blind for most authors; the small deaf-blind girl is described as a wild little monster hardly resembling a human being at all. Arnould writes of deaf-blind children before instruction as animals of a low order, or inert masses which it would be difficult to term as anything more precise than creature.

The American William Wade refers to them as mobile vegetables, whose whole life is confined to vegetable needs and responses to delays in the satisfaction of those needs. Before receiving any instruction, deaf-blind children not only were unable to speak using words but used no signs either.

All authors who had observed deaf-blind children prior to instruction were aware that these children would not develop mentally without deliberate intervention from outside. Moreover, references are made to a number of cases, when children who had been developing normally and could speak in words and behave rationally after losing their hearing and sight suffered a relapse and reverted to creatures leading a semi-vegetable life.

Nevertheless, all this did not prevent these same authors from reducing the whole process of the deaf-blind child's instruction and development to the spontaneous evolvment of some innate essence or, to use William Stern's phrase, the spontaneous unfolding of the human potential.

The sad condition of the deaf-blind who are not receiving any instruction, which can remain unchanged for years, sometimes even decades, led people to believe that 'ordinary' deaf-blind people could not develop or be taught. Prejudice, claiming the impossibility or limited scope for mental development of the deaf-blind, persists to this day.

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The first case of a deaf-blind child recorded in writing was that of an English boy by the name of James Mitchel, who lived in the eighteenth century. The Dutch teacher and psychologist Lenderink described how at the end of the eighteenth century several prominent British scholars and doctors met together to discuss Mitchel's condition. They came to the conclusion that nothing could be done for

him and that no invalid was more crippled and deprived than a deaf-blind person.

While some thinkers in the past recognised the theoretical possibility of teaching deaf-blind children (this opinion was voiced by Diderot as early as 1749 in his famous *Letters on the Blind for Those Who Can See*) no practical attempts were made to exploit these opportunities. The idea that the deaf-blind cannot be taught and have no potential for development still persisted even after it had become known that initial attempts had been made to teach children bereft of hearing and sight and that some of these attempts had been successful. In 1913, for example, the French scholar Henri Lemoine wrote in his doctoral thesis that the deaf-blind were freaks from birth, little more than idiots, whose normal development was out of the question; he also maintained that regardless of efforts made to educate them, they remained profoundly underdeveloped and could only be the object of charity.

It was held that children robbed of their hearing and sight were condemned to complete isolation by the nature of their handicaps: the impossibility of communicating with these children kept them at the level of inarticulate idiots.

Laura Bridgman, an inmate of the Perkins Institution for the Blind in Boston (USA) was the first deaf-blind person whose successful instruction destroyed the prevalent belief that the deaf-blind were unteachable. Laura Bridgman learnt to read, write, express simple ideas; she learnt to carry out certain manual tasks and was thus able to earn her daily bread.

Despite certain exaggerations of Laura Bridgman's successes, the author of the book describing her case, William Wade, was basically justified in his assessment of the considerable influence which this first experiment in teaching a deaf-blind person had on contemporary attitudes to this question.

Helen Keller was to become far more famous than her predecessor, Laura Bridgman. Robbed of sight and hearing at the age of two, she progressed far enough not only to master the art of speech using ordinary words, and reading and writing, but also to become a writer and public figure. Her success demonstrated beyond question that it was possible not only to 'humanise' a deaf-blind child, but also to achieve significant success in his or her development.

Yet despite the achievements in teaching Laura Bridgman and Helen Keller's success, the prejudiced view of the deaf-blind as unteachable still persisted. Successes in teaching individual deaf-blind subjects were seen as chance exceptions attributable to the out-

standing abilities of the deaf-blind pupils in question. The pupils who responded to teaching were seen as prodigies. The education of the deaf-blind did not become established as a specialised branch of pedagogy for the mentally and physically handicapped outside the Soviet Union. Various correct, sometimes ingenious discoveries stemming from the practical experience of those engaged in the teaching of the deaf-blind have remained isolated finds and have never been put together in any kind of system.

In all monographs by Western authors on the subject of deaf-blindness self-development is held to be the fundamental principle underlying the emergence and development of the mind. External influences to which the child is exposed are regarded as no more than a push or stimulus towards spontaneous development, "setting free the inner potential". In many cases the role of this stimulus promoting self-development was attributed to speech. William Stern, for example, held that the need to speak represented a force that set free man's speech potential planted in a child's soul. He was not convinced even by cases of a secondary collapse of speech in children struck by deaf-blindness brought to his attention by the German psychologist Meumann. Jerusalem and other authors held similar opinions on the development of the deaf-blind.

German specialists (Stern, Jerusalem and others) wrote of oral speech as illumination of man's 'immortal soul'; other authors associated the 'awakening of the soul' with words in general, regardless of whether they were used in oral speech or, say, written.

Words and speech were thus ascribed the special role of stimulus – stimulus which called to life man's inborn but hitherto dormant consciousness. This effect of speech was not described as a gradual process of language instruction preceded with immediate acquaintance with the external world but as a split-second act of instant revelation. Anne Sullivan linked the mental awakening of her pupil Helen Keller with the well publicised sudden illumination following Helen's mastering of the word 'water'. The fact of Helen Keller's sudden mental awakening at the water pump was always viewed as something vitally important for an understanding of her mental development.

This view was reflected in the play by American playwright William Gibson, *The Miracle Worker*, a dramatisation of the early stage of Helen Keller's teaching. One of the episodes in the play is most revealing in relation to this particular question. In the first act Doctor Anagnos, the principal of the Perkins Institution and mentor of the young teacher Anne Sullivan, to whom he entrusts the care of Helen Keller, compares a deaf-blind child with a locked safe. In his opinion

the right key must be selected for such a safe, which should then be opened, perhaps to reveal treasures of the human soul within. So, the aim should not be to *fill* the safe with 'treasures', but merely to *find* them there. Just such a key, as emerges later, is provided by the word 'water'. At the end of the play the girl utters this word, and the 'miracle' of the soul's awakening has taken place.

Detailed study of Anne Sullivan's notes regarding Helen Keller's teaching and day-to-day life make it clear that in actual fact Helen Keller's mental development was of a different kind. Sudden awakening was merely a tribute to ideas widely popular among psychologists and educationists of that time. Similarly, contrary to findings drawn from his practical work, Doctor Howe, who taught Laura Bridgman constantly and consistently, when in the presence of other people, talked of his pupil's 'sudden illumination' that allegedly took place after she mastered her first few words, when her immortal soul awoke, aspiring, as it were, to establish contact with other vessels of the immortal spirit.

In order to demonstrate in concrete terms that the idea of the human mind's immanent development is incorrect, that the human mind is not something that need only be awakened in the deaf-blind through words, let us now turn to the main points to emerge from the story of Laura Bridgman's and Helen Keller's teaching. It was on the results obtained in teaching these deaf-blind girls that the theories regarding the spontaneous nature of the development of the human mind were based, theories propagating the sudden mystical awakening of consciousness through the word, through Logos, to use Helen Keller's phrase. These theories determined the subsequent psychological and philosophical interpretations of deaf-blindness. It would therefore seem particularly important, with reference to these particular cases, to point out flaws in this traditional approach to the subject.

The first man who demonstrated in practical terms the possibility of teaching the deaf-blind was Samuel Gridley Howe (1801-1876), the American doctor and educationist, who, though well known in the 1840s, has now been almost completely forgotten. Howe was an active advocate of specialised instruction for handicapped children in the United States, and his views were progressive for those times. He had spent some time in Europe and fought with Garibaldi's troops. Back in the United States, Howe energetically opposed slavery. He undoubtedly played a significant part in the organisation of specialised education for handicapped children: he was the founder and first principal of the school for blind children in Boston (which later came to be known as the Perkins Institution) and at a somewhat later date

he also founded the first school in the United States for mentally retarded children.

It was the period when systematic methods for the teaching of the blind were first being devised after centuries of neglect, during which it had been the commonly held view that they were impossible to teach. At the end of the eighteenth century articles started appearing in the press telling of isolated instances of success in instructing the blind. In 1786, Valentin Häuy, a man far ahead of his times, who worked first in Paris and later in St. Petersburg, published the first book for the blind using raised script. It was also he who first put forward the idea of special boards on which blind people could write on paper using raised letters arranged between taut strings.

In the late eighteenth and early nineteenth century special schools for the blind began to appear. Initially, the blind were only taught simple trades at these schools, but later attempts were made to teach them to read and write.

In 1832, a competition was announced in Britain for the best method of printing for the blind using raised letters. More than twenty variations of such an alphabet were submitted over the next few years, and the first prize of a gold medal was presented to Edmond Fry for an alphabet consisting of the printed capitals of the Latin alphabet. Fry himself was unable to receive the prize since he died before the competition was closed, but his alphabet, as propagated in a somewhat modified form by Alston, soon spread to many countries.

In North America Fry's alphabet with a few changes introduced by Friedlander came to be known as the Philadelphia alphabet.

When Doctor Howe first made plans for setting up a specialised institution for the blind in Boston he decided to go to Europe to study findings made in this field. In 1834, he encountered the then virtually unknown alphabet using raised points devised by Braille. In 1829, the twenty-year-old blind Frenchman Louis Braille had made public his invention but found no support among his contemporaries. At the time many people assumed that Braille's system, which bore no resemblance to ordinary letters, would isolate the blind from the sighted completely and make written communication between the two groups still more difficult. It was not until much later, the 1870s in fact, that Braille's alphabet began its triumphal progress across the world, when at last the blind themselves and their teachers came to appreciate its advantages over other alphabets. In the 1830s, only linear alphabets were believed acceptable and these were to a greater or lesser extent copies of alphabets used by the sighted.

However, Howe appreciated the advantages of Braille's alphabet, and in 1836 he even attempted to introduce it in America. The experiment was, however, unsuccessful.

A year earlier, Howe had begun to publish textbooks for the pupils at his school in an embossed linear print which he had himself devised. It was with the help of this particular alphabet, which came to be known as the Boston alphabet, that the first success in teaching a deaf-blind pupil was achieved. The alphabet propagated by Howe differs from Fry's in many respects. In an attempt to make this print for the blind more compact and cheaper Howe dropped capitals from his alphabet altogether, removed all ornament and flourishes and reduced differences in the height and depth of letters to the minimum permissible in letters that had to be perceived by touch. In order to make these letters easy to distinguish one from another, he introduced special characteristics for the individual letters. For instance, the letters a, h, n, o, r were presented in angular shapes, while b, c, j, p, q, and s retained rounded contours. All these details were designed by Howe to make it easier for the blind to distinguish between the various letters of the alphabet by touch. In order to economise on space not one of the letters in his alphabet came below the line. Howe's alphabet was to become very popular in America.

On October 4, 1837, a deaf-blind girl aged about eight was admitted to the Perkins Institution for the Blind. Her name was Laura Bridgman, and prior to that date no blind deaf-mute from birth had ever been given specialised instruction. The first teacher of this deaf-blind girl was faced by a formidable task: to decide how to start teaching and what methods to use in the work.

At this stage a short digression is called for. Four years after work on teaching Laura Bridgman had begun the famous English author Charles Dickens visited America. While in the country, he visited Boston and the Perkins Institution for the Blind, where this deaf-blind girl was being taught. In his *American Notes* Dickens left us a vivid and authentic account of the work being carried out with Laura Bridgman. This description, free of any embroidery or theoretical speculations, is probably the most interesting of all the accounts of Laura Bridgman and her teacher to have been published at the time or subsequently. Later in this book when dealing with the story of the teaching of this first deaf-blind pupil we shall frequently refer back to Dickens' account.

What indeed was Laura Bridgman's condition before she received any tuition? Dickens quotes extracts from her case history compiled by Doctor Howe as follows:

‘She was born in Hanover, New Hampshire, on the twenty-first day of December, 1829. She is described as having been a very sprightly and pretty infant with bright blue eyes. She was, however, so puny and feeble until she was a year and a half old, that her parents hardly hoped to rear her. She was subject to severe fits, which seemed to rack her frame almost beyond her powers of endurance, and life was held by the feeblest tenure; but when a year and a half old, she seemed to rally, the dangerous symptoms subsided, and at twenty months old she was perfectly well.

‘Then her mental powers, hitherto stunted in their growth, rapidly developed themselves; and during the four months of health which she enjoyed, she appears (making due allowance for a fond mother’s account) to have displayed a considerable degree of intelligence.

‘But suddenly she sickened again; her disease raged with great violence during five weeks, when her eyes and ears were inflamed, suppurated, and their contents were discharged. But though sight and hearing were gone forever, the poor child’s sufferings were not ended. The fever raged during seven weeks; for five months she was kept in bed in a darkened room; it was a year before she could walk unsupported, and two years before she could sit up all day. It was now observed that her sense of smell was almost entirely destroyed; and, consequently, that her taste was much blunted.

‘It was not until four years ago that the poor child’s bodily health seemed restored, and she was able to enter upon her apprenticeship of life and the world.

‘But what a situation was hers! The darkness and the silence of the tomb were around her: no mother’s smile called forth her answering smile, no father’s voice taught her to imitate his sounds: – they, brothers and sisters, were but forms of matter which resisted her touch, but which differed not from the furniture of the house save in warmth, and in the power of locomotion; and not even in these respects from the dog and the cat.

‘... As soon as she could walk, she began to explore the room, and then the house; she became familiar with the form, density, weight, and heat, of every article she could lay her hands upon. She followed her mother, and felt her

hands and arms, as she was occupied about the house; and her disposition to imitate led her to repeat everything herself. She even learned to sew, and to knit.

‘... At this time, I was so fortunate as to hear of the child, and immediately hastened to Hanover to see her. I found her with a well-formed figure; a strongly-marked, nervous-sanguine temperament; a large and beautifully-shaped head; and the whole system in healthy action. The parents were easily induced to consent to her coming to Boston, and on the 14th of October, 1837, they brought her to the Institution.

‘For a while she was much bewildered; and after waiting about two weeks, until she became acquainted with her new locality, and somewhat familiar with the inmates, the attempt was made to give her knowledge of arbitrary signs by which she could interchange thoughts with others.

‘There was one of two ways to be adopted: either to go on to build up a language of signs on the basis of natural language which she had already commenced herself, or to teach her the purely arbitrary language then in common use: that is, to give her a sign for every individual thing, or to give her a knowledge of letters by combination of which she might express her idea of the existence, and the mode and condition of existence, of any thing. The former would have been easy, but very ineffectual; the latter seemed very difficult, but, if accomplished, very effectual. I determined therefore to try the latter’.

Howe held that the system of signs denoting letters could be devised quite arbitrarily provided that it corresponded to the alphabet and that the combinations of these signs constituted words. These ‘signs’ could consist of movements of the fingers. However, in the early stages Howe did not regard such movements of the fingers as adequate for the purpose, for they were difficult to link with the object denoted. Since Howe was already working in a school for the blind and had devised his own alphabet of raised letters for them shortly before embarking on work with his deaf-blind pupil, he now decided to use it in his new task.

From the outset Howe realised that instruction should not start out from individual letters, for signs representing letters could not denote anything for the deaf-blind. They should denote only objects and complete words. This was an important discovery which made possible further progress in instruction. Unfortunately due impor-



tance is not always attached to this method by some teachers of the deaf-blind, who, when teaching their charges language, strive above all to teach them letters by linking together signs made with the fingers with written shapes on the one hand and vocalisation on the other. This system cannot provide the pupil with an adequate understanding of the designating function of the word, nor can the actual idea of letters be assimilated as a limited number of elements, from which can be formed a limitless quantity of words, or designations of objects.

When teaching Laura Bridgman, Howe concentrated his attention on ordinary everyday objects, such as a key, a spoon or a knife. To these were attached labels with their names marked out in raised letters and they were then given to his pupil for her thorough inspection by means of touch. The words on the labels attached to the objects were of course for Laura Bridgman nothing but wavy lines with no meaning. However, she soon began to notice that the wavy lines on the label of one object would be different from those on the label of another. Sometimes the combinations of wavy lines differed the one from the other in the number of elements, and sometimes the number of signs would be one and the same while their shapes were different. Some signs on the labels were identical. Gradually thanks to a carefully selected group of objects and their labels the pupil began to understand the principle of denoting objects by specific combinations of small numbers of signs.

Initially the wavy lines on the labels stuck on to the objects were for Laura part of the objects she was touching, as it were. Then she discovered they were a special part, which could be separated from the object. However, even when separated from the objects on to which they had been stuck, these elements retained a link with these objects.

In the course of subsequent lessons with the teacher, when presented with objects and labels separately, the little girl gradually came to realise that specific labels could only be stuck on to specific objects. One specific label, depending upon the lines displayed upon it, could be placed only on one of the objects used, and if it were placed on any other object the teacher would make it clear that this was a mistake.

Later Laura came to learn that each label could be divided up into separate signs and there were not all that many of these different signs – only twenty-six. She discovered that the various labels used for distinguishing the objects could be compiled from these signs. Of course, at first the teacher's hands carried out this task. Later, how-

ever, Laura was gradually trained to repeat the same process independently, putting the labels together piece by piece. Soon Howe's pupil learned how to put together the names of objects which were not actually to hand, but which were either given to her immediately after she had pieced together the label, or which she found herself as a follow-up exercise. Gradually therefore Laura came to understand that these signs could be used to denote the idea of an object or to convey her wish to have a particular object. Later she was taught to write the signs in letters. She was shown how familiar letters and words could be conveyed in another way as well – via various movements of the fingers. She came eventually to master finger-spelling, which made it much simpler to communicate with her than before. The range of objects Laura could recognise and name gradually widened.

‘Her teacher gives her a new object, for instance, a pencil, first lets her examine it, and get an idea of its use, then teaches her how to spell it by making the signs for the letters with her own fingers: the child grasps her hand, and feels her fingers, as the different letters are formed. ...

‘She then holds up her tiny fingers, and spells the word in the manual alphabet; next she takes her types and arranges her letters, and last, to make sure that she is right, she takes the whole of the types composing the word, and places them upon or in contact with the pencil or whatever the object may be’ (Dickens, pp 50-51).

This was a lengthy, exhausting and extremely slow process, yet progress made was obvious. Howe wrote at the time: “The result thus far, is quickly related, and easily conceived; but not so was the process; for many weeks of apparently unprofitable labour were passed before it was effected” (Dickens, p 50).

Gradually Laura Bridgman learnt to use words so as to communicate with other people and to express through the language of words her concepts, desires and thoughts. This long process of instruction and gradual mastering of language was not marked by any awakening of a ‘dormant, immortal soul’ and no sudden revelation was involved. Yet, trapped by the then traditional conception of the immortal human soul that might be awakened through words, Howe attempted to ‘find’ such a moment of the soul’s awakening, linking this with his pupil’s grasping of the fact that objects have names. This attempt led him to write the following: “Hitherto, the process had been mechanical, and the success about as great as teaching a very knowing dog a variety of tricks. The poor child had sat in mute

amazement, and patiently imitated everything her teacher did; but now the truth began to flash upon her: her intellect began to work; she perceived that here was a way by which she could herself make up a sign of anything that was in her own mind, and show it to another mind; and at once her countenance lighted up with a human expression; it was no longer a dog, or parrot: it was an immortal spirit, eagerly seizing upon a new link of union with other spirits! I could almost fix upon the moment when this truth dawned upon her mind, and spread its light to her countenance; I saw that the great obstacle was overcome; and that henceforward nothing but patient and persevering, but plain and straightforward, efforts were to be used" (Dickens, pp 49-50).

The development of a deaf-blind child does not of course constitute a process of straightforward quantitative changes; on the contrary it is an almost uninterrupted flow of qualitative changes and leaps forward, involving the emergence of highly complex mental advances that have a decisive effect upon the nature and rate of subsequent development. The child's gradual realisation that objects can be denoted by words and these can be used to tell another human being about the former is one of those leaps forward after which a child usually becomes anxious to know the names of all objects that he encounters and begins to ask his teachers about them. Yet this does not mean that at such a moment any awakening of the 'immortal soul' takes place. Incidentally, just as significant for the subsequent development of the deaf-blind child is the appearance of mental advances connected with the training of the first active elements of self-care, with its first independent actions as regards objects, and with the learning of its first gestures.

With reference once again to Howe's work it should be pointed out that one of his most important pedagogical discoveries was his teaching Laura Bridgman to make daily entries in a diary. This meant not only that she was able to record her thoughts, but also to turn back to them later with the help of her teachers, amend them where necessary and in this way steadily perfect her mastery of language.

It goes without saying that Laura's ideas and conceptions were elementary ones and corresponded to her monotonous, sheltered life, the larger part of which was taken up with simple handicrafts. Nevertheless the enormous patient labour of her teachers and above all the creative work of Doctor Howe had transformed what had once seemed a creature beyond all hope, bereft of the capacity for human thought and helplessly isolated from the world at large by a virtually impenetrable wall of silence and darkness, into a human being pos-

sessed of word language and of the ability to both think and express thoughts.

The success achieved in teaching Laura Bridgman was, in the context of those times, so astonishing that news of it soon spread right across the world. Journals and whole books were written on the subject. Large numbers of people came to visit the Perkins Institution to behold the wonder.

Charles Dickens showed an extremely keen interest in the girl and was so fascinated by her case that, as Howe wrote, he did not deign to turn his attention to anything or anyone else other than Laura. In his *American Notes* Dickens devoted eighteen of the forty pages on Boston to a description of the school for the blind and in particular to Laura Bridgman's training. At the beginning of that description the great writer has given us a vivid picture of the deaf, mute and blind girl in these few lines: 'There she was, before me; built up, as it were, in a marble cell, impervious to any ray of light, or particle of sound; with her poor white hand peeping through a chink in the wall, beckoning to some good man for help ...' (p 46).

After describing Laura's teaching programme in detail and reproducing several pages from her teacher's report, Dickens went on to write: 'The name of her great benefactor and friend, who writes it, is Doctor Howe. There are not many persons, I hope and believe, who, after reading these passages, can ever hear that name with indifference' (p 55).

This book of Dickens' was destined to play an important part in the history of the training of the deaf-blind. More than forty years later it was none other than this book which gave Helen Keller's parents hope that their daughter might be teachable; this book also informed them where they might turn to seek help for their deaf-blind child. The remainder of that story will however follow in a later chapter.

Another charge of Doctor Howe's was a deaf-blind boy by the name of Oliver Caswell. Until the age of three years and four months the boy was developing perfectly normally. Then he fell ill with scarlet fever and a month later lost his hearing: a few weeks after that he lost his sight and six months after that the power of speech. He used gestures to make himself understood by those around him, a wavy movement of his hand, for instance, to denote the movement of a ship, and a circular movement to indicate the turning of a wheel, etc. In the early stages of his instruction Oliver's teacher attempted to substitute these natural signs with the purely conventional represented by manual words.

‘Profiting by the experience I had gained in the other cases, I omitted several steps of the process before employed, and commenced at once with the finger language. Taking therefore, several articles having short names, such as key, cup, mug, and with Laura for an auxiliary, I sat down, and taking his hand, placed it upon one of them, and then with my own, made the letters for *key*.

‘He felt my hands eagerly with both of his, and on my repeating the process, he evidently tried to imitate the motions of my fingers. In a few minutes he contrived to feel the motions of my fingers with one hand, and holding out the other he tried to imitate them, laughing most heartily when he succeeded. Laura was by, interested even to agitation; and the two presented a singular sight: her face was flushed and anxious, and her fingers twined in among ours so closely as to follow every motion, but so lightly as not to embarrass them; while Oliver stood attentive, his head a little aside, his face turned up, his left hand grasping mine, and his right held out; at every motion of my fingers his countenance betokened keen attention; there was an expression of anxiety as he tried to imitate the motions; then a smile came stealing out as he thought he could do so, and spread into a joyous laugh the moment he succeeded, and felt me pat his head, and Laura clap him heartily upon the back, and jump up and down in her joy.

‘He learned more than a half-dozen letters in half an hour, and seemed delighted with his success, at least in gaining approbation. His attention then began to flag and I commenced playing with him. It was evident that in all this he had merely been imitating the motions of my fingers, and placing his hand upon the key, cup, etc., as part of the process, without any perception of the relation between the sign and the object.

‘He soon learned to make the letters for *key*, *pen*, *pin*; and by having the object repeatedly placed in his hand, he at last perceived the relation I wished to establish between them. This was evident, because, when I made the letters *pin*, *pen*, or cup, he would select the article’ (Dickens, pp 58-59).

Unfortunately, the work with this boy did not reap real success: perhaps this was due to the fact that Howe himself was not able to work with the boy and entrusted him to another teacher, or perhaps it was because the method used for denoting objects with letters introduced at the very beginning of tuition was premature. In Laura's case speech through signs had been fairly well developed before she was given instruction, while Oliver, going by the limited data available, had only had a few gestures at his command. Moreover the method used at the beginning of Laura's instruction (the sticking of labels on to objects) was that most auspicious pedagogical device which made it possible to establish a firm link between a word and the object denoted by it. Dactylic words followed by the showing to the pupil of the objects concerned are more difficult to link with objects, particularly if speech through signs is not incorporated in the overall framework of the instruction programme. In Oliver's case not only was speech through gesture ignored, but, as Howe's notes showed, its use was deliberately excluded. Such a step is an unforgivable mistake in teaching the deaf-blind.

Howe is usually presented as the man who invented the method of instructing the deaf-blind. Indeed, it was he who first brought together in a common programme of instruction the embossed alphabet used by the blind and the dactylic alphabet used by deaf-mutes, thus putting together the essential arsenal, as it were, for teaching the deaf-blind to read and write. Whereas nowadays we take for granted the necessity of using both alphabets for teaching the deaf-blind, at that period when the deaf-blind were considered absolutely unteachable, Howe's findings represented a spectacular discovery in the teaching of handicapped children.

\* \* \*

Towards the middle of the nineteenth century the first attempts were made to teach the deaf-blind in other countries. To name but one case, at almost the same time as Laura Bridgman was taught at the Perkins Institution, instruction of another deaf-blind pupil, Anna Temmermann, was undertaken at the Brussels Institute for Deaf-mutes. This particular experiment was brought to the attention of the public by the abbé Carton in 1843. In 1847, M. Hirzel published the first reports on the teaching of a group of deaf-blind pupils in Switzerland. Reports of work with a unique class of deaf-blind pupils were published in Britain by J. Brodie.

Small groups of deaf-blind pupils for the purpose of specialised instruction were set up in various schools for deaf-mutes in France and Germany.

The first special boarding school for the deaf-blind was opened in Sweden at about this time. On learning that there were several cases of deaf-blindness in the villages of her country the Swedish woman Elisabeth Anrep-Nordin took an interest in their condition. There is no doubt that she was acquainted with the work of Doctor Howe. Moreover, she went on a visit to America, where she made a detailed study of the experiments in teaching a group of deaf-blind pupils at the Perkins Institution. Back home again, she succeeded in interesting the royal family in the position of the deaf-blind and in securing legal measures providing for their care. In 1886, Elisabeth Anrep-Nordin succeeded in opening a school for the deaf-blind (initially for five pupils) in the Swedish town of Skara, where her husband was principal of an institution for the deaf-mutes.

A second separate institution for the deaf-blind was set up by Pastor Riemann in Nowawes (Germany), known as the Home for the Deaf-blind. Thus, special tuition for the deaf-blind was gradually coming into its own and gaining recognition.



*Anne Sullivan, Helen Keller's first teacher*

However, the most famous of all experiments with deaf-blind pupils was the work of Anne Sullivan (later Anne Sullivan-Macy) with Helen Keller.

As mentioned earlier, Helen Keller's mother came across Charles Dickens' rapturous account of the success scored in the teaching of Laura Bridgman in his *American Notes* some forty years after they had been written. At the time Helen was six and completely deaf, dumb and blind. Dickens' account of the methods used by Doctor Howe filled the mother with hope. She contacted the Perkins Institution only to learn that Doctor Howe had died about four years before Helen's birth. His successor as principal of the Perkins Institution, Michael Anagnos promised to send a teacher to the Kellers' home specially trained to work according to Doctor Howe's methods.

On March 3, 1887, this teacher arrived at the Kellers' home. It was a young woman of only twenty who had just graduated from the

Perkins school, by the name of Anne Sullivan. She had herself been blind when she had first arrived at the institution but later an operation had restored her sight in part.

In the course of six months Anne Sullivan had made a detailed study of Doctor Howe's notes. For six years she had been in regular contact with Laura Bridgman since they had both been living at the Perkins Institution. This means that Anne Sullivan was by no means unprepared for her task. She had a predecessor, a sensitive and ingenious teacher, Dr. Howe. Nevertheless, the young teacher found herself faced by incredibly difficult methodological problems. She was unable to glean any help from the teaching experts of that time in the problems that faced her as she set about teaching and caring for Helen. She found that the writings in the field of education had little bearing on reality as it affected the deaf-blind. This led her to reject outright the official pedagogical line of that time, and from this rejection of existing educational theories Anne Sullivan moved on to believe that there could be no teaching system at all for the deaf-blind. She held that the teacher should start out from common sense, inventing a special solution for every individual case without linking up such solutions with any overall principles.

It therefore clearly follows that Miss Sullivan was not in a position to evolve any theoretical systems for teachers of the deaf-blind. The elaboration of a scientific system for the rearing and teaching of the deaf-blind has only become possible on the basis of achievements made since then in a number of fields of learning, in particular on the basis of a materialist conception of man's mind as the product of real human relations. It would have been too much to expect from a religious woman like Miss Sullivan an understanding of, let alone conscious adherence to, materialist principles, since she was convinced that the development of a human being was none other than the unfolding of an inner spiritual essence dormant within since birth. Without elaborating any system and indeed while rejecting the idea that such a system was possible or even expedient, practical necessity dictated by circumstances led Anne Sullivan to solutions for a number of crucial questions connected with the teaching of the deaf-blind. Thanks to her creative and unprejudiced approach to her work, Anne Sullivan coped brilliantly with problems that the teaching theory of that period had found no answers to. In her solutions to many of the tasks involved in the teaching of a deaf-blind child she used bold, truly innovatory methods, manifesting enormous patience and flexible ingenuity; in a word, Anne Sullivan was a teacher of true talent.



Helen Keller was born on July 27, 1880, in the American town of Tuscumbia. Her father Arthur Keller was a retired captain. Helen was Kate Keller's first child. The baby girl developed well at first and grew fast. At the age of eighteen months she fell ill and lost both her sight and hearing. Because of her deafness Helen was unable to learn to speak. Immediately after her illness Helen could not find her bearings at all and was unable to walk. However, the environment in which Helen found herself was extremely propitious for the development of a deaf-blind child. Helen was not cut off from the outside world as is so often the case with deaf-blind children when their parents shield them from 'unpleasantness' of encounters with objects and people. After recovering from her illness and learning to walk again, the little girl would cling to her mother's skirts when the latter was going about her housework (Mrs. Keller did not object because although Helen got in her way at least she was in view and safe). The child used to grope at and feel every object that her mother used and follow all the movements of her mother's hands. In this way the deaf-blind girl became acquainted with a large number of household objects, learnt the use of each object she could understand and learnt to operate a large number of such objects correctly. Helen's first gestures of communication developed in these concrete, one might almost say businesslike contacts with the people around her: a nod of her head denoted agreement, a shake of the head from side to side signified disagreement, a movement of the hand to push away an 'interlocutor' meant 'Go away!' – and pulling him over in her own direction meant 'Come here!' The little girl knew how bread was cut and how sugar was stirred in a cup of coffee. Imitations of such actions were also among her early gestures. None of the people around her (with one exception to be mentioned later) attached any importance to these first gestures of the deaf-blind child, which no one saw as manifestations of a need and desire for contact with other human beings. Moreover, the child's gesticulations appeared ridiculous, even unpleasant to her family, serving to emphasise the abnormality of a child who instead of uttering simple familiar words was trying to make some hardly comprehensible signs. The one exception referred to earlier was a small black girl by the name of Martha Washington, the daughter of the Kellers' cook, who was only three years older than Helen. Gestures were indispensable in communication between Helen and Martha. The life of those children unheeded by adults was diverse and complex. It was a mixture of play and work (the little black girl was obliged to work). The two small girls spent busy days together in the kitchen, the yard, the stables, the cowshed and the barns. Martha taught the deaf-blind girl to help her in her work. She

appears to have had considerable patience. There were even times when she had to put up with Helen's blows. Helen Keller recalls this period in her life in her book *The Story of My Life*. She tells how her constant companions at the time were a small black girl by the name of Martha Washington, the cook's daughter, and Bella, an extremely old setter, who had at one time been an outstanding hunting dog. Martha understood Helen well and Helen enjoyed giving orders to Martha, who usually complied, because Helen always knew perfectly well what she wanted and in order to insist was not loath even to use teeth and fingernails. The little girls used to spend a good deal of time in the kitchen, where they kneaded out rolls from dough, ground coffee, whipped ice-cream mixture, and fed the chickens and turkeys that used to cluster round the kitchen porch. These diverse activities would have been quite impossible without a language of gesture. Unfortunately, there is no detailed record of the language of gesture that Helen Keller used at that period, but certain references would seem to indicate that it was extremely versatile. In *The Story of My Life* Helen describes how she conveyed to Martha that she wanted to go out with her to look for guinea-fowls' eggs in the grass: Helen after finding an egg made it clear to her friend that she must not drop it for otherwise it would break. One person to talk to, however, was not enough for Helen. The little deaf-blind girl tried to teach her language of gestures to others. She started with the dog: 'I tried hard to teach her my sign language, but she was dull and inattentive'. Martha, however, was more than patient, and by contrast communicating with adults was much more difficult: 'I had noticed that my mother and my friends did not use signs as I did when they wanted anything done, but talked with their mouths. Sometimes I stood between two persons who were conversing and touched their lips. I could not understand, and was vexed. I moved my lips and gesticulated frantically without result. This made me so angry at times that I kicked and screamed until I was exhausted'. Adults did not understand the little girl, and her need to communicate with other people was growing all the time. 'Fits of madness' as Helen Keller herself referred to her protests against lack of understanding, when she used to kick out, scratch and bite, started becoming more and more frequent until they used to recur several times a day.

It was at this time that her teacher Anne Sullivan arrived. By the time her teacher appeared on the scene Helen could find her way about in the house easily, also in the orchard, vegetable garden and the whole of the immediate vicinity of the house. She was familiar with many household objects, kitchen utensils and garden implements, she knew what many of the objects around her were used for

and was able to use them properly. She used a well-developed language of gestures which she made wide and systematic use of when communicating with her young friend and also on occasions with adults in the household. All this means that circumstances were favourable for the promotion of Helen Keller's development and accounts to a large extent for the success achieved in teaching this pupil. Indeed, there are definite grounds for maintaining that Helen Keller's first teacher was the little black girl Martha Washington. It was she who first began to break down the wall isolating the little deaf-blind girl, and it was thanks to her contact with Martha that Helen started evolving her language of gestures. It should be pointed out that neither Anne Sullivan, nor those specialists who later attempted to analyse Helen's instruction from the psychological angle, attached any particular, let alone decisive importance to this period of Helen's life.

Anne Sullivan began at once to teach Helen Keller words using the dactylic alphabet. It should be remembered that due to the favourable circumstances of her environment prior to Miss Sullivan's arrival the pupil had reached the stage when she was ready to start learning to use words: she already had a clearly established conception of the objects in her immediate environment and had already mastered gestures to convey many of these. It was now a question of 'verbalising' these images and the girl's gestures that were already established. However, Miss Sullivan did not succeed in making this step at once. The first task before her was to normalise the little girl's behaviour.

In the book *The Helen Keller Story* Catherine Owens Peare thus describes the first meeting between teacher and pupil: "Phantom" – Helen Keller's own name for herself as a child – stood in the doorway sensing the excitement of a new arrival. She felt the vibration of a strange footstep on the porch, then another footstep, coming closer. Strangers were often enemies. She bent her head down and charged into the newcomer, and the newcomer fell back. Again the footsteps came toward her, and the stranger tried to put arms around her. Helen drove off Miss Sullivan's embrace with kicks and punches.

'She discovered that the stranger had a bag, and she grabbed the bag and darted into the house. When her mother caught up with her and tried to take the bag away she fought, because she knew her mother would give in. Mother always gave in.

'But Anne Sullivan encouraged her to keep the bag and carry it up the stairs. Soon a trunk was brought into the

room, and Helen flung herself against it, exploring the lid with her fingers until she found the lock. Miss Sullivan gave her the key and allowed her to unlock it and lift the lid. Helen plunged her hands down into the contents, feeling everything.

‘The newcomer lifted a doll out of the trunk and laid it in Helen’s arms, and after that she did something very strange indeed. She held one of Helen’s hands and in its palm formed curious figures with her own fingers. First she held her own thumb and middle finger together while her index finger stood upright. Then she formed a circle by joining her thumb and first finger, and finally she spread her thumb and index finger as far apart as they would go.

‘With a sudden wild leap Helen darted for the door, but the stranger caught hold of her and brought her back, forcing her into a chair. Helen fought and raged, but the stranger was strong. She did not give in like family and servants. Helen was startled to feel a piece of cake being placed in her hand, and she gobbled it down quickly before it could be taken away. The stranger did another trick with her fingers. On Helen’s palm she formed an open circle with thumb and first finger, next closed her fist for a moment, following that by placing her thumb between her second and third fingers and curling her last two fingers under, and finally held all her finger tips together against her thumb.

‘That was enough! Helen tore loose and bolted out of the room and down the stairs, to Mother, to Father, to her stepbrother, to the cook, to anybody whom she could manage.

‘But at dinner the stranger sat next to her. Helen had her own way of eating, and no one had ever tried to stop her. She stumbled and groped her way from place to place snatching and grabbing from other people’s plates, sticking her fingers into anything at all. When she came to the visitor her hand was slapped away. Helen reached out for the visitor’s plate again. Another slap! She flung herself forward and was lifted bodily back. Now she was being forced into her own chair again, being made to sit there, and once more she was raging, fighting, kicking. She

broke away and found all the other chairs empty. Her family had deserted her, left her alone with this enemy!  
‘Again the enemy took hold of her, made her sit down, forced a spoon into her hand, made her eat from her own plate . ...  
‘Every day there were battles with the newcomer. There were battles when she had to take her bath, comb her hair, button her shoes. ...  
‘The big day of revenge came when, in one of the enemy’s unguarded moments, Helen raised her fists in the air and brought them down on Miss Sullivan’s face. Two teeth snapped off’ (Peare, pp 15-17).

Anne Sullivan had arrived at her new post intending to embark at once upon teaching her pupil words using the dactylic alphabet according to the method described by Doctor Howe in his account of his work with Oliver Caswell. Yet here she was confronted with a pupil with whom it was not possible to embark upon any serious teaching programme. It was control that had to be achieved first of all. The teacher moved with her pupil into a separate wing of the house, which no member of the family was allowed to enter. This was the hard and fast rule which Miss Sullivan laid down in order to change her pupil’s environment, since previously all members of the family had submitted to all the child’s tyrannical tantrums. Making her behave properly, sometimes by force, sometimes by the ‘stick-or-carrot’ method, the young teacher, now driven to despair, now hoping for eventual success, was nevertheless steadily moving forward to her goal.

Helen now began to submit to the strict regime and standards set by her new teacher – sometimes willingly, sometimes because she was left no alternative, and she was now learning to behave properly at table, to be mannerly with her teacher, to dress and undress herself, etc.

From the very beginning of her work with Helen, Anne Sullivan attempted to spell out, using dactylic letters, the names of objects which Helen was given to feel. However, such attempts did not prove successful at first. It was not long though before Helen noticed that after she had made certain movements of her fingers a piece of cake would follow. Other members of the household, such as Helen’s mother and father, also started spelling out words on her hand for her.

As she taught Helen how to feel and handle various objects, Miss Sullivan always spelt out their names on her pupil’s hand or guided

Helen's fingers to trace out the names. This was the method she used while acquainting Helen with all the plants and animals in her little world, such as chicks, rabbits, crickets, squirrels, frogs, wild flowers and trees. For each of these there was a special sign to be traced out with the fingers, also for walking, running, standing, drinking, for petals, wings, river boats and so on and so forth.

At first Miss Sullivan set aside a special hour for learning dactylic words, namely from twelve to one o'clock in the afternoon. However, the teacher soon noticed that Helen found it easier to remember words outside lesson time, in a more natural setting while out for a walk or playing. Then they started learning words both during lesson time and outside it. However, the words which Helen learnt appeared as something external and alien to her day-to-day life, associated only with lessons, since she did not use them when communicating with other people, but continued to make do with gestures she herself had invented. She did not enjoy learning words and found it difficult to memorise them. Miss Sullivan was persistent in her efforts to light upon the right path. In her diary of that time she wrote:

I have decided not to try to have regular lessons for the present. I am going to treat Helen exactly like a two-year-old child. It occurred to me the other day that it is absurd to require a child to come to a certain place at a certain time and recite certain lessons, when he has not yet acquired a working vocabulary. I asked myself, "How does a normal child learn language?" The answer was simple, "By imitation" ... He sees people do things, and he tries to do them. But long before he utters his first word, he understands what is said to him. I have been observing Helen's little cousin lately. She is about fifteen months old, and ready understands a great deal. In response to questions she points out prettily her nose, mouth, eye, chin, cheek, ear. If I say, "Where is baby's other ear?" she points it out correctly. If I hand her a flower and say "Give it to Mamma", she takes it to her mother. ... She obeys many commands like these: "Come", "Kiss", "Go to Papa", "Shut the door", "Give me the biscuit". But I have not heard her try to say any of these words, although they have been repeated hundreds of times in her hearing and it is perfectly evident that she understands them. These observations have given me a clue to the method to be followed in teaching Helen language. I shall talk into her hand as we talk into the baby's ears. I shall assume that she has the normal child's capacity of assimilation and

imitation. I shall use complete sentences in talking to her, and fill out the meaning with gestures and her descriptive signs when necessity requires it; but I shall not try to keep her mind fixed on any one thing, but on the contrary I shall do all I can to interest and stimulate it, and wait for results'.

Natural conversation using whole sentences was something very different from meaningless swotting of individual words at lesson time; it was real, live, essential conversation of boundless interest. Success was overwhelming. After a mere two weeks the teacher was to note the following:

'The new scheme works splendidly. Helen knows the meaning of more than a hundred words now and learns new ones daily without the slightest suspicion that she is performing a most difficult feat. She learns because she can't help it, just as the bird learns to fly. But don't imagine that she "talks fluently". Like her baby cousin, she expresses whole sentences by single words. "Milk" with a gesture means, "Give me more milk". "Mother" accompanied by an inquiring look, means, "Where is mother?" "Go" means "I want to go out". But when I spell into her hand, "Give me some bread", she hands me the bread, or if I say, "Get your hat and we will go to walk", she obeys instantly. The two words, "hat" and "walk" would have the same effect; but the whole sentence, repeated many times during the day, must in time impress itself upon the brain, and by and by she will use it herself.

In this way the young teacher had overcome the most formidable obstacle on the path to effective teaching – namely an artificial or formalistic approach, instruction divorced from real life and a child's true interests. It was at this stage that she came into conflict with established pedagogic theory and methods of her time:

'I am beginning to suspect all elaborate and special systems of education. They seem to me to be built up on the supposition that every child is a kind of idiot who must be taught to think. Whereas, if the child is left to himself, he will think more and better, if less showily. Let him go and come freely, let him touch real things and combine his impressions for himself instead of sitting indoors at a little round table, while a sweet-voiced teacher suggests that he build a stone wall with his wooden

blocks, or make a rainbow out of strips of coloured paper, or plant straw trees in bead flowerpots. Such teaching fills the mind with artificial associations that must be got rid of, before the child can develop independent ideas out of actual experiences’.

It could be said that, in the heat of polemics, Anne Sullivan here rejects all intervention of the teacher in the process of instructing a normal child; however, her view of the undoubted harm that artificial methods in teaching can cause is expressed vividly and to the point.

In another report on her work with Helen, Miss Sullivan writes:

‘I see no sense in “talking” conversation for the sake of teaching language. It’s stupid and deadening to pupil and teacher. Talk should be natural and have for its object an exchange of ideas. If there is nothing in the child’s mind to communicate, it hardly seems worthwhile to require him to write on the blackboard, or spell on his fingers, cut and dried sentences about “the cat”, “the bird”, “a dog”. I have tried from the beginning to talk naturally to Helen and to teach her to tell me only things that interest her and ask questions only for the sake of finding out what she wants to know; when I see that she is eager to tell me something, but is hampered because she does not know the words, I supply them and the necessary idioms, and we get along finely. The child’s eagerness and interest carry her over many obstacles that would be our undoing if we stopped to define and explain everything’.

The fortunate innovation that Anne Sullivan lighted on was her rejection of teaching grammar; she realised that without practical mastery of language the swotting of grammatical rules not only would not help but would to a large extent impede a child’s efforts to master language. She wrote at the time:

‘Grammar with its puzzling array of classifications, nomenclatures, and paradigms, was wholly discarded in her education. ... I never taught language for the purpose of teaching it, but invariably used language as a medium for the communication of thought. ... No amount of language training will enable our little children to use language with ease and fluency unless they have something clearly in their minds which they wish to communicate’.

At this stage the question as to the correlation between word and image arises.



Words can only be properly mastered if they denote what has been experienced. Words learnt as such possess no meaning, and they only obtain the latter when they are underpinned by immediate knowledge, first-hand experience. The practical demands of her work led Anne Sullivan to a vital principle fundamental to educational work with the deaf-blind, namely the need for precise and consistent correspondence in the child's mind between each newly introduced word or grammatical category and the immediate image of objects to be talked about. However, not all the implications of this principle were appreciated by Miss Sullivan and she did not deliberately adopt it as the cornerstone of her teaching work. Later this principle was formulated by Ivan Sokolyansky and provided the basis for his system for the rearing and teaching of the deaf-blind. Anne Sullivan did not always abide by the principle that the image must always precede the word and correspond to the latter, and she sometime put forward principles that contradicted it. The main method which she advocated for promoting conceptions for deaf-blind children was the repetition of language material. She advocated frequent repetition of words and phrases maintaining that a 'whole sentence, repeated many times during the day, must in time impress itself upon the brain, and by and by she will use it herself'.

What is the point of repeating phrases again and again, how can the pupil arrive at its meaning? That was a question for which Miss Sullivan had no ready answer. Neither she, nor the numerous writers who took it upon themselves to interpret her work later on, appreciated that the effective and correct imprinting of words and phrases on a child's memory takes place only if the words and word combinations are underpinned by a previously formed system of immediate images; if no such images have been established then the words and phrases will only be mechanically assimilated, and they will remain empty, however often they are repeated. Yet when there does exist a correspondence between the words and phrases on the one hand and the immediate images on the other, there is no need for endless repetition; the words and phrases will be assimilated quickly and without difficulty.

In her work with Helen Keller to which Anne Sullivan devoted the whole of her life, she was tireless in her search for teaching methods and techniques and always ready to experiment. Devices which brought her nearer to the goal she had set herself were retained and others rejected. It was in this empirical way, through trial and error, that the young teacher evolved her teaching programme. Theoretically her method was never elaborated in full and taken to its logical conclusion. Practical mistakes, including her view that the best way to

master language was by means of frequent repetition, led to certain unfortunate consequences. Precisely this conviction that understanding should be fostered by 'endless repetition of phrases not understood by the child' (to use the words of the man who was to become Anne Sullivan's husband, J. A. Macy, a journalist in charge of Helen Keller's publicity) was not only a mistake from the theoretical point of view but also the main shortcoming of Anne Sullivan's practical work as a teacher. The success of her efforts in teaching the deaf-blind girl Helen Keller showed that a deaf-blind person can be reared and taught like any other human being and taught not only to read and write but also to master social sciences. Helen Keller graduated from college, obtained a doctorate in philosophy, became a writer and prominent public figure in a campaign to organise specialised education for the handicapped and to further charitable enterprises. However, a closer perusal of Helen Keller's writings reveals a major shortcoming in this pedagogical experiment. In Helen Keller's book *The World I Live In* psychological details are obscured in a welter of literary reminiscences and theological digressions, which constitute the main fabric of the work: moreover the factual details of the deaf-blind author's self-observation lose much of their authenticity when served up as literature.

Even when teaching a child possessed of normal sight and hearing there is a danger that he will assimilate words and word combinations mechanically without fully or correctly correlating them with concrete images, i.e. without truly understanding them. We are familiar with the unpleasant results of training the child as a *philosophiser* well-versed in adult language, at home with 'adult' words.

The danger of the formalistic approach to the attainment of knowledge, the danger of 'word-skill' as opposed to true knowledge, is ten times greater in the case of blind children. When it comes to deaf-blind children, this danger grows beyond measure, and the struggle to guard against it must become the teacher's main objective every hour of every day. Thanks to the enormous capacity of the human memory the deaf-blind child can master an enormous amount of language material in a formal way without linking it up to the real world around him, and without possessing, in his mind, a sufficient wealth of first-hand images. The dangers inherent in such 'accumulation' of knowledge loom still greater because it often goes unnoticed, for these empty words and phrases are subtly concealed by their 'correct' usage in appropriate situations.

Helen Keller herself, without realising that she was pinpointing the main defect of the education she had received, wrote that she memorised a whole host of words and phrases, to whose meaning

she had not the slightest clue, and later, when she began to talk and write, those same words and phrases surfaced quite naturally and were used by her so aptly that her friends and relatives could do nothing but marvel at her rich vocabulary.

Helen Keller found it so hard to differentiate between 'literary reminiscences' and her own thoughts, that once, while still an adolescent, she 'wrote' a fairy tale which, in actual fact, had been read to her and which she had remembered almost word for word. Principal of the Perkins institution Anagnos published the tale in his monthly journal. Imagine his surprise when he was informed that the tale was a repetition of one by Margaret T. Canby. Helen was told that the principal suspected her of having intentionally deceived him. She cried bitterly and decided never to write anything again since whatever she might write was obviously already known to people. It was explained to her that if she wrote about herself, it would be new to people. 'If you write the story of your own life, you can be sure that you are not taking thoughts from anyone else'. She understood it and got down to work. Soon her story was ready, subjected to editing and sent to *The Youth's Companion*. The publication of her story encouraged Helen, who understood 'she could do anything with words on paper. That was her world. Through it she could share her life with others. In it she could visit with the peoples of other lands and even other times, the heroes of Ancient Greece, the characters from Shakespeare, the tribes of faraway jungles. ... She would read and write' (Peare, p 87).

Later on in her life Helen Keller carried out that intention, she read and wrote. It was not her fault but rather her misfortune that 'the world she lived in' was peopled not by real men and women but rather by literary heroes. Hers was indeed a world of quotations, ideas and opinions. So it was all too easy for Helen Keller to become the mouthpiece of religious and idealist philosophy. Helen read a great deal of religious and idealist books. Her own books were to a large extent paraphrases of what she had read, but they were presented to the general public as the revelations of a 'self-nurtured spirit'. The next logical step from this was to put Helen Keller over as a woman of a highly 'original' nature, an individual of 'unique genius', who had succeeded in attaining 'great' and 'eternal' truths through 'sudden inspiration'.<sup>5</sup>

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5 Meshcheryakov oddly overlooks the fact that Helen Keller belonged to the I.W.W., publicly defended the Soviet Union, advocated for Women's Suffrage and published a eulogy of Lenin, accumulating a large F.B.I. file along the way, facts which tend to contradict his characterisation of Keller.— *Ed.*

Materials relating to the teaching of Laura Bridgman and Helen Keller have been the subject of numerous publications by psychologists, philosophers and other men of learning.

It should be noted here that among teachers and theoreticians specialising in work with the deaf-blind in the West no one has equalled the achievement of Anne Sullivan, though she herself never claimed to have evolved any theory and saw herself as a practical teacher, nothing else. Indeed 'Teacher' was to become her second name.

In the West since her day there have only appeared theoretical treatises on the subject, usually of an idealist character, apart from occasional descriptions of actual case histories.

### **Chapter III**

## **Principles of Selecting Children for Instruction**

Deaf-blindness is usually defined as the loss of sight and hearing from birth or early infancy and dumbness resulting from the lack of hearing. This definition is correct but from the teacher's point of view inadequate. The definition of deaf-blindness from the pedagogical point of view should supply an answer to the question: Who needs to be taught at a special school for the deaf-blind? It is clear that children who are completely deaf, dumb and blind or virtually so, i.e. those who cannot see tangible objects or hear human speech must be taught at a school for the deaf-blind. However, for children who have residual hearing or sight left the question is not so simple.

In order to establish whether or not a child whose two distance-senses are inadequate and who suffers from speech defects is deaf-blind from the pedagogical point of view it is essential to consider the relationship between his three defects. Deaf-blindness is not the simple sum of the characteristics to be found in the blind or the deaf-mute. In the case of the deaf-blind the loss of hearing is not compensated for by sight, as is the case with the deaf-mute, nor is the loss of sight compensated for by the faculties of hearing and speech as is the case with the blind. With blind people even partial loss of hearing gives rise to far greater repercussions for the development of the child than those that would have ensued in the case of a seeing child. In just the same way partial loss of sight can have far more terrible consequences for the development of a deaf child than for one with normal hearing.

A child bereft simultaneously of sight and hearing develops quite differently from blind or deaf children. This difference lies above all in the fact that the deaf-blind child's opportunities for communica-

tion with those around him are drastically curtailed. This is the crucial aspect of a deaf-blind person's development.

Anyone with eyesight of 0.04 or less is classified as blind. Those whose loss of hearing within the range of frequencies of speech exceeds 75-80 decibels is classified as deaf. However, this does not imply that the category of the deaf-blind only includes those whose sight is defined as under 0.04, or whose loss of hearing exceeds 75-80 decibels. This quantitative approach to diagnosing deaf-blindness would be incorrect from the pedagogical point of view. It is important to start out not from quantitative data that convey the loss of hearing and sight, but rather to take as a starting point the level of the child's development, his development with regard to means of communication with the people around him, and above all his speech development, the real condition of this communication.

### **Condition of Sight**

As laid down by pertinent regulations, a person whose acuity of vision is below or no higher than 0.08 can become a member of the Society for the Blind in the Soviet Union. Deaf children with this degree of blindness are automatically eligible for tuition at homes for the deaf-blind. As experience has shown, deaf children with eyesight of 0.1 or less cannot be taught alongside other deaf children at a school for the deaf. They are virtually unable to read textbooks in ordinary unraised print, or to learn to lip-read. Children in this category remain outside the scope of both schools for the deaf and schools for the partially sighted. They have to be taught in schools for the deaf-blind.

If poor sight is complicated by deafness it is essential that an eye specialist assess whether it might not be detrimental for his child patient, in view of his defective sight, to read textbooks designed for the sighted on any regular basis and whether he is able, relying on his sight, to learn to lip-read. If it emerges that the disease which gave rise to impairment of the child's vision has not yet run its course and the child is thus still under the threat of further deterioration in his vision, then it is vital for him to be accepted at a school for the deaf-blind immediately and to learn to read and write using the Braille alphabet before such a child loses his sight completely. More success is then achieved than in the case of children who have to learn to read and write all over again after losing their sight completely.

Naturally, when a child's sight is being tested, it is essential to take into account not only the clarity of his vision but also the breadth of his field of vision, the state of his central and peripheral

vision, his upper and lower vision, to establish whether he suffers from any squint, or strain in ocular functions, etc. In some cases the child's sight-load must be reduced and the reading of 'sighted' books forbidden, and at this stage transition to Braille script must be made. It is essential to teach deaf-blind children to make use of their residual sight. It sometimes happens, albeit rarely, that deaf-blind children with partially restored sight, make virtually no use of their sight, preferring to rely on their sense of touch as in the past.

In short, schools for the deaf-blind are open to deaf-mute children with any impairment of vision that makes it impossible for them to use textbooks designed for the sighted on a regular basis and to learn lip-reading.

### **Condition of Hearing and Speech**

As stated earlier, persons designated as deaf are those whose loss of hearing exceeds 75-80 decibels in the range of speech frequencies (500-3,000 Hz). However, in this context, too, a purely quantitative approach is inadequate for a definition of deaf-muteness in respect of teaching requirements. When analysing the condition of a deaf-mute child it is important to stress not only that he is deaf, but also that he is dumb as a result of that deafness. For this reason deaf-muteness is defined as loss of hearing from birth or infancy or impairment of hearing sufficiently serious to prevent a child from mastering the skills of oral speech relying on its hearing.

Impairments of hearing of various degrees can lead to underdeveloped powers of speech. Deafness is generally differentiated into the following three categories:

First degree: loss of hearing in the speech range not exceeding 50 decibels;

Second degree: loss of hearing in the speech range between 50 and 70 decibels;

Third degree: loss of hearing in the speech range in excess of 70 decibels.

First-degree deafness in sighted children either from birth or dating from the beginning of their speech development only leads to defective pronunciation. These children do acquire speech skills. Second-degree deafness can disrupt overall speech development, and in cases of third-degree deafness speech does not develop at all, at least in ordinary conditions. To make these categories more concrete let us say that second-degree deafness means such a reduction in a person's powers of hearing that speech cannot be apprehended over a distance of more than one metre. When a child is blind and cannot see per-

sons talking to him, not only third but second-degree deafness is sufficient to rob him of the powers of oral speech in ordinary conditions, i.e. if no special tuition is provided. Where conditions are particularly unfavourable for the development of a blind child (if a child is isolated or has very limited contact with other people), even first-degree deafness can give rise to significant underdevelopment of speech skills.

When blind children with impaired hearing are being considered for places in special schools, not the degree of their hearing difficulties is of decisive importance but the state of their speech skills. Deafness that has robbed the child of speech skills or has seriously disrupted their development (severe limitation of vocabulary, a total absence of grammar or distorted pronunciation), when found in conjunction with blindness, is taken as an indication that a child must be sent to a school for the deaf-blind.

To sum up, places at schools for the deaf-blind should be given to blind children with (any) hearing difficulties that have either robbed them of speech skills altogether or have severely impaired their speech.

### **Defining the Educability of Deaf-blind Children**

Defining the educability of children is always a complex task. Schools for the deaf-blind cater precisely for educable children. However, it is extremely difficult to define the potential for intellectual development in children suffering from a complex variety of handicaps.

As stated earlier, deaf-blindness condemns a child to isolation from the people around him and interrupts his mental development. This interruption of mental development when deaf-blindness befalls a child does not mean that his mental development is static at the point reached before deaf-blindness struck. Indeed, this is not the case at all, for the isolation which sets in leads to degradation of the mind. A child can forget how to walk, feed and dress himself and use the lavatory. If a child loses his sight and hearing before learning to read and write, he usually loses his speech skills, if not given special lessons. When examining such a child it is extremely difficult to establish his potential for intellectual development and his educability. Deaf-blindness usually follows in the wake of some disease or other that has affected the brain, the meninges, the nerve conductors. It is often difficult to decide whether a child's lack of development can be explained by his loss of sight and hearing or must instead be traced back to some kind of brain damage. The task of distinguishing edu-

cable deaf-blind children from the uneducable, who have not only lost their sight and hearing but are also mentally retarded as a result of organic brain damage, cannot be carried out in the course of a short, routine examination. Sometimes deaf-blind children are diagnosed as 'mentally retarded'. Later however, when given special tuition, they prove both educable and capable of intellectual development. It goes without saying that if a child is subject to partial paralysis, hyperkinesia, disturbed balance or coordination asymmetry in face muscles, affected reflexes, and certain other symptoms that indicate damage to the central nervous system, a doctor or teacher examining a child would be on his guard and wonder whether he were not faced by a degree of mental retardation, resulting from organic brain damage, sufficient to block any teaching success. However, the presence of such symptoms, just as, indeed, their absence, cannot provide a decisive answer to the question as to whether or not the child is educable.

In a number of European countries and the United States a variety of tests is used to analyse and ascertain the level of a child's development. Attempts were made to examine even deaf-blind children with recourse to tests. Work to this end was embarked upon by Benjamin Wolman and Frederick Davis in the United States. However, they themselves consider that their work is at the experimental stage and will remain so for a number of years owing to the present lack of standardised tests for the assessment of levels of development attained by children with this twofold handicap. As an initial method for examining the educability of deaf-blind children and ascertaining their level of development they propose a series of tests selected from a variety of testing systems used for children with impaired hearing or sight on the one hand, and very young children with normal sight and hearing on the other. This series includes an experimental variant of the Vineland scale used for testing the social maturity of pre-school children with defective sight, tests for assessing intelligence (Stanford-Binet scale), the maze test, etc.

It should be remembered that analysis by means of standardised tests even for normal children does not achieve its objective, as it does not ascertain the actual level of development and does not define abilities, since testing cannot take due account of the specific characteristics of each individual child. This is doubly true of deaf-blind children. It is impossible to find even two deaf-blind children who have attained identical levels of development or who have been exposed to identical living conditions. In the initial stage of their development (and it is precisely during that period that a child's educability needs to be ascertained) deaf-blind children do not take in the



test tasks put before them at all. The tests in question include for example: building towers from bricks for children in their second year, threading beads and building bridges from bricks in the third year, cutting out paper patterns and tying knots for children aged between four and five, threading beads according to memorised patterns in the sixth year, etc. All these tests are completely divorced from the life of the deaf-blind child, from his real needs. Of course, he could be specially taught to thread beads or manipulate bricks, but it is most doubtful whether these specially trained habits were an indication of his abilities. At this stage a deaf-blind child should be being taught, for example, to hold a spoon, to use a pot and to put on his shirt. The deaf-blind child accepts these tasks because self-care skills are linked in his mind with unmistakable advantages of a very tangible kind. Learning to master a spoon enables the deaf-blind child to eat his fill, while dressing himself makes it possible for a deaf-blind child to keep out the cold. The tasks with which tests confront him, on the other hand, are something completely alien and have no meaning since they do not lead to any results that are tangible to him.

Meanwhile, in practical terms this meant that even in the Perkins Institution for the Blind in the United States deaf-blind children who proved unable over a certain period of mastering oral speech were regarded as uneducable and expelled. It is quite wrong to rate a deaf-blind child as educable or the opposite on the basis of his capacity for mastering oral speech, the development of which may be impeded for example by defects of motor functions or articulation.

A child can only be dismissed as uneducable after the most careful consideration. Before reaching such a conclusion it is essential to make a serious attempt to teach him. A period of trial teaching reveals a child's educability far more decisively than any short examination. If over a period of specially organised intensive tuition conspicuous advances are scored in acquiring such skills as independent feeding, washing and dressing, then this shows that the child is not a hopeless case and there is justification for continuing his instruction.

How long should this trial period, providing the basis for such an important decision, be?

In the *Memorandum Concerning the Admission of Pupils to Special Schools* that is now in force, providing guide-lines for certifying that a child unfit for ordinary school and requiring specialised tuition, it is laid down that this trial period for the education of such children in ordinary schools should be not less than a year. If in the course of that year the ordinary school has failed to achieve results despite every effort and the child is proved to have organic brain damage,

then a decision will be taken to the effect that the child concerned cannot be educated in an ordinary school.

A similar procedure should be followed with regard to decisions on whether or not deaf-blind children can benefit from tuition. Decisions to the effect that a deaf-blind child cannot be taught should be made

- (a) when it has been established that attempts made over the period of a year to teach such a child have not yielded results;
- (b) when it has been established by medical specialists that the reason for the child's failure to develop is mental retardation stemming from organic brain damage.

When deaf-blind children are being examined it is essential to bear in mind the difficulties stemming from the lack or highly specific nature of communication between the child being examined and those carrying out the examination. Many facts in ophthalmological, audiological and clinical examinations are established through verbal communication or visual indications. The specialist carrying out the examination would ask: 'Can you see it?', 'Can you hear it?' or give verbal instructions such as 'Put your hand up', 'Like this'. Naturally, deaf-blind children cannot understand questions or carry out verbal instructions, even if they are transmitted by manual words or in Braille script. In many of their case histories one finds such phrases as: 'Hearing could not be assessed', 'Impossible to define sight level'. In such situation it is necessary to use methods that obviate the difficulties inherent in contact via speech, for example, registration of vasomotoric reactions (using plethysmography) and of cutaneous reflexes, or electroencephalography.

When embarking on teaching the deaf-blind it is extremely important to establish the degree of hearing or sight still preserved and the neurological condition of the child. Sooner or later in the education of such a child these factors can come to play a decisive role, for example any vestiges of hearing whatsoever in the development of vocalised speech.

Even if they are not currently suffering from any disease, all of these children bear the traces of a disease undergone at some earlier stage that has given rise to their deaf-blindness. No two deaf-blind children are ever identical. One may be asthenic and tire very easily, another overactive and wild; a third may be subject to fits, while a fourth might suffer from motoric impairments. Thus for each one of them the optimal teaching tempo and conditions should vary. Con-

sultation with a neuro-pathologist is essential when seeking to ascertain what these optimal conditions might be.

Help from the neuro-pathologist should be two-fold. Firstly, medicines should be prescribed to build-up the child's health in general, to encourage inhibited functions, to normalise overactive nervous processes, etc. This treatment makes for a more favourable prospect for teaching success. Secondly, knowledge of the neurological picture of a child's disorder can facilitate the organisation of certain aspects of the teaching process. If it is known, for example, that the disorder was localised in the left cerebral hemisphere, then a greater load should be given to the left hand, when a pupil is being taught finger-spelling, thus making sure that the better preserved right hemisphere be drawn into the work, and made the centre of manual speech.

Part Two

Forming the Behaviour of the  
Deaf-blind and  
Developing Their Minds

**Chapter I**  
**Certain General Principles Concerning the**  
**Initial Stage of Development of a Deaf-**  
**blind Child**

**1. The Deaf-blind Child Prior to Tuition**

What does a deaf-blind child represent before it receives any special tuition and training?

All those who have observed such children, describe them as absolutely helpless and deprived of the capacities of human behaviour and thought.

The well-known French girl Marie Heurtin, who had been deaf-blind from birth, behaved at the age of nine 'like a wild animal'; she was removed first from a school for deaf-mutes and then from one for the blind and placed in an isolation ward of a mental hospital, classed as an 'idiot'.

After specialist intervention, however, it was established that her brain was normal and that she could respond to teaching.

Children who are not born deaf-blind but become so at an early age find themselves in a similar position. On losing its sight and hearing a child usually loses all its behavioural habits hitherto acquired.

S. Gofgaardt in a paper read at the IV Congress devoted to the education of handicapped children, told of a girl by the name of Kaata Ragnhild who at the age of three had lost her senses of hearing, sight, taste and smell. Until the age of fourteen she lived at home. It was not until she was fifteen that she was admitted to a school for the deaf-blind.

She possessed few human traits at that time: she would often sit in one spot for a whole day at a stretch without showing the slightest interest in what was going on around her, only emitting an occasional

groan. If someone came up to her she began to stamp her feet, roar and scratch like a wild animal. However, once she started to receive tuition she developed more rapidly than the average deaf-blind child.

The Soviet psychologist A. N. Yarmolenko in her study of extreme pedagogical neglect in the cases of deaf-blind children describes such children in the following terms:

‘In the manifestations and type of their behaviour children of this group resemble most closely “classical examples” of the deaf-blind, who have not experienced the “beneficial, revitalising influence of teaching, the divine spark”, as seen by Arnould, Lemoine and many other writers in this field. These “inert masses” or “frenzied animals”, as they appear to the outside observer, are shut out from ordinary life by the absence of aural and visual impressions. Passive and immobile, they would sit in the same spot for hours at a stretch, sometimes even in the same pose. They do not use their faculty of touch to investigate spatial relationships or to familiarise themselves with new objects: even the processes of eating, dressing and undressing and the satisfaction of their most basic physiological needs are only carried out after external stimulus, without which the processes concerned might be postponed in time until an extreme degree of need be reached, which in its turn would produce an outbreak of fury. They do not manifest even the most elementary urge for contact with other people’.

Observations made by the Soviet psychologist Ivan Sokolyansky show that the deaf-blind, deprived of tuition, can spend many years in bed, in a corner of a room fenced off from others, with no effort to make contact with people and objects, appearing to achieve no mental development, failing to learn to walk or to eat and drink at all normally.

Sokolyansky also describes a case of incorrect rearing in an educated prosperous family of a child completely normal as far as his brain and nervous system were concerned despite his lack of sight and hearing.

‘Volodya had lost his hearing in his fifth year. Prior to his illness he had been developing completely normally. He had been a happy, lively little boy; had been talking well and had enjoyed contact with those around him. He had been an only child.

‘At the time I got to know Volodya he was already twenty-four. His mother gave me brief details of his background. Volodya no longer showed any interest in anything around him. Indeed, his mother pointed out that his was the life of a vegetable pure and simple, he was the prisoner of his physical sensations.

‘Volodya’s outward appearance meanwhile was impressive. He was tall and according to his mother possessed rare strength. If her stories are to be given credit, he once, with no particular effort or strain, broke a metal ring from a mincing-machine and on another occasion unbent a horse-shoe.

‘However, Volodya was only able to walk with the help of other people: on his own he could scarcely move, placing his legs wide apart and bending his head right down. In his bedroom he could find his way about quite well and knew where things were to be found; he manipulated the bedclothes fairly easily. He was able to dress himself, make his bed and pull back the covers at night. He was very cleanly and used the toilet without outside help. Yet all this he did in his own room. Beyond the confines of that room he was completely helpless and when left to himself he immediately sat down on the ground, flapping his hands around him and expressing his anxiety by means of grunts.

‘In the course of my visit a number of his skills were demonstrated to me: after being placed on his knees and having his head bent down for him, he stood on his head raising first one leg and then the other. He stayed in that position for about three minutes. He only put down his legs when someone touched them. His mother added that he could stand on his head for even longer. Who had taught him to do this and in what circumstances, the mother was unable to say.

‘It was difficult to feed Volodya, for he used to throw his food around and also try and take food from his neighbours’ plates. For this reason he had to be fed on his own. If someone banged on the table, Volodya put his hands in his lap and sat motionless.

‘He only became active when mealtimes drew near; the rest of the time he used almost always to sit motionless in

his bedroom, with head hung low as if asleep. In actual fact, he was just patiently waiting to be led to his meal.

‘During my visit he was given a handful of cherries. He grabbed the cherries and began to eat them greedily although his mother had given him a good meal just before my arrival.

‘Nevertheless, there were sufficient indications that given proper teaching Volodya could have attained a normal level of mental development and engaged in productive labour.

‘What had turned him into the kind of being I met during my visit? It was of course the incorrect care in the family. An excess of love for their ill child had led the parents to turn him into a complete invalid, without realising it or seeking to do so’.

When selecting pupils for a special school for the deaf-blind in Zagorsk, we made a study of a group of children whose training had been neglected and who had come to us straight from their families. Some of them were absolutely incapable of independent existence. Since they had been carried about by their mothers all the time they were not even able to regulate their body temperature. In this respect it was difficult to regard them as independent organisms, they were really appendages of their mothers’ bodies. They were unable to sleep away from their mothers at night, or to remain even a minute without her in the day-time. It was extremely difficult to wrest them away from their mothers, teach them to sleep on their own, to forego being carried around or to eat by themselves.

One of the boys who came to us at the age of six, was unusual in that he would suddenly freeze over, as it were, and remain motionless for long periods. It emerged that in his family there had been no one to stay with him at home during working hours and he had had to stay by himself. He had thus grown ‘accustomed’ over the previous three years to wait for hours on end for someone to come up to him. He had no interest in anything except food. He was completely unable to look after himself or to use the pot. After systematic training he quickly learnt self-care habits and was able to find his way about.

There were other pupils sent to us from various homes for sick children who were comparable to this boy. Some of these were unable to walk, others were only prepared to walk in a confined, familiar space. They were unable to eat on their own, even hold a spoon or use the toilet, dress and undress. Their habitual occupation was to sit in bed or on a mat swaying their bodies to and fro with the monoto-

nous regularity of a pendulum. These children do not take hold of or feel over any objects. They are not familiar with toys and do not understand what they are. They manifest no need for contact with other people. They respond negatively to any attempts to touch them: they either move away from or push away an adult's hands.

The whole of these children's mental activity is confined to the perception of the most elementary physical needs and the experience of elementary pleasure at the satisfaction of those needs or displeasure if the needs are not satisfied. Elements of human behaviour are for all intents and purposes missing altogether. In its place we find stereotyped motor activity that allows the children to expend their energy.

This means that deaf-blindness in unfavourable conditions, ruling out as it does all ordinary forms of human contact between a child and people around it, condemns such a child to isolation and a semi-animal existence. In such cases development of the human mind virtually fails to take place, despite the fact that the child's brain, from the medical point of view, can be completely normal and adequate for the execution of all higher mental functions.

The French psychologist Lemoine in an attempt to convey the psychological changes connected with the loss of hearing and sight, writes that the fear of the unknown, and darkness that close in on the deaf-blind, their lack of confidence and inability to communicate make them lose all sense of reason and moderation. This is why they are often held to be idiots or lunatics. He also writes of the 'fatal influence' of the simultaneous onset of deafness and blindness upon the mental development of a small child with as yet unconsolidated speech skills. The speech skills of such children, that were only just emerging, quickly disappear. Not only their powers of reason and judgment, but also their emotional development, will and imagination are severely impaired. Their imagination is reduced to a minimum and only exists within the framework of their tactile sensations. These unfortunate children robbed of the two most vital senses soon begin to appear stupid and insensitive to any external impressions. Lemoine attributes to the deaf-blind traits that are not intrinsic to them, attempting to imagine the results of the loss of hearing and sight. It is therefore not surprising that he eventually arrives at the incorrect conclusion to the effect that the deaf-blind are uneducable. But he is right, when he speaks of the 'almost fatal' effect ('shock' would perhaps be a more apt expression) of the simultaneous onset of deafness and blindness upon a child's speech, indeed, not only on his speech, but on his whole behaviour and mental make-up. Until he begins to receive special instruction a deaf-blind child may fail to manifest any



signs of human behaviour or mental capacities, so that *the specific nature of the teacher's task in such cases is the need deliberately to build up patterns of human thought and behaviour in all their rich diversity.*

Yet how should the teacher set about moulding these patterns of human behaviour and thought in the deaf-blind child? What is the foundation on which the edifice of a human mind must be built up? We shall attempt to provide answers to these questions in the next section of this chapter.

## 2. The Fundamental Line of Early Development

The mistake made by most teachers of the deaf-blind in the past was that they started by attempting to develop speech skills in their pupils. They started out from the principle that the main difference between man and animals was the 'gift of speech', and they went out of their way to develop the 'gift' in oral or written form or as finger-speech. However, this speech, with no roots in a system of immediate images reflecting the child's environment, had no foundation and thus could not provide a basis for the child's mental development.

Work carried out in teaching the deaf-blind has shown that fostering speech skills in such children is not and indeed cannot be tackled as the first objective in the nurturing of a human mind.

I shall now permit myself a small digression from the survey of the problems of deaf-blindness to try and formulate the more general theoretical principles on the basis of which questions connected with the psychological development of deaf-blind children were analysed. Reference was made earlier to the idea put forward by Karl Marx to the effect that man shapes his mind, his ideas and attitudes, while transforming the world around him, an idea that was to prove profoundly important for the science of psychology.

The humanising influence of objects, as the products of social labour, and the importance of teaching a child to manipulate them correctly are to this day underestimated both by teachers and in psychological theory. Yet it is precisely this behaviour with objects, that is, the ability to use objects in accordance with their intrinsic logic, which constitutes the essence of human behaviour. In this connection Marx wrote:

“Each of his *human* relations to the world – seeing, hearing, smelling, tasting, feeling, thinking, observing, experiencing, wanting, acting, loving – in short, all the organs of his individual being ... are in their *objective* orientation, or in their *orientation to the object*, the

appropriation of the object, the appropriation of *human* reality”<sup>6</sup>

Human behaviour and thought in an individual take shape and develop on the strength of the availability of objects created by human labour, in which man’s skills are made tangible.

‘The appropriation of a totality of instruments of production is, for this very reason, the development of a totality of capacities in the individuals themselves’.<sup>7</sup>

Alexei Leontiev noted the decisive significance of these fundamental utterings by Karl Marx for scientific psychology.

‘In the course of his ontogenetic development man is drawn into distinct, specific relationships with the world of objects and phenomena around him, that have been created by preceding generations, “ wrote Leontiev. “In relations to these (tools, instruments, everyday objects. – *AM*) a child must carry out a practical or cognitive activity which *adequately* corresponds (but which is not identical) to the human activity embodied in them’.

‘Thus the intellectual or mental development of the individual is the product of a highly distinctive process of appropriation, which is not to be found at all in animals, just as they do not manifest the opposite process of objectivisation of their abilities in the products of their activity’. Further: ‘A man’s adequate relation to a tool is expressed first and foremost in his appropriation of the operations which are embodied in it, thus developing his human abilities. This naturally applies also to all other *human* objects’.

The Soviet psychologist Pyotr Galperin noted that for a child an implement which he needs to master (as indeed any thing that is the product of human hands) constitutes an object in which are represented socially evolved operations pertaining to it.

A child’s mind takes shape and develops as a result of its interaction with the world of things and the world of people. The things with which a child interacts are the products of human labour. The essence of interaction with things and people consists in the fact that in both cases this is interaction with a *human* factor. Expressing this idea in somewhat paradoxical terms we may say that the individual’s

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6 “Private Property and Communism,” *MECW* vol. 3, pp 299-300.

7 “German Ideology,” *MECW* vol. 3 p 87.

relationships with other people are realised through things and his relationship to things through his relationship to other people.

The socially evolved method of using a thing is a human factor; at the same time in that method are reflected the objective characteristics of the given thing following from the fact that it is the product of practical actions (i.e. labour).

This socially evolved method of utilising a thing which inevitably reflects its objective properties, also constitutes the social significance of each thing.

In the course of being taught to behave in the world of things, as it masters actions correlated with various things, a child comes to grasp their social significance, their essence. These are the general principles underlying the moulding of a child's behaviour and mind, that we have tried to follow in evolving a theory of deaf-blindness and also in the practical work of teaching deaf-blind children. Now let us relate these principles directly to the deaf-blind child.

Until he begins to receive proper training, the deaf-blind child's world is empty and devoid of objects. For him the objects that loom so large in our life do not exist, that is they are discovered by him only insofar as he knocks into them, but they do not exist for him with functions and designations – with their social significance as we may say now.

In what way, as we seek to mould and develop the deaf-blind child's behaviour and mind, can we bring about this appropriation of human skills objectivised in a humanised environment? How should a non-seeing and non-hearing child be made aware of the diversity of objects in the world around him? It is clear that the path to knowledge of the world can follow only one course for such an individual; it must be effected via analysis through touch and movement. It might seem that there is a simple solution: a child should be given objects to hold, then he will feel them over and in this way he will gradually come to create for himself an infinitely large number of images of the objects around him.

However, experience in teaching deaf-blind children has shown that such a path is impracticable. Deaf-blind children, before they receive special training, are completely bereft of any aspects of human mental processes – these exist only in potential (which, if realised, can promise the highest level of development). Initially, they have no need to discover the world, and possess no skills enabling them to find their bearings within it or analyse what they encounter.

If such a child is given objects to 'peruse' he drops them at once without even bothering to familiarise himself with them. This is un-

derstandable insofar as the objects given to such a child have no significance for him. Regardless of how novel tactile stimuli might be when attempts are made to place various objects in the hands of a child they do not arouse any orientative reaction.<sup>8</sup>

How can a deaf-blind child be made to handle objects? It is necessary to provide conditions in which getting to know objects would become a need for the child.

Any deaf-blind child has a number of basic natural wants (to eat, excrete and protect himself). Initially these wants do not in themselves constitute true needs in the psychological sense of that word. They do not exist as human needs in the strict sense, they cannot as yet provide the motive force behind purposeful behaviour, and for this reason no human behaviour is to be observed in the early stages. These wants become true needs only after they start to be objectivised and satisfied through human methods involving tools and implements.

A child's familiarisation with objects from the world around him takes place in the course of his activity directed towards the satisfaction of these elementary natural wants. This means that during the early stages of a deaf-blind child's development, the appropriation of social experience, which is humanising him, must be linked with concrete practical activity, activity directed towards the satisfaction of his real (at first organic but later more diverse) needs that will expand in pace with the range of his activity.

In order to satisfy his natural wants, at meal-times for example, man uses a number of 'tools' – spoons, forks, plates, etc. This fact is utilised to familiarise deaf-blind children with objects. The adult teacher, while feeding a child, teaches it to use a spoon, plate or napkin, holding the child's hands in his own.

In the course of this practical activity a child is obliged to become familiar with various objects. 'Obliged' insofar as this encounter with objects at meal-times is essential if he is to receive direct sustenance in the form of food. At other times outside the meal-time situation these objects did not produce an orientative reaction (after being placed in the child's hands they immediately fell or were dropped or pushed away by the child), but at table the child's perception of these objects is reinforced, they become significant for him and he begins

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<sup>8</sup> By orientative reaction here and later we mean a child's motor reaction directed towards improving its perception of an object – in this case, its feeling over of an object. This should not be confused with the elementary preparation for reaction to a changed situation — *AM*.

to feel them. Gradually, in the course of this unconditioned fixation (in this case in association with food), the child's orientative and analytical activity begins to develop.

In the physiology of higher nervous activity it has been established that in order for a conditioned reflex to a specific stimulus to develop it is essential that an orientative reflex to that same irritant be present. This principle should be regarded as indisputable. However, it should also be pointed out that the scientists who established this principle were considering higher nervous activity already in its more or less definitive form. We, on the other hand, were observing the emergence of children's behavioural reactions. It soon became clear that during the initial stages of a deaf-blind child's development, preliminary reinforcement of an orientative reflex to a particular stimulus is essential for that reflex to become properly established.

Those engaged in the practical rearing of these children have to come to terms with their lack of any orientative reactions to new stimuli and to the need to foster such reactions during the early stages of their development.

A completely unfamiliar object placed in the hands of a deaf-blind child does not stimulate any tactile investigation on the latter's part: a pen, a box of matches or a pencil will be dropped or thrown away by the child. However, a blocked teat from which a child can no longer suck in milk or water or the changed shape of a spoon give rise to an energetic orientative reaction (handling).

So the 'What's this?' reflex (to use Ivan Pavlov's term) is a later achievement in the case of the deaf-blind child. We have never observed the 'What's this?' reflex in the early stages of a deaf-blind child's development. In its place we observed more concrete reactions such as 'Is it safe?' or 'Is it edible?' If it emerges that the stimulus is not linked to the body in a practical relationship, the orientative reaction to it does not evolve.

The emergence and degree of the orientative reaction are determined not by the novelty of the stimulus, but, on the contrary, by the similarity between the new stimulus and those which have already become signals and have previously been fixed. The newer the stimulus the less chance of it producing an orientative reaction in the deaf-blind child. The situation in which an orientative reaction is most likely to evolve is when a child is presented with an altered variant of a stimulus previously fixed.

There probably are forms of behaviour which appear innate, because they evolve easily in the course of ontogenesis. The emergence of new forms of reaction in a changing environment is something

vitaly important, and so some forms of behaviour evolve very quickly; only one reinforcement is required before the necessary association is formed. Some other reactions evolve thanks to generalisation, which can be elective from a very early age. Such reactions function thanks to the fact that a similar link was formed earlier, and this similarity does not need to be self-evident.

Such a situation is to be found with regard to man's cognitive behaviour, starting with the orientative-investigatory reflex and ending with his search for the truth. It is hardly correct to link this activity with so-called innate unconditioned orientative reflex; most probably there exists no reflex as a result of which orientative behaviour develops, nor are there any other biological preconditions for the emergence of specifically human mentality. Yet it should be remembered that orientative-analytical behaviour starts to take shape as soon as the influence of the external environment, beneficial or harmful to the organism, is felt. The resultant need does not manifest itself like a biological want, which, once satisfied, disappears. While for instance the need for food once satisfied fades away, the orientative-learning need, once satisfied, moves on a step further.

Orientative-investigatory activity emerges as activity directed towards knowledge of an object that has previously figured in a practical activity. It is thanks to such activity that a child is able to actualise the image of a thing, with the help of which one or other of its physical wants were previously satisfied.

The widening of the range of objects used to satisfy the child's basic wants places new demands on orientative-investigatory activity, which at this stage must include the choice of one from a group of things, which vary in their suitability for the achievement of the objectives inherent in the practical activity.

But an overwhelming increase in the flow of objects brought into the practical activity not only complicates the activity in quantitative terms but also leads to qualitative restructuring. In order for objectives to be reached this or that practical activity has to be effected in different ways depending upon the conditions. The range of objects used to carry out this activity is not merely extended but also changes depending upon the changed situation. In different conditions one and the same activity requires now one set of objects, now another. Consequently the tasks of orientative activity also change and grow more complex: it consists in the search for the necessary object. In this search the child comes across a large number of diverse objects, both those which have some bearing on the practical activity, and those which are divorced from it. In order to find the thing he is

looking for, the child has to compare objects he lights upon with the image he carries in his mind and measure up the real object against the ideal image.

This comparison of an object with an image that has grown up in a child's mind gives rise to new knowledge, to new images for articles that have no direct bearing on his practical activity.

In this way there takes shape, as an aspect of the practical activity, the orientative-investigatory function, which then gradually emerges as an independent activity, giving rise in its turn to a secondary, 'superstructural' need for the knowledge of objects in the surrounding world.

At this stage occurs not only the actualisation of images directly necessary for the success of the practical activity but also the accumulation of knowledge 'for future use'. Now the orientative reflex can in itself provide a sort of reinforcement, and on that basis an enormous number of temporary links can be formed making possible the attainment of more and more new knowledge.

However, at this stage, too, the final selection and consolidation of emergent images take place in the context of concrete practical activity that is in some way beneficial to the organism, although this 'benefit' must be understood in a wider sense, not confined to food, protection from pain or cold, etc.

Images that have taken shape as a result of orientative-investigatory activity 'for future use' provide a reference point with relation to much more complex behaviour on the part of the child: by this time he has been taught to walk, to put on his own clothes and shoes, overcome obstacles in his path and use correctly a large number of everyday household objects (furniture, clothes, toilet articles, toys, etc.). New objects which the child encounters or is given are carefully examined (via his hands) with the guidance of his teacher, and he learns the purpose of each new object.

With what 'tools' does the deaf-blind child become familiar during the early stages of his training, what functions associated with these 'tools' does he master? Initially one can count such 'tools' in tens, later in hundreds and thousands. First of all there are the numerous household objects, the mastering of which proceeds imperceptibly in the case of an ordinary child possessed of normal sight and hearing, is taken for granted as it were. A child learns to eat with a spoon and fork from a plate, sitting on a chair at a table, biting off a piece of bread and then taking a spoonful of soup, later stirring a drink in a cup or glass with a teaspoon, drinking out of that cup or glass and finally wiping his mouth with a napkin. He is taught, in ac-

cordance with a clearly defined timetable, to go to bed, lie on a sheet, put his head on a pillow, cover himself up with a blanket, to wake up and get up at a set time, then to make his bed, use the pot or lavatory, do his morning exercises, go to the bathroom, turn taps on and off, regulate the flow of warm and cold water coming out of the mixer-tap, soap his hands and face, then wash the soap off, brush his teeth, rub himself down with a towel and comb his hair; to put on and take off pants, stockings, trousers and a shirt or a dress, to put on and take off socks, slippers, shoes, felt boots and galoshes, coat and hat; he learns to open and shut doors, go up and down stairs, play ball or dolls and enjoy other toys as well.

This list is not a haphazard string of activities because a deaf-blind child really does have to be taught to do all these things one by one by specially devised methods. In practical terms the whole life of a deaf-blind child is an unending learning programme.

A deaf-blind child is taught not only to do the things listed above but also to do tens and hundreds of other things, to apprehend and acquaint himself with tens and hundreds of objects made by man, and to master and understand the functions that are inherent in these objects. As he comes to master and manipulate numerous household and everyday objects, such a child makes his first real contact with his fellow-men, and, as he assimilates the experience accumulated by men over thousands of years and embodied in these objects and their functions, the child himself comes into his own as a human being.

Instruction of such children in the skills of self-care, that is aimed, essentially, at enabling them to satisfy their individual needs using socially evolved methods, is a fundamentally important stage within the overall programme of rearing and teaching the deaf-blind child: it constitutes the laying of the foundation for his subsequent development.

At the initial stage of a child's development the relationship and interaction between practical forms of activity, aimed at satisfying basic wants, and orientative-investigatory activity with cognitive objectives are as follows.

Cognitive activity arises within the practical activity and for the satisfaction of the latter's requirements (indeed this is the only way in which it can come into being); it emerges as an indispensable condition for the realisation of the practical activity. However, after first emerging within practical activity, cognitive activity assumes relative independence. As a result of its relative independence, a child acquires knowledge of the outside world (images of objects) which extends beyond the narrow range of knowledge essential for the



execution of concrete types of practical activity. In this way conditions are created for the mastering of more complicated forms of practical activity, and new forms of activity emerge. Practical activity becomes more varied and extends beyond the simple satisfaction of the child's physical needs, and this, in its turn, makes possible the further advance in learning.

The relative independence of cognitive activity enables the teacher of the deaf-blind child to enlarge his knowledge, not merely in the course of practical activity but also through special tuition and games.

It is essential to understand that not until a child begins to be instructed in practical activity and not until relatively independent cognitive activity starts to emerge within the framework of the latter, will the conditions be provided for special lessons to promote the child's so-called sensorimotor culture. To encourage a child's sensorimotor development before he has mastered elementary skills of self-care is not only futile but harmful because the child will become profoundly hostile to the very process of instruction.

The need to establish self-care skills is acknowledged by all those who have had anything to do with the teaching of deaf-blind children. Deaf-blind children in the United States and Britain are instructed in the skills of self-care. However, in those countries these skills are seen as just one of the objectives in the teaching of these children, and by no means the most important one.

While in this country the main objective at the first stage of instruction provided for these children is to teach them the skills of self-care. At the Condoover school for the deaf-blind in Britain, for example, the main emphasis at the initial stage is laid upon sensorimotor development. Children are taught to perceive such things as toys and bricks, to develop their sense of rhythm. Special attention is paid to the development of their tactile perception by means of special exercises, moulding activities, etc. Their motoric function is developed via outdoor games with large building blocks, walks, swimming in the pool provided at the school; they are taught to work with clay, sand and water.

It should be pointed out that such forms of activity for deaf-blind children can be extremely valuable, indeed, they are quite indispensable, if we bear in mind all the time that the main form of activity at the first stage of such children's development should be the training of self-care skills and that *non-practical* forms of activity should arise within the framework of *practical* ones. As it acquires relative independence, *non-practical* activity serves to promote the children's

sensorimotor development, and this in its turn creates the prerequisites for the further development of *practical* activity.

The main teaching task at this period should be to instruct deaf-blind children in the skills of self-care. This of course does not in any way rule out exercises to promote their sensory development and develop their motor skills. Objectives connected with sensory and motor development of deaf-blind children can be attained both in the course of their training in self-care and also through special exercises, if such children have already achieved relative independence in their cognitive activity.

## **Chapter II**

### **Skills in Self-Care and the Mental Development of the Deaf-blind Child**

#### **1. Initial Development of Deaf-blind Children Untrained in Self-Care**

The previous chapter provided only the barest of outlines for the pattern of the deaf-blind child's initial development. The path of development for each individual child can be significantly more complex, depending upon the conditions he lived in before he began to receive instruction.

One factor which frequently complicates the teacher's task in the initial stage of his work with a deaf-blind child is the previous neglect with regard to training. Parents often fail to consult a specialist before several years elapse after the onset of deaf-blindness. During this intervening period and as a result of misguided handling, a deaf-blind child's activity and need for movement can be inhibited to a large degree.

These children often find an outlet for their energy in aimless, meaningless movements, such as the swaying of the body to and fro pendulum fashion while in a sitting position, or in abrupt, jerky movements of the hands and trunk reminiscent of convulsions, etc. Such behaviour combined with complete lack of mental development gives rise to the impression that these children have suffered severe brain damage. In the case histories of such children one may often find the diagnosis 'mental retardation'.

A great deal of work and meticulous teaching are necessary to overcome the child's persistent passive-defensive reaction, to nurture natural needs in him, to get rid of inert patterns of movement and establish habits of normal behaviour.

In overcoming inert motor stereotypes and physical inhibition in the deaf-blind child, the training in new motor habits should correspond to the level of development of the child's needs. Re-education in this context should not be of a coercive character. In all cases it is essential to take account of the child's readiness to apprehend what people are trying to teach him. Direct coercion should not be used even when incorrect methods for the satisfaction of needs have taken root (for example, eating with fingers instead of spoons). However, the teacher's approach should not only be adapted to the development of a child's needs at the moment in question, but also anticipate the further development of those needs.

While a child is being trained in one or other set of skills it is essential to keep careful track of his manifestations of active behaviour. It is important not to miss a single trace of an independent execution of the particular movement in which the child is currently being trained. The deaf-blind child easily grows used to having everything done for him by an adult and if a barely perceptible manifestation of independence is passed over, then this independence may vanish and give way to total passivity.

An idea of the versatility and subtlety required of the teacher fostering a deaf-blind child's elementary behavioural skills can be provided in the description of several actual cases.

One of the deaf-blind children under our observation was *Nina H.* She had contracted meningitis at the age of eight months. On recuperation she became sleepy, stopped sitting up and standing. When she was taken to a neurological hospital and an eye clinic at the age of eighteen months it was established that she could not see or hear. At the age of four she was sent to a home for handicapped children. At the time when we first began a study of this case, her customary pose and way of passing the time were as follows: she would sit on her bed swaying her trunk to and fro, stopping occasionally as if she were listening to something; she would then shake her head two or three times from side to side and then start swinging her body again; each time she leant forward she used to breathe out hard through clenched teeth. Sometimes she would raise her right arm and leg at the same time, turning her head to the right as she did so. She made the same movements with her left arm and leg sometimes, but less frequently. From a lying position she would sit up on her own but usually she would not lie down independently; sometimes she even fell asleep sitting up. The little girl's right arm was considerably more active than her left. Sometimes she would put her right fist up against her cheek or gently tap her face round the right eye, on the forehead or the bridge of her nose. She used to rub her right eye with her right hand.

When sitting she would independently change the position of her body, turning, bending up and then stretching out her legs. She was able to stand if holding on to a support, but she never stood up on her own. If someone stood her up but then left her without support she would sit down again immediately. If someone touched her in order to dress or undress her, or to stop her swaying to and fro, the little girl would freeze over for a moment as if expecting something to happen and then start to whimper. If she was then left alone the whimpering would stop. She used to cry loudly, throwing her head back convulsively as she did so, occasionally throwing her legs up into the air or to one side. Her behaviour at bedtime varied: sometimes she would fall asleep as soon as she was made to lie down, other times she was reluctant to lie down. At night she slept peacefully and sometimes could sleep through breakfast if not woken up for it. The movements of her tongue and lips were very varied: sometimes she used to stick her lips out in a pout, other times she would stick out her tongue either down towards her chin or up towards her nose, etc., and she used to utter a number of inarticulate sounds. That was to the best of our knowledge all that Nina H. was capable of; she could not walk, feed herself, use a pot, dress or undress herself. She would not take hold of or handle any object. Any object (except the dummy) put in her hand, she would limply let go of, and if it was put in her hand again she would push it away; she would not make any attempt to handle a toy or anything else, even if it was actually put into her hand. Meticulous observation of Nina's day-to-day timetable and her whole life and attempts to train her in the most elementary behavioural skills revealed several factors which made work with this child particularly difficult. For instance, the little girl's attitude to the process of feeding was resolutely negative. During feeding she would cry, try and clench her teeth, turn away from the spoon, spit food out, etc. The nurse in charge of her told us that when Nina was having tantrums and refusing to eat, they had to lie her down on her back and forcibly pour food into her, and then, although still crying, she did at least eat.

We used special methods to encourage a more active approach to food. A teaspoon was used to feed her. Only the first spoonful was poured into the child's mouth, while she remained completely passive. The second spoonful would then be placed into the child's mouth, but the food not poured in immediately, only after she had taken hold of the food with her top teeth and top lip, after which the spoon would be drawn out, while the food gripped by the upper lip would remain in her mouth. This constituted the manifestation of the child's first active response to food, and it was vital, come what

might, not to overlook that activity and let it die out. It was essential that the next spoonful of food should not simply be poured into her mouth; that it should be taken by the child actively moving its lips. This way, gradually and in measured doses, holding back the moment when food would actually be poured into the child's mouth, we encouraged the child to make an active movement with her upper lip, and later to carry out a more difficult movement – that of sucking in food, i.e. the introduction of food from the spoon into the mouth, by means of active movements of the upper and lower lip, together with a stream of air. The child's active movements during feeding gradually and slowly increased. The spoon no longer needed to be placed in the child's mouth but merely brought up to her mouth where it was just touching her lips. In response to that touch of the spoon Nina learnt to bend her head forward, open her mouth and suck in the food. The spoon was then brought to her lips in a number of different places. Gradually the range of movements made by the little girl with her head and mouth increased so that she could take hold of the spoon regardless where the spoon might touch her lips. In this way the signalling zone within which the response to grasp food was aroused, was gradually developed and extended. This response was produced most effectively of all when the middle part of the lips, was touched. It gradually emerged that she responded more precisely when the upper lip was touched with the spoon, rather than the lower lip. The extension of the receptor zone for feeding signals had to be done most carefully and at a strictly measured rate: if the child's lips were touched with a spoon too far from the receptor zone, where the feeding response could reliably be produced, then the food-grasping response might not ensue. When for the first few times the spoon touched the child's face beneath her lower lip, Nina refused to grasp at the food, although later she learnt to take in food in response to a touch of the spoon in that place as well.

Further extension of the signals to produce the food-grasping response included variation of the actual signalling method. Attempts were made to teach the child to respond to the smell of food brought near her mouth, or to the warmth emanating from it. The quality and pattern of activity in feeding also altered. To movements of the head and lips the child later, admittedly with the help of an adult, added movement of its hand which followed the feeding hand of the adult and was supposed to eventually take over from it. In this way a child comes gradually to learn to lift a spoon to its mouth and open the mouth according to the position of its hand in space. Thus, a complex series of coordinated movements of hand, head and mouth takes

shape which is necessary for the correct execution of the eating procedure.

Nina's previous living conditions had also repressed any versatile motor activity. When Nina was brought to the home of handicapped children she was not used to sleeping in a cot. Her activities had not been ordered in accordance with a natural pattern: she had not been taught to stand, walk, dress and undress herself or to use a pot. All these processes – dressing, eating, moving from one part of a room to another – had been carried out by the nurse rapidly, with no thought for the child's needs and no effort to develop her activity the while. For the little girl this had meant – a constantly chaotic and incomprehensible series of contacts, as a result of which she would freeze over with fear on finding herself 'airborne', as it were, without any firm support when being carried from one place to another, suddenly find herself in water when being bathed, or being dressed and undressed, all for no apparent reason. Her first natural manifestations of activity, if they had existed at all, had been virtually snuffed out. By the time we came to examine her, Nina reacted to any touch by drawing away from it: if more persistent efforts at contact were made, she would then start to whimper or even cry. She satisfied her need for movement by swaying her body forwards and backwards for hours at a stretch. All other movements were forced and carried out without any active participation on the part of the child. It was essential to determine the potential for developing the child's motor activity and the ways in which that could be effected. Further examination revealed that it was quite possible for motor activity to be brought about and developed.

This can be illustrated by an account of how Nina was taught to stand up from a sitting position.

Usually, when Nina had to be moved from one place to another, to the bathroom, etc., she was quickly grasped under the armpits, lifted, carried to the required place and then sat down. In the process Nina's legs would remain in a sitting position in mid-air just as they had been on the bed. When I attempted to lift her, she also kept her legs bent up at first. In order to stop her bending her legs into a sitting position when lifted the following steps were taken: a support was placed under the soles of her feet, the hand of the nurse if nothing else, and her trunk was lifted up much more slowly than usual. On feeling constant support beneath her feet, the child began to let her legs unbend; as her body was lifted up from its support, the feet remained pressing lightly on it. Gradually the teacher provided less and less support for the child's body and at last the moment came when no more support whatsoever was required.

In the act of standing up as described above the child's activity is minimal, it is only just taking shape. Here the lifting of the body is still carried out by the adult at the child's side, and not by the child's own muscular activity. Later the child's active participation in the standing up procedure increases. The teacher places her hands beneath the child's armpits and begins to lift the child; however, this lifting is deliberately carried out slowly and in such a way as to provide only weak support, in order that the child itself with its own muscles should begin to participate in the work of standing up.

In this way joint action on the part of the adult and the child comes into being: the adult begins the action, but the child carries it forward. This is a vital step in the early training of a deaf-blind child.

Soon Nina learnt to stand up from her bed independently holding on to the mesh at the side of it, and then to stand up from a chair. Next, work began on teaching the little girl to walk. One of the teachers would take hold of both her hands and pull her gently forward, while another would lift the little girl's feet and move them forward one after another. Later Nina began to move her feet forward herself, when her hands were pulled. After making several steps in this way she would bend her legs and sit down or just hang on the hands of the teacher. However, with each day that passed the number of steps she took grew. Soon she no longer needed to be helped along by both hands, but could be supported by one alone, and later Nina learnt to walk holding on just to a single finger of the teacher. Then she was given a child's chair to hold on to, which was gradually moved from one part of the room to another. At first she held on to it with two hands but later with only one.

This instruction in walking became an integral part of Nina's schedule. In the morning, holding on to the hand of the teacher Nina covered the distance from her bedroom to the bathroom and back again, was then taken to the playroom, where she was taught to move independently, holding onto the sides of the play-pen, in which she was placed. She was not carried out for her walks outdoors but led outside. Soon she was able to take between ten and twelve steps without holding onto either a chair or a teacher's hand. At the same time as this child was being taught to walk, attempts were also made to train her in skills of self-care. At first during the processes of dressing, undressing, washing, using the toilet or eating, Nina was not merely passive but resisted all efforts to teach her independent habits, pulling her hands away from her teachers and turning her face away from them. With Nina everything had to be carried out extremely slowly and calmly, because abrupt movements frightened the little girl. In the morning she was lifted out of bed carefully, with gentle

movements. She was washed with warm water which did not seem to frighten her, but produced positive emotions. At the pleasant touch of that water Nina not only stopped pulling her hands away but actually held them under the tap. The teacher, holding the child's hands in her own, would carry out the necessary movements, rubbing the palms of the little girl's hands against each other, lifting them up to her face and moving them across and round it. Soon signs of active participation were to be observed: when Nina felt the teacher lifting her hands to her face, she then actively joined in subsequent movements of the washing procedure and drying with a towel.

Nina was then taught to eat solid food; gradually she learnt to bite off pieces of solid food and chew them. Then she was taught to use a spoon: she did not hold it herself at first, so the teacher would hold her hand on the spoon and thus raise the spoon to Nina's mouth with her own hand. In this way Nina learnt eventually to hold a spoon in her own hand and began to try and lift it up to her mouth. More often than not the spoon did not land in her mouth, but as soon as the spoon touched her face Nina would accurately move it over to her mouth and then drop in the food properly. Gradually she learnt also to bite off pieces of bread (initially this had been crumbled into her soup for her).

In dressing as well Nina began to be more active; she would lift up her foot as a stocking was pulled on or raise her hands as her dress was put on, etc.

As can be seen from the above account, important physical needs such as those for food and movement had not taken root in Nina's behaviour at the outset or had been suppressed after they had taken root in infancy before she fell ill. Any need for communication with other people was also completely absent. The need for food had been stamped out by an abnormal feeding procedure, the need for activity had been satisfied in stereotyped movements of her trunk to and fro pendulum-fashion, and the need for communication with others had not developed or had been destroyed by incorrect handling of the child consisting of abrupt contacts and movements beyond the child's understanding as its everyday requirements were attended to.

These examples from work undertaken by Nina H.'s teachers illustrate the gradual way in which such a child's activity can be 'revived' and developed at the early stage of its training programme.

Now let us turn to other examples concerned with the fostering of somewhat more complex habits of human behaviour.

*Rita L.* came from her own home to our school for the deaf-blind at the age of two years and eight months. Her diagnosis read:



'congenital deafness and congenital cataract in both eyes'. The small girl had some residual vision left, insofar as she was still sensitive to light and darkness. No hearing at all was present though, and she had no speech skills whatever. At home Rita had not been taught any self-care skills at all. She was carried around by her mother almost all the time: she was able to walk but only when holding on to an adult's hand and over an even surface, she was unable to go up or down steps, even when holding on to an adult's hand. At our school she initially was quite lost when left alone: she would cry and as soon as she felt an adult come up to her and touch her she would stretch out her hands 'asking' to be picked up. She was not accustomed to any kind of regular timetable whatever. No pattern of day or night existed for her. It was a struggle to put her to bed in the evening, she kept getting up and crying, while in the day-time she was often limp and sleepy. She could not use a spoon and used to eat with her fingers. She could drink from a cup if the cup was held to her lips by an adult, but she could not manage a cup by herself. At home she had been held on an adult's lap while being fed and she was unable to sit independently on a small chair at a table during meals. If she was not held back from doing so she would stand up and sweep everything off the table on to the floor. She had not been taught to use a pot. She did not use a single gesture for purposes of communication. The only way she used to demand attention was by shouting out and this she used to do regularly.

When she was being dressed, she would sit there passively without taking part in the procedure and sometimes putting up resistance. Rita did not know how to imitate in any way the adults and children around her: she could not apprehend what other people were doing. She did not know how to play, and toys did not interest her. Either she pushed them away, moved them from one place to another or used them to knock against other things. She treated all toys in exactly the same way.

All these skills now had to be taught her.

The first thing which Rita had to be taught at the home for the deaf-blind was to get used to a regular timetable. At first she resisted this new arrangement of her life. She was reluctant to lie down for her afternoon nap, she would stand up, cry and throw her pillow or blanket off the bed. The teacher would take Rita's hands in her own and lead her over to the beds of the other children, to show her that they had undressed and lain down to sleep, then she would place the little girl's hands together in the gesture that meant 'sleep'. Of course, Rita did not understand that sign at first, but it was repeated without fail at the appointed times, before the little girl was put to bed or

when she was shown any other sleeping child. If Rita did not wake up early enough in the morning, she was woken with a light touch; she was also fed, dressed, taken for walks and put to bed at strictly appointed times. At home her family had been unable to teach her habits of tidiness, she had often been put on the pot when her pants were already wet and kept there for a long time. That had not only been a futile activity, but even harmful for the child. It had developed in Rita a deep-seated revulsion for the potting procedure. In the special home she was put on the pot at strictly appointed times and for short periods. Special care was taken to see that the pot was not cold. Soon she stopped resisting the procedure.

In the very first day that Rita spent at the children's home it was also discovered that she had a deep-seated aversion to washing her hands as indeed to washing in general. She was frightened of water, would turn away, scream and struggle, when she was taken into the washroom. It was clear that washing had been carried out forcibly at home. Warm water and a slow pace for the washing procedure and encouragement of independent movements during it soon made washing her hands and body a pleasant event for the child.

Rita took four months to grow accustomed to the new ordering of her day. By then she would go calmly into the wash-room and stretch out her hands under the running water from the tap. She had learnt the basic movements required for washing – she could rub her palms together, carry her soap and towel to the wash-room unaided and then back again from the bathroom to her dormitory. She had not yet learnt to dry her face and hands with a towel properly, but it was clear that she would soon master those skills as well.

As soon as her teachers began dressing and undressing Rita slowly, encouraging even the slightest traces of independent movements, the little girl's active role in this procedure began to increase from day to day. She learnt to raise her arms when a blouse or cardigan were being taken off, and to raise her leg when a stocking was being put on. Her teacher, after taking Rita's hands into her own, used to teach her to do this, giving her a chance to manifest independence at any stage as they went along. First of all Rita learnt to take off her shoes, after her teacher had first undone the laces, and then to take off her stockings once the suspenders had been unfastened. Then she learnt to undo the buttons on her cardigan or dress. Four months after she came to the home she was taking off her dress, shoes, pants and stockings (these last she could not yet unfasten admittedly) as she got ready for bed. Initially she had just thrown on the floor the garments she took off. Now she attempted to hang them over the back of a chair. She had learnt more complex skills as

well, those involved in putting on dress, cardigan, pants, shoes (although she could not yet do up or undo the laces). When it was time to go out for walks she would also attempt to put on her coat and hat.

Rita was also taught to go up and downstairs on her own. At first she could only move up or down stairs while holding onto a teacher's hand, but later she learnt to go upstairs holding on to the banisters. Going downstairs proved more difficult but by the fourth month of training she had mastered that skill as well. Admittedly, she had not yet the courage to go downstairs without holding onto the banisters, but that she gradually mastered as well, just as she had learnt to go up without holding on.

Rita was also deliberately taught to follow what adults and children around her were doing. Gradually the range of actions which Rita 'observed', at first together with her teacher, and later on her own merely supervised by the teacher, widened. Rita learnt to find her way about her room, then in the corridor; later she learnt to find her way to the wash-room, to the dining room and how to go outside into the garden to play.

Gradually a need to imitate those around her took root. It was essential that she be taught to play. Her teacher would lead Rita up to the other children and show her how they were playing: how they were building and taking apart a sorting pyramid, a matryoshka doll, or laying out bricks. The teacher would pick up a doll and show Rita parts of the doll's body in association with parts of a human body, and in the same way she was pointed out the link between the doll's clothes and her own. After learning to dress and undress herself Rita then learnt to dress and undress her doll. She learnt to take apart and build up a sorting pyramid, and also a matryoshka doll. She was not yet able to play in a group. Sitting next to the other children she would try above all to take their toys away from them. With a little help from a teacher she was soon able to sort out toys of different geometrical shapes one from another and put them into separate boxes, for example small cubes and balls.

After Rita had learnt to imitate others she learnt to do morning exercises, and to take part in the children's action games. From the very beginning of Rita's instruction her teacher had made a point of showing the little girl with her hands the manual sign which denoted the action they were about to perform, before they embarked on it. Before Rita had her stockings put on, for instance, her hand was drawn up her leg from her foot to her knee and only then would the stocking be put on. At first these gestures were not apprehended in

any way by the little girl, and the real signal to Rita that she was going to get dressed was the teacher beginning to pull the stocking over her foot, after which the stocking would be pulled on, initially by the teacher, then the teacher and the little girl together and later by Rita on her own.

Gradually Rita began to understand simple gestures, but in her contact with others she did not herself make use of them at first. After she had grasped the gesture meaning wash, for instance, she would take her soap and towel and set off to the wash-room, once the gesture was made by the teacher.

Instruction in the first habits of independent eating were recorded on film and then carefully analysed. A micro-analysis, so to speak, of the training in what at first glance appears a simple skill reveals a fairly complex pattern underlying the emergence and development of this activity on the child's part, as can be seen from the extracts of this analysis below.

In the training of Rita to use a spoon to feed herself it is clear what a complex instrument a spoon really is. The little girl could not grasp why she needed this awkward thing that had to be held in a special way – a particularly difficult undertaking – and from which everything kept falling or spilling out and which was so difficult to steer into the mouth. At first Rita deliberately pushed the spoon away and would only take food out of her plate with her fingers.

Yet the teacher kept on putting the spoon into the child's hand and



*Instructing a deaf-blind child in the gesture denoting "eat"*



*The girl reproduces the gesture with some help from the teacher*



*Teaching the girl to hold the spoon and lift it to her mouth*



*The girl makes her first attempt to lift the spoon to her mouth independently*



*She is now able to lift the spoon and keep it near her mouth with one hand*

making sure it stayed there. Holding in her own the child's hand which had the spoon in it the teacher scooped up food and lifted it to the little girl's mouth. This joint action, in which the child did not as yet play an active part, ensured that food landed in Rita's mouth in larger amounts than had been the case when she used to eat with her fingers and Rita soon stopped resisting. Indeed, soon afterwards, when the little girl had to eat a runny soup, she would take hold of the spoon and wait for the teacher to lift her hand with the spoon in it and begin to feed her. After teaching Rita to grasp food with her lips from the spoon lifted to her mouth, the teacher began to play a less active part in the proceedings. After scooping food up with the spoon and lifting it to the child's mouth, she would let go of the spoon, giving Rita a chance to keep hold of the spoon on her own. However, the little girl would let go of the spoon as well, and the food spilt out. Then the teacher merely used a lighter grip, then no more than support for the spoon-holding hand, finally the lightest of touches before letting go altogether. Gradually Rita learnt to keep hold of the spoon with food in it near her mouth until the food had landed safely in her mouth.

Initially Rita would only hold the spoonful of food near her mouth if it was actually touching her lips. Gradually the participation in the eating process on the part of the teacher grew smaller and smaller and eventually all she was doing was scoop the soup into the spoon, while the little girl herself lifted the spoon to her mouth and sucked the soup in.

Scooping food up with a spoon proved a much harder operation than learning how to wield a spoon when bringing food to the mouth. First of all, the actual scooping movement was fairly complex (involving a twist of the wrist); secondly, there was no direct link between that movement and actually manoeuvring food into the mouth (the psychological link between scooping and eating is far more remote than, for instance, that between lifting the hand to the mouth and then placing the food in the mouth).

On every 'convenient' occasion the child tried to substitute another action for the scooping, one that was simpler and more straightforward for her. Since her left hand had always been fairly active in the feeding process (Rita was always groping around with it in the plate to see what was in there), as soon as she discovered that the consistency of the food was such that she could pick it up in her fingers, she would pick up food in her left hand and lift it to her mouth. Meanwhile her right hand with the spoon in it would remain quite still or more aimlessly without in no way furthering the eating process, i.e. the little girl was using her left hand in a purposeful way,

while carrying out incomprehensible manipulations with her right on the teacher's insistence. In this way Rita was carrying out two parallel processes one of which had a goal while the other remained for her no more than an incomprehensible movement performed out at the behest of the teacher.

Subsequently, to connect the two processes the little girl, while holding the spoon in her right hand, was allowed to put food from the plate into the spoon with her left hand and then lift it to her mouth helping it along with the left hand. In this way a certain relationship between the movements of the two hands was established, movements which differed in their closeness to the natural act of eating.

At first Rita used to let go of her spoon as soon as she had steered its contents into her mouth. Now that it no longer contained any food it had become an object with no purpose and the spoon was just dropped. She did the same with her cup: after sipping a little fruit-juice or milk from a cup, Rita would let go of it.

Only after chewing and swallowing some food would she start looking for a new mouthful. Eventually Rita learnt to put down her cup on the table and to put her spoon down next to her plate. It was only through deliberately supporting the child's hand and gradually loosening that hold, that her teacher persuaded her to keep hold of her spoon, and not abandon it until she finished her first mouthful, in order then to scoop up and lift to her mouth the next one.

Later, and just as gradually, the little girl was taught to understand other rules of behaviour at table. Let us illustrate it with another example. Usually three pupils would be sitting at table at once, each of them eating at an individual speed, adapted to his own particular skills. Sometimes a pupil had to wait until a slower eater had finished his meal. Rita could not understand at all why she had to go on sitting at table, once she had finished eating. She would move her chair back, get up and try to leave the table. She was led over to the chairs on which the other children were sitting, and shown that they were still eating; she was sat down next to them, so that by touching her fellow-pupils with her hand she could follow their progress and as soon as they had finished the children would all leave the room together.

Rita's 'waiting' skill was developed in the following stages: at first, after finishing her meal the little girl used to get up from her chair and leave the table; then she would remain in her chair, held back by her teacher's hands; next she learnt to wait for her friends to finish their meal, keeping track of their progress with her hand; finally she

learnt to wait quietly for a signal from her teacher permitting her to get up and leave the dining room.

*Lena G.* was moved from her home to the school for the deaf-blind at the age of two. Her diagnosis was the same as Rita's: 'congenital deafness and congenital cataract in both eyes'. While the little girl was completely deaf, she still had some residual vision but how much it was impossible to ascertain. She could not speak at all and did not use gestures. At home she had been carried around by adults almost all the time. Before she was put to bed she would be rocked to sleep in an adult's arms. She was fed from a spoon and was able to walk well holding on to an adult's hand. She had not been taught any skills of self-care and did not use the pot. She had not learnt to play at all. If Lena was handed any toy she did not show any interest in it whatsoever. The only thing she could do with toys was to take them out of a box one by one, if sat down on the carpet next to such a box.

The first task embarked upon by Lena's teachers was to get her used to a regular timetable. This did not prove as difficult an undertaking as it had been in the case of Rita L. Lena did not confuse day and night. What proved more difficult was getting Lena used to no longer being carried around by an adult all the time. For a long time she was unable to reconcile herself to the fact that adults were not constantly picking her up: she protested noisily, cried, slumped down onto the floor, beating her feet and fists against it. On these occasions the child would be left on her own and she would then soon quieten down. Teaching Lena to do without being carried around was made still more difficult by the fact that her system of body temperature control appeared to have been disrupted. She found it quite impossible to get warm on her own, especially at the beginning of the day. After getting up in the morning, still muffled up in her blanket she would 'demand' to be picked up at once. It was clear that the little girl was cold, although the room was warm and the other children did not feel cold. At first it proved necessary to pick up Lena wrapped in a blanket and help her get warm by moving her legs and arms about, before finally removing the blanket and embarking on dressing her. Soon Lena only needed to move around a little in her bed with the help of her teacher in order to get warm in the mornings. In the course of the day she would often make requests to be picked up and make a fuss. Before long, however, by dint of experience she came to understand that being held on the lap of a motionless adult was less interesting than walking across the floor with that adult and becoming acquainted with the various objects in the room. Of course, the teacher deliberately made it uninteresting for the child when she was sitting on her lap.

A good deal of perseverance and patience was required on the part of the teachers to train Lena to go to sleep in her bed, without being rocked to sleep in someone's arms first. At first the little girl refused outright to lie down in the bed and was unable to go to sleep without being rocked in someone's arms first. She would cry and would sit for hours on end in the bed protesting and not going to sleep. The teachers at this stage were driven to picking her up and rocking her to sleep. This went on for ten days, but soon it emerged that Lena did not necessarily have to be rocked right to sleep, it was sufficient just to calm her down with a short rock and then lay her down in the bed, where she would then go to sleep. Later this rocking was cut down more and more until it eventually was little more than a symbolic gesture: the teacher would pick up the little girl, rock her to and fro a few times, and then put her down in the bed. In this way the rocking was gradually cut out and was reduced to a mere signal conveying to the child that the time for sleeping had come. It should not of course be assumed that the task of putting Lena to bed always proceeded smoothly. Over a long period the little girl would remember from time to time that she had in the past only gone to sleep in the arms of an adult and then she would begin to make a fuss and refuse to go to sleep in her bed. Later games with dolls made it easier to establish her habit of going to sleep in her bed. When showing Lena how to play with dolls her teacher would show Lena that a doll needed to be put to bed in a toy cot and that it did not need to be rocked for its eyes shut automatically, etc. Before Lena went to sleep, her doll would be tucked up next to her; Lena's hands would be guided by those of the teacher to tuck up the doll, stroke it and 'calm it down'. It took two and a half months to teach Lena to go to sleep calmly on her own in her bed.

During her first two months at the home no success was achieved in teaching Lena to use the pot independently. At first her toilet patterns were merely observed to establish what were the most expedient times for sitting her on the pot. After a month Lena was taught to get her pot out from under her bed. Two months later this action on her part became a signal to show that she needed to use the pot. By the fourth month Lena was able to get the pot out from under the bed by herself, take off her pants, sit down on the pot, get up again, pull up her pants, put the lid on the pot and push it back under the bed again.

The first step towards teaching Lena to find her way about was to familiarise her with the corner in which she slept. Since the little girl was put to bed in a cot and covered up with a blanket, the drop-side of the cot filled in with netting was raised and lowered at regular in-



tervals, she was soon became acquainted with the bed and bed-clothes; she knew the pillow was soft and the metal head of the bed was hard.



*The teacher shows a girl how sugar is stirred in the cup*

*The girl pupil is learning the complicated movements involved in eating independently and handling fragile crockery*



In practical terms she was familiar with her corner of the room almost from the outset of her stay at the home. Special activities were organised for the child to extend the knowledge while making practical use of the objects around her. The teacher would take the little girl's hands in her own and then proceed to make the bed, to raise and lower the drop-side, lead the child along one side of the cot letting her gain an idea of its size through feeling it; Lena would also climb under the cot and with her teacher's help familiarise herself with the bed-legs, the wheels at the bottom of the legs and then even move the bed. In this way she also investigated the space around her bed; the bedside locker, the rug by the bed, the place next to the bed where her slippers were laid out and the strictly defined place for the pot under the bed, etc. Lena was thus encouraged to familiarise herself with a new world in a consistent and systematic way. The little girl took part in this investigation willingly because everything that she acquainted herself with possessed some practical significance for her. Objects were investigated in the context of their practical functions and in association one with another. The towel, which the little girl used to pick up before going to the wash-room, was always hanging in the strictly appointed place; the pot was always in one and the same place and the outdoor clothes that had to be put on before a walk were also always in the same place. Gradually Lena was taught to find her way about in her room as a whole, not just the corner where her bed stood, then in the corridor, round the whole of her floor, eventually in the entire building, in the yard and garden imme-

diately outside it. When the little girl was being taught to find her bearings in her room, strict emphasis was laid on making sure that every article had its carefully appointed place. After Lena had come to grips with the corner of the room where her bed, bedside locker and rug were, she was then 'shown' the communal table at which the three children in her group had their meals, until she learnt to find her way, together with the others, as far as the dining room. Later she was 'introduced' to the carpet in the middle of the room, the windows, the radiators. The teacher together with Lena inspected the wardrobe, the toy-cupboard, the cots used by the other children and the children themselves. When they made their way to the wash-room, Lena accustomed herself to that new territory and learnt to step calmly over the threshold between the wash-room and the corridor, which involved a slight drop onto the lower floor of the wash-room. When she went into the wash-room, the little girl's hands, guided by the teacher, 'inspected' the arrangement of the wall-hooks for towels and clothes, and the basins; she was shown that the basins were at different levels, lower down for the small children and higher up for the taller ones. Lena used to touch the basins and even sniff at them. Initially she used to be led by the hand into the wash-room and then the teacher would walk behind Lena, guiding her by no more than a light touch on the shoulder to make sure she did not go off course. After a week even this minimal guidance was no longer necessary for the little girl would find her way to the wash room confidently on her own.

Before taking Lena for a walk in the winter months Lena's teacher would always go with her up to one and the same little cupboard, specially set aside for Lena, 'inspect' together with her the outdoor clothes and felt boots, pick them up with her and take them to the chair at which Lena used to get ready for her walk. On returning Lena and the teacher would take off the outdoor clothes in the cloakroom, put the felt boots back in the cupboard and hang the other outdoor clothes back in it as well. A month after she arrived at the home Lena knew perfectly well where her outdoor clothes were kept. As soon as she got inside the cloakroom she would walk up to her cupboard and after the teacher had helped her to take her coat, etc. off the hanger, Lena would then carry it over to her chair on her own.

In the first six months Lena spent at the home she learnt to find her way about her bedroom, the lesson room, the corridor, the toilet and part of the garden. At the end of the sixth month Lena could find the common room she shared with the other children in her group, the wash-room, the sick room, the bathroom and she was able to take herself outside. Lena was also taught to recognise teachers and other

members of the staff. At the same time as Lena was being taught to find her way about the home, she also learnt to feed herself with a spoon independently, to use the pot, to undress and dress and to play.



*The teacher's initial movements in dressing a girl serve as a signal for this independent action*



*The teacher stands ready to help the girl if necessary*

After two weeks Lena was able to lift a spoon with the lightest of guiding touches from the teacher. By the end of the third month of table training Lena was able to pick up food with a spoon and lift it to her mouth. Admittedly she often slobbered food on the table, down her feeder or on her face, but it would make her angry and start her crying by this time, if someone tried to take her spoon and feed her as they had done when she first arrived.

From the very outset efforts were made to teach Lena to pick up a cup by herself and hold it as she drank. It emerged that a full cup was too heavy for her and so she started practising with first a third of a cup and later half. Very rapidly indeed – in the matter of a few days – Lena had learnt to hold the cup firmly and put it down again on the table with care; soon she had learnt to pick it up from the table as well.

Three months later Lena could take her place at the table on her own as well; she could also pick up her spoon, eat with it, draw her

plate nearer towards her and move it away, hold bread correctly in her left hand, pick up and put down her cup.



*The girl has dressed herself and is now tackling the most difficult task - fastening the button in the back*



*Putting on this suit independently has taken many days of learning*

During the fourth month of her table training Lena's teacher started training her to use a napkin on her own. At first the teacher used to wipe the child's face with a napkin herself. Then she began to hold the child's hands on the napkin as she did so. Lena learnt very quickly to pick up the napkin from the table, but for a long time she could not manage to wipe her face with it, all she did was to put it up against her face. Lena only learnt to use a napkin correctly and completely independently after she had been at the home for six months.

Training Lena to dress and undress herself was one of the most important tasks in teaching this particular child. Initially Lena resisted the teacher's efforts when the latter tried to take Lena's hands in her own and teach her to take off and put on stockings, pants and frock. However, by the third or fourth day the resistance petered out, and Lena began trying actively to help the teacher, when she was dressing or undressing her. Lena was put down on a chair (initially a high one, so that the teacher did not need to bend down too much) and the teacher holding Lena's hands in her own would feel over with her a particular garment, encouraging any trace of active participation on Lena's part, and then put it on. At first, of course, it was the teacher who did most of the work, although the little girl tried to help, without as yet achieving any real results. This process was made more

difficult by the fact that Lena's hands were very weak, and she simply did not have the strength to pull on tights, for instance.



*Buttoning up is the concluding stage in learning the skill of dressing oneself*



*Putting on the slippers right is not such an easy task either*

Yet as the dressing and undressing process was repeated many times in the framework of the day-to-day timetable, the child's hands began to grow stronger, she performed the necessary movements more efficiently and so her part in first undressing and later dressing herself gradually became more and more active. Lena was helped to 'examine' other children, who, sitting on their own on their little chairs, were dressing themselves. She was also shown that these children were not being carried, but walked around on their own two feet. Lena, too, was then taught to sit on a little chair, to pick up her clothes on her own and begin to dress. The little girl learnt the first skills involved in taking off and putting on various garments unusually quickly. Two weeks after this training was begun Lena was able not only to take off, but to put on her pants by herself. At the same time she was making attempts (albeit clumsy, and unsuccessful ones) to take off her frock, cardigan, night dress and slippers. As soon as the teacher began any action involved in the dressing process, such as taking off a cardigan, for instance, Lena would try and take over herself. The beginning of the activity on the teacher's part served as a signal for Lena to carry it forward. Of course, the child did all these things clumsily at first and the teacher often had to help her. It was vital at this stage to afford assistance in strict 'doses' and at all costs avoid discouraging Lena's own initiative. On several occasions when

it so happened that the teacher intervened too obtrusively to correct a mistake, for example, when Lena began putting her dress on back to front, Lena started screaming and then refused categorically to continue her efforts to dress herself. On one occasion, when Lena despite long efforts had not succeeded in untangling her dress which had got caught up in itself, the teacher took the dress out of Lena's hands and began to put it on: at this Lena pushed the dress away, fell crying to the floor and then refused for a long time to pick up her dress at all. It was in this way that Lena protested when an adult intervened too much. However, the opposite situation could arise as well, although it was rare: all of a sudden Lena would refuse to dress herself on her own, and hold out her clothes in the direction of her teacher indicating that she wanted someone to dress her instead. On one such occasion it emerged that on the day before Lena's teacher, while hurrying to get her ready for a walk, had not waited for Lena to dress herself independently but had dressed her quickly herself and then taken the children outside for their walk.

Another thing which it took some time to teach Lena to do was to hang the garments she took off over the back of a chair. At first when she had taken her stockings or dress off she would just throw them down, but then she was taught to hand to the teacher any garment she took off. Lena was shown by means of her hands that the teacher hung each garment over the back of the chair. After a few days Lena stopped throwing her clothes to the floor: when she had taken each garment off she would stretch out her hand with it, expecting the teacher to take it. After that stage had been reached, it was not difficult to teach Lena to hang her clothes over the back of her chair. When Lena, undressing, held out a garment in the direction of her teacher, the latter would steer her hand towards the back of Lena's chair, and together the two of them would hang it over the back of the chair. Soon Lena tried to do this on her own. For a long time she only managed to put her garments in an untidy heap on the back of the chair without smoothing them out. Smoothing out the clothes proved a difficult task for the little girl and it took her several months to master this complex skill.

A mere twenty days after her training began Lena had grasped well where her clothes, slippers and stockings were kept. By that time she did not need to be shown where to fetch the garments from, she could find them all quickly on her own. Four months after her arrival Lena could find her little chair by herself, put on and take off her vest, pants, dress, cardigan, stockings and slippers. The one task involved in dressing which she had not yet completely grasped was the correct order for putting on and taking off the various garments.

A particularly formidable undertaking for Lena was fastening and unfastening buttons. Although in the course of four months she learnt to dress and undress by herself, she was still unable to fasten and even unfasten buttons. She began to take it for granted that the teacher always had to do that. When preparing to get undressed Lena would walk up to her teacher, take her by the hand and guide the teacher's hand to her buttons; then again after she had dressed herself she would walk up to an adult expecting that she would do up her buttons for her. She did not even attempt to unfasten or fasten buttons, as if she regarded that as something outside her scope. A chance happening during the eighth month at the home led to Lena's mastering the art of unfastening buttons at last. One day against Lena's wishes her teacher quickly put on her cardigan for her. Lena grew angry at this slighting of her independence and pulled at the bottom of her cardigan in an effort to take it off and as a result the buttons came undone. She noticed this and forgetting her grudge, took an interest in what had happened. When the teacher did the buttons up again, Lena again, but more slowly this time, pulled at the bottom of her cardigan and one by one she succeeded in unfastening all the buttons. She repeated this process several times. The teacher then placed Lena's hands on the buttons and herself pulled the cardigan open, so that Lena could feel how the buttons were coming out of the button-holes. After that chance incident, which the teacher made good use of, Lena started trying to unbutton all her garments by pulling apart their fastened edges. When this did not produce the required result the teacher would guide Lena's fingers to help her push a button through its hole. In this way Lena gradually came to master this skill too. It proved far more difficult to master the art of fastening buttons. Yet for this the all-important breakthrough had already come, because the incident described above had provided the teacher with an opportunity for attracting the little girl's attention to the manipulation of buttons in general. From that moment on Lena began to think of buttons as her 'responsibility'. Whereas before she had made no attempt to fasten buttons when dressing herself, had been quite content to walk around unbuttoned and had refused to try and fasten them even with the teacher's help, leaving the whole job completely to the teacher, now she began to make an effort to fasten them herself. At this stage through careful rationing of assistance it was possible gradually to foster this new skill, which really does involve subtle and complex movements. Six weeks after work towards this new objective began, Lena had mastered the skill. She was so fascinated by the process of fastening buttons, that if she discovered someone else had an unbuttoned coat, dress or dressing gown, she would start try-

ing to fasten it for them. Another factor that had helped her to master the skill of fastening and unfastening buttons fairly quickly was the fact that at the same time she was being taught to play. As noted earlier, Lena had not played at home at all and did not understand what toys were for. Special work was undertaken with Lena, as with the other children, to make clear the correlation between toy objects and real ones: comparisons were made between toy pots and pans and real ones, between toy furniture and the real furniture in the children's room, between the parts of dolls' bodies and the parts of Lena's body and those of other people, and so on and so forth. When playing with her doll Lena was taught to unfasten and fasten the buttons on her doll's clothes. To this end the button-holes in the doll's clothes were made wider than really necessary so that the buttons would go through them easily.

Work in teaching Lena to play proceeded parallel to that designed to foster the skills of self-care. At first Lena did not want to take part in any games. It was the teacher who 'played' with the doll, while Lena merely 'observed' what was going on. The little girl was shown by means of touch how clothes were being made for the doll: stockings, pants, a dress and cardigan. Of course, constant efforts were made to involve Lena in dressing and undressing the doll, but she rejected any such attempts, restricting her involvement to feeling the doll and what the teacher was doing with it. In actual fact, though, she was already deriving pleasure from the game. She could sit for a long time next to the teacher 'observing' her actions. Lena's first attempt at active participation in play came to the fore during procedures aimed at correlating toy objects and real objects. The teacher was showing Lena the doll's cardigan and then moved Lena's hands towards her own cardigan; then she did the same with the doll's and Lena's hat. Lena grasped the connection between the two; when her hands were put up against one of her own garments and then moved over to the doll, she would point correctly to the same garment on the doll, whether it be stockings, cardigan or pants, etc. If her attention was drawn to one of the doll's garments, then she would point correctly to the same article of clothing on herself. This was Lena's first manifestation of active involvement in play.

A special play corner was set up in the children's room and toy furniture was set out on the carpet there: a doll's bed, toy crockery, toy household articles and doll's clothes. If Lena found any doll's garment in some other part of the room, such as a doll's cardigan for example, she would take it over to the toy corner, pick up the doll and bring it over to the teacher, so that the latter might put the cardigan on the doll. Gradually Lena started taking a more active part in games



– she was given the doll to hold while a teacher dressed or undressed it. On another occasion Lena held the doll's slippers while the teacher



*Learning to make the bed*

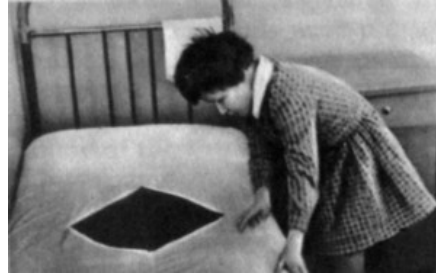


*The first attempt to straighten out the bed clothes with the teacher's aid*

was putting stockings on the doll's feet. Soon Lena stopped resisting, when the teacher used her hands to assist in putting on the doll's stockings, slippers or hat. It was important that Lena should be drawn into this 'collaboration' with the teacher gradually and with definite motivation; in other words Lena had to feel that her help was necessary. In this way Lena was gradually drawn into joint games with her teacher, but it took her a long time to learn to play on her own. Not before a year passed after she began to receive instruction was Lena able to sit on her own in the play-corner and play with her doll. By then she had mastered many of the self-care skills and her first gestures had taken shape. Play helped to promote the emergence and consolidation of these gestures, while the use of gestures made play more varied and interesting.

It should be pointed out by way of conclusion that Lena G. was not taught a selection of unconnected skills of self-care, but a whole pattern of behaviour in which actions followed on one from the other in a carefully linked progression.

The objects which the little girl used in her practical activities were all kept in strictly defined places, thus providing a stable object environment. The child's actions within this situation, particularly as she learnt to master the objects concerned, were performed in a fixed order and sequence.



*This pupil makes her bed independently*

*The girl has now learned the knack and can make the bed independently, with the teacher looking on*

The child's towel always hung at the head of her bed in one and the same place, her soapdish with soap in it was always kept in the drawer of her bedside locker; every morning, before each meal, and before she went to bed, Lena would go, with the help of her teacher, over to her bedside locker, open the top drawer in it, take out her soapdish, move over to the head of her bed, pick up the towel and then set out for the door (the doors in the home were all of the sliding variety, as found in train compartments) and then walk along the corridor to the wash-room. There she would hang up her towel on a hook, go over to the basin, turn on the cold tap, and then the hot one, try the temperature of the water coming out of the mixer tap, then soap her hands rubbing the palms together, and then the backs of her hands; then Lena would wash her face moving her hands not only up and down her face lengthways, but also round and round as well – something that required far more skill – after which she would pick up her towel, dry her hands and face with it, go back to her room, hang up her towel in its special place and put back the soap.

In this activity one movement followed on from another, and the end of each action provided the signal for the next one to begin. All these actions taken together constituted an integrated, uninterrupted stream of human behaviour. In this way all Lena's behavioural skills, the progress achieved in orientation, play and self-care developed not separately from each other but as parts of an indivisible whole. As a result, the images of objects which took shape in the child's mind, as she came to master them and their functions in order to satisfy her needs, did not constitute a haphazard selection of separate discon-

nected images but made up a connected system of images linked together in an integrated “vision” of the external world.

After Lena had spent a year at the home medical examinations revealed that she could benefit from an operation on her right eye, after which she did begin to see slightly better with it. Using her improved sight Lena now found her way about the home and garden more easily, and she was also able to take a more active part in the children’s action games. She was now able to apprehend gestures directed at her not merely by means of touch but also visually as well. After this she continued to make good progress.

## **2. First Steps to Develop Human Mental Processes in a Deaf-blind Child**

This section treats certain propositions of the theory of the development of the human mind, in their connection with the first steps to be undertaken in teaching a child.

It is often the case that young deaf-blind children living at home with their families develop a firm habit of being constantly carried around by adults. Even an ordinary child with normal sight and hearing will grow quickly used to being carried around while still a baby, and then finds it inordinately difficult to grow out of the habit. This is seen as an unfortunate habit for the child, and many suggestions and exhortations have been written to the effect that parents should help their child get rid of this harmful habit. Yet the actual urge to be carried by an adult is in itself not really such a bad habit, but rather, as far as the child is concerned, a useful one. During his first days, weeks and months a child is lying down almost all the time, and for most of that time he is lying in one and the same position – on his back. This constant lying in the same position means that the hair on the back of a baby’s head is rubbed away and sometimes his skull is even somewhat deformed. In addition children are often still wrapped round in nappies from the neck down and in the past people went as far as to use special swaddling clothes. This constant lying is only interrupted when a child is picked up to be fed. It is precisely thus that a baby comes to value the benefit to be derived from a change in his position. We only have to compare a child lying almost motionless in his cot, who sees nothing but one and the same part of the ceiling above him, and, when he is lucky, a few toys hanging motionless before him, with a child in the arms of an adult, whose gaze is confronted with an enormous constantly changing world of objects, colours and movements.



*Washing dolls' clothes. The girl is rolling up her sleeves*



*Preparing to tackle the task*



*Soaking the washing*



*The girl uses the soap confidently*



*Going for it in good earnest*



*Clean washing  
smells nice*



*Rinsing the wash-  
ing*



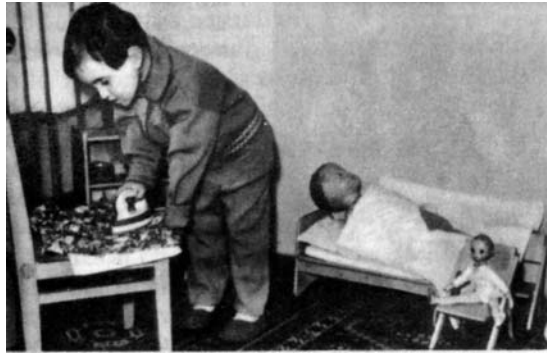
*The last process -  
wringing the  
washed article*



*Putting a doll to  
bed*



*Learning to play  
with toy crockery*



*Ironing a doll's  
clothes with a toy  
iron*



*Playing with a toy  
squirrel made by  
older pupils*



*Learning to play together*



*Learning games helping to develop tactile sensitivity and motor orientation*



*New Year tree in the Zagorsk home*

Picking up a child and holding it in different positions, transferring him from one arm to another, or even rocking him in an adult's arms or in his pram are all useful procedures for the child, rather than harmful ones. Very early on a child comes to 'appreciate' this and soon begins to demand such handling all the time. This extreme, however, becomes burdensome for adults, but we should not assume that what is a burden to adults is harmful for the child. If he lies all the time on his back a normal baby does not learn even to raise its head until the age of seven months. Yet if a child is lifted up frequently and turned over on to its stomach, he can learn to raise his head by the age of two months. By three months such a child will be able confidently to hold its head up straight and turn it from side to side while held by an adult, which extends a child's 'horizon' no end.

Yet all this applies only to a child who has not yet learnt to move about, who not only has not yet learnt to walk but cannot even crawl, i.e. a child of up to six or seven months. As soon as a child learns to move about independently, long periods in the arms of an adult begin to hamper the emergence of his independence. Once he has learnt to walk by himself, he only, needs to be picked up on occasions when he grows tired, while out for a walk for instance, and has nowhere to sit down and rest.

Deaf-blind children usually come to specialised institutions at an age when they are physically capable of walking. If such a child has been molly-coddled too much at home and is used to being carried around by adults all the time, it is essential to uproot this habit as quickly as possible and teach him to move about independently. If a child is constantly being carried for long periods, when he either knows how to walk or is capable of learning, this can seriously hold him back from learning to walk on his own and thus from developing his *orientative* skills.

To develop these skills a deaf-blind child is first familiarised in the course of his practical activities with the objects situated in the immediate vicinity of the place where he sleeps, and from there his 'territory' is gradually extended.

When such a child is being taught to find his way about a room shared with other children, it is essential that pieces of furniture should always stand in one and the same place. Only in an unchanging setting is it possible for a deaf-blind child to learn to move about freely. After bumping into a chair once or twice, that is not in its proper place, the child will begin to fear such encounters and will be loath to move about freely. The range of his free movement may then be reduced to a tiny space around his bed.



The stability of the deaf-blind child's tangible environment is essential if he is to develop proper skills in spatial orientation. It helps him to create an integral picture made up of images of the objects around him, a picture which reflects the external world. As his orientative skills develop, the strict permanence of the positioning of the objects in question is not only no longer necessary for his further development, but is even to be deprecated, insofar as the child in his everyday life will encounter changing environments. Therefore once a deaf-blind child's orientative skills have been properly developed in a strictly permanent environment, he must then be taught to find his way about in changing external conditions, in other words the siting of familiar objects in his miniature world must gradually be changed. In this way are sown the seeds of searching behaviour in a constantly changing environment.

When *working on the formation of new skills* in deaf-blind children it often becomes necessary first of all to root out well established habits. A child may be used to being fed always by adults, for instance, and objects when efforts are made to teach him to eat independently. It is very difficult to uproot a firmly entrenched habit. A child resists such innovation with every weapon at his disposal. It would, of course, be easier to feed the child as before, lifting the spoon to his mouth every time, but if that were the approach he would never master the new skill. The same applies to putting on clothes or shoes.

Fostering skills of self-care in the early stages is extremely hard work. Sometimes it requires a great deal of time and considerable effort before progress is achieved in mastering even the most elementary actions. New skills only take root gradually. The first stage in teaching a child to acquire independence consists in weakening the degree of his resistance. It is vital at this juncture that efforts should not be relaxed but rather that work should continue day, by day to overcome the child's resistance and encourage his active behaviour in every way possible. It is trying work, even physically. However, it is out of the question that work on skill formation be interrupted, that a teacher give way to a child's resistance and let him revert to former habits: if attempts are resumed later to teach the child the necessary skill, after an adult has once given in, then the child will resist all the more. When working on skill formation, it is necessary to pay attention even to the amount of physical effort required, for example, to lift a spoonful of food to the mouth of the child.

The main difficulty lies in the fact that the emergent active movement on the part of the child is far from perfect, and cannot achieve the necessary goal; on its own it would not produce any re-

sults, while in order to be consolidated it has to be reinforced with an achievement, a result.

The emergent activity on the part of the child can easily flicker and die the moment an adult begins to perform the necessary action for the child. The activity also disappears if it is not reinforced by the production of a result, which is often the case in the early stages, when prompt help from an adult is not forthcoming.

When a new skill is first taking shape, it is particularly important to note and take account of the slightest manifestation of active behaviour on the part of the child. Help from an adult must be administered in strictly controlled doses: there must not be too much of it, which would make the child renounce its new-found independence, but it must be sufficient to ensure the necessary result. Each skill involves movements of varying difficulty. For instance, it is much more difficult for a child to scoop up soup out of his plate with a spoon, than to raise the spoon to his mouth. It is easier for the child to pass the palms of his hands up and down over his face when washing than to take them round it. It is easier for a child to thread in the laces, than to tie them in bows. The teacher should analyse each skill dividing it into its component movements and then build up his teaching programme in such a way, as to leave his charge scope for independence in those movements which he has already mastered and to help him with other movements which he still finds difficult, and then finally carry out for the child those movements which he cannot manage at all.

As soon as a skill has been mastered well enough for the child to be able to achieve results (raising a spoon to his mouth and eating from it, or putting on a stocking) he begins to enjoy practising it: then the newly formed skill quickly takes root and is perfected.

Usually children who have mastered the skills of self-care enjoy doing everything they know how to by themselves. Yet sometimes particularly when a child has been sheltered at home too much and for too long and had everything done for him, he suddenly starts to protest: he might, for example, refuse to dress himself and hold out his clothes to his teacher demanding that she dress him. In such cases it is essential to analyse whether or not there has been some mistake made by the teacher. Often it turns out that in a particular case the teacher did not ration her help to the child strictly enough. A child might, for example, have begun to put on a shirt when an adult started to help thus interrupting the child's independent action, which interference in turn made the child refuse outright to dress himself. In such cases more often than not a child might make a fuss, throw

its clothes around, lie down on the floor and start to scream in protest. Yet children sometimes refuse to dress independently without any apparent reason. This usually happens, as noted earlier, in those cases when a child has been sheltered too much at home. In such cases a child refuses to do what he has already mastered, as if to check, so to speak, whether or not it might be possible to revert to the former order of things, when he had been waited on completely by adults. In such cases the teacher's perseverance is a vital factor. What is quite indispensable, of course, is *full agreement between a child's various teachers on a unified range of demands to be made on him*. Speed, in dressing as in other skills, comes as movements are perfected and become automatic, and it should only be promoted gradually by a constant raising of demands made on the child, but without outstripping his potential too far.

A child *acquires skills* in stages. At the beginning of self-care training an adult must needs carry out all actions. At this stage, to all intents and purposes, there is no joint action yet the actions all are being carried out by the adult alone. At the next stage there emerges the first activity on the part of the child, who carries out certain operations involved – those that are within its grasp. So far the action is divided up into two unequal parts. The child's share is small and his activity minimal, but the important thing is that there is activity on his part and it can be extended. The adult, restraining his own activity, encourages that of the child, and organises joint action in such a way as to have the child's share continuously increasing. For the child increasing his own active role is an essential condition for reaching the goal intrinsic to that particular action. The teaching skill in these circumstances lies in making sure that the task set in each case should not be too difficult for the child, nor too easy, and that the level of difficulty increase with each successive task. When called upon to perform a task that is too difficult for him a child refuses to carry it out, and if he is given too easy a task then he is not learning anything new.

In the ontogenesis of a deaf-blind child the first activity which emerges is that *directed towards the satisfaction of his primary physical needs*. The most important of these needs, whose satisfaction affords opportunities for moulding behaviour, are those for feeding, self-defence and excretion. In this context the need for feeding includes that for water as well: the need for self-defence embraces the need to maintain proper heat regulation, in other words to guard against over-cooling or over-heating, the avoidance of situations engendering pain or discomfort of any sort.

There is yet another need which a child manifests from the very moment of its birth – the need for movement. From the very first day of life a child starts moving its arms and legs. All subsequent motoric forms, apart from these innate movements and motor reflexes linked with sucking at the breast, are taught the child by adults around him. If this teaching does not take place as a result of lack of contact, in the unfavourable situation of the deaf-blind child, then, as has already been noted, he may satisfy that need in monotonously repeated movements that are not linked with any objects outside himself.

A spontaneous need for movement cannot of itself give rise to any object-linked human behaviour. *The emergence of human behaviour and mental processes in a deaf-blind child from the outset of his development consists in the assimilation of human experience, concentrated, firstly, in the objects required for the satisfaction of his physical needs, secondly, in the instruments or tools necessary for the satisfaction of these needs, and, thirdly, in the modes of action linked with these instruments or tools.* The child's assimilation and subsequent appropriation of social experience proceeds in his direct communication with an adult in the course of which the latter instructs the former in practical activity directed towards the satisfaction of the child's needs.

In the course of this instruction the child's physical wants now directed towards a humanised object (food, clothes, pot, bed, house, etc.) and necessitating human methods for achieving their satisfaction (the use of a spoon, the donning of clothes and shoes, the use of a pot, living in a house, walking on two legs, etc.) develop into human needs. The satisfaction of the child's elementary wants that ensues as joint activity of adult and child, in which the adult plays a leading part, gradually develops into independent activity of the child. The methods for carrying out such activity, the operations involved as they are gradually perfected, give rise to new needs – secondary needs.

The independent satisfaction of his need for food and his need to protect his body from any harmful outside influence requires also that the child engage in cognitive activity, as a result of which images both of the objects of his needs (such as various types of food) and of the means and methods of their satisfaction (such as a spoon and the action carried out with it) take shape. Without investigating the objects of his needs and the means for their satisfaction the child will simply, not be able to engage in independent satisfaction of those needs: in such cases he would only be capable of passively accepting an adult's care.

Initially this cognitive activity is carried out within the context of activity for the satisfaction of physical needs and constitutes one of the operations involved in that activity (the handling of a spoon during a meal). As the range of means used in this cognitive activity, is perfected, it starts to extend beyond the utilitarian requirements of the activity in the pursuit of which it first emerged, and gives rise to an independent superstructural need for discovery or learning. This new need provides the basis for the formation of new types of activity, which in their turn extend the behavioural patterns of the child beyond the satisfaction of his elementary wants.

It is in a basically similar way that the child's imitative and motor needs evolve. At this stage of development a child is capable of apprehending, for example, an elementary learning task (e.g. assembling and taking apart a sorting pyramid or a matryoshka doll), the achievement of which does not feed him or warm him. The sensori-motor training involved in the performance of this task will be most important for his cognitive activity in school later.

The emergence of the cognitive, motoric, and imitative activities, which are relatively independent of the satisfaction of primary needs, and the development of independent secondary needs make it possible to teach children to play, a type of activity extremely important for their development.

Self-care is the first activity which a child masters, and it is the first type of work within his capacity. Further development of this activity is also brought about by instruction of the child by an adult: skills of self-care are then extended to embrace a group, when, for example, one child helps another get dressed, when he tidies up a classroom not only for himself but for all his classmates as well (carrying out the duties of class monitor, for instance). It is in these shared activities that the first division of labour takes place, when, for example, one child brings along water and a cloth and another uses the cloth to dust with and waters indoor plants. The next chapter treats in more detail the fostering and development of these forms of activity in somewhat older children.

## Chapter III

### Training Skills of Everyday Behaviour and Developing the Minds of Deaf-blind Children

#### 1. The Development of Deaf-blind Children Possessing Basic Skills in Self-Care

Some children, when they first came to the school for the deaf-blind, already possessed elementary skills of self-care. The parents of the majority of these had already been in contact with staff members of the department for the instruction of deaf-blind children at the Institute for Research into Physical and Mental Handicaps. They had been given regular advice on methods of caring for their children. Some of them used to come to the Institute for consultations, during which they were given practical demonstrations in instructing deaf-blind children. Parents described their attempts to teach their children to read, write and speak or communicate by means of finger spelling. However, as a rule, attempts to teach children the dactylic alphabet or Braille script did not produce any results, and parents used to write in or come in for advice on how to teach their children to speak, read and write. It was explained to them that the first step in teaching a deaf-blind child was to start by developing the skills of self-care. If a child has learnt, after getting up in the morning, to do his exercises, make his bed, wash and brush his teeth on his own and use the lavatory, to feed himself – first with assistance and later independently – to dress and undress, tidy up, put away his clothes and shoes, and help his mother in the house, *then* he will be able at a later stage to learn language, he will be able to read, write and master the information transmitted to him at school. The majority of parents understood the importance of this initial stage of instruction, and as far as their ability and time allowed they taught their children these basic skills of self-care. There were others, however, who considered that it was not worthwhile spending time on teaching the child to look after himself. They could feed, dress and undress the child, while what they really wanted was to teach him to read, write and speak, skills which they regarded as essential to the teaching process.

The most important educational objective for children, already possessing basic skills of self-care is *to develop their means of communication, first and foremost to develop active sign language*. The first task in this connection which we confronted was organisation of their behaviour. Before they had come to the home for the deaf-blind the children had been living in conditions that varied enormously from one case to another. Usually they had had no fixed timetable and there had

been no ordering of their lives or behaviour. They had slept and eaten whenever they chose. The parents and other adults around these children had satisfied their slightest whim. The children were not used to having a nap in the day-time: some of them had not liked sleeping at night and had slept in the day-time instead. Some of the children also had strange eating habits: many had never been given soup, others had always been given sweet dishes, and still others had lived on a milk-based diet.

At the home for deaf-blind children a special timetable was worked out, the strict observance of which we held to be an important factor in the upbringing of a deaf-blind child. The behavioural patterns and likewise the mental processes of these children lacked any kind of order. It took time and effort to teach these children to follow this timetable; in this work we proceeded from the principle that strict observance of a regular timetable and 'external' discipline would eventually become a habit and then a child would submit to order and discipline, not only on an 'external' plane (in its behaviour) but also from 'within' (on the mental plane). An 'external' ordering would give rise to an 'inner' ordering.

An important part of the work with these children was the perfecting of the skills in self-care they already possessed and the development of new ones that were more complex. This will now be illustrated on concrete cases.

*Volodya T.* had no powers of sight, hearing or speech at all when he joined the group of deaf-blind children receiving instruction at the Institute for Research into Physical and Mental Handicaps at the age of seven. For two years before Volodya joined the group we had been corresponding with Volodya's father, urgently recommending that the child be taught the basic skills of self-care and supplying practical pointers as to how this task be approached. When the child came to us, he possessed basic but very important skills enabling him in some respects to look after himself: he could dress and undress himself virtually unaided, eat and wash by himself and he was also toilet-trained.

After losing his sight and the last vestiges of hearing at the age of 3 years and 8 months, the boy virtually stopped walking by himself, according to his father – all he would do was stand in some very awkward fashion on his heels. Gradually Volodya's father taught him to walk normally, leading him by the hands. The first few days after he had been discharged from hospital, the boy had not let anyone undress him, as if he was frightened that his clothes might disappear. When attempts were made to do so, Volodya resisted them, cried, lay

down on the floor, kicked and tried to bite. In an effort to calm the child and show him that nothing out of the ordinary was being done to him, the father took the child's hands in his own and took his own clothes off. After that he was able to undress Volodya; at first he did so himself but without encountering resistance on Volodya's part. The father repeated this practice in all actions which he sought to teach his son: Volodya was shown how his father ate, dressed and washed himself, etc. Soon the father no longer needed to hold Volodya's hands in his own. It was enough to guide the boy's hands to 'look over' what the father was doing and then the boy would continue to investigate the father's actions on his own.

In this way the child's capacity for imitating his father was developed, a capacity which provided an important method for fostering Volodya's behavioural patterns and skills of self-care. If the father wished to teach the child something, he would do it himself, allowing the boy to 'observe' his actions, and then the father would help Volodya to do the same. Initially Volodya refused to be separated from his clothes: he would put them all under his pillow and go to sleep with his hand tucked under the pillow on top of them. Gradually he began to reconcile himself to having his clothes put on the chair at his bedside. However, he still went to sleep with one hand touching his clothes.

In order to occupy the child's time, his father taught Volodya to sort out various screws, nails and bolts, etc. in his tool-box. He taught the boy to thread bolts and metal rings on to a piece of wire. The child would sit at home on the floor and make enormous garlands of metal objects that he threaded onto these wires. Tiny articles that he took a liking to he used to collect in his cap – things such as paper-clips, acorns, drawing pins, small screws and other metal articles. The cap which he only took off in order to put some such thing into it, made his own special treasure-house for all this 'wealth'. With incredible deftness the boy was able to put the cap back on his head in such a way that none of the numerous things inside it fell out. Not even at night would he take off his cap and he used to go to bed in it. It took a long time first to teach the boy to put the cap under his pillow and later to teach him to do without it altogether and use a special drawer at the bottom of his locker for his 'treasures' instead.

When Volodya joined the group of deaf-blind pupils at the Institute, he used to confuse day and night at first. At night he did not want to go to sleep and if his teacher succeeded in getting him into bed, he would be getting up every other moment looking for his clothes and trying to put them on. Restrained in these attempts, he would pull the blanket onto the floor and throw clothes and bed-



clothes in all directions. It was difficult for one person to control the wild little boy. His tantrums sometimes used to last until four o'clock in the morning. Volodya would start one of his tantrums every time he was forbidden to do something. We had to lock the door to make sure that the child did not run out into the cold corridor in his night-clothes. As soon as he discovered that the door was locked he would begin to hit out, scratch, kick and scream. The more firmly he was forbidden to do something the more furiously he tried to get his own way. The members of staff placed in charge of the boy were at the end of their tether. In the day-time it was impossible to embark on any work with him, because after a sleepless night he kept dozing off. He was prevented from sleeping in the day-time, and he refused steadfastly to sleep at night. The situation was complicated still further by his refusal to sleep alone. It was only with the greatest of difficulty that he was eventually prevailed upon to lie down in his own bed in the middle of the night, and at dawn he would be found in the bed of another pupil. In addition Volodya seemed to be frightened of sleeping on an actual bed. Many times during the night he would pull his bedclothes onto the floor and go to sleep there near the teacher's bed.

It took about five months to teach Volodya normal sleeping habits. A variety of methods were tried: he was allowed to sleep on the floor, the spring base of the bed was replaced by boards in the belief that the springs beneath him might make Volodya feel insecure, as if he was about to fall; his bed was moved right up to that of another pupil, so that from time to time he could reach out and touch the latter with his hand, to reassure himself that he was not alone. It took five months to teach him to go to sleep at the normal time with someone on duty at his bedside. Initially the teacher had to sit on his bed and sew or darn something. From time to time Volodya would check to see that she was still sewing. Later the little boy was prepared to accept that the teacher was no longer sitting actually on his bed but rather on a chair beside it, but still carrying on with her needlework. Gradually the chair was moved further away and eventually Volodya would make do with the sign message to the effect that he should go to sleep while the teacher would sew or write at the table. Sometimes he would get up, go and look for the teacher who was peacefully working at the table and then after having made sure that he had not been left alone he would go back and get into his bed.

In an equally gradual fashion Volodya was taught to adapt to other aspects of the timetable: he began to eat at the appointed times, to wash regularly in the morning and evening, and to have an afternoon nap. To tell the truth, we hardly dared to hope at first that Vo-

lodya could be disciplined and taught to abide by a set timetable, for his behaviour was so disorderly and he reacted so violently whenever forbidden to do something. We discovered that it was easier to avoid the boy's tantrums than to calm him down if one had already got under way. We learned to distract him and turn his attention to another type of activity, as soon as we noticed even the faintest sign of an affective reaction that might lead up to a tantrum. Force was never used. Sometimes, without any apparent reason, Volodya refused to do something he had previously enjoyed doing. To continue insisting, or, worse still, attempt to make him do something by force could only produce fierce resentment and in the end nothing would be achieved. On such occasions we would leave him in peace and embark on the scheduled activity. Volodya was unable to remain alone for long and he would soon come up to 'see' what the teacher was doing and, finding she was quietly getting on with the work that he had turned his back on, join in.

In Volodya, as noted earlier, the need to imitate had taken firm root. He was only ready to do what other people were doing. When on one occasion Volodya discovered a newspaper in the hands of an adult, he picked up another newspaper, sat down beside him and for over half an hour held it in front of his face, checking from time to time whether his adult neighbour was still holding the newspaper in front of him.

If Volodya discovered that the adult sitting next to him had crossed one leg over the other, he was sure to do the same. He would refuse to wear slippers in his room, if he discovered that the adults around him were wearing shoes. He would only put on mittens if the adult accompanying him on his walk was wearing mittens. If he discovered that an adult had one of the buttons on his jacket undone he would undo a button in the same position on his own jacket. When visitors from outside came and stroked him on the head or patted him on the shoulder he always tried to respond with the same gesture, if he could reach the head or shoulder of the visitor. It was essential to work very carefully with this boy, avoiding superfluous or abrupt gestures, for he copied everything.

Work to perfect the self-care skills Volodya already possessed and to establish new ones was based on this urge of his to imitate. His teacher would carry out the necessary action herself, letting the boy inspect her actions, after which he attempted to carry out the same action independently; if it proved difficult for him to manage it on his own at first, the teacher would assist him.

He had been able to put his clothes and shoes on before he had come to the Institute but he did it in a rather slapdash manner. He was not good at tucking his shirt into his trousers, for instance, and he often omitted to turn down his upstanding collar, or at other times he would put something on inside-out. The boy's attention was directed to these oversights and the teacher, guiding the boy's hands, would put right the mistakes he had made in dressing himself. The boy would check, if there was an opportunity to do so, how the equivalent piece of clothing was worn by the adult and then he willingly made the necessary adjustments.

The boy used to dress and undress when he 'saw' that an adult was doing the same. When the teacher put on her coat, this was for Volodya the signal that it was time for him to put on his.

Initially we just could not make him tidy up the room, make his bed or put the bedspread over it. However, he enjoyed helping with joint activities for tidying up. He 'observed' how the teacher or an elder deaf-blind girl was doing it, then he would help her and try to carry out the same actions. Gradually, as the teacher's share in the common task was reduced, it was possible to teach the boy to engage independently in a number of operations involved in tidying-up. Volodya was taught to wash his face, hands, and feet independently, before he went to bed.

Several months after he had begun receiving instruction the boy's evening toilet proceeded in the following way. The teacher together with Volodya would get the bed ready for the night: they took off and folded the bedspread and then hung it over the rail at the back of Volodya's bed, then they unfolded his blanket and laid it out flat, put the pillow in the right position. Then Volodya on his own picked up a bowl, placed it near his small chair, picked up his towel used for drying hands and face from its set place and another one for his feet from another place, and his soap. By himself he then took off his clothes, except for his pants and vest, hung the garments he had taken off over the back of his chair, sat down on his chair near the bowl and held out his hands over it. The teacher would then pour warm water from a jug over the boy's hands. Volodya then washed his hands with soap, washed his face and his feet and then dried himself. After he had put on his slippers and hung up his towels again, he carried off the bowl of water to pour it away and got into bed.

In the morning at a given sign from his teacher Volodya would go over to the basin and wash his hands and face. Initially he was taught to brush his teeth without using powder or paste, but later he would do so using one of the two.

Volodya learnt quickly to lay the table, when it was time to get ready for meals, and then to clear the table after meals. Together with one of the girl-pupils he used to wash and dry the dishes: they used to take it in turns drying one day and washing the next.

Sometimes Volodya would refuse to wash or dry the dishes, then he would go up to the teacher and hand her the drying-up cloth or the sponge. At first we tried to make him complete the interrupted task. However, this resulted in frustration and one of his tantrums. If the teacher started quietly going about the task herself, then he would soon begin to help her.

In the fourth quarter of Volodya's first year at the school, he was washing and wiping dishes well and quickly and without any objections: he would dust the furniture and the toy furniture, too, he also enjoyed using the vacuum cleaner and washing small articles of his own clothing, and that of the dolls. He was able to dress and undress tidily on his own, taking his clothes off or putting them on in one and the same order each time, and hanging his clothes on the back of a chair. By the end of the year he had learnt how to wash his galoshes, clean his shoes and brush his clothes. He could tell the difference between his clothes brush and shoe brush by their smell.

Towards the end of this first year Volodya was so well disciplined that it was possible to start on regular exercises to develop his sense of touch and more intricate movements. He was taught to model in plasticine, to punch dots with a Braille machine, and to sort out in piles cards bearing various patterns in Braille dots.

Yet it was not possible at that time to awake Volodya's interest in moulding plasticine. He learnt how to break off a piece of plasticine, roll it into a ball, flatten it out or roll it into a sausage shape. However, he used to do this more to comply with the teacher's bidding than out of his own interest. He preferred working with paper, making – step by step with the teacher – little boats, envelopes, 'drinking cups', or flags. The boy learnt to cut shapes out from paper following a line of punched dots.

Special exercises were also embarked upon to further Volodya's motoric development. His day began with morning exercises. In the course of the day the child was drawn into various action games such as ball-games or hide-and-seek. Volodya was taught to jump, ride a tricycle and run. All these things he enjoyed doing, if he 'saw' that his teacher was doing them too.

When Volodya joined the school he had been completely incapable of 'inspecting' an object with his hands. He barely touched objects and quickly moved from one to another. His teachers taught Volodya

to handle objects systematically; they showed him the functions of these objects, drawing his attention to their main features, and to the details of each specific object. At first he would take his hands away or remain floppy and passive, indifferent to what his teacher was showing him by placing his hands on the objects. To overcome this passivity the new objects were introduced to the boy in such a way as to demonstrate their functions in an integrated pattern of action. It might have been discovered, for example, that one of the buttons on the boy's shirt was missing. The teacher together with her charge would feel over the place where the button should be, then go over to the bedside locker, find the box with sewing things, take out a needle and a reel of cotton, thread the needle, sew on the button, before the boy finally put on the shirt and did up the button. During this entire process all the objects required to carry it through would have been carefully felt over by the boy guided by the teacher. In such situations Volodya did not remain indifferent to what he was being shown. Gradually, as he was familiarised with objects and their functions linking on one from the other, Volodya learned to handle objects more carefully and systematically. When he was called upon to pick up the pieces of a broken toy chair, the boy was shown how to feel over the small fragments and fit together the tiny pins and grooves of the various pieces. The many days during which Volodya was instructed in how to assemble and take apart a wooden toy house consisting of several dozen parts constituted a whole 'course' in tactile perception for Volodya. Gradually, in the context of various types of activity, the boy's capacity for handling objects was fostered as was his curiosity to examine the objects around him.

Attempts were made to draw the boy's attention to the machine tool, with which one of the elder girl-pupils was working. At first Volodya was not keen to examine what was for him a new object. When persistent attempts were made to make the boy examine how the older girl was working with the machine tool, Volodya became resentful. Each day it was shown to Volodya that the older girl always worked with the machine-tool at set times. The teacher led Volodya over to the girl at work, and each time Volodya showed more interest in her work, starting to 'look over' parts of the machine-tool and the actions of the girl at work. At that time the girl was carrying out one of the operations involved in the manufacture of buckles. Soon Volodya was taught to help the girl, to hand her the components and then take from her and pack into a separate box the finished article. Later, in imitation of the girl, Volodya sat down at the machine-tool himself, and attempted to carry out the same operation on his own. At first the buckles Volodya made were not of an acceptable quality.

Volodya had been imitating the outward pattern of the actions of this girl who worked very quickly. But her speed went hand in hand with precise movements, and it was only the speed that Volodya had succeeded in copying. Volodya needed to slow down his pace if he was to achieve precision, and this he was quite simply not prepared to do, insisting on imitating the quick movements of the elder girl.

Later this boy mastered all the behavioural skills, as well as work operations, sign speech and word language.

Now let us take a look at some other methods used in organising behaviour, perfecting self-care skills and building up certain work elements. We shall draw on experience of work with a group of three deaf-blind boys: Valya P., Fanil S., and Vitya K.

First let us see how their skills in self-care were developed and what conditions each of them had been living in prior to his arrival at the home for the deaf-blind, and follow this up by a description of the work conducted with these children to organise their behaviour, to perfect their self-care skills and develop habits of carrying out everyday household tasks within the children's home.

*Valya P.* came to the home for the deaf-blind at the age of fourteen. He had been virtually deaf-blind from birth. For several years prior to his arrival at the home we had been carrying on a regular correspondence with the child's mother, who at home, guided by our advice, had trained her child in the skills necessary for him to be able to look after himself. She had also taught him signs and elementary dactylic words. On two occasions the boy had been brought to the Institute, where his mother had been given advice.

From his earliest childhood, as soon as Valya had learnt to walk (at the age of two) he had been led around everywhere by his mother, while she held him by the hand or let him keep hold of her dress.

The child was the 'witness' of all his mother's household tasks. After receiving advice from the staff at the Institute the mother devoted as much time and energy as possible to training Valya in self-care skills: she taught him to eat, dress and undress on his own. She used to take the little boy around with her everywhere. She kept guiding Valya's hands to perceive through touch what she herself was doing. In this way Valya was taught to handle objects, which his mother used in her housework and also to apprehend the movements she used.

At the age of eleven Valya was able to eat absolutely independently, to use fork, knife and spoon. He was able to cut bread with a knife. He used to wash himself with soap and began to use a

toothbrush. He used to dress and undress himself and even tie up his shoelaces.

Valya used to cling to his mother's dress, when she was making beds, when she was sweeping the floor, washing up or cooking. Valya's mother was continually showing the child the actions she carried out with various objects. Gradually the boy started to imitate her. Sometimes this imitation was purely external, purely mechanical and devoid of meaning, but on other occasions it would have a purpose to it. He might take a newspaper, letter or postcard out of the letter box and then sit down on a chair and spend a long time 'reading' it. One of his favourite occupations stemming from his urge to imitate those around him was 'looking through' old letters and postcards. He used to keep them in special boxes: he classified them in a strict order according to size. He also often sat down at the table, took out his telephone, 'listened' and made notes on pieces of paper. All this resulted from his frequent 'observation' of his mother – a telephone-operator – at work. Valya often used to take down a book from the shelf and hold it in front of his eyes for between ten and fifteen minutes, imitating what he knew adults did. Valya's mother used even to take him to the cinema and he enjoyed it and was prepared to sit still without a murmur of protest next to his mother for the duration of a film. Copying his mother he would stop in front of a mirror to straighten his hair, he 'wrote' letters, 'spoke' on the telephone and 'cooked' at the stove.

This firmly established urge to imitate made it possible to develop in Valya a considerable number of useful habits and self-care skills. The boy used to dress himself carefully. If he discovered a hole in his socks or a button missing on his shirt he would fetch the box containing needles and thread, then go over to his mother to have his needle threaded and finally sew on the button or sew up the hole on his own. Admittedly, he might well sew a black button onto a white shirt or vice versa but that was no real tragedy. The child learnt reliably to distinguish between the right and wrong side of his garments. After 'observing' how his mother made his bed, he began to help her, and later made his bed on his own while his mother made hers. Valya used to carry the floor mats out of the house, shake the dust out of them by the porch and then put them back. But he never mastered the art of sweeping. On the other hand, he enjoyed dusting chairs, the legs of the chests of drawers and the cupboard with a special duster. Although somewhat clumsily he did nevertheless learn to clean his own clothes: he would take a brush, his jacket and trousers and go out into the corridor (he knew that he was not allowed to clean clothes inside the bedroom). In preparation for dinner the boy used

to help his mother lay the table, put out the bread and crockery. After the meal he washed and dried up the dishes and put them away. He knew exactly where each thing in the house was kept – in fact at times he even helped adults find things. He liked everything to be well-ordered. Spoons, forks, knives, plates he used to arrange and put away according to their size and shape. If he came across some object in the house that was not in its proper place he would not rest until it had been put back.

His mother recounted an incident when she had been out for a walk with Valya picking flowers in the fields. She put the flowers in a vase after returning home. The next day she found on the table a vase containing a 'bouquet' of grass which Valya had gathered in an effort to imitate her action. After that Valya's mother taught him how to distinguish between grass and flowers.

When the boy was about twelve years old his family moved to a new flat. The new flat needed some remaking and because of this workmen used to turn up, to caulk the walls and paint the floorboards. Valya made a careful study of their work feeling over their tools and the results of their work. After the workmen had left Valya meticulously repeated all their work processes 'repainting' all the floors with a small brush (that he dipped in water). Valya worked at this for a long time and with utter seriousness, just as the workmen had done.

Not far from the house Valya's mother had laid out an allotment consisting of four small beds for the children to work in (by this time there was a second child in the family, a deaf and dumb girl with very weak sight who later also came to our special school). Here the children learnt to dig, to plant things and to inspect plants coming up. Valya enjoyed working in his allotment, in particular growing onions. He used to plant the onion bulbs, watch them shoot up, weed the beds. Things were more difficult with ordinary seeds, which put up shoots that were difficult to distinguish from weeds. On one occasion Valya's mother showed him how to weed carrots and then walked away to get on with something in the house: when she came back the carrots had been almost entirely uprooted while another, tougher, weed remained in the vegetable bed in place of the carrots.

In his familiar surroundings at home Valya walked about freely without even stretching out his hand in front of him. In an unfamiliar flat he used to bump into the furniture and walk about with his hand stuck out slightly in front of him: in the same way, holding out his hand a little in front of him, he would walk round his house some-



times moving away from it on his own to a distance of up to thirty yards.

*Fanil S.* also came to the home for deaf-blind children at the age of fourteen. Prior to this he had been living at home with his mother and father and a large number of brothers and sisters. He had lost his sight and hearing at the age of twenty months as a result of meningitis.

Fanil's main teachers had been his brothers and sisters. They had not made many allowances for his blindness and deafness. They had taken him everywhere with them and made him do whatever they were doing. In his early childhood Fanil had learnt to walk with a stick. His sisters, by helping their little brother, had taught him to dress and undress. His brothers, by playing with him and romping around, had even taught him to fight.

Fanil was aware that everyone around him was always busy doing something – the parents and the elder children would be working and the younger children playing. The children used to draw Fanil into their games but they were often harsh with him because he was unable to do what was required of him in the games. Indeed, he never really learnt to play at home, having developed a wariness towards play in general and players. (Later on this lack of well-established playing habits was to hold back the development of his imagination.)

Life was more peaceful for Fanil with older people – his elder brothers and sisters and parents: none of them teased him, they all used to show him what they were doing and let him feel the instrument or tool they were using so that he could understand its function. The boy loved to 'observe' and imitate the work of his elders. He learnt how to wield a small hammer. Of course, it used sometimes to land on his thumb. However, no one ever made a big fuss about that, and so Fanil, too, learnt to take the inevitable pain in his stride.

Nobody taught the boy how to communicate with people around him. Each person simply showed him how work had to be done and the boy, too, learnt to work. This meant that Fanil had hardly learnt to make any signs. When he was summoned to go anywhere he was simply pulled along in the necessary direction: when he was made to do anything, his hands were simply guided by other people to show him what had to be done. Gradually the ordering of the boy's life became established in such a way that he did not experience the need for any particular means of communication. In the morning he used to get up whenever he wanted to, got his food out for himself (he knew quite well where the various things were kept), had breakfast, and then went away to busy himself in his own little corner. Later he

had his dinner with the rest of the family, realising by smell when dinner was put out on the table. He knew perfectly well where everything in the house was kept and always with unerring accuracy found the objects he required. The father had set aside a special little shed for the boy to use and Fanil, if he wanted to, could lock it up. It was there that the boy kept all his tools and the things that he made. The shed was not very big so that if Fanil stretched out both his arms he could touch both walls. Everything was easily accessible. Everything was laid out in order. Nobody was allowed to go into that little shed without Fanil himself. In fact, the other little children were not allowed in there at all. The shed became Fanil's safe refuge. Its favourite tools and other possessions stopped disappearing without trace: the boy's surroundings became more stable.

The boy used to spend long hours sitting in the little shed and fashioning various articles of wood and metal, a skill he had learned from his elders. Fanil learnt to hammer in nails, even small ones; he could also use a saw, pliers and an axe. He used to make little toys for his baby brothers and sisters (little carts and benches) and other little articles for the house.

The boy also carried out other tasks about the house. He was taught to sort potatoes according to size. Since his sighted brothers and sisters had a whole host of other childish pursuits claiming their attention, this particular task they left almost entirely to him, only too happy to see he was getting on with it. He was also left by the other children to 'keep an eye on' the babe-in-arms, whom he was required to rock carefully in its cradle. Fanil even learnt to tell by the vibrations of the ropes holding the cradle when the baby woke up and started turning in the cradle. When this happened, he would lift the child out.

There were times when there was a great deal to be done and all the other children had already scattered in various directions. Fanil's mother would then get him to bring out potatoes and cabbage from the cellar, or to pick nettles and grass for the ducks and geese. The nettles would then have to be chopped and mixed with bran. The mother had little time for patching the numerous holes in the shirts and pants which the children brought along to her; matters were even worse with buttons – there were always some missing. Each child had to see to his things himself. Fanil learnt to sew on patches and buttons. Fanil's quick-thinking brothers used to put their own torn clothes on Fanil's pile. Fanil, of course, noticed that he was mending other people's clothes but carried out all the repairs thoroughly and meticulously.

This was how it came about, according to Fanil's father, that the boy was never without work. It never occurred to anyone that it was Fanil's salvation to be always kept busy.

*Vitya K.* was aged ten when he came to the home for the deaf-blind. He was completely blind, deaf and dumb, yet his parents had succeeded in teaching him to eat, dress, wash and use the toilet independently. He had learned these skills by copying adults. When he was taught more complex skills of self-care, this urge to imitate adults, already well established, was deliberately exploited.

The parents of this boy had been rather too hasty in their efforts to teach this boy, without consolidating properly the skills and behavioural patterns already established. *Vitya* himself, who was clearly lacking in stability, would quickly switch his attention from one thing to another, never prepared to stop for long at any one thing. When being taught behavioural skills, he often grasped only external details without understanding the heart of the matter. His imitations also hinged to a large extent on the external aspect of what he was trying to imitate. He would 'read' books, flipping through pages and holding the book out in front of him; he used to pronounce the sounds 'bee-bee', pretending to 'talk' and making simultaneous movements with his fingers as if for the alphabet. Whenever he encountered a new person he would teach him to 'read' and 'write', just as his parents had done for him. The parents' attempts to teach *Vitya* to speak using either the finger alphabet or oral words had failed and had been premature. As a result the small boy had, before his arrival, only mastered external forms of behaviour.

## **2. Time-Tabling and Orientation in Time**

Observance of a regular timetable is an extremely important factor in the care of a child from the day he is born. The first organ which gives a baby time signals is his stomach. As little as two or three weeks after birth, incorrect, disorganised feeding patterns can turn a baby into the family's despot. It becomes necessary to re-train him and arrange his day according to a strict timetable. Subsequent disruptions in a child's timetable can upset his established pattern of behaviour and the picture of his day-to-day activities that was gradually taking shape in his mind. And if the observance of a timetable is important for any child, with a deaf-blind child the establishment and strictest possible observance of a timetable (particularly in the initial stages of development) is vitally essential. Ordinary children can see that it is light in the day-time and dark at night, in the day-time they hear and see the actions of adults: all these factors provide them sig-

nals for apprehending time. For children the main time signals are their direct practical actions that proceed in a definite sequence.

The rearing of deaf-blind children, both very young ones, still unable to look after themselves, and those who came to us with the necessary self-care skills, began with initiating them in a regular timetable. *Timetables are a vital factor in developing a child's sense of time.* Thanks to them time ceases to be no more than a monotonous flow, in which certain events and actions performed by the child himself and by those around him occur in chaotic turmoil.

Deaf-blind children who came to us for tuition, differed one from another not only in their level of development and in the quantity and quality of behavioural skills they had acquired, but also in the temporal aspect of their behaviour: some of them excessively slow and sluggish, while others were excessively quick and lively. This was a result not only of the children's type of higher nervous activity, but also of the nature of the illness they had been through, which had, in almost every case, been a most serious one, resulting, as it had, in the loss of sight and hearing. Time flowed by in very different ways for the various children. The following paragraphs treat of the practical steps taken to give the deaf-blind children described in the preceding section a sense of time.

Vitya K. was a lively boy who used to do everything quickly. He ate quickly and grew indignant when he had to wait for his friends to finish their meals: he also dressed quickly and rather carelessly. He was always hurrying and wore himself out in no time. He found it difficult to keep going until the afternoon nap and often tried to lie down before the other children. On the other hand, he always got up after the nap before everybody else. He dressed quickly and then hurried to the toilet and was ready for tea while the rest of the children were still dressing. For him time flowed much too slowly, and he constantly got ahead of it.

Valya P., on the other hand, was too slow in his actions. He ate and dressed slowly. He was always behind the other children and thus annoying them. He was never able to complete actions in the allotted time and he could not keep up with the common timetable. With regard to this 'speed factor', Fanil S. came precisely halfway between his two fellow-pupils. He did not do things as fast as Vitya did (but then he carried out the day's tasks in a more thorough fashion), nor was he as slow as Valya. The boys were obliged to adapt to each other's time patterns. Vitya learnt to hold himself back and wait, while Valya learnt to do things more quickly. In this way the timetable taught the boys to modify, the speed of their behaviour.

The timetable teaches deaf-blind children not merely to measure time and form an idea of it in their minds but also to denote measures of time. Being already familiar, thanks to the timetable, with the sequence of their actions and the events of the day, the children are able not merely to conceive how much time will pass before some future event that is of interest to them, but also to transmit this idea to another person. For instance, they used to convey the concept of the time that would elapse before their next walk by depicting the sequence of actions which would be carried out before this particular event they were waiting for: they knew that first they would be working at the table, then resting in their beds, then having tea before eventually going outside. This depiction of a sequence of actions, used to denote time does not remain fixed. As the system of signs to convey ideas becomes more developed so this depiction undergoes certain modifications. First, it is abbreviated, becoming less detailed, then the range of forthcoming actions depicted is restricted to the most significant ones, or perhaps the ones which are only possible during the denoted interval and which are not repeated. For example, the idea of a walk will gradually come to be conveyed by, no more than a depiction of the actual act of making steps.

It goes without saying that when children are being taught to live according to a set timetable it is essential that events should follow one upon the other in a strictly established order. Only then can these children come to know properly, what events to expect when. When children had not yet been taught language involving words, the teacher conveyed to them through signs what they would be doing in the course of the day. If any change was necessitated in the ordering of their day, this would be 'discussed' by means of signs in advance. The children grew used to their timetable and learnt easily what to expect at each time of day. Later they learnt to count days that had passed and to denote them with a sign for a night's sleep (by placing their two palms under their inclined cheek). The number of times this sign was repeated indicated the number of nights. If it was necessary to convey to them that three days remained before their forthcoming outing to the wood, the children would be shown by means of the above sign that they would be going to the wood after three nights' sleep (by a sequence of three identical gestures). Once the children had developed this concrete sense of time thanks to their regular timetable it was not difficult to build up on this foundation their knowledge of time units and ability to count them with the help of wrist-watches. The children who had already learnt work skills and were being paid for their work used to purchase watches with raised numbers and lids that opened up in a special shop for the blind. First

of all they were taught to observe the position of the hands at their various meal-times and at bed-time and then they were taught to grasp an abstract measure of time such as an hour. It proved expedient to start them off with watches that only had one hand to show the hours. Once they had properly grasped this unit of time the quarter hours then followed and then minutes (at which stage the minute hand was added). Later with the help of a special calendar, the appropriate leaf of which was turned over at the end of each day, the children learnt to denote days, weeks, months and years.

Seasonal changes in the weather provide natural pointers to the time of year: as they dress according to the demands of the weather, deaf-blind children notice the sequence of the seasons. Other important pointers to the time of year are public holidays and the children's own birthdays. Public holidays are celebrated for these children in such a way as to ensure they bring enjoyment to each child. Of course, the meaning of these red-letter days is at first beyond the children's understanding. They come to appreciate it later, when they have mastered words and can be told about the meaning behind each public holiday. However, it is very important that by that time the children should have gathered enough personal experience of participation in the festivities, so that there will be certain memories associated with them. Accounts of the meaning behind a public holiday, will then be superimposed on a foundation of practical experience. At the end of these boys' first year at the home the following incident occurred. On their return from a walk one day the boys noticed excitement among the children. Something was going on. They then proceeded to 'inspect' the banner, the pupils lined up next to it and making the pioneers' salute and so on. It was a special Young Pioneers' parade (pupils brought to us from a school for the deaf after suffering severe deterioration in their sight were celebrating Young Pioneers' Day). Fanil and Vitya after quickly taking note of all the preparations for this celebration and obtaining the necessary permission, went away to wash and change and soon reappeared in their best clothes, smartly turned out and with well combed hair, complete with clean handkerchiefs in their breast pockets. They were allowed to feel over the paraphernalia connected with the Pioneers' celebration and they were allowed to witness the attendant ceremonies. They investigated the banner, the bugle, the drum, the Pioneers' ties, etc. The important thing about this incident was that the boys themselves had taken the initiative: they had noticed preparations for a celebration and of their own accord had gone to change. This showed that at a level accessible to them the concept of a celebration had already taken shape and that they looked upon a public holiday as something

special, a happy, day, during which they needed to be turned out especially smartly in their best clothes and behave with solemn dignity. Later, as these children came to take an increasingly active part in such celebrations, and were then told about them first in signs and later in words, their idea of what a holiday meant was consolidated and became broader and more profound. Their subsequent grasp of the calendar enabled them to appreciate when one or another holiday would fall. After they had come to grasp the language of words and consequently the significance of the holidays, their celebration became one of the methods for conveying to the pupils knowledge of the history of their country, an understanding of certain aspects of social relations and for fostering their sense of patriotism.

In conclusion let it be said in this connection that even actions shared between an adult and a deaf-blind child give the latter the chance to find his bearings in time to some extent. The child comes to form a concept of the action that is to take place imminently. As the child becomes more independent, so the future he can envisage extends. Each action performed constitutes a signal for the one that follows, which, prior to its execution, already existed in the child's mind.

Time-tabling, together with essential stability in the world of objects forming the child's immediate environment, constitute one of the most important means for giving a deaf-blind child immediate knowledge of the ordering of the external world. He comes to grasp the stable pattern of day and night, the ordered pattern of events in time and their duration. An invaluable tool for time analysis is the pattern of events in the child's day-to-day existence (sleep, waking, eating, dressing, undressing, walks, washing, etc.). If no strict timetable is observed it is impossible for a deaf-blind child to find its bearings in time. For him a timetable lends time human significance.

A fixed and repeated sequence of actions carried out by the child during the day makes it possible for him to envisage the day as an integrated whole: he knows not only what has been, but can envisage also what will be. A well-ordered day makes it possible for a deaf-blind child to denote stretches of time by indicating the events which are due to take place during a given period. Direct participation in the events of the day, week, month and year helps the child to understand and transmit to others these periods of time – at first by depicting the events themselves and later through signs indicating units of time.

### 3. Orientation in Space and Perception of Objects

First steps to promote spatial orientation in deaf-blind children and to help apprehend objects are made when they are instructed in the skills of self-care and their behavioural patterns evolve in the process of satisfaction of their primary needs. The mere fact that a child is sleeping in a bed, covered by a blanket and has his head on a pillow means that he has encountered all these objects in practice. Practical experience has taught him that the metal head of his bed is hard, that the pillow is soft and that the blanket is warm. When he uses his pot and learns to get it out from under his bed, when he stands on his bedside rug, searches out and puts on his slippers, a child is coming to terms with the space around his bed. Gradually, the sphere of his practical activities extends from the bedside corner to embrace the whole room and later takes in the corridor, the whole floor, the building and the yard outside. At the same time as this range grows, so also does his ability to orient himself in space.

It was pointed out earlier that for a deaf-blind child it is quite essential that his environment should be a stable, unchanging one. In order to find his way about in his room, in the building he lives in, in the garden outside he must have precise knowledge of the arrangement of all the objects to be found in the place concerned and must be able to recognise them quickly and unerringly. Thus the first step for his instruction in orientation is to acquaint him with the objects around him or on his route. The child's hands should be guided to make a thorough investigation of these objects. The children can learn to recognise them after touching them with their feet or a stick. In the child's mind there grows up a whole system of signals indicating a particular object. He can tell how near he is to the gate, for instance, by changes in the surface of the path that leads there: he can tell that he is approaching the wall or porch of his home because of a slight upwards slope in the asphalt path just before the wall is reached. At the moment we are working on and soon hope to start using a special signalling system which will enable a deaf-blind child to ascertain where he is and choose the direction in which he needs to go. It will include, first and foremost, special asphalt paths raised a fraction in the centre and sloping away at the sides. As he walks down such a path the child will know which side of the path he is walking along thanks to the barely perceptible slope. Where one path crosses another the surface will be slightly different, and the deaf-blind child will be able to feel this with his feet with no difficulty. In addition, it has proved expedient to use a system of radio beacons. Special beeps are already being used in the home: the network consists of a central control panel, a number of check points set up in various parts of the



main building and garden and small receivers which certain of the pupils carry around in their pockets. Attached to each receiver is a vibrator in the form of a special bracelet worn around the child's wrist. When the bracelet is felt to vibrate the pupil goes over to the nearest check point and using Braille code can engage in conversation with whoever has summoned him from the central control. In the future other radio beacons are to be set up, which will show the child the direction he needs to take, wherever he might happen to be in the home or its grounds. The signals involved will also be transmitted via vibration. It has been noted that scent signals also help deaf-blind children to find their way around and plans are underway for setting up a network of scent signals as well.

Unfortunately, instruments which are now being devised in various parts of the world in an effort to make it easier for blind people to find their way around (various types of mechanical and electronic devices which signal via either sounds or vibrations to warn of obstacles in the path of the mobile blind man) are not achieving their goal. Far from helping a blind person find his way around outdoors, they actually make this more difficult for him since they distract his attention from the job in hand. While many blind people make their way along city streets with a mere stick, none of them would dare go out in the street relying on an ultrasonic device. So far no one has devised anything superior to the stick to enable a blind man to find his way about. This does not of course mean that work to devise instruments to help the sightless should be dropped. These instruments are already useful in a scientific context: they facilitate calculation of the heights of buildings, of tree shapes and make it easier to plot the line of the horizon. When we are trying to devise ways of signalling to the blind that obstacles lie in their path, it is essential to bear in mind the distinctive psychological features of blind people. A man robbed of his sight finds his way about mainly by means of sound analysis; his hearing is strained to the utmost, and to add to its load the analysis of sound signals emitted by the instrument merely hinders him in finding his way about. The deaf-blind person analyses his surroundings with recourse to the following: his face that is exposed to the movement of air, any powerful vibrations in the air, and changes in temperature, his feet which are especially sensitive to vibrations in the soil, his hands which with the help of a stick can warn of objects on the path ahead and imminent unevenness in that path, while finally, smells provide signals for specific objects and settings.

A deaf-blind child, however, must be deliberately taught to analyse the objects that make up the world around him, in the ways listed above. This instruction begins in particular with the establishment of

images for the objects which make up the child's immediate environment, and it is only later that an optimal signalling system will be devised.

Many of the deaf-blind children who came to our home, were unable, on arrival, to take a step unaided not just in the garden but in the room as well. Left on their own, without an adult, deaf-blind children felt isolated in a terrible sea of uncertainty and began to cry. For this reason it is important right from the start to fill the void around such children with objects that create a stable familiar world for them. Out in the yard the children were systematically and thoroughly familiarised with all the objects they might encounter there: the buildings, trees, little paths, fences, etc. They were taught to use a stick to help them find their way about. Vitya K., when he found himself alone out in the yard, began to shout loudly and kept throwing down his stick. However, in the company of his teacher he gradually learnt to feel out the path in front of him with his stick and became familiar with the arrangement of the objects along the path. Soon all the teacher needed to do was to walk along behind Vitya, reassuring him with no more than a light touch on the shoulder, while Vitya would be walking in front finding his way with the help of a stick. Having the teacher near him gave the boy confidence and soon, knowing that the adult was nearby and could come to his rescue whenever necessary, Vitya began to walk around the yard independently – at first with a stick and later even without one. Indeed, he soon embarked most eagerly on the task of teaching his less mobile class-mate Valya P. to walk about the yard independently using a stick. An important stimulus for these children, as they learnt to find their way about, were special games during which they pushed various prams in front of them. The children learnt from experience that if they came across an obstacle the first thing to knock into it would be the pram, not they themselves. Riding tricycles was also a useful activity in this respect.

Let us now take a more detailed look at questions of signalling as it affects the deaf-blind child's perception.

In psychology and psychophysiology the receptor concept of perception was for a long time predominant. In psychological papers the following interpretation of sensations and perception was elaborated: if some isolated quality such as colour, roughness or warmth makes an impact on a human sense organ, then the reflection of this quality in the mind is a sensation; if a whole complex of such qualities makes an impact, then this is perception. This view of the phenomenon reduces the role of the perceiving subject to that of a passive observer. His real activity in the process of perception was ignored in the analysis. It was held that he perceives, but does not act.

Recently a different view of perception has gained wide popularity: it is presented as a complex interaction between the perceiving subject and the object of perception. The process of perception has come to be regarded as active investigation of an object aimed at establishing an image of the object that will provide a guide to action.

In many writings on the subject of perception that have been published over the last decade active operations on the part of the perceiver have been singled out and analysed separately: these include the discovery of the object, the singling out in it of informative features, comparison, relegation to a specific category, the proposition and verification of various hypotheses.

These and other investigations have widened our idea of the actual nature of the perception process, and made more feasible its modelling and development of automatic learning devices.

Yet there are still many questions connected with the problem of perception that remain unsolved. In psychological literature at the present time there is not even any generally accepted definition for the concept 'perception'. Certain investigators have refused outright to provide any kind of definition for perception. F. H. George for example writes that it is very difficult to phrase a precise definition of the concept 'perception' and at the same time he suggests that 'to perceive' means something more than 'to sense' and something less than 'to know'.<sup>9</sup> Later on in his exposition of this subject he reduces perception to processes of recognition: 'Perception is assumed to be essentially the same as the process of recognition which is simply the classification of objects, events, etc.' (*ibid.*, p 475).

Many other authors, in contradiction to George's views, see the central issue here to be the initial formation of a new image, and not recognition at all. Recognition, as they see it, is another problem altogether and needs to be approached as something quite separate from perception. In practice, however, each actual perception incorporates both elements: both the correlation of what has been perceived with previous experience and the supplementing of that experience with new elements. In the processes of perception there exist complex dialectical relations between the old (former experience) and the new (the formation of the image of a new object). The image of the new object is always to some extent moulded by the influence of previous experience that makes itself felt in the form of psychological disposition, while at the same time the image of the new object (or new elements in the image of the object as formerly perceived) supplement,

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<sup>9</sup> F H George, "The Brain as a Computer," New York 1961, p 388.

enrich and modify the images existing in previous experience; given sufficient novelty they will even restructure that previous experience, rearranging its elements in accordance with new data. The influence of past experience, accumulated in the numerous images of objects of the environment, upon actual perception finds expression, for example, in the signalling pattern of perception.

The idea of the signalling pattern of perception put forward by Ivan Pavlov, was later elaborated in numerous studies by Soviet psychologists.

The problem of perception as applied to a deaf-blind child has a relevance not only to methods for helping him to perceive objects despite his lost sight and hearing, but also to the psychology of perception in general, for the perception processes of deaf-blind children are slowed down, the separate stages of those processes are more distinct and lend themselves to observation more easily than ordinarily.

The first elements of orientative-investigatory activity in deaf-blind children appear in the process of satisfaction of their primary needs for food, sleep and excretion. When engaged in such forms of activity as feeding, dressing and undressing the child cannot but acquaint himself with a large number of objects essential for carrying out these activities. He forms images of objects such as spoons, forks, plates, various garments and shoes. The images of these objects are quite essential for a child in order for him to eat, dress and undress independently. These images help him to orient himself. Without them success in these basic activities would be impossible for the child.

However, this is not yet independent orientation, and the images do not take shape in the process of purposeful familiarisation with this or that object, but while the child is carrying out practical forms of activity that ensue during meals, dressing and undressing, etc.

Orientative-investigatory activity which emerges as a component of these day-to-day routines becomes ever further detached from these routines, until it is no longer strictly subordinate to practical needs but develops increasing independence giving rise to an independent (secondary and 'superstructural' perhaps, but nevertheless independent) need for knowledge of the objects in the surrounding world.

This orientative-investigatory need may in itself stimulate various types of activity directed towards cognitive goals. Naturally, even at later stages of a child's development no final break does or indeed should occur between orientative-investigatory and practical activities.

The final selection and consolidation of emergent images takes place within the framework of concrete practical activity that is of some 'benefit' to the human body, although by this stage such 'benefit' must be understood in a much wider sense and not confined merely to eating, sleeping and excretion.

When a teacher acquaints a deaf-blind pupil with some new object, he endeavours to channel the child's orientative-investigatory activity so that he may form an integrated image of the object, complete with all the properties and designations inherent in the given situation. The existence of such an image in the child's mind is indeed an essential condition for his correct orientation in concrete forms of practical activity. However, the life of a deaf-blind child is not an uninterrupted series of encounters with more and more new objects. On the contrary, his everyday life (like that of any other human being) takes place within an environment consisting of more or less familiar objects, which either in their specific form of the moment or in certain variants have been encountered by him in the past. When a child perceives one and the same (or slightly modified) object on a subsequent occasion he will not feel it over as thoroughly as he did the first time, it will suffice for him to inspect merely some part of the object, some detail, for the whole integrated image to be reestablished. Actual perception that takes place in the life and learning activities of a child does not involve the formation of a new image of the object each time, but rather the actualisation of the image which already springs to mind when a mere part of the object is perceived. At the same time the existing image of an object can be supplemented by new elements, that had not been perceived or noticed earlier or which had perhaps been forgotten.

When objects are being perceived not for the first time orientative-investigatory activity follows a special pattern. Specific elements are isolated which do not necessarily play an essential part in the actual formation of the object's image, but perform a special signalling function; they actualise the traces of the orientative-investigatory activity which had taken place when the object was first perceived. Thus the perception process acquires the nature of a signal: what is actually perceived serves as a signal for images formed previously. The signalling pattern of perception indeed lies at the very basis of human perception, which consists in the actualisation of images of objects that were formed in the past.

Various stimuli encountered by the child in the course of his orientative-investigatory activity can fulfil the role of signal. A deaf-blind child will easily distinguish a locker from all other objects in the room through leaning back against the corner of a locker or perhaps touch-

ing its door with his hand. In the two cases the nature of the actual stimuli is different, yet both serve to actualise one and the same image. Obviously, one image can and indeed usually is signalled not by one but by a whole series of diverse signals.

These signals may either differ little one from another, or may bear little resemblance to one another. As a child develops so the range of signals extends, departing further and further from the initial orientative-investigatory activity.

The main and almost only way in which a deaf-blind child can form images of objects is by means of tactile and motor analysis. Almost the whole of a deaf-blind person's image world is formed through the activity of his hands. Other analysers, in particular over a distance (through vibrations or smell), play hardly any part in the formation of object images. However, when a child acquaints himself with an object by touch, distance stimuli also have a part to play, becoming linked with the image of one or another object. For this reason awareness of smell and vibration can play a significant part in the signalling of images formed as a result of tactile or motor analysers, extending as they do a deaf-blind person's orientative opportunities. It is thanks precisely to the deaf-blind child's capacity for distance analysis that the world is not empty for him, when he is not directly engaged in feeling over things around him, but at each moment filled with objects that he has discovered earlier and that are now being signalled to him through these distance receptors.

One and the same object can thus successfully be signalled by various stimuli, the impact of each of them serving to actualise the object image previously formed. This means that the image does not depend on the nature of the signal: there is room for a certain variability of stimuli, which, despite differences in conditions of perception, constitute signals for one and the same object.

This variability of signalisation is also a most important factor with regard to the image. Thanks to this variability of signalisation, which in all cases actualises one and the same image, there is a constant core to man's perception of the objects in the world around him. If our perception were not independent of the constantly changing signal reception, then the deaf-blind child would be unable to perceive the world around him as something constant and tangible. The scope of this variability of signals depends upon the nature of cognition of a particular object, upon its significance in the child's life and upon the diversity of its uses. The broader the functions of an object and the more diverse its practical significance, the greater the variability for the signalisation of its image. This means that the de-

gree of constancy in the perception of various objects varies. The constancy is greater in the perception of everyday objects frequently in use and less with objects that are rarely used.

Independent of the nature of the signalling stimulus, the image also possesses relative independence of the mode of the reception via which it was formed. We all know that after feeling over a simple object with his eyes closed, a person can then draw that object; after visual perception of an object, he can also reproduce it on paper. In both cases the image of the object is relatively independent of the mode of reception. Similar independence is also found in deaf-blind children. After feeling over an object with his right or left hand, or with his lips and tongue (which possess a higher degree of tactile sensitivity) or with his foot, a deaf-blind child can model the object equally successfully. It follows therefore that in this case as well, the nature of the image is independent of the mode of cognitive reception. Of course, this independence does not in any way testify to any extra-receptory nature of the image; it can be explained by the relationships that have grown up between the various modes of reception. In a person possessing various modes of reception, one of these modes plays a leading role in the formation of images. In the case of a sighted adult it is visual reception that is held to be the dominant mode. After receiving tactile or motoric stimuli, man's brain transposes these into the equivalent of visual reception. This means that even when a sighted man perceives an object via touch it is still a visual image that forms in his mind. The world of objects is great, and the world of images is equally great: depending upon the various conditions and requirements of practical activity, some images are retained as traces of one mode of reception and others as traces of another. It is not isolated instances that we are concerned with here, but a general trend in the relationship between various analysers in forming images of objects from the external world.

In the case of the deaf-blind the dominant receptor organ is the hand. Tactile and motoric reception when an object is felt over by foot or mouth is 'recoded' into tactile-motoric reception via the hand. This transposition of perception into the dominant mode of reception lies, it would seem, at the basis of the image's independence of the mode of reception.

However, this independence is only relative. It is well known that when a blind person who has never seen before suddenly gains sight after an operation, he is quite unable to find his bearings in the world around him relying on visual reception. He cannot recognise visually a single one of the objects familiar to him by touch. Such a person needs to acquaint himself with objects all over again.

Children who lost their sight and hearing at an early age are liable to lose the wealth of immediate images that they had accumulated hitherto, to lose their power of speech, and their ability to walk, etc. They are unable to correlate the stimuli they receive after losing sight and hearing with the visual images they had before. These images that are not being reinforced and actualised by reception are liable to fade away, never to be brought to life again.

In the practical work of rearing and teaching such children it is essential to start out from the possibility that all visual images possessed previously have been lost and new ones need to be established on the basis of a different dominant mode of reception. This principle makes clear Sokolyansky's seemingly paradoxical idea to the effect that deaf-blindness from early infancy is to be preferred to deaf-blindness that sets in at a later stage.

When deaf-blindness strikes later (but before a child has learnt to read and write) it becomes necessary to overcome the residue of the previous modes of reception, which are now no longer useful and which are obstructing new forms of orientation when a child is taught to rely on a new mode of reception.

All this indicates how relative is independence of the image of the mode of reception. Loss of the dominant mode of reception at an early age can lead to a fading-away of images: in these cases new stimuli do not actualise images established earlier, they do not provide signals for them. As we have seen, the variability of signals for an image is not infinite, it also depends on the dominant mode of reception. Consequently, the nature of an image, far from being indifferent to the mode of its formation, depends directly on the nature of the dominant reception. When the dominant mode of reception is lost, then there ensues a radical change in the nature of the individual's orientative-investigatory activity of which the image is a product.

Newly created images possess only one thing in common with the previous ones, which they have supplanted. This is their correspondence to the objects they reflect. However, this correspondence is achieved in the two cases through quite different nerve mechanisms, and through quite different systems of temporal associations. In children who have lost sight and hearing images are formed on the new basis of tactile and motoric system of nerve connections, and a new system of signals for these images is established.

All this goes to demonstrate that *the problem of signalling is not merely a most important factor to be considered in teaching deaf-blind children orientation skills, but is also an essential link in the shaping of perception of objects by a deaf-blind child.* The teacher's fundamental task is to help a deaf-blind



child to establish a system of perception of those stimuli (both natural ones and those artificially created to this end) which will constitute signals for objects from the external environment known and understood earlier.

#### **4. Training Skills of Day-to-Day Behaviour**

The mastering of even the most basic self-care skills serves to render a deaf-blind more human. It is quite wrong to assume, as in the past, that the most important objective to aspire after when fostering human characteristics in the deaf-blind is the acquisition of speech. While some teachers did succeed in 'teaching' or rather 'training' (circus-style) their pupils to utter certain isolated phrases, these deaf-blind pupils still remained severely mentally retarded, quite helpless to lead their own lives and essentially bereft of human consciousness.

The situation is quite different with deaf-blind children who have mastered self-care skills and habits of day-to-day behaviour. For them the environment is not empty and devoid of objects, but filled with things that have meaning, which they are able to use correctly, and which are correctly reflected in their consciousness. The behaviour of these children is purposeful and sensible. Despite their complete lack of any speech, their behaviour is that of a normal human character, as are their mental and emotional reactions.

However, the development of these initial self-care skills and the basic elements of human behaviour constitutes only the first step in the humanisation of a deaf-blind child. In their subsequent development, as means of communication are established first through signs and later through word-speech, it is necessary to perfect these early skills, extend them to a considerable degree and correlate them in integrated systems constituting a general behavioural pattern.

Deaf-blind children who came to our home and who had been taught some skills of self-care would put them into practice in a slapdash, careless and awkward way. Many of the children for instance had ugly eating habits: they would stuff large pieces of food into their mouths, and swallow without chewing properly. In such cases the teacher sitting next to the child would show him how he ought to eat, using himself as a model: he would bite off small pieces of food (letting the child feel the size) and then chew them carefully, while the child, holding his hand against the teacher's cheek and neck, would be aware of his chewing movements. After this demonstration and instruction, if the child was not eating properly, it sufficed for the teacher to touch his chin for him to remember what he had been

taught and start trying to eat properly. Of course, the old habit of eating in a greedy and unattractive way would only be surmounted gradually, and the child would have to be shown many times how to eat properly and be reminded of this each time he forgot. At home our charge had for the most part only been taught to use a spoon for eating with; their parents had been afraid to give them knives and forks. It did not prove unduly difficult to teach them to use these other eating implements as well. Pupils were taught to spread butter on their bread. Fanil S., once he had learnt to do this, used to check with his fingers if the whole of his bread was covered with butter. When it was made clear to him that he should not touch the butter with his fingers, he started feeling the bread over with his lips. Eventually, however, he learnt to spread the butter and inspect the spreading with his knife. Hardly any of the children had been taught at home to put away the dishes after a meal, indeed, they did not even know how to lay a table. During their turns as monitor the children learnt to do this as well putting on the table the necessary number of plates, spoons, forks, etc.

Few of the children had had the habit of regularly brushing their teeth, washing their feet before going to bed, turning down their bed for the night or making their bed after getting up in the morning. Hardly any of them were used to thanking adults and their fellow-pupils for any assistance given them, for food, to greeting people or saying good-bye.

Promotion of these skills and habits essential to polite behaviour is an extremely hard and time-consuming process. These habits sometimes only become established after one and the same actions have been repeated many times. Some children had not been brought up to differentiate between their own and other people's belongings. They had not acquired a sense of property. They might well put on the first garment they happened to come across, take a coat out of someone else's locker or hang their own coat up in a wrong locker. It is as important to teach these children that their personal possessions are something that belongs to them, as it is later to hold in check any exaggerated sense of property. Fanil S. joined us with just such an extreme sense of property. He loved to play with building toys, and gradually the parts of almost all the building sets in the home found their way to Fanil's desk. Eventually he, too, was taught to share what he had with his friends.

It was not easy to teach these children to take thought for the morrow. Like little Rita L. who, after gulping in food from her spoon, considered the spoon was now unnecessary and threw it down, so older children, after playing with sledges, tricycles and prams in the

yard, would throw them down never thinking that they might be needed another time. It took a lot of demonstrations and examples to develop in them an ability to foresee the near future.

Work to perfect self-care skills was carried out in Fanil's group, as indeed in the others, in accordance with a firmly established routine. The children's day was arranged as follows: in the morning the teacher would come in and 'tell' each little boy in turn, that he should get up. They would get up, make their beds, go to the lavatory, then do their morning exercises in the gym room, or outside in warm weather. After their exercises they would take off their vests and in just pants make their way to the bathroom with their wash things. There they would wash down to the waist, brush their teeth, dry themselves with towels and then return to their dormitory, clear away the soap, tooth powder and brush into their bedside lockers, hang up their towels, put on their school uniform and eventually make their way to the dining room for breakfast. One of the boys (dining-room monitor that day) would serve out the food and after the meal take the plates and cutlery away to be washed, and then, at a given signal, the pupils would get up from the table and go to classrooms for their lessons. At a sign from their teacher the pupils would collect together the equipment they needed for their lessons, and after the lessons they would clear up everything; then came a walk in the fresh air. And so it went on throughout the day: the end of one task provided a signal for the next one to get under way.

The occasional deviations from an iron routine that were required by life itself, ensured that the pupils' newly fostered skills were flexible, and that their behaviour was not excessively stereotyped. Admittedly, we were sometimes required to provide special motivation for the transfer of some action or other developed in connection with one form of activity to the context of another. Fanil, for instance, after learning to wash his hands before meals, refused to wash them before classes. He gave a consistent and from his point of view logical explanation that he was not going to eat and therefore there was no need for him to wash his hands at that particular moment. Signs were used to make clear to him that during the lessons he would touch the face and hands of the teacher with his own hands and it would not be nice for her if his hands were dirty. This explanation appeared to satisfy the boy and before lessons (initially with a reminder and later without) he always used to wash his hands.

As work was carried on to perfect these children's skills in self-care and develop their behavioural habits, their needs developed and new ones emerged.

One of the boys came to us dirty and with inordinately long nails: at home he had not let his family wash him properly or cut his nails and he did not feel any need to keep his body clean. At first it was difficult to wash this child, cut his finger- or toe-nails, and brush his teeth. Not only, did he not take any active part in these tasks but resisted when others were working to make him look 'respectable'. However, there is no doubt that he did experience pleasure when he was eventually washed and dressed in clean clothes: this could be seen from the expression on his face. Gradually he was taught the habit of cleanliness. In the space of a few months he had become one of the cleanest and tidiest of all our pupils. He had come to feel the need to keep himself clean all the time. Every day he used to have a strip-wash, brush his teeth with the utmost care and washed his feet and socks without reminders. On one occasion the following incident was noticed: on the way back from the bathroom after washing his feet, he tripped over the carpet in a way that made one of his slippers come off and so the foot that he had just washed touched the carpet, at which the boy went back to the bathroom, washed his foot again and only then put back the slipper. He had become very fastidious with regard to dirt, although earlier dirt had just been something he did not notice.

As the skills in self-care were perfected, the children's independence grew from strength to strength.

The children learnt to pick out their own particular belongings in the communal locker. Fanil used smell as a guide, while Valya and Vitya went by the name-tapes inside them. After taking off their outdoor clothes the children did not hang them up in the locker without making sure they were clean first. A few months after coming to the home the children did not need to be reminded that they had to wash their hands before meals, wash thoroughly on getting up and at bedtime and to wash their feet as well in the evening. On bath-days the boys would go off and fetch clean bed linen without being told and then proceed to make their beds with it. The monitor would then take away the dirty sheets to the laundry room. Pupils also learned to cut their nails, make sure their shoes and clothes were clean, keep their work corners tidy, and could now iron their trousers, vests, pants, handkerchiefs and socks. Shirts proved too much for them, however, for as they ironed one part, another would get crumpled.

The pupils were shown how they should tidy up their rooms. They were taught to work together as a team for this task – at first together with adults and later on their own. They would dust the table, the lockers, the bedheads and the windows. They were taught to look after the flowers in their rooms, watering them and dusting the

leaves with a damp cloth. It became a habit with them to tidy away their toys, and keep in order the locker with equipment for their learning tasks. They were taught to do all these things through direct experience; the teacher would take the child's hands in her own and use them to carry out the necessary actions or teach the child to imitate her by guiding the hands of the child to inspect what she was doing. When a child was being taught via imitation, special need was paid to see that the child grasped not merely the external features of the action but also its result. Children used to imitate not only each other and their teachers but also adults, encounters with whom were not part of their regular learning programme. One summer, for instance, new asphalt was being laid in the yard. The children made a detailed inspection of all the equipment and materials brought along and found a little patch at the side of the yard which they then proceeded to 'surface'; they fenced it off with boards, sprinkled sand over it and then rolled it with a round stick.

In the early spring (this time as part of their learning programme) the pupils prepared planting boxes, filled them with earth and planted onions which they would then water regularly and 'observe' the shoots coming up and growing. Out in the garden they were taught to tend plants, sweep paths and tidy away rubbish. As they carried out all these various tasks, the children acquired a more profound knowledge of the objects around them and their functions.

As they were being taught behavioural skills, particularly those connected with work to keep the communal household running, one of the most effective motivational factors was assessment of their work by fellow-pupils. One little girl was very slapdash in the way she carried out her monitorial tasks in the classroom. Several times she was made to tidy up the classroom thoroughly with her teacher.

With the teacher's supervision the girl carried out this task well and efficiently, which meant that she had learnt how to do this. However, when she thought she was not being watched she would carry out the same tasks very negligently. (On the whole, such cases are most rare. On the contrary, deaf-blind pupils are often characterised by excessive zeal in their performance of monitorial duties. Conflict sometimes arose when someone wanted to be monitor ahead of his or her turn. But this little girl, before she came to us, had heed brought up in extremely unfavourable conditions.) In addition to class monitors there was another monitor responsible for each floor as a whole. These monitors were chosen on a rota basis from among the pupils in the senior classes. One of their duties was to check and assess the work carried out by the class monitors. The little girl who had not carried out her monitorial duties in the classroom properly

was summoned by one of the floor monitors to be reprimanded. In fact, an article on her negligence was included in the regular school news bulletin that the children compiled and hung up in the home. Eventually, the little girl learnt to carry out her monitorial duties conscientiously.

As they learn skills of self-care and the habits of human behaviour and as their orientation improves, deaf-blind children form images of the objects around them. The images of these objects gradually fall into place in specific systems, each one centred round an integrated practical activity. Once a child has been taught to keep to a regular timetable and trained in self-care skills and orientation in time and space, then it is possible to organise cognitive activities on a thematic basis. Learning now becomes an independent activity. Objects under investigation and their images in the context of this activity are integrated into different systems. Topics such as: 'Dining room', 'Crockery', 'Food', 'Clothes', 'Footwear', 'Winter', etc. are studied according to this principle.

Here again it proved expedient to arrange cognitive activities so that objects were encountered in the context of their function and designation in the course of practical activities carried out with them by the pupils. Practical actions followed one upon another in such a way that together they constituted an integrated pattern of activity. When pupils were studying the topic 'Vegetables', for instance, they took part in bringing in the harvest from the school vegetable garden, then carried the vegetables into the kitchen, where they washed, peeled and chopped them, before eventually putting them into the saucepan and observing how borsch was cooked or preparing a salad, both of which dishes they subsequently ate. In this way the objects the children familiarised themselves with were brought together within an integrated pattern of shared activity and at the same time the images of these objects which were taking shape in the children's minds did so not in a haphazard disjointed way but also as components of an integrated system.

## **Chapter IV**

### **The Role of Work Training in Developing the Mind**

#### **1. Running the Communal Household**

A significant factor in the mental development of deaf-blind children is labour possessing social significance, aimed not merely at

looking after himself but useful for his fellow-pupils in the home as well. It is in the context of such labour that the child's first awareness of communal work involving the division of its constituent operations evolves: I am looking after not merely myself but others as well, and they in their turn will do things for me. Such work is often carried out by a group and this group work promotes children's ability to coordinate their activity with a common task. Individual work is then assessed with regard to its significance for the shared task. In this way the first seeds of a child's awareness of himself as a member of a group are sown.

Fanil S. who knew how to use a hammer and nails used to make boxes not only for himself but for the whole group as well. The boys used to keep the equipment and aids they needed for their lessons in these boxes. Vitya K. and Valya P. learnt to help him in this work. They used to repair broken furniture not only for themselves, but for others as well.

In the sewing room and carpentry workshop the children also learnt to repair and make things not only for themselves but also for other pupils. In the sewing room the children learnt to darn stockings, sew on buttons and iron. Vitya, an over-exuberant, fidgety boy, found it difficult to master these skills. Valya, for his part, had difficulties in mastering these skills on account of his coordination problems. Fanil, though, learnt to carry out all these tasks with no particular difficulties. He began to master a hand sewing-machine. He learnt to wind thread on to the bobbin and place it into the bobbin-case. Soon he was able to hem handkerchiefs. Six months after he came to the home Fanil started learning his way around the carpentry shop. Some of the relevant work skills he had learnt while still at home. He found no particular difficulty in learning how to plane planks and saw wood using either a hacksaw or regular saw. During the first month of his woodwork lessons Fanil made a feeding-tray for birds, a seed-box, and repaired a table and a chair. He learnt how to use sandpaper to polish finished articles, although that was something he had not been familiar with previously.

By the end of his first year at our school Vitya also started work in the carpentry shop. He learnt to assemble simple wooden articles, such as rakes, from their components. He learnt to use a saw: using a shape to saw round he learnt how to saw circles of plywood that were used for the bases of baskets.

Deaf-blind pupils were also taught to participate in various types of group work. They used to tidy up the garden, clear the snow in winter, break up the ice in the yard, dig over the allotment in spring,

water the flower beds, and tend the animals which were kept in special outhouses at the back of the school.

The types of work carried out by the pupils varied considerably: some were easy and others were more difficult. Some tasks the pupils enjoyed carrying out and others were less popular: certain tasks they were reluctant to carry out at all. This gave rise to a certain amount of conflict as can be seen from the more detailed account of the participation in common tasks of the group consisting of the pupils Vitya K., Volodya T. and Tolya Ch. The pupils Vitya K. and Volodya T. were mentioned earlier. Tolya Ch. joined their group in the home at a somewhat later date.

Vitya, Volodya and Tolya adopted very different attitudes to the various types of work. Vitya, a very lively boy, a real 'Jack-in-the-box' always rushing everywhere, loved work that involved swift movements. He was really happy brandishing a spade or a small crow-bar and breaking up ice, then sweeping up the pieces in a heap and carting them away in a wheelbarrow almost at a run. Volodya showed great interest in the animals, and enjoyed gathering grass to feed to the rabbits; then he would rest his hand on their backs for long periods to feel how they ate. Tolya, a more phlegmatic and slow-moving boy, only enjoyed those types of manual labour which he could carry out sitting in one and the same place. What he disliked most of all was tending the animals. Once, when it was his turn to look after the rabbits, he refused to feed them altogether.

By this time the boys should have learnt how to subordinate their wishes to fair requirements of the community. This necessity had been pressed on them through being placed in specially created situations, in which they had to carry out a particular task and renounce a more enjoyable occupation. More often than not the children comply as soon as it is successfully conveyed to them that duties have to be carried out, come what may. If a pupil refuses to carry out some necessary task he meets with censure on the part of his group. On this occasion Tolya chose to ignore his fellow-pupils when they explained to him that it was his turn to feed the rabbits. Nor was he willing to carry out this work at the insistence of his teacher and pointed to Volodya to indicate that he could just as well feed the rabbits. The boy thus persisted in his refusal to carry out the task entrusted to him, trying instead to have the duty transferred to another member of his group. No progress was made even when he was shown that the rabbits would be hungry, and indeed might die if not fed. Nothing would move him at this stage and it was then decided to leave Tolya alone. For a whole hour he sat on his own while the other children were



working, and each of the other two boys walked up to him from time to time to convey his disapproval.

This enforced inactivity and isolation at a time when his fellow-pupils were working and their disapproval had such a strong effect on Tolya that after that incident he never again refused to carry out any tasks when his turn came round.

This group of boys got through a considerable amount of work in preparation for the May Day holiday. After a conversation about the May Day holiday with their teacher, it was decided that it would be a good idea for them all, with her guidance, to spring-clean and smarten up their classroom. The walls and door had to be washed, the windows cleaned, the equipment for lessons, desks, tables and chairs all had to be dusted, the lockers put in order and the floors polished. The task was a considerable one. It was explained to the children that one person on his own would be unable to carry out this work; for instance, that one person would not be able to move a locker out from the wall in order that the wall behind might be washed, the back of the locker dusted and the floor swept and polished. It was essential that they all work together, and then the task would be completed more quickly and more easily. The pupils appreciated this and together with their teacher they divided out the various operations involved and worked with great enthusiasm, first at one task then at another. The teacher helped them, providing guidance and suggestions as to how they might go about their work. After the work was finished the children 'inspected' the results of their labours, asking other pupils from rooms further down the corridor to come and admire what they had accomplished. They were proud of how clean and well-ordered their classroom had become.

It is on the basis of this and other types of practical work that the children came to know the satisfaction to be gleaned from shared



*Learning to take care of  
pets*

*Feeding fish*

work and accomplishment and to understand the need to carry out various duties as they worked towards shared goals. They perceived the meaning of the division of labour and also the overall results of work consisting of a number of constituent tasks.

## 2. Productive Labour

When they reach the age of sixteen those deaf-blind pupils who have acquired the necessary physical and mental ability are first introduced to a specific trade. In a children's home work connected with a trade (just as earlier types of work, such as self-care, running the communal household, manual labour or practical lessons in the workshops) also serves educational ends. Usually, when work in a special school is being analysed, attention is paid to its significance in polishing speech, developing motor skills, perception and memory, stimulating imagination and promoting thought processes. All this is true, but there is much more to it. One might even say that this view of the significance of work omits its most important function for the development of the pupil. Teaching a child work skills and involving him in practical useful work is the only way to develop a fully-rounded personality. It is precisely in the context of work that man's awareness of himself within the system of human relationships takes shape, and it is through work that man acquires the ability to assess himself via the attitudes shown to him by others. Again it is in work that man's vital, essentially human characteristics take shape. While from a historical point of view man can be said to have created himself, to have made of himself a man as he created forms of labour, when it comes to the process of ontogenetic development, every person, as it were, creates himself anew each time, as he masters forms of labour activity. It is also important that through labour and his personal participation in labour man reaches a correct understanding of social relations and then, through the prism of those relations, arrives at a more profound and correct understanding of the world of things rendered human by labour.

Certain mental attainments which have been latent in the young child as he gradually learnt to keep to a strictly defined timetable, such as the planning of his own activity and of its results, achieve a qualitatively new stage of development in labour, which would be impossible without a preliminary understanding of the specific results of the labour activity in question.

Experience in teaching work skills to deaf-blind children has shown that they can master successfully not only work methods involving tools of manual labour (such as a hammer, screw-driver, pliers, fret-saw, pincers and plane) but also those requiring various types

of mechanical equipment fitted with special protective devices making them safe for the sightless. Pupils completely lacking even residual hearing or sight learnt how to use independently a circular saw equipped with a simple safety device designed by their instructor. Pupils with residual sight (0.03) carried out good work on a drilling lathe; they could even change drills for holes of varying diameters. Deaf-blind children without any sight or hearing learnt to work independently with sewing-machines, and to make sheets or simple garments such as nightdresses, pants, swimming trunks. Girls with residual sight (0.03) were taught by their needlework teacher to cut out material and make outer garments.

The school at Zagorsk got in touch with the local trade-school factory run by the All-Russia Association for the Blind which let us have special equipment and raw materials for the production of safety-pins. Almost all pupils of sixteen and over are enrolled as workers at this factory, after receiving special instruction at the home for working with all types of machine-tools used for making safety-pins, and receive wages. Their participation in productive labour is of tremendous importance to these pupils: it enables them to overcome their sense of inferiority, helplessness and futility. The pupils then know that like everyone else they are taking part in social labour. The money they earn they spend on watches, typewriters with both ordinary and raised letters, which they used at home during the holidays, and garments that have taken their fancy. Some pupils help their family by meeting their railway fare when they undertake long journeys home for the holidays.

Fanil S., for instance, mastered all the operations involved in the production of safety-pins and started working on a systematic basis by the beginning of his fourth year in school. The finished pins were weighed and sent to the factory. Twice a month Fanil used to go with his teacher to the factory to be given his wages. On receiving these, the two of them would go shopping and buy something that Fanil needed or that had simply taken his fancy. The money that was left over Fanil then deposited in his savings bank account. Fanil knew that he was being paid money for his work and he also grasped what money was for. The fact that he was earning money was a source of pride to him. In the middle of his fourth year at the school his father arrived to take his son home for the winter holidays. Prior to that Fanil's father had not seen the boy for over a year because he had been ill. When he saw his son after this long period of separation, he was thunderstruck by the change that had taken place in him, right from the first moment of their meeting when Fanil greeted him with

the words: 'Hallo, Papa' (by then he had been taught to pronounce individual words and simple sentences).

After sharing out with the other boys in his group the sweets and other presents that his father had brought, Fanil then took his father by the hand and led him upstairs. Without hurrying and making sure that his father was watching, Fanil then proceeded to show him all the operations involved in his work with all three machine-tools. Fanil made a present to his father of the pin that he had made in his presence and fastened it to his jacket. After making sure that his father had understood everything, Fanil then led him downstairs again to the room which he shared with Vitya and Valya. After pulling back the sleeve of his jacket Fanil then lifted to his father's face his wrist complete with watch, pressed the button which raised the lid of the watch and then with careful movements of his index finger felt the hands and conveyed to his father with gestures what time it was. With other signs he made it clear to his father that he himself was working and being paid wages and had with these been able to buy the watch. He then took some fur gloves out of his bedside locker and then conveyed to his father that he had bought them himself. Then Fanil set off with his father, his teacher and two other pupils (for them it was another object lesson) to the savings bank where he took out a hundred roubles. Fanil counted the money himself and then handed it to his father with the words: 'Railway fare'. At this his father was overcome with emotion and wept. When they returned to the home, Fanil packed his suitcase, placing in it first of all Braille paper, his writing things, a Braille pencil, a reading book with raised letters and then took his leave of everyone in turn: he said 'Good-bye, I'm going home' in words to his teacher and via finger-spelling to his fellow-pupils. When already out in the yard Fanil remembered there was something he had not packed and he went back to his room: it turned out that he had forgotten to take his tooth-brush, tooth-powder and soap, which he then put in his case. Vitya and Valya went with him to the station (this for them, too, was also an object lesson) where they saw him off. While at home during the holidays Fanil was also busy – he helped his parents with the household chores, but also found time to read, write up his diary and write letters to his teachers.

The pupils enrolled as employees of the pin factory used to work at the lathes for an average of two hours a day (not counting Sundays). Work sessions in the needle-work room and carpentry shop occupied between two and five hours of their weekly learning programme, depending upon current educational objectives and the pupils' physical capacities. Learning through work, mastering certain manual skills, and the skills for working with mechanical devices and

various tools was organised in such a way that the end product of work sessions were objects of practical value. This can be illustrated by a list of tasks carried out by various pupils in work sessions during one of the terms of the school year.

*Tolya Ch.* and *Alik K.* made two toy chairs for the toddlers group. With the help of their instructor they repaired a child's chair, made a feeding-tray for birds and a box to take a library card-index and started preparing materials for a specially adapted version of table billiards. While working on these articles, the children had learnt to operate a vertical electric drill and to saw planks into thin strips of wood using an electrical circular saw (equipped of course with a safety device).

*Mikhail N.* had completed a toy house for the toddlers that could be taken to pieces and put together again. He, too, had learnt how to operate a vertical drilling tool.

*Misha F.* had learnt how to saw objects out of plywood. Using models to saw round he made hen, dog and cock shapes that would serve as learning aids for the younger children.

*Vladislav T.*, *Vladlen R.* and *Sasha Ch.* put together a set of shelves for the school store-room, made a work-table for the pupils engaged in manufacturing pins, and learnt to saw planks into thin strips of wood using a circular saw, to mark off and hollow out holes in a bar of wood and to use a drill.

*Alexei B.* and *Seryozha B.* repaired a chair, bedside locker and coat cupboard for the younger children, learning in the process how to use a screw-driver and gimlet.

*Vasya U.* made a swing for the younger children with the help of his instructor. He learnt to plane down wood, but he did not succeed during that term in learning how to cut out shapes from plywood using a saw.

*Yura L.* and *Sergei S.* made a model of a large rocket (about six feet high) complete with portholes and seats inside for the cosmonauts, etc.

Special excursions were organised for the children to woodwork-ing shops so that they could learn how adult craftsmen worked with wood and what they were making.

In the carpentry shop the children made teaching aids under the supervision of their instructor. These included a play-shop and a model town complete with streets and a square, vehicles and people. Using a saw, other pupils made plywood shapes of many animals and everyday articles needed in the household or the classroom, and they

also made many three-dimensional figures. Vasya U., Alexander S., and Boris G., worked for six months on a relief map of the Soviet Union. Sergei S. and Yura L. made Saulova's teaching machine, introducing certain improvements in the design.



*Girls in the sewing workshop*



*Boys also learn needlework*

In the sewing room the girls used to work for between two and eight hours a week, depending upon their educational programme, age and health. The girls used to make articles of underwear and garments for themselves, pupils from other groups and dolls. The following list serves to illustrate the nature of the work carried out during needlework lessons by girls possessing skills of various levels during a six-month period.

*Tanya S., Inna A., Yana K., Zana S.* learnt to sew seams by hand and after mastering this operation they started making underclothes for dolls: pants, vests, dresses and aprons. In the space of twenty-two hours of lesson-time Tanya managed to make a dress, and an apron for a doll, while Inna during the same period made a vest and pants for a doll, and Zana a blouse. Yana's optician had stipulated that she should not use her residual sight during needlework lessons and so she was being taught to sew relying on her sense of touch. For the

time being she was only joining together straight pieces of material with hand-sewn seams.



*All pupils are taught to operate machine tools used for making safety pins*



*A special device protects deaf-blind pupils working in the carpentry shop*

*Galya R.* and *Mara L.* were working together and in the course of six months made a blouse and jacket for one of the younger children and a pair of long pants. *Olya Sh.* made a suspender belt and five pairs of pants. *Lida A.* learnt to make pants and blouses. She was able to make pants completely on her own but required demonstrations from her instructor when it came to making blouses.

*Natasha K.* learnt during this period to cut out and sew a summer pinafore dress and a blouse to go with it. These two articles and a swimsuit she completed in 58 hours of lesson-time. *Valya B.* learnt how to cut out and sew summer dresses for little girls from the toddlers group and long pants for the boys. She made two excellent dresses and three pairs of pants in the space of 45 hours of lesson-time. *Nadya K.* learnt to cut out and sew a summer blouse and a dress made of silk. It took her 45 hours of lesson-time to complete the two articles. *Tamara B.* was only able to cut out garments with the help of her teacher, but she learnt to make night dresses of complicated design and dresses too.

*Julia V.* and *Natalia Sh.* were given professional training in needlework. In the course of six months they learnt to cut out and make

up woollen dresses for the younger girls, children's aprons, children's sun hats and night dresses.



*Only senior pupils are taught to operate a drilling machine*



*Senior pupils repaired furniture for the little ones*

Because the need arose for curtains to hang in front of shelves and at the windows, and long pants for the boys, the initial plan for the term was somewhat modified. Julia V. made seven children's dresses, nine curtains and three pairs of long pants in the space of 87 hours of lesson-time. Natalia Sh. made ten pairs of pants and a swimsuit in the space of 66 hours of lesson-time.

When a deaf-blind child takes part in a process involving the division of labour and specialises in the execution of some one operation (one pupil at his machine-tool bends the pin, a second makes the pin head, while a third joins the head and the main part of the pin together), he can no longer associate his one isolated work operation with the overall result of the work process. To overcome this contradiction between the increasingly specialised work operation and the final product of the collective labour the pupil is encouraged to study the whole series of operations involved in the production process.



The deaf-blind pupil is taught to master, one by one, all the component work operations and thus comes to understand the role of each operation in the overall production process. This reduces the labour productivity somewhat, but at the same time it safeguards against work degenerating into a monotonously, repetitive, hardly comprehensible and mechanical activity.

For educational purposes it is expedient to change from time to time the types of work that deaf-blind pupils are engaged in. Many pupils reach such a high level of mental development, that they are capable of learning almost any type of work operation carried out at the local factory of the All-Russia Association of the Blind.

When a deaf-blind pupil is being taught to carry out increasingly 'adult' types of work, there arises a contradiction between the nature of his activity, and its relationship to his needs. While work activity at the stage when the child is acquiring skills in self-care is bound up with the satisfaction of his elementary needs, once children start participating in work pertaining to the communal household, this link is no longer so obvious. Further, when a pupil is involved in division of labour, the link between his concrete activity and his physical needs becomes more and more indirect and eventually comes to be represented with such measure of work as money. An understanding of money as a measure of work and an awareness of the connection between work and the possibility of satisfying needs with the help of money is an essential condition for the practical cognition of existing social relations.

The increasing gulf between work on the one hand and physical needs on the other is overcome as the pupil masters increasingly advanced forms of labour and he develops needs of a higher order (social needs apprehended by the individual). These needs form a superstructure over physical ones and come to prevail over the latter. It is thus that man's need to work for the benefit of society takes shape.

## **Chapter V**

### **Some Forms of Sensory Training and Motoric development**

#### **1. Modelling and Building**

In the instruction of blind and deaf children of preschool age considerable importance is attached to moulding and exercises with various bricks, sorting pyramids and other such objects made of

wood and plastic. Deaf children with the help of drawings, and blind children with reference to models or simply according to the dictates of free choice learn to put together various structures from wood and plastic parts. It is rightly held that exercises of this type promote a child's sensorimotor development. However, the problem of sensorimotor development is far less straightforward than it might appear at first glance.

At the beginning of this century, the Italian teacher Maria Montessori elaborated a whole system of methods to promote sensorimotor development in mentally retarded children. Later the principles underlying this system were applied to the development of normal children as well. From the very first she based her ideas on the incorrect proposition to the effect that a child's development takes place spontaneously and is not something that adults should interfere in by foisting upon a child their skills, abilities and principles. In her opinion, children should teach themselves. According to her theories, a child's development consists in the development of his sense organs, and his activity. She evolved a whole system of aids for promoting children's sensorimotor development. A major weakness of this system is that a child is offered artificially devised aids instead of acquainting himself with the objects of the real outside world and gaining life experience.

The Montessori system, erroneous in its essential principles and rightly rejected by Soviet psychologists, is in particularly glaring conflict with the theory and practice of the rearing and instruction of deaf-blind children, which, more than the theory and practice of the instruction of any other group of children, shows that there is no spontaneous child development independent of the influence of other people, but that on the contrary all child development consists in the assimilation of human experience in which adults play a decisive part. It would be futile and useless with deaf-blind children to start out by offering them a set of Montessori aids: they would have no meaning for them.

Human mentality emerges and develops in a deaf-blind child as he masters skills of self-care and patterns of human behaviour (that possess vital practical significance for him), during which activity the child discovers the objects in his immediate environment and comes to appreciate their functions.

The development of a child's sense organs and of his movements proceeds in the context of this practical activity. It is only at specific, more advanced stages of his development that it becomes possible

and necessary to embark on special exercises designed to develop a deaf-blind child's movements and his residual senses.



*A modelling lesson*

*A senior pupils  
modelling a Japa-  
nese pagoda*

This possibility arises when, in addition to the child's activities with a practical objective, orientative and investigatory activities take shape, together with corresponding learning needs. When organising a child's sensorimotor training, it is important to remember that a child's primary and dominant activity is that of a practical nature, while his sensori-motor training must be subordinated to the objectives of his basic, fundamental activity. Such forms of activity as modelling and building exercises, which by their very nature are designed to promote a child's sensorimotor development, can and must be organised in such a way that they promote the child's discovery and knowledge of objects and help him to form generalised images which reflect the phenomena of real life correctly and in depth. For this reason we attach great importance to modelling work in the teaching of the deaf-blind. In our study of deaf-blind children and work to educate them modelling activities can have important implications at a variety of levels. Not only do modelling exercises develop intricate movements of a deaf-blind child's hands and fingers, which are so important for him, because for him his hands are an organ of discovery, perception and communication all rolled into one, but modelling is also tremendously important in developing the child's cognitive activity and in providing an outlet through which he can express his thoughts and feelings.

Children at our home for the deaf-blind begin instruction in modelling as soon as they are capable of embarking on the task. Naturally, until a child's elementary self-care skills have taken root, until the first signs of curiosity with regard to his environment have appeared and he has been taught to imitate adults, he will resist at-

tempts to teach him modelling. But as his orientative and investigatory skills develop within the framework of his day-to-day practical activity and begin to constitute independent activity, and once a child has been taught to imitate the actions of adults, then it is possible to teach him modelling.

Instruction in modelling starts out from copying the objects surrounding the child and familiar to him from his own experience. At first the child's hands merely 'observe' the teacher's, as the latter goes about modelling a familiar object. Later the teacher guiding the child's hands will model the same object from plasticine that has been prepared and made pliable in advance. The pupil is made aware of the correlation between the modelled object and the real object to which it corresponds. The child needs to understand that the modelled object is a copy of the real one. To this end it is expedient to start by modelling small household objects such as cups, spoons, saucers, doll's furniture (provided the child has by then been taught how to play). Gradually the child himself will master the art of kneading plasticine (first small pieces), rolling it out, pulling it into strips, pressing it down flat, etc. Modelling objects from plasticine usually appeals to the child insofar as the finished products of the activity are reduced copies of real objects. Children compare the modelled figure with the real object and derive genuine pleasure from this. Lessons in modelling begin with the 'inspection' of some elementary object, which the child later models. Usually in the early stages the child's inspection of an object is superficial, and as soon as he recognises the object he stops feeling it over. Yet when he actually begins to model the object, then it emerges at once that his knowledge of it is inadequate. The need then arises for the child to 'inspect' the object again. This discovery in itself makes it essential for the child to familiarise himself with the object more carefully and systematically, and the more detailed inspection facilitates the crystallisation of an image that corresponds more closely to the actual object.

At one of the next stages in modelling lessons the child is set the task of modelling an object which he perceived on an earlier occasion but does not have in front of him. At first the gaps in time between the perception of an object and the task of modelling it were short. A child would 'inspect' a cupboard in one room, for instance, and then on arriving in another be asked to model the cupboard. Later the interval would be extended: the child would model things he had perceived the day before, and later even things which he had 'seen' while at home for the holidays.

Modelling relying on memory revealed the nature of the child's conceptions and sometimes provided an opportunity for correcting

inaccurate conceptions. One of the pupils, for instance, while modelling trees, gave them all a 'chopped-off' look, not knowing from her own experience that tree-trunks become smaller in diameter nearer the top until at the very top they resemble nothing so much as a tiny twig. The teacher made amendments to the little girl's model, thus giving her a more accurate conception of a tree. Another pupil, when modelling a lamp-post, robbed it of all proportion, making it short and fat, for he had not 'observed' a post in its full height. After his model had been modified as necessary he gained a more correct image of the object he was attempting to depict.

Modelling serves not only to add precision to the immediate images of objects, but also give rise to elements of designation.

When modelling this or that object, in particular when doing so from memory, a child will not make an exact copy, of a specific concrete thing but will omit certain details and emphasise others. This means that he will not be producing an exact copy of a unique object but a generalised image. This generalised representation of objects in modelling is extremely important for the advance of a child's cognitive activity because, together with the use of signs for speaking, it prepares the child to understand the function of designation.

Modelling, which provides expression for the child's thoughts and emotions, constitutes, together with the child's gestures, his own particular language, through which the deaf-blind child can tell us in vivid and detailed terms about himself and his vision of the external world. Sometimes modelling was also used to achieve understanding between pupil and teacher. There were occasions when a teacher could not understand what a pupil was asking him and it was suggested to the pupil that he should model the object he had in mind and in this way it became clear what he was 'talking' about. Modelled objects can be grouped together more easily than real ones in the course of practical activity. It would then be easier to bring together not merely, cabbage and saucepan in which the cabbage is cooked but also cabbage and carrots, and saucepans and plates. At this stage the pupils did not as yet have at their command generalising words for the designation of these objects but the mere association and bringing them together provided the essential precondition for the subsequent mastering of generalising words.

At a later stage generalisation and stylisation in modelling paved the way for its gradual elevation to an art form. Pupils who had manifested their wish to work at their modelling on a more serious, profound level were now taught to perceive and model what they had

perceived, to attempt to express a general idea through their modelling of a concrete image.

Pupils were also taught to work with construction kits. They learnt to assemble tables, chairs and machines from their various components. This work served to develop their movements and sensitivity of touch. Copying objects around them as they constructed such items helped them to understand the object world, and, like modelling, represented a definite step on the path to designating these objects.

The models the children constructed were not exact copies of real objects, they were simpler, more rudimentary. It was not one specific table that the children would construct but a 'table in general' without any of the details of any concrete table. All these were important steps preparing the way, for grasping such systems of designation as signs and words.

## 2. Developing Movement

All deaf-blind children who come to our home have some motoric impairments or deficiencies.

These impairments may be the result of damage to the nervous system (they might be classified as primary deficiencies), such as partial paralysis, paresis, hyperkinesia. To this group can also be added excessive motoric liveliness or inhibition.

As a result of earlier affection of the inner ear some of the deaf-blind children have lost in part their sense of balance, with subsequent impairment of their walking and other locomotory functions. Other problems connected with movement cannot be attributed to organic injury. These are secondary and result from the way of life peculiar to the deaf-blind child. If such a child is not specially taught various movements, he is not himself in a position to master them, since he is denied the opportunity of perceiving them in the first place. None of the deaf-blind children who came to us, for example, knew how to run, jump, or throw a ball properly, to name but some of the physical skills they lacked.

Serious inhibition with regard to movement found in deaf-blind children results from their fear of knocking into objects or other people.

Since they are denied the chance to watch or listen to gestures or facial expressions in people they interact with, deaf-blind children are not in a position to develop expressive movement.

Locomotory defects in deaf-blind children can be corrected, to a certain degree, through their instruction in the skills of self-care and

in patterns of everyday behaviour, in the execution of household and learning tasks, and, finally, in the skills of a trade. However, this is not enough when it is the question of motoric deficiency.

As pointed out earlier, work with paper or modelling in plasticine are most important for the development of finger movements.

In order to develop the children's mastery of movement, activities involving special aids are used: they are taught to assemble and take apart towers consisting of various wooden discs. They are taught to roll balls along, push along little carts, toy cars or dolls' prams, they are taught to ride on tricycles. P.T. lessons are provided for all pupils.

Apart from their regular morning exercises the children are taught special exercises at P.T. lessons. These lessons are held in the gym. The levels of motoric development reached by the children vary considerably, and for this reason exercises are selected for them on an individual basis. Some are instituted for general use, however: the pupils are taught how to walk correctly following a straight line; they are taught to step over obstacles (such as a beam, a cube, or a rope stretched taut above the floor), and to walk along in a group one behind the other holding on to one and the same rope. They are discouraged from holding their head down all the time and taught to walk without shuffling their feet.

Part of each P.T. lesson was set aside for an action game, when children would be taught to pass a ball from hand to hand, to roll balls along the floor, and to throw a ball at a target, etc. In order to overcome constraint in these children's movements and to promote more naturalness, it proved vital to take into account the specific features of their situation which go unnoticed in ordinary life. Let us examine them in more detail.

Naturalness of movement depends on a number of factors. It is noticeable how the structure of certain movements varies in sighted people, on the one hand, and deaf-blind ones, on the other. For instance, let us consider the situation when a sighted person sitting at a table has to stand up from his chair and walk over to someone who enters the room. From among the various aspects of this movement let us consider the correlation between movements of head and trunk. A person who can see and hear first turns his head in the relevant direction and then gets up and moves over in that direction.

On the way to his goal he may have to avoid certain objects that might stand in his path and usually it is the movements of his head in this situation that lead the way and provide the signal for movements of his trunk.



*Swinging is a lark!*



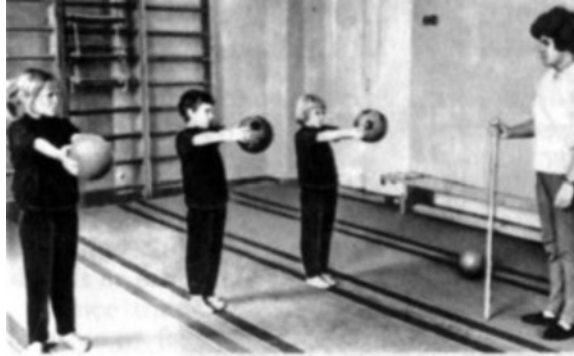
*A lesson of physical training.*

The head 'leads' the trunk in its wake. In other instances the head of the person walking might be held in such a way that the face is turned towards the goal all the time and then the movements of the head can be seen to execute the dominant function in the overall structure of the movement.

In a deaf-blind person, on the other hand, the correlation between movements of the head and trunk are quite different. Head and trunk are turned simultaneously, which creates an impression of awkwardness. Such movements are to be found in sighted people only when they have stiff necks.

In order to achieve naturalness and coordination in movements of head and trunk special exercises are essential for the deaf-blind. Nor is a natural-looking gait something that evolves spontaneously in their case. When a deaf-blind person takes his first steps in an unfamiliar setting he stretches out his hands in front of him and takes small steps; he holds his legs wide apart and his trunk swings from side to side making his walk resemble a waddle.



*Exercises with a ball*

If a deaf-blind person is led around a fairly spacious room or area, in which all objects remain strictly in the same place, several times and following one and the same route, then his walk becomes more rapid, he stops stretching out his hands in front of him and his strides lengthen. Special demonstrations also help him to stop swaying his body to and fro as he walks.

Work to correct a waddling gait and to render certain types of movement more natural can be effected in two ways: first, it is essential to ensure that the arrangement of the child's immediate environment remain uniform, each object having a strictly fixed place and the space available for the movements involved be relatively generous, and, secondly, special instruction needs to be provided.

A person's exterior is given an additional dimension through his facial expressions and gestures. The apparent naturalness of changing facial expressions and expressive movements of face and body have evolved and taken root throughout the course of human history. A person's facial expressions and the way he holds his body serve to convey attentiveness, joy, anger and so on and so forth.

A normal child, through his imitation of people around him, assimilates all this expressive aspect of behaviour imperceptibly for them and himself. Indeed, these expressions and gestures constitute a whole language of their own. Facial expressions in the deaf-blind, and even the blind, are often vacant by comparison and do not always correspond to the actual situation and an individual's mood and feelings. When joy is experienced, all that may be manifest is a vague twisting of the face; at moments of displeasure a lopsided smile may cross such a face. To promote adequate expressiveness in body-gesture and facial movements in the deaf-blind, special instruction involving special methods is required.

By feeling over the face of his teacher or any, other adult he might encounter and 'observing' how the latter smiles, or frowns (in

such a way as appears to correlate with the current situation as interpreted by the child) he learns to smile, laugh, frown, etc. in a natural way. Similar methods need to be used when working to promote expressive hand movements or body stance in these children when they are sitting or standing.

# Part Three

## Learning Programmes for the Deaf-blind.

### Composition of Classes

The rearing and teaching of the deaf-blind is carried out in accordance with special guidelines and learning programmes elaborated at the Institute for Research into Physical and Mental Handicaps, and the work is divided into two stages for a pre-school and school period.

In the academic year of 1969-1970 special working groups for pupils over sixteen were set up. The pupils in these groups were to complete training in a specific trade suited to their particular mental and physical capacities.

In the home for deaf-blind children there is also a group of pupils following the syllabus stipulated for classes 5-10 in ordinary schools (i.e. for normal pupils aged between 12 and 17). In accordance with the findings of a teacher's committee and on recommendation from the relevant research unit at the Institute and with special permission from the RSFSR Ministry for Social Maintenance (under whose jurisdiction the Zagorsk home falls) some of them are allowed to stay on at the home after the age of eighteen for a further period during which they can complete their secondary education and be prepared for university entrance.

Then there is a third group of pupils at the home consisting of deaf-blind children suffering from severe mental retardation, who taken on so that educability of children with multiple handicaps might be assessed.

### Chapter I

#### The Content of Pre-School Education and Individual Variations in Development

The pre-school stage in the education of deaf-blind children is aimed at teaching children habits of personal hygiene, self-care skills, the art of speech through mime and gesture and certain elements of verbal language in the form of individual dactylic words.

The length of this stage of instruction depends upon the child's level of development at the time when he comes to the home and the nature of the disease which robbed him of his sight, hearing and speech. Children who have been given essential basic training in their homes (some in accordance with recommendations from members of staff at the Institute) are able to start their course of instruction at the school, rather than the pre-school stage, or to complete the pre-school programme within a year or two; the other children who have not been given this basic training by their families, whose training has been neglected and who suffer from additional handicaps as well (such as motor handicaps, general physical weakness, etc.) may take four or even five years to complete the pre-school programme.

The teaching of deaf-blind children is embarked upon at the earliest possible age. In accordance with the 'Regulations for a Home for Deaf-blind Children' issued on June 14, 1968, children can be enrolled at the home any time from the age of three onwards. However, with a special dispensation, one child even came to us at the age of two. The earlier a deaf-blind child's instruction begins the greater results in his development can be achieved. When a teaching programme is drawn up for such a child, teachers need to start out not from his age but from the level of his development: if a seven or even a ten-year-old child has not reached the required level of mental and general development, his learning activities still have to follow the same programme as that of children as young as three or four.

Towards the end of the preparatory stage of education a child has to be trained to follow a timetable, possess skills of self-care and orientation in space, to be able to speak using sign language and certain elements of verbal speech (finger-spelling, to play, model from plasticine and construct simple objects found in his environment from the components of a construction kit, master skills necessary for engaging in joint activity in the household (washing up, clearing up the play corner, tending indoor plants, etc.), learn to do morning exercises and special P.T. routines (step over sticks, take small jumps, climb up on to a chair, crawl under a string or rope, etc.).

During his instruction at this preparatory stage a child comes to form images of the objects around him and to learn the functions of these objects, which is the vital prerequisite for his subsequent mastering of verbal language and for his transition to the school stage of his learning programme.

In the academic year 1969-1970 there were two groups of children at the home at this preparatory stage. The first group consisted of four children: Valery S., Katya L., Oleg P., and Frol I.

The relevant details from these children's backgrounds are as follows:

*Valery S.* came to the home when nearly four. His diagnosis read: deaf-mutism, neuritis of the acoustic nerves resulting from intracranial birth trauma, and cataract in both eyes; some residual sight the degree of which cannot be established. Examination of his auditory sensitivity using tonal audiometry revealed a loss of hearing in the speech range of frequencies (500-4,000 Hz) of between 85 and 95 decibels.

Before coming to the home the child had not been used to a regular timetable, he could not find his way about and was not used to looking after himself in any way: he could not use the pot, or eat properly, he threw toys away and could neither use nor understand any signs.

Valery was taught to follow a regular timetable and some of the basic self-care skills. He learnt to use a spoon properly at meals, to help his teacher when the latter was dressing or undressing him. The first few months at the home showed that he responded successfully to lessons in the basic skills of self-care.

*Katya L.* left her home to come to us at the age of four. Her diagnosis read: neuritis of the acoustic nerves of unknown etiology; deaf-mutism since the age of two, and a developing cataract in both eyes. Reduced hearing in the speech range of frequencies of 70-80 decibels.

The little girl had not been taught to keep to a regular timetable. She had no self-care skills. She could hold a spoon and with a little help from her teacher was able to use it for eating. If she took a dislike to any food, she used to throw it all out of her plate on to the table and the floor. She actively resisted the people who dressed and undressed her. She had not been toilet-trained.

*Frol L* came to the home at the age of six and a half. His diagnosis read: congenital damage to the central nervous system, deaf-mutism, underdevelopment and atrophy of the optic nerve in the right eye, leucoma of the cornea in the left eye; some degree of residual vision, that could not be established. Hearing loss in the speech range of 70 decibels.

At home everything had been done for the boy by adults. When he came to us he had not been able to find his way about at all despite his residual vision. He had not acquired any skills of self-care whatsoever. He did not know how to play, used to throw his toys about, understood no signs and had no recourse to them himself.

At the home work was undertaken straight away to teach the boy to find his way about, to acquire skills of self-care, normal habits of everyday behaviour and play, and to learn to make signs.

After the first five months of his first year at the home certain advances in the child's development were to be observed. The boy had learnt to undress almost independently (all that was required from the teacher by this stage was the initial stimulus for him to start on the task) and could complete certain operations by himself when it came to dressing as well (for instance, when the teacher started putting on his stockings he would pull them up the rest of the way). He learnt to hang the clothes he had taken off over the back of his chair (whereas at first he had just thrown them on the floor). He would attempt to straighten out his bedclothes when it was time to get ready for bed. With regard to playing the boy had only grasped the external aspect of the activity: for instance, he used to lay a doll in the toy cot and place all the blankets, pillows and sheets on top of her. He had not yet grasped that toys were real objects in miniature. So far the boy had been unable to take in exercises designed to promote sensorimotor development and refused to participate.

*Oleg P.* joined the home at the age of six. His diagnosis read: loss of speech and hearing after meningoencephalitis at the age of one year and seven months; cataract in both eyes. The child had gone blind at one year and eleven months but when he had been operated on at the age of three (right eye) and then four (left eye) his sight had been partially restored. His hearing loss was 75 decibels.

It was *Oleg's* mother who began to teach him self-care skills. When he came to the home he was able to eat with a spoon, dress and undress himself with only very little help, and play with toys: he could rock a doll and push a toy car along. He made no attempt to communicate through signs: when he needed something he would take an adult by the hand and lead him or her over to the relevant object.

In the space of three months at the home he had learnt to order his day by a regular timetable, to go to the lavatory on his own and use the toilet properly, to wash his hands and face with soap, to wipe his hands and face after a meal with a napkin, to dress and undress, fasten and unfasten buttons.

The boy was also given special learning exercises, such as sorting objects according to shape and size, assembling and taking apart towers and *matrvozhka* dolls. In those early months he also learnt to understand certain signs such as *eat, sleep, lavatory, dress, undress*, although he did not make use of them on his own as yet.

Oleg made good progress in learning to play in the toy corner. With a certain amount of help from his teacher, he could dress and undress a doll, put it to bed and 'feed' it, using toy crockery and furniture. All these activities were accompanied by corresponding signs, of which the boy was beginning to understand an increasing number.

Their first months at the home had revealed these children's capacity for development.

The learning programme for this group of children incorporated the following points:

1. *Further Habituation to Their Daily Timetable.*
2. *Orientation Skills.* The children were to be helped to form a correct conception of the arrangement of objects in their room, the corridor, the bathroom, the cloak-room and the dining room; to learn to make their own way to the dining room and lavatory; to learn to distinguish between their own and others' clothes; to get to know their own place in the dining room and at the work-table.
3. *Formation and Refinement of Self-Care Skills.* The children (Valery S. and Katya L.) were to be taught to use the pot on their own, to cooperate with the adult dressing and undressing them, to wash their hands on their own, to feed correctly and to clear their plates and cutlery from the table after a meal (Oleg P. and Frol I.).
4. *Learning to Play.* The children were to be taught to correlate toys and real objects and to learn what to do with toys.
5. *Development of Communication.* The children were to be taught to understand and denote through signs activities forming part of the day-to-day timetable (*eating, sleeping, dressing, undressing, going, washing, and using the toilet*), to be taught signs in the course of their games (*doll, toy furniture, toy crockery, etc.*), to understand request signs such as *Bring-me-the-ball, doll, cup, spoon, etc.*, to develop active use of signs in learning games (such as 'What doll is missing?'), to refer to their teachers and other children by the initials of their first names (finger-spelt initials that is).
6. *Sensorimotor Development.* The children were to be taught to pile up the rings of a sorting pyramid on the central rod, to sort sticks and cubes into different boxes and to thread beads on to a string. They were also to carry out special exercises in order to prepare them for learning to communicate using Braille and manual alphabet; to learn to imitate finger configurations, to group together cards on to which are stuck cardboard circles representing the various Braille letters, to model simple objects. They were to develop their movements in special exercises and action games.

The second group of children at the preparatory stage in their education programme were three little girls – Rita L., Lena G. and Elena B.

*Rita L.* came to the home aged two years and eight months. Her diagnosis read: congenital deaf-mutism, congenital cataract in both eyes, residual vision insofar as sensitivity to light was retained. Loss of hearing in the speech range of frequencies of 80-85 decibels.

When Rita arrived, she had no self-care skills at all. During her first eight months, she learnt how to eat on her own, to use the pot, to dress and undress, to hang up her clothes tidily, to wash herself using soap, to dry herself with a towel and to hang it up in the appropriate place afterwards, etc. Rita learnt to play with toys: she learnt how to put a doll to bed, to dress, undress and feed it, to take part in role-playing games with the other girls in her group, although admittedly she usually played the passive role of ‘child’ who had things done to her. In the course of special learning exercises she learnt to assemble and take apart sorting pyramids or matryoshka dolls, to group together various objects according to their size or shape. With the help of her teacher she could also do morning exercises.<sup>10</sup>

*Lena G.* joined us at the age of almost two. Her diagnosis read: congenital deaf-mutism, congenital cataract in both eyes. At the age of three and a half the right eye was operated on and partial sight restored; the degree of vision could not be ascertained, however. Hearing loss was 80-85 decibels.

In the first few weeks at the home for deaf-blind children Lena was broken of the habit of being constantly carried around by adults. It took almost four months to toilet-train her. During her first year Lena learnt to find her way about within a familiar setting, and mastered the basic self-care skills: eating with a spoon, drinking from a cup, dressing and undressing. At the end of her second year Lena could find her way about easily within the rooms of the home and in the garden.

She had also learnt by then to look after herself in all respects: to undress and dress herself, to hang up her clothes tidily (she had also learnt to differentiate among her various garments and to put them away). She had learnt to eat independently, to use a napkin, to wash herself with soap, to dry herself with a towel and to use the toilet.

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<sup>10</sup> A more detailed description of Rita L.’s development at the beginning of her tuition is found in Part Two, Chapter II, pp. 103-11.



She enjoyed being taught how to use various toys and other learning materials, she took part in such work with obvious interest. Gradually she became more painstaking at lessons. She learnt to take apart and assemble sorting pyramids; to distinguish between toys of various shapes (cubes and balls) and group them together accordingly; to play with dolls (wrap them up, put them to bed, feed them and push them around in a pram or toy car); to enjoy ball games – to roll balls from wherever she might be sitting to the wall, to throw a ball to her teacher; to knead and roll out plasticine; to tear and fold in half pieces of paper; to play with simple puzzles (placing shapes in their appropriate holes); to climb up wall ribs, jump from a chair to the floor, crawl under a rope, and to perform simple physical exercises.

She also enjoyed action games such as ‘Catch me!’ and ‘Train’. In addition to these action games and exercises much time and attention were devoted to developing the child’s means of communication: she was given her first instruction in sign language. By the end of the second year Lena had mastered about thirty signs, denoting regular activities in her daily routine, skills of self-care, and individual toys. She made active use of these in her communication with people around her.

In learning games such as ‘Dressing Dolly’, ‘Putting Dolly to Bed’, and ‘Feeding Dolly’ Lena’s new skills and signs to denote them were consolidated.

At the very end of her second year she started to show an interest in dactylic speech. She ‘inspected’ the hands of other pupils and adults, when they were conversing using finger-spelling. Sometimes she would try to make a finger movement similar to one she had ‘observed’ into the palm<sup>11</sup> of another child. Lena realised that moving fingers over the palm of another person constituted ‘conversation’. First attempts were then made to show her the initial letters of her teachers’ names and those of her favourite toys (doll, ball).

By the end of the second year Lena was able to fingerspell the initial letters of her teachers’ names and of the words ball and doll.

In the third year of the preparatory stage Lena learnt additional skills of self-care and refined those already acquired: she learnt to straighten out and tuck in her bedclothes, to brush her teeth, to distinguish between her right and left shoes as she got dressed and also

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11 Both signs and manual words are apprehended by the deaf-blind through touch, hand in the palm.

between the back and front of a pair of tights, to tie up her shoe laces and to help teachers dress the younger children.

Specially organised opportunities for Lena and her fellow pupils to 'observe' adults in the home going about their work, animal life (rabbits), changes in the weather and to undertake household tasks within their grasp (helping wash dolls' clothes, dusting the furniture in the room shared by the three girls, helping to change bed linen on bath-days) encouraged her to take a greater interest in the life around her and to extend her sign vocabulary.

Lena learnt new signs quickly and made active use of them in her communication with others.

Towards the end of her third year at the home Lena had learnt close on ninety signs, that denoted not only activities in the daily routine, skills that the routine required of her, but also various natural phenomena (snow, rain), expressions of emotion (crying, laughing, anger). She learnt how to convey to other people through signs, both requests and accounts of what she had seen and experienced.

In the course of her learning games Lena learnt to differentiate various sets of objects by shape and size. By feeling them over she could pick out a single object from a whole group of others.

In classification games involving toy articles she learnt to put articles away according to their designation (linen in the linen cupboard, crockery in the sideboard, etc.). She learnt to construct objects out of wooden rods and cubes from models or from memory, or by imitating the actions of her teacher.

She learnt to roll out plasticine into long sausages, to join the ends of these together to make rings, to mould plasticine using circular movements to make balls and then to make indentations in the latter (producing apple shapes, for instance).

The range of action games, in which she could take part, also grew and she learnt to cope with more complex rules and to respond to the signals given her by her teacher.

She could climb well and nimbly through a hoop, under a rope, step or jump over various obstacles, jump up and down on the spot on either one or two legs.

In the second half of Lena's third year the teachers began to replace certain signs with dactylic words, and give instructions to the girl partly in dactylic words and partly in signs (for the phrase *go walk* she would use a finger word and a sign; for the phrase *give ball* she would use a sign and a finger word).

By the end of the third year Lena could spell out the whole of her name in dactylic letters, also the names of the other girls in her group, those of her teachers and moreover the words *doll, ball, tea, give, soup*. She understood and responded to instructions conveyed to her in finger-spelling (*go for a walk, come and eat, give ball, give doll*).

Lena often asked of her own accord if someone would show her in manual letters the name of this or that article.

During the summer holidays Lena was at home with her family and no one worked with the girl which resulted in her forgetting almost all these manual words. However, her interest in the work continued unabated. During the next academic year she continued to work at her finger-spelling with a lively interest. She quickly re-learned the dactylic words which she had known before.

She mastered new dactylic words as well, and learnt to spell them out independently (*pudding, soup, tea, milk, bread, coffee, walk, go, give chair*). Some of her requests she also learnt to express in dactylic letters: *give ball, give doll, give chair, give soap*.<sup>12</sup>

*Elena B.* came to the home at the age of four. Her condition was diagnosed as follows: after-effects of a birth trauma (interruption of cerebral circulation); deaf-mutism, congenital cataract in both eyes, a convergent squint. Hearing loss in the speech range of frequencies of 70-75 decibels. At the age of eleven months Elena underwent an operation on her right eye which was successful, and partial sight was restored. The left eye was operated on when Elena was aged two and a half. The second operation was not a success and, according to the mother, it was after that that the squint appeared and the girl's sight deteriorated. It was not possible to check the degree of vision, but the residual sight still possessed by the girl helps her find her way about, and at a distance of between ten and twenty centimetres from her face to distinguish objects and gestures. Before the age of two the mother had already started to teach Elena skills of self-care. At the age of three the child was sent to an ordinary kindergarten. The teachers at the kindergarten used to give Elena individual sessions and continued to develop self-care skills. They taught her to follow a regular timetable, to eat by herself, to use a pot, to wash her hands, to help an adult when he or she was undressing or dressing a younger child. Efforts were made to involve the little girl in group communal work. While performing her monitorial duties Elena laid the table

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12 Further details of Lena G.'s development are given in Part Two, Chapter II, pp. 111-25.

putting out spoons, plates and bread and later after the meal cleared the tables.

In the kindergarten Elena was taught to play: to wrap up a doll in a blanket, rock it to sleep, make the doll's bed. When the little girl came home from the kindergarten in the evening her mother tried to involve her in her own household chores. If the mother was doing the washing, she would set up a small chair nearby for her daughter, pour some warm water into a bowl and let Elena wash her doll's clothes, which she would then hang up on a washing line using clothes pegs.

For her communication with her mother and the other children in the kindergarten Elena invented certain signs. When she wanted to eat, she would point a finger into her open mouth. She conveyed the idea *drink* by moving her lower jaw up and down. If Elena pulled her pants down that showed she wanted to go to the lavatory. Washing hands, face or hair she would convey by hand movements representing these procedures; the idea of *going* she conveyed by swinging her hands backwards and forwards as she would do when walking along, the idea of *going somewhere* she conveyed by waving her hand in the required direction, that of *sitting* by patting the seat of a chair or settee with her hand.

After spending a year in this ordinary kindergarten Elena joined our school. Elena found no difficulty in adapting to our household routine. She quickly learned to find her way about her room, the floor and later the whole building and the garden.

Work then began on refining those skills of self-care she already possessed and developing her capacity for play, and she started special exercises for promoting her sensorimotor development and extending her means of communication.

By the beginning of her second year in the home Elena's self-care skills had perfected considerably, as had her behaviour patterns. At meal times she sat properly at table, used a spoon, knife, fork and napkin, ate cleanly, and at the end of a meal would make a sign to say 'Thank you' without needing to be reminded. Elena had learnt to brush her teeth, use the toilet properly, dress and undress herself quickly (without putting her tights, pants or vest on back to front), and tell her left shoe from her right.

The main objective in teaching work with Elena at that time was to develop the range of her means of communication. The one-word signs (such as *eat, drink, wash*) which she had mastered before coming to the home, were not enough to enable her to communicate with other people. All the objects connected with the actions the girl car-

ried out in self-care procedures and in her daily routine, the toys, actions required in games she now learnt to denote with new signs. In her first few weeks Elena learnt to understand most of these signs. The next step was for the teacher to guide Elena's hands to reproduce the signs, and then Elena began to repeat some of them independently, and soon started using them to communicate with others. After spending a mere two months in the home Elena had learnt more than thirty signs. By the end of the first academic year the little girl's vocabulary consisted of ninety signs and included not merely individual words but also sign sentences. Elena could also use signs to convey short accounts of events in which she had played a part. In the middle of her first year Elena could follow instructions for learning tasks designed to build up her verbal dactylic speech. Certain actions and familiar objects were referred to by the initial letters of the words denoting them. After Elena had been given frequent opportunities to observe manual conversations between older pupils she started to imitate the 'conversations': she tried to make small movements with her fingers on the palms of the other children. Gradually certain signs came to be replaced with dactylic words. By the end of the first year of instruction Elena could independently finger-spell her own name and also the name of her teacher and several other words, such as *tea* and *give* (these involve the same vowel sound in Russian – *chai, dai*). She understood the dactylic words for *pudding, soup, tea, ball, water, chair, table, doll* (all consisting of either one or two syllables in Russian. – *Trans.*). Elena was also competent at joining in such games as 'Mothers and Daughters', 'Nurses and Doctors', 'Hairdressers'.

Work programmes to foster the development of such children are aimed at refining existing skills of self-care, inculcating habits of polite and clean behaviour, at educating through work (such as tidying the play corner, dusting, participation in group work to tidy up the room), at developing play activities (through games such as 'Who Is Absent?', 'Dolly's Bath', 'Shops'); the children are also taught to model in plasticine and to work with paper (cutting and gluing). They do physical exercises to improve their walking, running, jumping and climbing skills, and take part in action games such as hide-and-seek, rolling a ball through a hoop and racing over a specific distance to a known target such as a flag.

Children's means of communication are developed both as they go about seeing to their own daily needs, in games, at walks and as they are being taught manual work skills. In addition special study sessions are provided during which the children carry out commands from their teacher transmitted to them in finger-spelling: *Give chair, Give doll*, etc. Dactylic words are also used to describe actions that

have been performed or have taken place: 'Doll fell', 'Lena sat'. The children are also taught to name objects such as their garments, parts of the body, household articles, pieces of furniture, things outside in the garden or street.

## **Chapter II**

### **Learning Programme for the School Period** (Main Subjects)

During the school period deaf-blind pupils master verbal language, study the subjects of the general curriculum, and acquire the work skills in one or another of the home's workshops.

At this stage instruction is based on the materials and teaching programmes for speech development, object lessons, mathematics, practical work sessions and physical training elaborated at the Institute.

Materials in these teaching programmes are designed for children who have completed the preparatory stage in the home for deaf-blind children or at home. The programme covers a nine-year period, during which it is anticipated that pupils will come to master verbal language, cover the general knowledge programme of an ordinary primary school and develop the necessary physical and work skills enabling them to make the subsequent transition to an apprenticeship in one of the trades open to them.

Study sessions for these children take place not only in the morning but also in the afternoon after the children's daily walk and in the evening. Many of the lessons, particularly object lessons, are conducted in the form of excursions and outings.

There now follows a short resume of the basic materials used in speech development, arithmetic and object lessons.

### **Speech Development<sup>13</sup>**

Mastering means of communication is a vital factor in the tuition of a deaf-blind child. Signs are the first special means of communication he learns. He uses them to denote objects, their functions, actions and elements of behaviour. Learning to use signs is a vital step in the child's speech development.

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<sup>13</sup> Teaching programmes in speech development were elaborated with the help of R. A. Mareyeva.

The next stage in teaching a deaf-blind child to communicate is developing verbal speech. Word speech in its manual form is the superstructure built up on the basis of sign-speech; it takes shape and emerges within sign-speech as a variant of the latter, and then proceeds to develop as an independent dominant speech form.

This development proceeds as follows. Signs denoting familiar objects encountered frequently in the course of the daily routine are gradually replaced by words in finger spelling. For the child these designations are also signs, merely signs with a different configuration. It is indicated to him through a sign that a given object can be denoted in another way. Later he denotes the object shown to him with what is for him a new sign, without even suspecting that he already masters a word consisting of letters, just as a child with normal sight and hearing, on learning to speak in his third year of life, does not know that he is using words made up of letters.

Learning verbal language starts not with letters but with words, and not simply with words as such but with words as part of connected meaningful text. The sense context for the child's first words are signs. The child's first dactylic words are incorporated into a story that is transmitted by means of mime. Only after a child has mastered several dozen words denoting concrete objects can it come to grips with the dactylic alphabet, which in practical terms it has already learnt. Once it has mastered finger-spelling it can be taught any word, provided the correlation between the object and the corresponding sign is made clear.

Learning by heart the letters of the dactylic alphabet is a tremendously important step forward, because in so doing the child is learning to perceive dactylic letters conveyed by the hand of his teacher.

After learning the dactylic alphabet by heart, the child is acquainted with Braille signs for the letters. Each Braille letter is associated in the child's mind with the manual designation of that letter, with which he is already familiar.

The child needs to achieve a perfect manual 'articulation' and get a faultless grasp of Braille letters made up of dots. To work towards this end a special vocabulary of two or three dozen words is selected, words denoting objects with which the child is familiar. This vocabulary is subsequently used as a means to mastering the most important feature of verbal language – namely, grammatical structures.

It is important to note here that the child masters grammatical structures through his practical language work; he does not make a study of grammar as such. It is in a similar way that a child with normal sight and hearing comes to master speech, for at the age of two

or three he uses language correctly but naturally has no knowledge of grammar.

In order that the child master the grammatical structures of word language the written word must be exploited – namely reading and writing. At first the teacher teaches the pupil to read and write texts consisting of simple non-expanded sentences describing actions involving objects. Then the texts are made more complex by the introduction of simple expanded sentences. Words and word-groups, all grammatical categories in logical connected text describing an event familiar to the child, are mastered by him as they are absorbed into his system of image-and-action reflection of the particular event concerned. In the course of this process it is essential that each new word and each new grammatical category is complemented by an immediate image of the concept designated by the word or grammatical category in question.

To promote faultless mastery of language a system of parallel texts has been evolved: texts presented to the pupils by their teacher in the course of their class-work and ‘spontaneous’ texts composed by the pupils on their own.

New words and grammatical categories are gradually introduced into the class texts presented to pupils by the teacher. When composing his own text describing an event familiar to him the pupil makes use of the new forms provided earlier in the class text and consolidates his knowledge of them by using them in his own material.

Reading is a vitally important factor in deaf-blind children’s instruction. The gradual initiation of a child into the art of reading Braille literature, the imparting of a love for books and fostering the habit of reading both fiction and popular science books are all conditions for his subsequent attainment of a high level of development in the process of self-education, and ‘the sky’s the limit’.

While pupils are working towards this mastery of elements of narrative speech, work is also in progress to develop their conversational speech (in dactylic form), first as hortatory sentences and later more complex ones.

The low level of a child’s initial mastery of verbal speech must not be allowed to limit his communication, because that in its turn would inevitably hold back his overall development. It is essential, particularly in the early period of his tuition, that communication via signs be extensively used.

Oral (vocal) speech is not a medium of teaching for deaf-blind children, it is a subject of study for them. Work at vocalisation is conducted at individual lessons. The level of a pupil’s articulatory



skills should not constitute an obstacle impeding his mastery of verbal language.

### **Object Lessons**

In the teaching of deaf-blind children object lessons constitute one of the main methods for transmitting to them knowledge about the world around them. Objects are studied in a specially designed sequence, the correlations and interrelations within which must be comprehensible to the child. At object lessons, which coincide with lessons for speech development, pupils come to master new phenomena of language and develop their skills in verbal communication.

Knowledge acquired during object lessons is then consolidated through reading and working at class texts. Pupils write compositions on their own which are then corrected and amplified by their teacher. Class texts are either compiled by the teacher or selected from readers and presented to pupils in a form accessible to them. These class texts are compiled in such a way as to encourage the pupil's logical thinking, to help him express his thoughts, to enrich his speech and to consolidate the knowledge he has obtained at object lessons. When pupils are called upon to read class texts and write compositions, they are acquiring first-hand knowledge of natural phenomena, typical for the current season, of work-tools and man's work in agriculture and industry, of all manner of things connected with man's life and activity of the world of animals and inorganic nature.

The subjects of the pupils' reading and compositions are determined by the subjects covered in their object lessons, after which pupils go on to consolidate new knowledge in the form of stories accessible at their level.

In the seventh year of their schooling pupils embark upon a systematic course in nature study; they are also given elementary information in geography and in the history of the Soviet Union.

In the years of schooling that follow it is the teacher's objective to systematise and extend the pupils' knowledge of nature, to acquaint them with the ways in which man utilises nature, to teach them how to use a map, and to instil in them love and respect for their native land and the desire to take part in socially useful labour.

The curricula for the seventh, eighth and ninth year of schooling provides pupils with a grounding in general knowledge and lays the foundation for their subsequent study of biology, geography, and zoology; it also helps them to understand nature around them, the work performed by their fellow human beings and the world of animals.

*Learning to count*

## Mathematics<sup>14</sup>

The teaching of mathematics to these children is designed to enable them to carry out mathematical operations involving whole numbers and fractions, and then to use this knowledge to solve mathematical problems and carry out simple calculations in practice.

The extent of mathematical information given deaf-blind pupils during their nine years' schooling corresponds in the main to the material covered in the first four classes of the normal school syllabus (for pupils aged between seven and eleven). However, the order in which the constituent elements of this syllabus are presented to the pupils differs from that used in ordinary schools. The syllabus used for deaf-blind children in the main follows a linear progression: in other words after starting work on a particular topic (such as numeration) pupils follow it right through to the end within the framework of the given syllabus. Then they switch to the next topic which is also followed through to the end. Teachers at our school had to abandon the concentric method for the presentation of mathematical material (when this method is used mathematical operations are studied first within the limits of certain sphere and then extended in broader limits). The linear method proved far more economical at our school in terms of time and helped pupils form a far more complete picture of each topic.

In their first year of schooling the study of mathematics starts out from learning numbers up to a thousand, which enables the pupil to grasp the basic idea of the decimal system. The children are taught to master numeration with the help of counting sticks and other aids.

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<sup>14</sup> Teaching programmes in mathematics were elaborated by R. A. Mareyeva.

The ordinary abacus also proves a most useful and convenient teaching aid.

Once pupils have a firm grasp of numeration then they move on to the four basic rules of number in the following order: addition, subtraction, multiplication and division.

Pupils are also given materials for the study of measures. While they are working on concepts of measurement, great importance is attached to practical tasks connected with measurement, weighing and the calculation of distance. Particular attention is paid to teaching pupils units of time and how to tell the time with watches (complete with raised figures).

When being taught to solve mathematical problems, the children start out from practical activities with objects. Gradually these problems become more complex and their solution has less and less to do with concrete actions.

### **Approximate Composition of the Syllabuses in Speech Development, Object Lessons and Mathematics**

#### **First Year**

The deaf-blind pupil will be taught verbal communication using the dactylic alphabet; he will master reading and writing using the Braille script. The *speech-development syllabus* in this year includes teaching children to name (using finger-spelling) objects from his familiar environment, and to understand and carry out simple commands, formulated in words (*stand up, go, take, etc.*). The pupils learn to denote their actions using simple sentences consisting of words (e.g., *I played, I'm writing ...*), to describe the actions of others (*Olya's eating, The doll's lying*), and to answer simple questions (*What's your name? What were you doing? What did you eat?*).

In the course of *object lessons* the child is made familiar with the home as a whole: the classroom (floor, walls, window, door, radiator, furniture, teaching aids, typewriter, abacus, etc.), the dining room (crochery, furniture), food (soup, pudding, bread, etc.), the bedroom (bed, bedside locker, wardrobe, bed linen), the bathroom (basin, tap, soap, etc.), the cloak-room (hanger, cupboards, shelves where shoes are put to dry).

At a level within the children's grasp they also study 'Clothes' (dress, shirt, trousers, coat, etc.) and 'Footwear' (slippers, indoor shoes, walking shoes, felt boots).

The children acquaint themselves with the shape of each thing, learn what it is for, then learn its name and how to denote its function. They also study such topics as 'Fruit' and 'Vegetables' associated

with their meals. While they are being taught clean habits they learn names for the parts of the human body: *head (face, cheek, nose, mouth, hair), arms, legs, trunk.*

Looking after the animals in Pets' Corner, they learn the names of animals and birds. When working on the school allotment they make a study of plants, bushes and trees. The children learn to mould out of plasticine the objects they are studying and to recognise models and plaster casts of them.

In lessons the pupils are taught numbers up to a thousand, the signs denoting these numbers and the Braille symbols for them. They are taught to count forwards and backwards. They are introduced to the abacus. In their work on the calendar they master the concepts *yesterday, today, tomorrow.* They also learn to recognise and model spheres, cubes and rods.

### **Second Year**

The *speech-development syllabus* for this form is designed to promote the understanding of more complex instructions expressed in words (*Sit at desk. Repeat. Give some examples. Take book. Put exercise book on table.*). The pupil learns to express his requests in words (*Give me exercise book please. May I go out?* etc.), to give both short and extended answers to questions (*Have you written it down? – Yes, I have written it down,* etc.) and to ask questions (*Who's come? What's your name?*).

Pupils learn to put together a narrative describing a number of interrelated actions (*Olya sat down. Olya took Plasticine. Olya modelled house. Olya washed hands.*).

In their *object lessons* pupils' knowledge is consolidated and extended via excursions, visits to the Pets' Corner, and work on the school allotment. The topics studied in the object lessons are partially repeated, but at the same time the children's vocabularies are extended. At the home the children are introduced to the library, the doctor's consulting room, the staff room, and in the dining room children investigate crockery and various appliances. When pupils visit the homes of their teachers, they are introduced to the latter's family (father, mother, children), these people's professions (driver, doctor, road-sweeper, stoker, technician), with features of the town (blocks of flats, roads, pavements), with transport, household pets and study the topics 'Garden', 'Allotment', 'Wood', 'Meadow', 'River'. They are taught the names of the seasons and various kinds of weather (*winter, summer, autumn, spring, snow, rain*) and join in the celebrations for various public holidays.

In their *mathematics lessons* they are taught addition involving up to three figures (without having to carry). They learn the concepts *week,*

*month* (as they make dated notes in their exercise books). They learn the ideas of a *circle, square, triangle, rectangle*.

At the end of the second year pupils are taught to solve adding sums and add a small number of units to a number.

### **Third Year**

The *speech-development syllabus* for this year requires that pupils learn to carry on conversations using dactylic words on certain themes which they sustain for several sentences: 'Where are you going? – To the doctor – Why? My foot hurts. I was out sledging and fell'. Pupils learn to express in a narrative sequence the events of their day ('How I Spent Sunday') and they learn to write letters.

In their *object lessons* they continue their study of the home (kitchen, boiler room, shower-room) and in the dining room they study food, crockery, furniture. They familiarise themselves and learn the names for various types of clothing, footwear, headwear. They make a broader and more detailed study of the concepts *family* (brothers, sisters, grandchildren, etc.) and *profession* (hairdresser, postman, tailor, etc.)

During their outings to the country the pupils are acquainted with the work of the farmers, inspect the livestock and agricultural machines. They cover such topics as 'Insects', 'Fishes', 'Animals' (tame and wild), 'Vegetables', 'Fruit', 'Indoor Plants', 'Woods'. They continue to study the changing seasons and celebrate the public holidays of the Soviet people.

In *mathematics* they study addition involving carrying with units and tens and addition with three figure numbers without carrying. They are introduced to the shapes of the figures used by sighted people, to coins, the various notes of paper money, and measures such as litre and half-litre. The children are taught to do adding sums involving one or two operations.

### **Fourth Year**

The *speech-development syllabus* for pupils of the fourth year provides for teaching pupils to carry on question-answer type conversations independently, and to answer questions with a short narrative ('Where have you been? – I went to the shop. Nina Ivanovna gave me money. I bought a book'), and they are taught to write letters to their parents, friends and teachers. The pupils also learn to describe events from their personal experience in a sustained narrative.

*To class**A geography lesson*

In *object lessons* they continue their investigation of the home (taking in the various floors, the cellar and the attic), gradually building up a picture of the house as a whole and extending their knowledge of the function of all the premises, and of the work that goes on in them. Special excursions enable them to learn about various types of shops (a dairy, grocery shop, the baker's). Pupils are taught to classify various objects in groups: food (raw, cooked, liquid, solid), footwear (leather, rubber), etc. Their concept of the family is extended to include such members as *sisters, grandmothers, uncles*. They learn to identify the seasons and months of the year and learn about the woods in more detail (mushrooms, berries, etc.), also the near-by allotment (edible plants and weeds) and they start to keep a nature calendar.

In *mathematics* they learn to do subtraction sums involving numbers up to a thousand and to solve problems using subtraction.

#### **Fifth Year**

In the fifth year the *speech-development syllabus* is designed to teach pupils to give a detailed account of an errand they have performed (I



*Discussing the lesson during the break*



*Learning the elements of anatomy*



*This three-dimensional model helps a pupil to understand geometry*

went to the kitchen. I asked the cook for beetroot. I brought the beetroot to the classroom.), to describe in words (dactylic and in Braille) an event or series of events picking out essential details, and to expound something he or she has read in answer to questions from the teacher.

In *object lessons* pupils keep their own nature calendars. At the end of each month they compare their calendars with the corresponding ones from the previous year. In their Pets' Corner they learn to look after animals: rabbits and fish in the aquarium. They grow plants from seeds, bulbs or cuttings, first in seed boxes and later in beds.

As the pupils look after indoor plants and later beds in the allotment, the teacher develops their work habits and extends their knowledge of plants and potential skills for this work. They also extend their knowledge on other topics: 'Garden', 'Woods', 'Animals', 'Seasons' (early and late spring, autumn, winter, summer).

Pupils read appropriate passages from the reader for Form Two of the ordinary school. (In the school for the deaf-blind some text-

books designed for ordinary schools are used, only they are printed in Braille script.) The teachers provide commentaries to these texts, and teaching aids are also used.

In *mathematics* the pupils study linear measures, multiplication, units of time (days, hours, minutes, seconds) and learn to do simple multiplication sums.

### **Sixth Year**

According to the *speech-development syllabus* of the sixth year, pupils are taught how to describe in words (through 'conversation' or in written compositions) various objects with which they are familiar (the school, an animal or plant). They start keeping a regular diary. They describe outings and the life in their home. They write précis of reader stories on the basis of plans drawn up in advance.

During their object lessons they study the weather of the various seasons, the link between the weather and various types of labour. They make a comparative study of town and country life (what people do there). They are acquainted with social institutions: health centres, chemist shops, post offices, railway stations, harbours, aerodromes, etc. They extend their knowledge of wild and tame animals, of the garden, vegetable allotment and near-by woods. They learn about the surrounding countryside outside their town (meadows, fields, copses, orchards), they learn how to find their way about in open fields, and form an idea of different kinds of land surface (plains, hills, gullies). They model the relief of their locality in plasticine. Pupils also read the relevant chapters in the standard readers for ordinary schools (Books Two and Three).

In *mathematics lessons* they now tackle division. They are introduced to weights, and start using scales, and doing division sums.

### **Seventh Year**

The *speech-development syllabus* for this year requires of the children that they learn to describe an object (such as a room or an animal) in comparative terms, provide detailed accounts of excursions picking out the salient points of their experience, keep a diary with regular entries on specific topics, such as the weather or their work, write a précis of material they have read (with or without a plan made out in advance), carry on conversations on a variety of subjects and at different levels depending upon whether they are talking to an adult or another child.

During their *object lessons* the children work on such topics as 'Weather and the Harvest', 'Climate', 'Nature and the Changing Seasons'. Throughout the year a detailed nature calendar is kept, and comparisons between current entries and those of previous years are



made from which conclusions are drawn. The children study the points of the compass (using special compasses for the blind), learn to understand and distinguish North, South, East and West, make plans of their room, or house in relief, and later relief models of the surrounding countryside. They start to grasp the concept of scale.

Pupils are introduced to relief maps of larger areas and countries, and a globe as a model of the earth.

As the pupils study the important dates in their countries calendar this work is supplemented by reading the relevant passages from readers used in primary classes of ordinary schools (for pupils aged between eight and ten).

In *mathematics* pupils begin to study simple fractions and numbers consisting of several figures. Pupils carry out sums in the four rules of number using numbers up to a million, including problems involving parts of a whole. In geometry lessons the children are introduced to the concepts *straight line, section*: they learn to build squares and rectangles with sides of a specified length.

### **Eighth Year**

In the eighth year the *speech-development syllabus* requires of the children the ability to work out a number of alternative answers to one and the same question, to describe an excursion in a composition written according to an independently devised plan, to write a précis of a story they have read, to write an essay on a subject of their own choice or one set by the teacher.

During *object lessons* pupils work on such topics as 'Characteristic Features of Summer, Autumn, Winter and Spring', 'Flowers', 'Vegetables', 'Weeds', 'Useful and Harmful Animals', 'Plants Growing in Woods and Gardens'.

Practical tasks are carried out: pupils make starch from potatoes, plant out seedlings, gather in the garden crops. Pupils are introduced to the concepts: year, month, season, twenty-four-hour period, morning, afternoon, evening, night. They are taught to draw diagrams for classifying animals and plants. They read abridged, adapted versions of texts from the reader designed for ten-year-old pupils at ordinary schools that treat of their country's past; and texts that tell of explorers and other famous men and women in the reader for nine-year-old pupils. In *mathematics* pupils study prime and compound concrete numbers, reduction, conversion and arithmetical operations involving compound concrete numbers.

Pupils also study a table of units of time. They learn to solve problems in the calculation of time units and simple problems involving speed, time and movement.

### The Ninth Year

The *speech-development syllabus* for pupils in the ninth year provides for their tuition in free communication with the people around them in verbal language; in reading simple fiction and popular science books, writing compositions which depict events both in their own lives and in those of others', writing compositions on set subjects (such as bird life, winter, etc.).

The *object lesson syllabus* continues nature study, study of the human body and personal hygiene. Information about the work carried out by various groups of people living in the Soviet Union, as well as more detailed information regarding the present and past of their native land is given. Topics such as 'The Surface of Land', 'Minerals', 'Water in Nature', 'Air', etc. are studied. When working on the topic 'The Human Body and Keeping It Healthy' pupils study the skeleton, muscles, internal organs, feeding, diet, physical training, and they are also given some information regarding disease. In their practical sessions for this topic they are taught to feel a pulse, to count the pulse rate, to point out on their own body and those of other pupils the position of the heart and other major internal organs, to bandage cuts and wounds and to administer first aid for burns, frost-bite, etc.

Pupils are taught about the past and present of their country with the help of texts from the Form Four reader used in ordinary schools (pupils aged ten).

In their mathematics *lessons* these pupils learn Roman numerals, and how to measure area: they are introduced to the table of square measures, and to the measurement of volume. They learn to solve simple problems involving the calculation of area and volume.

The volume of knowledge covered in the syllabuses drawn up for our deaf-blind pupils, and the order in which topics are introduced are in no way binding for every pupil. The material outlined above provides initial guide-lines, which the teacher can refer to as he compiles a learning programme for each of his pupils that will take into account the latter's individual characteristics. The allocation of various materials to specific years of the schooling programme should also be regarded as approximate and should in no way inhibit the teacher's initiative. Some pupils will succeed in mastering the material outlined much more quickly than is suggested in the programme, while others, suffering from additional handicaps, will require more time than that stipulated.

It should also be borne in mind that some of the pupils will overtake the others in their class, while others will fall behind. Sometimes

this makes it necessary to transfer a pupil from one group to another in the course of the school year.

### **Chapter III**

## **Pupils in the School Stage of the Educational Programme for the Deaf-blind**

For schooling purposes groups of three pupils are selected: for the most part these three will work through the syllabus of one and the same year and possess a similar level of development. This makes it possible to use the technical equipment available at the home (various types of teletactor) at the lessons. However, it is sometimes advisable to group together pupils of varying degrees of development, when relationships between the latter shape in such a way that one serves as a model for another pupil and helps the latter. In both cases each pupil is taught according to an individual plan and at the optimal rate for his abilities.

Pupils' capacities for assimilating a certain body of knowledge and the rate at which this can be done are determined by the individual characteristics of the pupils, which in turn depend upon the nature of the illness which impaired their sight and hearing in the first place, on the vestiges of sight and hearing perhaps still in their possession, on the conditions of life a child knew before coming to the home for the deaf-blind for tuition and the level of development he or she had attained in those early conditions.

In accordance with the methods used to teach them reading and writing, that were, in their turn, determined by the state of their sight, pupils at this school stage were divided into two subsections (consisting of sixteen and eight pupils respectively). The pupils in the first group (sixteen) were taught to read and write with the help of Braille script. Pupils in the second sub-section (eight), who were able to take in lesson material relying on their residual sight, used special textbooks for the partially sighted (printed in large letters) and were taught to write 'as the sighted'.

The first group, using Braille script, included pupils who were completely blind in both eyes (Fanil S., Vitya K., and Volodya T.) likewise Tolya Ch., who retained some sensitivity to light, enough to enable him to distinguish light from darkness, Semyon B., with a negligible amount of residual sight enabling him to distinguish finger movements at a close distance from his face, and finally pupils with central vision of between 0.01 and 0.04, able to use their sight to help them find their way about (Yana K., Tanya S., Lida A., Anna P., Olya

Sh., Galya R., Sanya Ch., Dmitry H., Tata P.) Nata Ch., whose vision after correction had an acuity of no more than 0.09 and who, at her ophthalmologist's recommendation was being taught Braille script was also assigned to this group, as well as Alexei B., whose sight in his one remaining eye had an acuity of 0.07 and was deteriorating.

In the second group (in which reading and writing were being taught as to sighted pupils) were placed pupils with 0.1 vision (Zana S., Misha F., Seryozha B., Dima D.), as well as pupils whose vision after correction had improved to as much as 0.3 (Lyuda S., Shura Ch., Sasha K., Inna X).

A special approach was needed in the case of children suffering from after-effects of diseases of the central nervous system, manifest in mental deficiencies, asthenia, motor malfunctions. These pupils were Tata P., taught with Braille script, Inna A. and Dima D., who were taught as sighted children.

Further perusal of diagnostic data and a resume of the progress made in teaching these children is most relevant here.

### **The Teaching of Pupils Using Braille Script**

*Fanil S.* only began his proper schooling at the age of fourteen. His condition was diagnosed as follows: meningitis at the age of twenty months after which there followed complete loss of sight, hearing and speech. Subatrophy of both eyes and total blindness. Deaf-mutism. No vestiges of hearing found.



*When using a Braille type-writer, the pupils is able to check the corrections of his spelling.*

According to the boy's parents, the child had been born normal. He began to walk before he reached the age of one year and he had started to use individual words, before his illness struck. Up until the age of twenty months he had been a strong, healthy child. When he fell ill, his parents did not call in the doctor at once and the diagnosis of meningitis was only established two months afterwards, when the boy had already lost his sight and hearing. The boy then stopped uttering the words he had known before.

Until the age of fourteen Fanil had lived at home, where his parents had taught him self-care habits and had initiated him in various work skills. At the time when he came to the home for the deaf-blind Fanil understood individual instinctive signs, shown to him through his own hands. Yet he made no independent use of these same gestures. In one school year he succeeded in covering the syllabus for the whole of the preparatory course.

The boy was clean in his personal habits and knew the basic rules of polite behaviour. In the morning he used to make his own bed, do his exercises, take a strip-wash, brush his teeth, wash his feet at night, look after his clothes and put them away tidily, etc. He learnt to mould objects from plasticine, to put together various models using the parts of his construction set and take part in socially useful work, such as tidying up the classroom or the garden. He learnt signs and began to use them in order to communicate with his teacher and his fellow pupils as well. He also learnt the dactylic names of certain objects and actions. He learnt to read and write a number of words in Braille script, words which designated objects with which he was really familiar. He learnt to count up to a hundred, using signs, and to designate these figures by raised dots.

During the second year of his schooling Fanil covered the syllabus for the first year of tuition in the school for the deaf-blind: he learnt to communicate via signs and some dactylic words; he learnt to describe certain actions and 'events', consisting of a number of actions using dactylic and written words, in Braille script; he began to write short compositions describing his life and to keep a diary. Work now started on teaching Fanil to vocalise certain words.

In his third, fourth, fifth, sixth and seventh years of schooling Fanil covered the syllabus envisaged by the programme for the deaf-blind. For communication purposes he uses finger-spelling and is able to ask questions independently and to provide correct answers to questions put to him by others. When communicating with people who can hear he vocalises ordinary words. He conducts a correspondence with his relatives on his own. He is able to type with an ordinary typewriter. He keeps a diary. He is able to describe excursions, in which he has taken part. He enjoys reading fiction (either stories written in simple language or adapted texts). He can solve simple sums and mathematical problems.

During his time at the Zagorsk home he has acquired work skills in the carpentry and sewing shops and learnt to use machine-tools for the production of safety-pins. He started working at a professional level (as a member of the association of blind workers) during the

fourth year of his schooling. His output was of a high quality free from rejects. He received wages and sent money home to his parents.



*All children are also taught to use ordinary typewriters.*



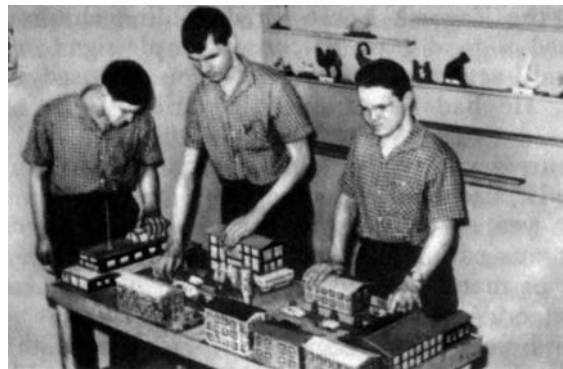
*Doing the homework*

Vitya K. came to the home for the deaf-blind at the age of ten. His condition was diagnosed as the outcome of intrauterine injury to the central nervous system and subsequent complications; cataract in both eyes, secondary glaucoma and blindness; deaf-mutism.

His auditory capacity was investigated using tonal audimetry and the loss of hearing established was as follows: for frequencies of 125, 250 Hz – 65 decibels; for frequencies of 500 Hz – 60 decibels; 1,000 Hz – 65 decibels; 2,000 Hz – 70 decibels; 3,000 Hz – 75 decibels.



*Reading fiction in Braille is an important condition for promoting the mental development of deaf-blind children*



*Learning the lay-out of the nearby streets from a model*

Vitya had been one month overdue at birth. At birth the child had edema of the head and clefts in cranial sutures (of 1 to 2 cm). At three and a half months the parents noticed that the boy did not react adequately to light. An examination at the local clinic revealed that as a result of the injuries sustained at birth and the late delivery Vitya's sight and hearing were impaired. At the age of five an attempt was made to teach the child in a pre-school group of deaf and dumb children. It is not known what residual sight the child possessed at that time, but after spending three and a half months in a group the boy was removed in view of his weak sight.

At six Vitya fell into a cellar and injured his head again: detachment of the retina resulted from this accident and he lost his sight completely. He had never been able to speak.

Until the age of eight the boy remained at home where his parents taught him to eat, dress, wash and use the lavatory independently. He had learnt to use some signs. At the age of eight it was decided to place Vitya in a home for handicapped children where he

was given no suitable instruction and began to lose the skills and knowledge of signs which he had acquired previously.



*Teaching pupils with residual sight*

He entered the Zagorsk home for deaf-blind children when he still had a good grasp of certain simple signs and possessed a small active vocabulary of signs he used in communication. He had also trained in various skills of self-care.

His behaviour was very excitable, he cried a lot and threw tantrums. He also tired very quickly.

In the first year Vitya was taught habits of correct behaviour, communication through signs, the use of a certain number of manual words and covered the preparatory stage of the course in writing in Braille script.

In his second year Vitya began to work through the syllabus for school work. He managed to keep pace with this course from year to year. In his seventh year at the home Vitya worked through the syllabus for pupils in their sixth year at the school. He was able by that time to communicate with other people using finger-spelling; he understood questions asked of him, was able to answer them and ask questions independently; in manual words or in a written form (Braille script) he was able to describe an event he had witnessed, and he was carrying on a correspondence with his parents. He could use vocal speech as well, although it was badly articulated. He could read and understand class texts specially written for him or taken from the second or third year readers for ordinary schools.

Vitya could do sums and problems taken from mathematics textbooks for second- and third-year pupils in ordinary schools. He worked in the carpentry shop and learnt among other things to use a fret-saw, and he mastered the operations necessary to work machine-tools for the production of safety-pins.



*Volodya T.* was given individual tuition at the Institute for Research into Physical and Mental Handicaps and then at our home. He began his tuition at the age of seven. His diagnosis read: tuberculosis meningitis at the age of three years and eight months. At the age of one year and four months he had chicken-pox and infectious hepatitis. At the age of two he was discovered to be suffering from enlarged periauricular lymphatic nodes. His parents also noticed that the child had begun to lose his hearing. Before he fell ill with meningitis the boy had only uttered a few individual words such as: *papa, mama, baba* (granny). He lost his sight and hearing as a result of the tuberculosis meningitis. In the range of usual speech frequencies his hearing loss exceeded 75 decibels.

While still at home Volodya had been taught some self-care skills. When he joined the group of deaf-blind pupils receiving tuition at the Institute at the age of seven, Volodya's physical development resembled that of a normal five-year-old. He could not tolerate to be on his own and his behaviour was excitable.

The first year at classes provided at the Institute was spent on re-organising his behavioural patterns, training him in the skills of self-care, acquainting the boy with objects around him and teaching him some signs.

During Volodya's second and third year he was acquainted with his environment in accordance with the pre-school programme. He learnt to use sign-speech and started work on manual and Braille words. He would carry out the instructions of his teacher when these were transmitted in finger-spelling (hortatory speech), and he had learnt to read simple texts in Braille script: he could also count up to thirty.

In his fourth and fifth year of tuition Volodya continued to work at conversation in dactylic form. He started to grasp concepts of time (*yesterday, today, tomorrow, week*, and the days of the week) and grouping concepts (*crockery, clothes, footwear*). He began to write a diary, his first compositions and his first letters to his parents. It was also at this time that Volodya read through his first book, which had been specially written for him and consisted of stories describing events from the child's own life.

Over the course of five years' tuition Volodya covered the materials designed for the preparatory stage of the course and the first-year school syllabus. By the end of that period the main form of speech he used in communication was finger-spelling. The boy was not yet ready to embark upon the task of vocalising. His written language was well developed: he could describe correctly events that he

had witnessed during the course of a walk, while at play or in class, and he was also writing a diary. As regards the standard of his written work, he had reached the level expected of pupils in the third year at the school for the deaf-blind.

For a number of reasons, the boy was taught individually, without coming into contact with other pupils. This had an unfavourable effect upon the development of his personality, and also on his progress in certain skills and abilities. These shortcomings in his overall development came immediately to the fore when, in the sixth year of his tuition, he moved to the home for deaf-blind children, where he had to live and work in a group of pupils his own age. It turned out that he was not prepared for communication with other children; he was not able to communicate with them in series of questions and answers. After only communicating with adults prior to this move, he had grown used to carrying out all their demands. He started to obey all the commands of the children without a murmur as well, and the latter, on realising how naive he was, began making fun of him, ordering him to do quite ridiculous things such as to lie down on the floor, to crawl into a cupboard, etc. Volodya then came to fear other children and avoid them.

In the first months that he spent at the home Volodya began to learn to work in the carpentry shop and learnt to cope with all the work operations required for the manufacture of safety-pins.

*Yana K.* came to the home for the deaf-blind at the age of six years and five months. Her condition was diagnosed as stemming from injury to the central nervous system resulting from birth trauma: cataract in both eyes, acuity of vision in both eyes no more than 0.01 and deaf-mutism. The loss of hearing in the range of speech frequencies was 85 decibels.

Between the ages of three and four the little girl had attended a kindergarten, where she had been cared for individually. Between five and six Yana had been at a home for children with impaired hearing, where she had also received individual instruction. By the time she came to us Yana had mastered the skills of self-care: she could eat properly dress and undress herself, comb her hair, tie a bow in her hair-ribbon, put on her shoes properly and tie up the laces. At the home for the deaf Yana had learnt to carry out the duties of a monitor, laying the table, watering indoor plants, and dusting their leaves with a wet cloth. She had also learnt to 'speak' to the other pupils by imitating their mime and sign language. At that stage she had possessed more residual sight than was the case when she came to the home for the deaf-blind. Using what remained of her sight Yana had

learnt to read and write large letters. She had also learnt the dactylic alphabet. She had a dactylic vocabulary of ten words, most of which were the names of the people around her. For everything else she used signs. She had also learnt to play with dolls and other toys. With no trouble at all she adapted to the timetable at the home for the deaf-blind. She quickly learnt to find her way about the building and the garden. In a matter of days she had mastered those skills of self-care which she had not possessed hitherto. She learnt to brush her teeth, wash her feet before going to bed, prepare her bed for the night, make it in the morning and wash small articles of clothing.

The girl started learning to play games that were more complicated than those she had known previously. She quickly mastered the point of role-playing and willingly took on leading parts.

Since Yana had well-developed sign language at her disposal, work on verbal language in her case began with substitution of words for signs. The state of her vision by this time made it imperative to teach her Braille script.

It took the little girl only four months to master the Braille alphabet. By the end of her first year of tuition Yana was able to read short texts in Braille. By the end of her second year at our school she had a vocabulary of two hundred words. She understood questions dealing with household and every-day matters and answered them correctly. Her spontaneous communication with other children and adults consisted of a mixture of signs and dactylic words. At the end of her first year sign language was the dominant form, it merely incorporated isolated dactylic words. During the next year the share of verbal speech increased; her communication through signs incorporated not merely individual words but groups of words and whole sentences.

As Yana's ability to communicate in words grew, she began to describe objects, actions and events (using dactylic words and the Braille alphabet).

During her first year at the home Yana covered the bulk of the programme of the preparatory stage of her schooling. In the second and third year she covered the material for the first and second years of the deaf-blind's school course. The next year she also successfully completed the syllabus for the third year of that programme. By this time Yana's main means of communication was verbal speech using manual words.

She also learnt to vocalise all speech sounds. However, her oral speech at that time was still insufficiently distinct since her enunciatory skills were not yet automatic. She was able to read and under-

stand texts describing events with which she was familiar and was able herself to describe in words (manual or Braille) an excursion she had been on, to write letters, keep a diary; she also learnt to count, do sums and simple problems.

*Semyon B.* came to the home for the deaf-blind from his own home at the age of eight years and nine months. Prior to that he had had no tuition at all. His condition was diagnosed as the result of intrauterine injury to the central nervous system, deaf-mutism, congenital cataract in both eyes. His hearing was reduced by 80 decibels. He still had some residual vision and could count on his fingers if he held them up in front of his face. From birth he had also suffered from fish-skin disease which reduced the tactile sensitivity in his fingers.

When he came to the home Semyon had some self-care skills and he understood a few natural gestures such as: eat, *sleep, get up, dress, wash.*

During his first year of instruction the boy was given exercises to develop his skills of self-care. He learnt to put on appropriate clothes at different times of the day and for different activities: he soon did not need reminding to put on his sports outfit for physical training sessions, or to put on his overalls for work sessions. At the end of the year he knew how to brush his teeth and wash his feet before going to bed and was able to make his bed tidily. He also learnt to take part in certain group activities contributing to the running of the household: he helped tidy up the room he shared with other pupils, learnt to water indoor plants and to tidy articles on the shelves in his cupboard and bedside locker.

The boy was also taught to understand a large number of new signs. Later he came to use signs independently. While communicating with him through signs, his teacher also started to introduce a number of short dactylic words and some dactylic letters.

The impaired tactile sensitivity in Semyon's fingers made it harder than usual to teach this particular boy to read a script consisting of raised letters. However, special aids helped him surmount even this difficulty.

During his second year Semyon began to have regular lessons in verbal language: in 'conversation' (finger-spelling) and writing (Braille script).

*Lida A.* came to the home at the age of eight. Her diagnosis read: congenital injury to the central nervous system; microphthalmia of the right eye, horizontal nystagmus in both eyes, chorioretinitis, the acuity of vision in the eye that still functioned was 0.03 (with a correction 0.08); deaf-mutism.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
250	70
500	75
1,000	80
2,000	80
3,000	85
4,000	90

Before Lida came to the home for the deaf-blind she had received tuition in a group of pre-school pupils at a home for the deaf. She had mastered skills of self-care. When she first came to our home, Lida communicated with people via signs referring to various everyday and domestic activities (*eat, sleep, wash, go*). She had not mastered verbal speech in either its manual or written forms. Initially, she hardly communicated at all with the other children because she had a command of only very few signs, and could not use finger-spelling at all. In her special lessons to promote communication skills Lida was given simultaneous instruction in signs, manual speech and writing. She was taught signs denoting objects, then their dactylic names modelled on special cards with raised shapes.

During her first year of instruction Lida learnt to find her way about her room and the yard most efficiently. She learnt to make her bed tidily and to wash small articles of clothing. She was given her initial instruction in the work skills required for sewing and learnt to hem handkerchiefs. She learnt to communicate with others using sign speech.

By the end of her second year of instruction Lida described an outing at the following level: 'September 1st. I saw field. Rye growing. Ear. Grain. Bread. Mushrooms, nuts in wood'.

In the second year of her instruction Lida learnt to answer with dactylic words questions concerning what she had been eating, where she had been, what she had seen during a walk or outing. After paying a visit to Moscow during that year she wrote the following composition: 'We went to Moscow. We saw Metro. We went to Pioneers' Club. Many children in club. I saw many toys'.

In her third year Lida started to incorporate more and more dactylic words into her communication on her own initiative. The compositions she could write had now attained the following degree of complexity: 'Yesterday holiday. I went to hall. I danced with Valya. Misha, Sashahares. Vova-bear. Misha horse run. He fell. Fir-tree in hall. Jolly. On Sunday I not learn. I went walk. Warm outside. Frost on trees. I played with Nadya, Galya, hitting boys. Vova hit boys and girls hard. Vova tired, fell in snow'.

In her fourth year at the home Lida was able to use finger-spelling to carry on conversation on a specific subject. She could for example carry out the following instruction from her teacher conveyed in dactylic words: 'Lida, tell Seryozha how you spent the summer holidays'. An example of one of her written compositions dating from that time is as follows: 'Today Lena, Shura went to post-office. Mama sent Lena parcel. Woman gave Lena parcel. Lena said: 'Thank you'. Lena brought parcel to class. Lena opened parcel herself. Parcel had sweets, apples, photo postcard. Lena shared sweets with children and teacher'.

During her fifth year of tuition Lida continued working at her verbal communication. She learnt to ask 'Why' and 'How' questions. She learnt to answer questions using prepositions correctly and using correct verb, noun and adjectival endings. An example of one of her written compositions at this time is as follows: 'Today at arithmetic lesson we played shops. I came to shop. I said: Measure out two metres, fifty centimetres of material please. Lena bought one metre and two centimetres of elastic. Shop-assistant measured out one metre and two centimetres of elastic'.

In her sixth year Lida worked on the syllabus for the sixth year of schooling for the deaf-blind. She also mastered the necessary skills enabling her to join in sewing work.

*Olya Sh.* came to the home for the deaf-blind at the age of nine and a half. Her condition was diagnosed as stemming from intrauterine injury to the central nervous system; meningitic phenomena were also noted in her case-history; divergent squint, compound hypertrophic astigmatism, atrophy of the optic nerve; acuity of vision in both eyes 0.02; bilateral chronic neuritis of the acoustic nerve; deaf-mutism. Tonal audiometry revealed the following hearing loss: 95 decibels at a frequency of 500 Hz and 100 decibels at a frequency of 1,000 Hz.

Before Olya came to the home for the deaf-blind an attempt was made to give her instruction at a residential school for the deaf. This was a failure, however, because Olya could not see what the teacher

wrote on the board and could not learn to lip-read either, but in particular because of the way she was treated by other pupils who teased and bullied her exploiting her weak sight and clumsiness.

When she first came to the home for the deaf-blind, Olya was very highly strung and restless. She used to bully children who had no sight left at all. She used signs to communicate with the other children, but also knew a certain number of dactylic words.

After detailed examination by an eye specialist it was decided that Olya should be taught the Braille alphabet. During her first year of regular lessons Olya used to tire very quickly and was only able to cope with two lessons in a morning. It was only in her fourth year at the home that she was able to carry out useful work in the course of the usual five lessons.

When Olya joined us, she was a very clumsy little girl, and could not keep her locker or cupboard tidy; she dressed in a slapdash fashion and did not look after her clothes properly. She was as yet unable to take part in joint work to tidy up the classroom or yard. After three years at the home there was no difference between Olya's level of participation in these tasks and those of the other pupils. She was able to carry out the work of dining-room monitor and tend the rabbits as well as anyone, and she enjoyed working in the sewing room. The following extracts from her diary serve to illustrate the degree to which she had mastered verbal language. The first extract was written after Olya had been at the home for eighteen months: 'Fir-tree. Holiday come fir-tree. On fir-tree toys, balls, crack. Snow-maiden, clowns. Father Frost gives present'.

The second extract dates from Olya's diary halfway through her third year with us: 'Yesterday I went into hall. Nurses, teachers, children were in hall. I danced with Ida. I bumped Lida. Lida cross with me. Toma was fox, Vova bear. Bear fell. Fox cried. Where bear? Bear climbed up stairs. Fox cross at bear. I snowballs, Lida snowballs too. I went into bedroom. I took from locker soap, tooth-powder, tooth-brush. I took towel from bed. I went to washing-room, I washed hands and face. I brushed teeth. I went to bed'.

In her fifth year at the home Olya covered the syllabus for the sixth year of the deaf-blind school programme.

*Sanya Ch.* came to the home for the deaf-blind at the age of nine years and five months. His diagnosis was congenital deafness, no residual hearing; no speech skills; at the age of seven months he had an accidental injury to his left eye; atrophy of the optic nerve in the right eye, concentric narrowing of the field of vision to as little as 5-7°, de-

gree of vision around 0.04. Scar on the cornea and traumatic cataract in the left eye.

At the age of four the boy had been placed in a group of pre-school deaf children and then progressed to join the preparatory class in the same school, and finally to cover the first two years of their curriculum. It was difficult for him to work with sighted pupils because he could not see words written up on the board or make out the dactylic speech of the teacher, and he could not lip-read either. His sight started to deteriorate and then the child was transferred to the home for deaf-blind children.

When he joined us the boy was good at finding his way around, he had well-developed skills in self-care: he communicated with people with signs, but he did not use finger-spelling although he knew the dactylic alphabet. He could read words written in big letters and could write on his own relying on his residual sight; he did not know Braille script and he had no vocalisation skills.

When Sanya first came to the home the immediate objective was to teach him verbal speech. He could use sign language as well as pupils from ordinary schools for the deaf. He started to be taught to 'verbalise' his actions, to substitute dactylic words for certain signs. Sanya was taught the names of various objects and from his first year onwards he was taught to keep a diary, and to write short descriptions of his outings in simple words. The following independent composition written by this pupil should give readers an idea of the development of Sanya's verbal language during his first year at the home: 'I walked. Sanya sledge hill. Sanya fell. Hill coat and hat snow'.

The main method used to train Sanya in language skills was dactylic or written description of events in which the child himself participated or which he had witnessed. Similar importance was attached to his mastering of verbal language in direct communication with teachers and fellow-pupils. Texts like that cited above were corrected by the teacher, extended, and written out again by the pupil. A number of devices were used to encourage Sanya to use word language in direct communication: hortatory speech (go there, do this, etc.), the transmission in words of an errand to another pupil, practice in question-and-answer conversations; training in formulating requests, etc.

In order to help Sanya to master verbal language it was most important that he should be taught to read books. At first he used to read texts compiled specially for him, describing events with which he was familiar, then he moved on to adapted texts and finally to ordinary books, newspapers and magazines. The following composition written after an excursion to an experimental plastics factory serves to



illustrate the word-language skills Sanya had mastered by the sixth year of tuition: 'Friday, December 27th. *The Plastics Factory*. In December we went on a tour of the plastics factory with Vera Ivanovna. The factory is in the small town of Zarechny. It is twenty miles from Zagorsk to the village Golygino. After lessons we went with our teachers for an outing to the plastics factory in Zarechny. The bus stopped and waited by some high hills. We got out of the bus and waited for the manager of the factory. She came out to us and led us into the factory. We went into the plastics factory. Men and women workers were working in the factory. They were making plastic. The workers carried sacks of granules into the work-shop and emptied them into a tub. The granules were mixed round and heated in the tub to make a mass. This was then spread out with rollers on to a hard strip; big slabs of plastic come out of the machine. We went from the first work-shop into the second. In the second work-shop women were making little bags from plastic film. The bags were stuck together and put in piles. The women workers gave us some bags. From the second workshop we went into the third. In the third work-shop there were machines used for making various construction parts. The women workers gave us various construction parts made on the machines. We liked this plastics factory'.

During his seventh year at the home Sanya worked through the syllabus for the fourth-year pupils at an ordinary secondary school and he studied the history of the Soviet Union.

The boy also mastered work-skills required in the carpentry work-shop, learnt to make safety-pins using machine-tools with a professional level of competence, and also started making washers for soft toys required by a local toy factory.

*Nata Ch.* came to the home for the deaf-blind at the age of ten. Her condition was diagnosed as the result of meningitis contracted at the age of two; bilateral atrophy of the optic nerve, myopic astigmatism; degree of vision in the right eye – 0.02; in the left eye 0.06 (0.09 using glasses); bilateral neuritis of the acoustic nerve, deaf-mutism.

Tonal audiometry revealed the following hearing loss: 60 decibels in the frequencies 125, 250, 500 and 1,000 Hz; 65 decibels for the frequency 2,000 Hz; 75 decibels for the frequencies between 3,000 and 4,000 Hz. She possessed no oral speech skills.

Before she came to the home in Zagorsk Nata had spent two years in a preparatory class for deaf children. She had not been able to keep up with the syllabus and had had to leave the school because of deficient sight. In the home for the deaf-blind it turned out that Nata was able to look after her everyday needs. She was good at find-

ing her way about relying on her residual sight. She could play with dolls and other toys. She used signs for communication but also knew some dactylic letters and words. Her vocabulary of dactylic words – names of concrete objects – was not large, consisting of about twenty words. Nata was able to read and write certain ‘sighted’ letters.

In her first weeks at the home Nata did not find it difficult to adapt to the new timetable, to look after her clothes neatly wash her white collars and cuffs, her handkerchiefs, and stockings and iron her underclothes. On the days when it was her turn to be monitor she learnt to tidy the class with other pupils, to tidy the bedroom, to carry out household tasks in the dining room and to clear up the yard.

When communicating with other pupils Nata only made use of signs. Gradually she was taught to substitute dactylic words for certain signs. Halfway through her first year of instruction Nata could use dactylic words to denote a large number of household objects: cup, saucer, plate, spoon, knife, fork, table, bread, tap, water, blanket, mattress. She also mastered certain longer dactylic words such as washroom, bedspread, blanket-cover, pillow-case.

Work on verbal language for Nata, as indeed for all pupils, involved – among other things ‘verbalising’ actions, dactylic and written descriptions of excursions, walks, games.

When Nata came to the school, an attempt was made to teach her to write in the ordinary way. The teacher wrote down on paper words and phrases in large letters. Nata read them and then spelt them out in dactylic letters. She then had to try herself to reproduce the ordinary ‘sighted’ letters which she had mastered previously. However, she bent down so low over the paper that her nose was almost touching it. After a visit to the ophthalmologist it was decided that Nata should switch to the Braille alphabet. This she mastered quickly and halfway through her first year at the home she could read and write using this alphabet.

By the end of her first year Nata started learning to keep a diary. At first it consisted of simple sentences, written with the help of her teacher, about what she had eaten for breakfast, lunch and tea. Work on language and to familiarise children with the life around them proceeded along parallel lines. Nata together with her fellow-pupils was shown the outbuildings in the garden, the Pets’ Corner, with rabbits and guinea pigs, the streets of our town, the local stadium and shops. Events from the pupils’ day-to-day lives were reflected in the texts compiled by the teachers for use in class. Pupils were presented with the following text, for instance, after a walk during which they had played snowballs: *Playing Snowballs*. Sasha, Misha, Lena and Nata

walked in the yard. The children played snowballs. Lena threw a snowball at Misha. Misha threw a snowball at Lena. The children laughed. Anna Andreyevna came. The children went home’.

This text printed in Braille script Nata was able to read. Then with their teacher’s help the children acted out the action contained in each sentence. After that the children wrote out the text themselves.

Verbalising actions proved a particularly effective method of teaching Nata to master word language. By the end of her first year of tuition she succeeded in writing the following text with minimal assistance from her teacher:

*‘Modelling Lesson.* Nata took plasticine. Nata modelled cat. Nata modelled mouse. Nata modelled bucket. Nata put cat, mouse, bucket in cupboard’.

During three years at the home Nata covered the preparatory stage and the syllabus for the first three years of the schooling programme.

### **Pupils Taught by ‘Sighted’ Methods**

*Zana S.* came to the home for deaf-blind children at the age of ten and a half after living with her own family prior to that. Her diagnosis read: injury to the central nervous system resulting from birth trauma; microphthalmia, partial atrophy of the optic papillae, acuity of vision in both eyes around 0.1; deaf-mutism; hearing loss in the range of speech frequencies – 85 decibels.

Before Zana came to the home the girl had not received any training. She was hardly able to walk and was led about by the hand. Her skills of self-care were underdeveloped, but she could eat by herself, take off and put on her dress and stockings. She did not use signs or understand them.

In her first year at the home Zana was instructed in skills of self-care, communication by means of signs and elementary dactylic words. All the pupil’s actions were introduced by natural signs. On her first day in the home Zana learnt the sign for *lavatory*, and a week later she began to understand the signs for *eat, sleep, dress*. Soon she started to use the signs herself. As soon as Zana started using signs independently, her teachers tried to correlate these with dactylic words. The first dactylic word which Zana began to understand was her name – Zana. She mastered it four months after coming to the home. Two months later Zana understood and could finger-spell the names of other children: *Tanya, Lena, Sasha*, and of her teachers: *Nadya, Lasya, Klava*. She later learnt the names of garments, types of footwear, and food and objects in the classroom.

Zana took a little over a year to cover the preparatory stage in the instruction of deaf-blind children. During her second year Zana succeeded in covering the syllabus for the first year of the deaf-blind pupils' schooling programme. In her third year she covered the second-year syllabus, and during her fourth year at the home Zana worked at the syllabus for year three. She had more difficulty with mathematics than other subjects, but her language work continued well. An independent composition written during her third year of tuition serves to illustrate this: '*At allotment*. We went to allotment. Lusya brought water-can. I on bed. We plant seeds for vegetables beetroot. People work in field in allotment'.

After discussing and working through this text and 'acting it out', Zana rewrote the composition as follows: '*At allotment*. We went to allotment. Lusya said: 'Zana bring water-can.' I brought water-can. I watered bed. In bed vegetables grow: beetroot, carrots. In spring people work at allotment'.

Another interesting example of her work is that concerned with 'verbalisation' of actions during her fourth year. Zana washed a blouse of hers and hung it on the line to dry. After that the teacher suggested that she tell the 'story' of what she had done by means of signs and dramatisation. In signs and mime Zana then acted out the whole washing process. After that it was suggested that she tell the 'story' in words (dactylic ones). During this account the teacher prompted Zana when she had occasional difficulties with individual words. Then Zana took her exercise book and wrote out her story. Side by side with her pupil the teacher corrected the mistakes in it and then Zana wrote out the composition again. In its final form it looked like this: '*I Washed a Blouse*. My blouse was dirty. I said to Lusya: "I want wash blouse." I took soap and blouse. I went to wash-room. I took basin. I turned on hot tap. I poured water in basin. I put blouse in basin. I washed blouse with soap. I wrung blouse. I hung blouse on line. The blouse dried'.

*Misha F.* came to the home for the deaf-blind at the age of eight and a half. His condition was diagnosed as an after-effect of birth trauma which had damaged the central nervous system: a high degree of myopia, convergent squint, partial atrophy of the optic papillae, acuity of vision in both eyes – 0.05 (with glasses 0.1); deaf-mutism; chronic neuritis of the acoustic nerves.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
125	70
250	75
500	90
1,000	90
2,000	95
3,000	85
4,000	95

The boy came to us from a home for deaf-mutes where he had been trained to keep to a regular timetable, had mastered skills of self-care and learnt to communicate using signs and mime. Misha knew the dactylic alphabet, and how to read and write large letters. He knew a number of dactylic words.

In the four years he spent at the home for the deaf-blind he covered the syllabus for the preparatory stage and those for years one, two and three of the schooling programme for the deaf-blind. He derived a good deal of pleasure from work in the carpentry shop. He was good at carving out animal shapes with a fine fret-saw. On his own initiative he used to help elder pupils in their work manufacturing safety-pins.

*Seryozha B.* came to the home for deaf-blind children when he was eleven. His diagnosis read: encephalitis following on influenza at the age of two years and four months; deaf-mutism; hearing loss – 75 decibels; impaired vision-acuity of vision in the right eye 0.1, and in the left eye 0.09.

The child was normal at birth. His development proceeded well at first: he learnt to walk before he was a year old and started to talk. He fell ill with influenza at two years and four months, and his condition was then complicated by encephalitis. He was in hospital for six weeks. After his discharge his mother noticed that the boy could not hear and that his sight was impaired. By the time another eighteen months had passed he had lost all his speech skills.

Seryozha was sent to a residential school for deaf children. He spent two years working in the preparatory class and was then kept back in the same class for a third year, since he had not completed

the syllabus. He did not take part in class work since he could not read from the board, and could only distinguish dactylic signs when these were made right in front of his eyes.

When he came to the home for the deaf-blind, Seryozha already possessed skills of self-care and could communicate in signs. He did not have any vocalisation skills. He knew the dactylic alphabet and how to read and write 'sighted' letters. Seryozha's vocabulary was very poor: he could only write, read and spell in dactylic letters a mere handful of words (*Mama, Papa, table, house*). The essential task at first was to teach him verbal language as a means of direct communication and descriptive speech in its dactylic and written forms. After consulting an ophthalmologist it was decided that Seryozha could continue to be taught language skills using 'sighted' methods.

In his first year of tuition at the home for the deaf-blind Seryozha was taught words denoting objects around him; at mealtimes he was introduced to the names for various eating implements and types of food. The names for these objects and actions were reinforced in his work on written language. Communication via signs and mime was gradually replaced by verbal communication.

The following is an example of an independently written composition which Seryozha produced during his second year of tuition: 'I goes quickly. Many people. Flags out. Sun. Spring warm'.

A visit to the zoo in the summer was recorded by Seryozha on the day following the treat in the following words: 'Yesterday morning went train. I horse rode. We saw wolf, lion, tiger, elephant, fox, bear'.

The contrast between this and another composition written in the middle of his fifth year is striking: 'December 7th. Saturday. On Thursday morning Olga said: "You want to ski?" I want to ski. Olga and I went downstairs. I took skis. I put on trousers, jacket. I went out. I skied outside. I looked Raisa, Borya. I said: "No Raisa, Borya." I, Raisa, Borya went up hill. We skied long time. Borya fell in snow. I laughed. Borya fell many times. I skied on hills. Borya skied and fell on river. I watched boys and girls on skis. Raisa said: "Feet cold." We skied home'.

In his sixth year at the home Seryozha covered the syllabus for year four of the deaf-blind schooling programme. He works in the carpentry shop using machine-tools for manufacturing safety-pins.

### Pupils Suffering from Marked After-effects of Diseases of the Central Nervous System in the Form of Mental Retardation, Asthenia and Motor Malfunction

*Tata P.* came to the home for deaf-blind children at the age of ten. Her diagnosis read: mental retardation resulting from intrauterine injury to the central nervous system atrophy of the optic disks; degree of vision 0.03 (right eye), 0.04 (left eye); chronic neuritis of the acoustic nerves.

Tonal audiometry revealed the following hearing loss.

Frequencies in Hz	Hearing Loss in Decibels
125	60
250	65
500	60
1,000	70
2,000	100
5,000-6,000	over 100

The girl was sent to the home for the deaf-blind from a school for deaf-mutes, where she had spent several years in the preparatory group and which she had had to leave as she had not mastered the syllabus. Apart from impaired hearing and sight and her lack of speech skills, Tata suffered from motor handicaps (her gait was abrupt and jerky her coordination was faulty and she had tremor). These motor malfunctions prevented Tata from mastering skills of self-care and those necessary for joining in household tasks. Nevertheless, Tata learnt to eat on her own, to dress and undress herself and to take her shoes on and off (the one thing she could not cope with was tying laces).

Work was started to train Tata in communicative skills: signs, word language of a conversational (dactylic) and written (Braille) type. However, retarded mental development ruled out success in this undertaking. During the four years she spent at the home all Tata managed to learn were signs and words which were repeated for her countless times by her teacher; she also learnt to repeat words after her teacher, to copy texts and to reproduce these from memory. Any

attempt to correlate word material with what it denoted caused her great difficulty, more often than not of an insurmountable kind.

*Inna A.* came to the home for the deaf-blind at the age of six years and five months. Her condition was diagnosed as the result of birth trauma: deaf-mutism (neuritis of the acoustic nerves), underdevelopment of the eyeballs and a defect in the iris; acuity of vision 0.1 (right, eye), 0.05 (left eye); hearing loss over 80 decibels; the case-history also mentioned mental retardation.

Before Inna came to the home for the deaf-blind she had stayed with her parents and had been trained in some skills of self-care. She could eat properly, and walk well; she could dress and undress with some assistance from adults. She had evolved certain natural signs, which she made use of to communicate with people around her. Inna was a temperamental child. She reacted to attempts to teach her to behave properly with screaming, crying and stamping. In the dining room Inna was apt to throw plates or bread on to the floor. Gently but firmly Inna was taught to behave in a fitting way. Systematic work began on perfecting her skills of self-care, promoting her sign speech, and, later instructing her in speech (dactylic and written). With her doctor's approval it was decided to allow Inna to use her residual sight in lessons.

In instructing Inna it was most important to make sure that the material offered her could be associated with aspects of her immediate practical experience.

During her first year of instruction Inna learnt to dress and undress herself far more quickly and tidily, to wash socks and handkerchiefs, collars and underpants. Inna learnt to tidy up the bedroom, classroom and dining room together with other pupils. She learnt to ride on a sledge, use the skipping-rope, and catch a ball with two hands. She learnt signs denoting household articles: crockery, garments, toilet articles, food items. She began using signs to denote actions. With no difficulty she would perform errands transmitted to her through signs, such as *Bring broom. Bring bucket of water. Clear away dustpan.* Inna learnt how to write letters and how to transmit them in dactylic form.

In the following year of her tuition Inna learnt how to spell her own name in dactylic letters, as well as those of the other children in her group. She could also understand and transmit in finger-spelling the words: *table, chair, desk, class, soup, porridge, tea, butter, knife, spoon, cup.* She learnt to use the dactylic words for *Thank you, Hallo, Good-bye.* Attempts were made to teach the girl to replace certain signs with dactylic words in direct 'conversational' exchanges. However, this



proved beyond her and when her teacher insisted, she would first make a sign and then spell out the corresponding dactylic word. If the teacher still persisted in trying to persuade her to substitute dactylic words for signs, Inna would spell out a dactylic word, and then, as if she had doubts as to whether she had been understood, would follow up the word with the appropriate sign. In this way she would use word-sign pairs to 'say': *sleep, eat, walk, goodbye*.

In the course of the next two years Inna was given further instruction in dactylic communication. She was taught the names of various objects and introduced to new kinds of exercises: she was taught to 'verbalise' actions, to write a diary, to describe pictures (her sight was good enough for her to be able to make out pictures if these were held up close to her face), to read texts and to write. However, her grasp of verbal language proceeded very slowly. It emerged that she suffered from defective memory and found it difficult to retain new words for any length of time. In order to make up for her poor memory, new words were written down in large letters on special cards. When Inna was called upon to 'verbalise' an action or to make an entry in her diary, she made use of her special 'word index'.

By the end of her fourth year of instruction she was able to put together a text like this for instance: 'I slept. I got up. I took. I sat down. I played'.

After five years of instruction Inna is able to read, write and reply to simple questions with answers memorised previously. However, she is not able to work on her own. A constant check has to be kept on what she is doing and she needs guidance all the time. As soon as she is left on her own she drops the exercise she has been working on and no amount of effort on the part of her teachers has succeeded in overcoming this.

*Dima D.* came to the home for the deaf-blind at the age of ten. His diagnosis read: damage to the central nervous system (following on intrauterine encephalitis); hemiparesis of the left side; extreme myopia with changes in the function of the eye; acuity of vision in both eyes 0.1 (approximately 0.3 with a correction); bilateral chronic neuritis of the acoustic nerve.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
125-250	70
500-1,000	80
2,000	95
3,000	100

The boy was also underdeveloped physically. He looked no older than six at the age of ten. Before he was transferred to the home for the deaf-blind he had been at a home for deaf-mutes. Then he had spent two years in the first form of a school for children with impaired hearing but being unable to cover the material he had had to leave. Relying on his residual sight Dima found his way about in the home for the deaf-blind easily. His skills in self-care were well developed. He used signs and mime to communicate with people around him. He knew dactylic words denoting classroom objects, garments and various kinds of footwear. He accompanied these with vocalisation but his oral speech was not articulate enough to be understood.

The main task Dima's teacher tackled in his first year of instruction was the mastering of verbal language. The boy learnt to communicate using dactylic speech and to describe practical actions and excursions in finger-spelling and in writing. One of the first compositions written by Dima read as follows: 'I put on hat, coat. I went out. Leaves in street. I saw fall. I gather leaf.'

During his second year of instruction Dima covered the syllabus for deaf-blind children's second year of schooling. A composition written by him after an outing to the park during that year read as follows: 'We went to park. We went to hill. I played. We took gathered brown, yellow, red maple leaves. On trees leaves fall. We went home.'

Texts written independently by Dima are corrected and amplified by the teacher and then written out again by the boy. His progress in mastering the grammatical structure of language and extending his vocabulary is slow both in communication and in descriptive language. The fact that Dima tires quickly (one of the after-effects of his illness) hinders his progress. The paresis in his left arm makes it difficult for him to master work skills.

## Chapter IV

### Pupils Undergoing Vocational Training

Experience of the Zagorsk home for the deaf-blind has shown that pupils with impaired sight, hearing and speech are nevertheless able not merely to master knowledge in general subjects but also to learn certain productive skills.

Investigation of the physical and mental development of various pupils revealed the need for differentiation in the teachers' approach. At the beginning of the 1969-1970 academic year twelve pupils were selected for vocational training, which would later enable them to work for one of the production artels of the All-Russia Association of the Blind, while at the same time continuing their instruction in general subjects essential for their everyday adult lives.

Four teaching groups were constituted for this purpose and the weekly timetable for the pupils was as follows: vocational training – 24 lessons, Russian language – 8 lessons, Soviet Constitution – one lesson, mathematics – one lesson, object lesson – two lessons. The total number of lessons a week then came to thirty-six.

Apart from vocational training and general subjects each of these groups received training in everyday domestic skills on a par with groups of pupils studying according to the ordinary schooling syllabus.

The lessons allocated to vocational training involve the following activities: 1. learning about safety precautions; 2. study of production equipment; 3. training in skills.

This training is designed to qualify pupils as a seamstress, fitter, puncher, driller, etc.

On the basis of sex, level of development and degree of residual sight pupils were allocated to one of the production shops in the Zagorsk home to be trained in: a) carpentry, b) sewing, c) locksmiths' trade, d) cooking and e) housecraft (washing, ironing, mending, etc.).

Training in everyday domestic skills is provided in the course of regular day-to-day pursuits outside the classroom: rising, morning exercises, washing, meal-times, walks, homework, outings, meetings, and social activities. All deaf-blind pupils' activities during their waking hours require the presence and active guidance from a member of adult staff.

The work of each group of pupils undergoing vocational training will be discussed separately since they had attained different levels of mental development and had not all reached the same point in the

schooling programme, and their diseases in infancy had afflicted them with various kinds of physical impairment.

The first group consisted of pupils Vladlen P., Vladislav T., and Valya B. The pupils in the second group were Lyuba H., Nadya K., and Vova L. The third group consisted of two pupils Kolya B. and Boris G. These two boys had some residual hearing, which made it possible for them to apprehend loud speech. The pupils in the fourth group were Mikhail N., Mara L., Valya P. and Anatoly T. These pupils apart from being deaf-blind and possessing no speech skills had suffered from damage to the central nervous system leading to asthenia, motor malfunction and varying degrees of mental retardation.

All the pupils in the groups for vocational training had been taught at schools for the deaf before coming to the home for the deaf-blind. The only exception was Valya P., who, before coming to the home in Zagorsk, had not received instruction anywhere. However, for many of these pupils instruction at schools for the deaf had not resulted in any progress over a period sometimes as long as several years.

There now follows a more detailed survey of the diagnoses and learning progress of the pupils in these groups.

### Group 1

*Vladlen P.* came to the home for the deaf-blind aged fourteen. His condition was diagnosed as stemming from intrauterine injury to the central nervous system: atrophy of the optic nerve in both eyes; acuity of vision 0.01 (after correction 0.06); bilateral neuritis of the acoustic nerve; deaf-mutism.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
250	65
500	75
1,000	95
2,000-3,000	100

Before coming to the home for the deaf-blind, Vladlen had spent five years at a school for the deaf. He had proved unable to cope with the syllabus for first-year pupils at that school. When Vladlen came to the home in Zagorsk his skills in self-care were well developed, he could communicate using mime and signs, he knew the dactylic al-

phabet and could write large letters and read large print. His vocabulary was very small and he could only finger-spell a few household articles. He did not use verbal language when communicating with other people at all, nor could he describe his actions in words.

His instruction began with the syllabus for the first year of the schooling programme for the deaf-blind. He found it extremely difficult to substitute dactylic words for certain individual signs he used in communication. However, by the fifth year of his tuition at the home Vladlen had acquired a large vocabulary and could write compositions of considerable complexity.

From the very beginning of his stay in the home Vladlen had shown interest in work. He really enjoyed using construction kits and putting together complicated things such as cars, rockets, cranes. He engaged in both sewing and carpentry work. He learnt quickly how to make safety-pins using machine-tools for this purpose, and did the work very well.

During his seventh year at the home for the deaf-blind Vladlen covered the syllabus for the seventh year of the schooling programme for the deaf-blind. He worked in the carpentry shop, making discs with holes in the middle for the local toy factory, and also clothes-hangers and other articles. He communicated with adults and the elder pupils using dactylic speech.

*Vladislav T.* came to the home for the deaf-blind at the age of thirteen. His condition was diagnosed as stemming from congenital impairment of the central nervous system: the first child in his family had been born deaf and Vladislav (the second) had also been born deaf; the extent of his hearing loss was 75 decibels. Absence of the left eyeball, pigmentary degeneration of the retina in his right eye, subatrophy of the optic papilla; acuity of vision 0.06. Vladislav had spent five years at a school for deaf children. According to the reports of his teachers he had hardly participated in any class work and had not even mastered the first-year syllabus. Vladislav came to the home for the deaf-blind with well-developed skills in self-care. He communicated by means of mime and signs. He could read and write relying on sighted methods, but his vocabulary was very limited and he did not use words for communication.

It was with great difficulty and reluctance that Vladislav learnt to communicate through dactylic words. Communication through signs and mime he found easier to understand and use.

Like his group-mate Vladlen P., Vladislav found it easier to use the verbal language for descriptive purposes than for direct communication.

In his seventh year at the home for the deaf-blind Vladislav completed the syllabus for the seventh year of the deaf-blind schooling programme. He continued to use mime and signs in communicating with deaf-mute pupils possessed of residual sight while he 'conversed' with adults in dactylic words. Like Vladlen, he was working in the carpentry shop.

*Valya B.* came to the home for the deaf-blind aged sixteen. Her diagnosis was damage to the central nervous system after encephalitis which in its turn had followed on from measles: keratoleukoma in both eyes; acuity of vision in her better (right) eye approximately 0.05; chronic neuritis of the acoustic nerves; deaf-mutism.

Valya was brought to the home for the deaf-blind after previously being a pupil in the fifth class of a school for the deaf. On the basis of her command of verbal language she was placed in the class working on the third-year syllabus. She used mime and signs to communicate with.

The following two examples of unaided writing during her fifth year of tuition in Zagorsk home serve to illustrate the level of Valya's command of language: *'The Carpentry Shop*. The carpentry shop is in a room in the basement. In the carpentry shop there are lathes, bars, plywood and boards. There are three machine-tools standing in the carpentry shop: a circular saw, a lathe and a machine for drilling holes in wood. Wooden bars are sawn using the circular saw. Dmitry Pakhomovich sawed in two parts. We (Nadya, Toma, Lydia Ivanovna and I) drilled holes on the drilling machine. There are three work benches in the carpentry shop. On the work benches wooden parts and toys are assembled. In the cupboard in the carpentry shop lots of wooden articles and tools are kept. Dmitri Pakhomovich, our teacher, works in the carpentry shop. He teaches carpentry work to the boys'.

The second example of Valya's writing is an extract from her diary:

'Yesterday we (Nadya, Toma and I) were dining-room monitors. Nadya and I put dishes on the table. Children came for breakfast. After breakfast Nadya and I collected dishes, put dishes on scullery table. Nadya and Toma washed dishes. I wiped tables with cloth, then swept floor with broom. Nadya washed scullery floor with cloth. Nadya and I put out dishes on tables for dinner. We went to lessons. At lessons we had a nature-study test questions to answer. After lessons we went to dinner. After dinner we collected dirty dishes and washed dishes. I wiped tables with cloth, swept floor with broom. We put cups, bread-basket with bread on table. We went to lessons. After dinner Lyubov Ivanovna came. I typed on ordinary typewriter Rota

for Classroom and Bedroom Monitors. We had tea. We washed crockery. We not went outside. We had lessons. We rested’.

It is possible now to talk to Valya using verbal language (dactylic words). She keeps a diary and can type using a Braille typewriter. She can also use an ordinary typewriter. She reads books written in large type (text-books adapted for the partially sighted), but because of her deteriorating vision she is now switching over to books printed in Braille. Valya is employed in the sewing workshop and is adept in working on a sewing machine.

## **Group 2**

*Nadya K.* came to the home for the deaf-blind at the age of nearly nineteen. Her diagnosis read: damage to the central nervous system following meningoencephalitis at the age of two: pigmentary retinitis, compound myopic astigmatism; acuity of vision (corrected) 0.2; bilateral neuritis of the acoustic nerve; deaf-mutism. Tonal audiometry revealed the following hearing loss: at a frequency of 250 Hz 75 decibels, and at a frequency of 500 Hz 90 decibels.

Before Nadya came to the home for the deaf-blind she had completed eight classes at a school for the deaf. She communicated using exclusively mime and signs. Her command of verbal language was very poor. Her dactylic and written (‘sighted’) verbal language was for all intents and purposes a string of words without any grammatical connections. Moreover, she did not want to learn verbal language, because she saw no need for it, as she got by with communication in signs. However, the prospect of writing letters to her family was something that did arouse her interest, for she was very attached to her relatives. Each day Nadya worked at writing letters. Her teacher would correct them and then she would write them out again. Using her residual sight Nadya was also taught to think up and write down captions for pictures. Then she moved on to compiling written texts describing pictures or a story in pictures. In order to encourage Nadya’s use of verbal language the enjoyment she derived from communicating with the younger pupils in the home was also exploited. She used to show pictures to those among them who retained some residual sight, pictures which she herself was able to draw, and then tell them what the pictures were about.

Nadya now has a much better command of verbal language in its written form: She has begun to keep a regular diary, can type on Braille and ordinary typewriters, and writes letters with no difficulty.

She is making good progress in her work skills. Not only has she mastered all types of work taught in the sewing workshop, being able to make dresses, underclothes etc., but she has also learnt to make

safety-pins using the appropriate machine-tools. In addition she also enjoys looking after the animals and is competent at all types of house work.

*Vova L.* came to the home for the deaf-blind when he was nearly sixteen. His condition was diagnosed as resulting from meningoencephalitis in early childhood (the exact age is not known); myopic astigmatism in the right eye, and traumatic cataract in the left eye; acuity of vision in his right eye is 0.01 and in the left 0; deaf-mutism.

Vova came to the home for the deaf-blind after completing six years at a school for the deaf. He uses mime and sign language to communicate. When communicating with those who can hear, he uses some phrases in oral speech. He mis-stresses almost every word he utters. Vova can see virtually nothing and is not able to read or write using 'sighted' texts. As soon as he arrived Vova started learning to write using Braille script and to read finger-spelling.

Vova soon acquired a good grasp of the work skills needed for making safety-pins. He enjoys working in the carpentry shop.

### Group 3

*Kolya B.* came to the home for the deaf-blind at the age of nearly sixteen. His diagnosis read: damage to the central nervous system after meningoencephalitis at the age of two and a half; a high degree of myopia, acuity of vision in the right eye 0.06 and in the left 0.04 (with a correction – 0.2); impaired hearing.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
125	50
250	45
500	50
1,000	75
2,000	65
3,000	60
4,000	80
6,000	85



Kolya was transferred to the home in Zagorsk from a school for the partially deaf or those whose deafness had set in at a relatively late age. Kolya communicated mainly by means of signs and mime. He used oral speech when communicating with the hearing. He knew a fair amount of words but used to make mistakes in pronunciation, mis-stress words and mispronounce word-endings.

He mastered the work skills for making safety-pins, finds carpentry interesting and willingly carries out any household chores.

*Boris G.* came to the home for the deaf-blind at the age of eighteen. His condition was diagnosed as stemming from damage to the central nervous system after a disease of ill-defined etiology at the age of seventeen months; virtually total blindness (the left eye is sensitive to light but no more); bilateral neuritis of the acoustic nerve; impaired hearing.

Boris completed five years at a school for the partially deaf, but had to leave it because of his bad sight, and for three years had no schooling at all. Then he came to the home in Zagorsk. The condition of his hearing makes it possible for him to apprehend oral speech and to communicate through oral speech himself.

During his second year at the home for the deaf-blind Boris worked on material from the fourth-year syllabus used in ordinary schools. He has mastered a trade (the manufacture of safety-pins) and works in the carpentry shop.

#### **Group 4**

*Mikhail N.* came to the home for the deaf-blind when he was nearly twelve. His diagnosis read: congenital injury to the central nervous system; deaf-mutism; atrophy of the right eyeball, microphthalmia of the left eye; residual sight in the left eye (0.04) which does not render itself to correction.

Tonal audiometry revealed a hearing loss of over 75 decibels in the range of speech frequencies.

When the boy was eight years old attempts were made to teach him at a school for the deaf, where he spent about four months. His teacher wrote in her report at that time: 'During this period Mikhail was unable to settle in with the other children at the school or get used to the timetable; he could not tell the difference between lesson and break-time. During lessons he was restless, would jump about and sway his body from side to side. It proved impossible to teach him to make any sounds other than *a* and *m*. When a teacher was trying to teach him a sound or anything else Mikhail started playing with the teacher. He would try to hug the teacher or his class-mate or stroke their faces with his hands and expect a similar friendly caress

in return. During breaks he would feel over all the children and adults he encountered. Everything edible he used to smell, feel over and then lift to his mouth. Mikhail did not make the impression of a stupid child, but teaching him was very difficult'.

After leaving the school for the deaf (before the home for the deaf-blind was opened) Mikhail spent close on four years at home, where he did not communicate with other children. The parents communicated with the boy using a very limited number of natural signs. Mikhail himself did not use signs. When he came to the home in Zagorsk Mikhail had mastered certain skills in self-care: he could dress and wash himself and use the toilet independently. He also suffered from various types of motor malfunction: his body used to twitch, he used excessively wide and wild arm movements and constantly moved his lower jaw from side to side.

Very little was achieved during his first year of tuition. Mikhail was made familiar with elementary signs (*sleep*: right palm placed against his right ear; *get up*: a movement of the right hand with palm uppermost; *go*: a movement to and fro of the index and middle fingers in turn; *eat*: placing the thumb and first and second fingers together and then raising them to the mouth; *wash*: a movement with the palm of the hand around the face; *physical exercises*: arms to the side and raised; *work*: banging one fist up and down against the other; *study*: putting the hands in front of the body one on top of the other; *make a bed*: moving the hands out sideways as if smoothing out bed-clothes; *sew*: a movement as if working with needle and thread; *model*: movements of the hands as if to make snowballs.)

By the end of his first year Mikhail began to understand these signs but did not use them. He kept away from other children and did not communicate with them.

By the end of his second year of instruction he had mastered all the necessary skills of self-care: he had learnt to iron underclothes and trousers, to wash socks and handkerchiefs, to sew on buttons and loops to hang garments up by, to clear up in the classroom and bedroom. He began learning to work in the carpentry shop. He was twitching much less than before.

During his third year at the home Mikhail began communicating with other pupils who were growing used to him and no longer paid any attention to his twitching and flailing. He learnt to make simple entries in a diary and to use simple dactylic words with which he was thoroughly familiar.

During his seventh year at the home for the deaf-blind Mikhail was working through the syllabus for the third year of the schooling

programme for the deaf-blind. He had mastered the work skills necessary for the manufacture of safety-pins. He enjoyed carrying out all errands which involved physical exertion. He was working in the carpentry shop and his motor malfunction did not impede him in his work activities at all.

*Mara L.* came to the home for the deaf-blind at the age of twelve. Her condition was diagnosed as congenital injury to the central nervous system. The girl's parents were both blind, and the girl was born deaf with a little residual sight. She suffered from congenital coloboma of the iris in her right eye, a cataract, her left eyeball was underdeveloped; she could not see with her left eye at all and the acuity of vision in the right eye was 0.02.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
250	65
500	70
1,000	100
2,000-4,000	105

When Mara came to the home for the deaf-blind she possessed skills in self-care and used to communicate with signs. However, their number was limited: *eat, walk, play, do*. She knew five dactylic words: *Papa, Mama, Tanya, Vova, Mara*. She found it very difficult to concentrate and had a poor memory. She used to forget very quickly the material she had worked through in class.

When she had stayed for six years in the home at Zagorsk Mara had learnt to read and write using both the 'sighted' method and Braille. She had mastered skills necessary for work in the sewing room and was efficient in the manufacture of safety-pins. She enjoyed productive work and executed it well.

*Anatoly T.* came to the home for the deaf-blind at the age of twelve. His diagnosis read: congenital deaf-blindness; congenital cataract in both eyes; bilateral neuritis of the acoustic nerve; severe diabetes mellitus; his case history also contained references to symptoms testifying to subcortical dysfunction.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
250	50
500	60
1,000	80
2,000	100
3,000	100

The boy often had to be hospitalised in connection with his diabetes, operations on his eyes and his psychoneurological condition. He often became violent for no apparent reason. He might even start hitting his teacher with clenched fists. Sometimes injections of tranquillisers had to be resorted to.

During his calm periods work was carried on with Anatoly to develop his communication, reading, writing and work skills. Anatoly has been at the home for the deaf-blind ever since it was first set up. He has learnt to read and write using raised script and has mastered the syllabus for deaf-blind pupils in the first year of their schooling programme. He has learnt the necessary work skills to manufacture safety-pins and he also works in the carpentry shop.

## Chapter V

### Pupils following the Syllabus used in Senior Classes of Ordinary Schools

The pupils whose diagnoses and academic achievements are reviewed in this chapter have been taught using Braille script. They are either totally blind (Sergei S., Vasya U., Julia V., and Toma B.) or have a minimal degree of sight left enabling them to do no more than distinguish between light and dark (Natalia Sh., Alexander S.) or possess residual sight of no more than 0.02 (Yura L., Natasha K.).

The majority of these pupils had begun to be taught according to the methods recommended for deaf-blind children before any special institution for their care and instruction was opened. They were either given instruction at the Institute for Research into Physical and Mental Handicaps itself or in other institutions, or at home under the guidance of the Institute's staff.

They all have a good grasp of verbal language, which they use for communicating with adults and among themselves. Communication is effected via finger-spelling on the part of the 'speaker' into the hand of the 'listener'. They also make wide use of technical devices that enable the 'listener' to apprehend letters and signs in raised script. The pupils can also use oral speech which is sufficiently articulate for them to be understood.

These pupils can read Braille editions of fiction and other literature. With the help of technical aids books, magazines and newspapers which are not printed in Braille are read to them. Apart from working with special Braille type-writers these pupils can also use ordinary type-writers with complete proficiency.

These pupils find their way about inside the home and its yard independently. They are able to look after their own everyday needs, conduct various activities with younger pupils, teaching them modelling, work habits and skills of self-care. They have mastered all types of productive work in which pupils can be trained at the home: carpentry, sewing and the manufacture of safety-pins. They organise social activities for members of the Pioneer and Komsomol organisations, prepare the home's news bulletin (in Braille script), organise parties and arrange debates.

Four of the elder pupils in the 1969-1970 school year followed the syllabus for the ninth and tenth years of ordinary schools (Sergei Sirotkin, Yuri Lerner, Natasha Korneyeva, Alexander Suvorov). Their dream was to prove eligible for a higher educational establishment. In 1971 they were enrolled at Moscow State University after successfully passing the entrance exams. These four pupils made up the first group of senior pupils at the home. The second also consisted of four pupils: Julia V., Natalia Sh., Vasya U., and Toma B. Their aim was to complete the eight-year course as provided at ordinary schools.

The following paragraphs will present more detailed information as to the diagnoses and learning achievement of the pupils in these two groups.

### **Group 1**

*Sergei Sirotkin* came to the home for the deaf-blind at the age of fourteen. His diagnosis read: congenital impairment of sight and hearing (it proved impossible to ascertain the nature of disease giving rise to this impairment); glaucoma in the right eye, detachment of the retina in the left eye, blindness; bilateral otitis and neuritis of the acoustic nerve.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
125	55
250	60
500	65
1,000	65
2,000-3,000	55
4 000	65
6,000	70
8,000	60

The child had been born in an asphyxiated state, with his umbilical cord tangled round his throat. When the boy was about eight months old, the parents noticed that he did not react to noise. A little earlier still they had noticed that he was frightened of light and only noticed objects that were very near him. He lost the sight in one eye completely at the age of one year and two months, and his second eye ceased to function when he was five. He did not develop any speech skills.

At the age of six, a year after he had lost his sight completely, Sergei started to receive systematic instruction as a deaf-blind child. Initially he was taught by R.A. Mareyeva. Sergei's behaviour was of a disorganised character, and it was impossible to get him to sit down at a desk. Lessons had to take the form of games.

*Yuri Lerner* came to the home for the deaf-blind at the age of seventeen. His condition was diagnosed as stemming from tuberculosis meningoencephalitis at the age of four, and repeated attacks of the same disease at seven and nine. His sight had been impaired since the age of four; acuity of vision in the right eye was 0.02 and in the left eye all that remained was photoperception; his hearing had begun to deteriorate at the age of four and he had been deaf since the age of seven.

Tonal audiometry had revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
500	85
1,000	105
2,000	105

Yuri was born with normal health but he was a weak child. At the age of six months he fell ill with pneumonia, at the age of a year he had whooping cough and then, at three, measles. He had frequent attacks of tonsillitis.

Up until the age of four Yuri could see, hear and speak. At the age of four he fell ill with tuberculosis meningoencephalitis. He lost his sight completely two weeks after falling ill. He began to lose his hearing. In the course of treatment his sight was restored to an insignificant degree. He lost his hearing completely when he had another attack of meningoencephalitis at the age of seven (degeneration of the acoustic nerves). He never went to school. At nine he began to have individual lessons. He was taught finger-spelling and Braille script. His oral speech which had begun to grow rather inarticulate was restored. When he came to the home for the deaf-blind he had completed his primary education and continued to follow the syllabus used in ordinary schools.

*Natasha Korneyeva* was placed in a group of deaf-blind pupils at the Institute for Research into Physical and Mental Handicaps at the age of twelve. Her condition was diagnosed as stemming from meningoencephalitis at the age of two and a half; atrophy of the optic nerves, vertical nystagmus; acuity of vision 0.02; chronic neuritis of the acoustic nerves.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
250	75
500	80
1,000	95
2,000	80
3,000	80

4,000	80
6,000	80
8,000	75

Until the age of two and a half Natasha had, according to her mother, been developing normally: she had been able to see, hear, speak and walk. At the age of two and a half she had a fit, during which, to use her parents' words, she had 'rolled on the floor'. The fit had lasted for two and a half hours. Two months later Natasha's parents noticed that the child's eyes started to 'wander', that her sight had deteriorated and 'when running she kept stumbling and falling over'. They also noticed that she could not hear very well. The parents went to the doctor a year later. The doctor established that Natasha now suffered atrophy of the optic nerves as a result of meningitis. The extent of her hearing impairment was not measured on that occasion, but it was considerable. When the girl was nine years old she was placed in the first class of a school for the blind. She spent two years at the school for the blind. At the age of eleven Natasha fell ill with poliomyelitis: her legs were paralysed, she lost her hearing and her powers of speech completely. Gradually her powers of speech and movement in her legs were restored, but the deafness remained. The girl had to leave the school for the blind as profoundly deaf. After that she was at home where she had to remain alone for whole days at a stretch. Her speech started to deteriorate. At the age of twelve she was enrolled in the group of deaf-blind pupils at the Institute, where she spent close on two years. She came to the home for the deaf-blind at the age of fourteen. She could look after herself in every way, she could use oral speech and finger-spelling, and read and write using Braille.

During her first year at the home she caught up the material she had missed so as to complete the four-year course provided in ordinary schools and the following year she embarked on the syllabus for Class 5.

*Alexander Suworov* came to the home for the deaf-blind at the age of eleven. It did not prove possible to establish the nature of the disease which had given rise to his gradual loss of hearing and sight. His sight deteriorated slowly. Until the age of three his parents did not notice any anomalies in his development. At the age of two he had measles and chicken-pox, both in a severe form. A year later his parents became aware of a deterioration in his sight. At the age of five the state of his sight was diagnosed as 'atrophy of the optic nerves'.



Only photoperception remained. At seven the boy was sent to a school for the blind. His speech skills at that time were well developed. At the age of nine it was noticed that the hearing in his right ear was impaired, and then his hearing in both ears started to deteriorate quickly. In his last year at the school for the blind Alexander found his work difficult because of his increasing deafness – his teachers had to shout loudly right into his ears.

Alexander was transferred from the fourth class at the school for the blind (where he had been given individual lessons during his last year) to the home for the deaf-blind.

Tonal audiometry revealed the following hearing loss:

Frequencies in Hz	Hearing Loss in Decibels
125-500	65
1,000	70
2,000	80
3,000	50
4,000	70
6,000	80
8,000	70

At the time when he came to the home for the deaf-blind the boy could no longer make out what people shouted into his ears. It became necessary for him to learn finger-spelling. The first year of his tuition was spent filling in the gaps in his knowledge of the material required to complete the syllabus of the ordinary primary school, and teaching Alexander a new means of communication and a new learning medium. At the beginning of the year he had suffered from attacks of hysteria (shouting, crying). He did not enjoy communicating with pupils who retained their powers of sight, saying that in the past sighted children had bullied him.

During the second year at the home Alexander became more sociable, made friends with some of the elder pupils and stood up for the younger ones when it seemed to him that they were being treated unfairly. He was following the syllabus for the fifth year of the ordinary school programme. He covered all the necessary material except for one topic in arithmetic: sums involving operations with both

decimals and common fractions. Manual work on the other hand was something that he found very difficult. Although he learnt how to manufacture safety-pins, he made the pins very slowly. It also took him a very long time to make his bed and dress, which often made him late for breakfast.

### **Group 2**

*Julia V.* joined the group of deaf-blind pupils at the Institute for Research into Physical and Mental Handicaps at the age of fourteen. Her condition was diagnosed as stemming from injury to the central nervous system after meningoencephalitis at the age of two and a half; nystagmus, complicated cataract in both eyes, total blindness; chronic neuritis of the acoustic nerves, deaf-mutism; no trace of hearing was found.

The child had been born one month before term, by Caesarian section. Initially the little girl developed normally and began walking at nine months. At the age of two and a half she could see and hear and was talking. At the age of eighteen months she had gone down with measles and had then had a severe attack of whooping cough at the age of two and a half. Before Julia had recovered from this, meningitis set in. As early as the third day of the meningitis the mother noticed that there was something wrong with the little girl's sight: she could not always find an object that had been brought over to her. When Julia began to get better, her parents noticed that she could no longer hear speech, although she still reacted to loud sounds like knocking, for example. After this illness the little girl grew very weak and could hardly walk. Soon her powers of speech were lost. When Julia was three, and after her mother had received specialist advice, work began on training her in the skills of self-care and sign speech at home. Julia made good progress at learning signs and could soon communicate with people around her by means of signs quite proficiently. She took part in all kinds of housework: not only did she soon master all the necessary skills of self-care but also helped her mother in the house: she would wash the dishes, work on the allotment and tend the animals.

Julia and her parents were taught sign-speech and the rudiments of finger-spelling by a teacher specially sent to the village where Julia lived from the Institute.

During her early years at the Institute Julia was given individual tuition. She was taught Braille script and also mastered verbal language by studying parallel texts: the pupil would be given texts of an appropriate level and of graduated complexity. Julia also wrote compo-

sitions, using words and grammatical constructions with which she was familiar from the texts used in class.

In the course of each school year Julia would be given close on 100 different texts to work through and wrote about the same number of compositions.

The young girl's descriptive language developed fairly well: she soon had a wide vocabulary and used fairly complex grammatical forms correctly. However, the level of her speech in direct communication in no way corresponded to the level of her descriptive language. Julia was being taught and brought up away from other children. As the result she did not know how to communicate with fellow-pupils and did not enjoy doing so when the group at the Institute was enlarged to include other deaf-blind children.

Julia was a very conscientious pupil. Any task set her by a teacher would be completed and painstakingly so. Yet she had little personal initiative and could sit for hours on end on her sofa not doing anything. It appeared that artificial isolation suited her more than the company of other pupils, involving as it did a lot of disturbance. Sometimes she actually declared that she liked living alone. It was not until a good deal later that she was taught to feel any group spirit.

Julia did not strike up any friendship with Natasha Korneyeva who lived and studied for a time with her. However, Natasha did nevertheless set her a useful example which led Julia to start reading books.

An important role in encouraging Julia to communicate with other children was played by Volodya T., a seven-year-old deaf-blind boy who was also enrolled in the group at the Institute. Initially Julia rejected any friendly overtures on the part of Volodya. Her abrupt rebuffs led Volodya to try and hurt her, he started pinching and scratching her. Julia was gradually taught to be kinder to him. Soon from her own experience she learnt that if, instead of pushing Volodya away, she was kind to him he would respond likewise. Gradually Julia became very attached to Volodya and assumed for herself the role of his mentor. She taught Volodya everything she knew: how to wash and dry dishes, and put them away, how to dress and undress. Sometimes Volodya would make a fuss and refuse to carry out the task allotted to him; however Julia, quite undeterred, would continue the task they had embarked upon regardless. After this breakthrough Julia was transferred to the home for the deaf-blind, but it was not until two years had passed that she struck up friendships with other pupils and decided that she wanted to be part of her group come what may.

During the holidays, like the majority of the deaf-blind children, Julia goes home to her mother, whom she loves very much.

Considerable time and effort were devoted to teaching Julia work skills. She was trained to work not in a factory, but in home conditions. The All-Russia Association of the Blind caters for those who are unable to work in ordinary factories: the 'home based' workers are provided with the necessary equipment, raw materials, instruction, etc. It was decided that Julia would be trained in a number of work operations that she could execute at home.

The first work operation which she mastered was the stamping of furniture nails using a small specially designed machine-tool. Soon after she had been introduced to this work Julia was able to fulfil 75 per cent of the daily quota and later, with no trouble or over-exertion, she reached the 100 per cent target.

The second work operation – assembling rings for a flexible pipe (a part of an agricultural machine) she also mastered with no particular difficulty. By her third lesson Julia could carry out this work operation without wasting any materials and it soon emerged that given a whole working day she would be able to exceed the daily production quota by a wide margin. However, the main objective for Julia's teachers was to help her master general subjects, and so she used to work a shortened day outside school hours.

The third work operation she was trained in was assembling a binding machine. This operation she mastered even more quickly than the other two.

The fourth work operation (for which a special machine-tool was used) was bending hooks to be used for making women's buckles.

Julia was taken on to work at home for one of the artels of the All-Russia Association of the Blind. She visited the relevant workshop with her teacher, was acquainted with all types of work carried out in the workshop and came to understand the role of the work operations she carried out in the work-process as a whole; she was also introduced to some of the workers, to the manager and the cashier who was to pay out Julia's wages to her.

Later, after Julia had moved to the home for the deaf-blind to take up her studies there, she learnt just as quickly and efficiently to cope with all the work operations for manufacturing safety-pins. What she enjoyed best of all though was sewing work. Here she was in her element: she became really absorbed in this new work and wrote enthusiastic letters about it. The following extract is a typical example: 'I am healthy, I am getting on well in the home and at school. Forgive me for not writing to you for so long. I am very busy.'

At the home for the deaf-blind there are new machines in the sewing room now. I can work quickly and easily with a new machine. I am sewing sheets. I like the new machine very much. I enjoy working in the sewing room a lot'.

By this stage Julia had a good command of verbal language, has mastered skills of oral speech and was carrying out productive work operations in the sewing room.

*Natalia Sb.* came to the home for the deaf-blind at the age of eighteen. Her diagnosis read: injury to the central nervous system after viral influenza at the age of fourteen months, followed by encephalitis; aphakia and an after-cataract in her right eye and a cataract in her left eye; vision reduced to photoperception; deaf-mutism.

Natalia's mother had taught her the skills of self-care and how to behave politely. From the age of nine Natalia had been given individual lessons by a teacher from a school for the partially deaf. In the course of four years she had learnt basic skills in reading, writing and oral speech. Her oral speech, however, was badly articulated and poor in vocabulary.

After four years Natalia's lessons were discontinued because of the inordinate difficulties experienced by Natalia's teacher in trying to work with her. For the next four years she was at home. During that time her mother used to work with her. When Natalia was seventeen, she started to receive tuition again, this time at the Institute for Research into Physical and Mental Handicaps, where she studied for a year.

When she came to the home for the deaf-blind, Natalia was able to read and write using Braille script and she had covered the syllabus of the first two and a half years in ordinary schools. During her sixth year at the home Natalia was working at the mathematics syllabus for Class 5 in ordinary schools, at the Class 6 syllabus in Russian language and literature, at the Class 7 syllabus in zoology, geography and history. In addition Natalia had by this time mastered the skills necessary for manufacturing safety-pins and was making good progress in sewing work as well.

She was quite adequately trained for working proficiently in one of the production artels of the All-Russia Association of the Blind.

The following extracts from Natalia's independently written compositions serve to illustrate her command of language, and also to reflect some of the traits in her character and the nature of her relationships with the people around her:

I used to live alone without friends. That was before I came to the home. But I was never lonely at home

without friends because I was busy doing interesting things and with housework. ... I used to walk round the garden of our house by myself. I was almost left to my own devices. Quite simply I wanted very badly to have a friend, but a very close one, a friend just like me. I used to go with Mama by train to Moscow several times a week for lessons. My Mama was very strict. She did not like it when I sometimes did not obey her, yet I love her all the same like a good friend! I did not always speak well out loud because I was lazy and Mama got worried about this. I found it very hard to develop strength of will because my habit was very stubborn. For me that was bitterly sad. It was not a simple matter! I was not a serious person, I had no serious jobs to do like grown-ups. Yura and Sergei do not have anything serious to do either. After all they are pupils. Sergei does have one serious job though. He is in charge of the Komsomol organisation. Yura has a favourite pastime, that is modelling! Natasha's job is looking after the animals and feeding the fish. That's rubbish!

'On October 21, 1963, I came to the children's home for the deaf-blind to study. At first I was shown round the school, and met the teachers from the other groups. I worked with R. V. for various subjects and with V. S. for mathematics and Russian language. I had not been taught properly and did not understand life well.

'My teacher did not understand this and said to me that I did not work well. It was just that at first I did not know how to tell people about things and could not write exercises and compositions properly. I tried my best to understand everything but there were many new things in the books that I could not understand. The teacher did not understand this really and she used to get cross for nothing. When I think back to that I am very surprised about it. I cannot understand at all how that could have happened. My lessons started going better than they had in earlier years.

'In 1965 and 1966 I grumbled because I was very worried, I was also very worried by the things in life around me that existed on earth. When I was really worried, I grumbled all the time during lessons (I could not think calmly about lessons). Natasha helped me correct my

mistakes in behaviour, and I did what she said, but she, too, was sometimes unkind.

'I like our teachers who are good, kind people. I do not bully children in the home and am friendly with them always. I am friends most of all with Toma B. because she is like me and she is a close friend. Natasha K. and I are different people, because I think one thing and Natasha another, and so we were always having unexpected quarrels about silly little things. Natasha is not truly friends with me from her heart, like my dear Toma. I am always grateful to Natasha K. for her help and tried to get on with her, but she was often angry with me and said unkind things and did not want to admit that she had been unkind and quarrelsome.

'Every day before bed I read books. Now when I used to talk to Toma B. in our free time everyone called us magpies and chatterboxes, although they did not know what we were talking about.

'This year my work in lessons is not like it used to be. Now I can write without mistakes, or at least only sometimes with mistakes. Even so I am getting on better and have learnt many new things from the teachers, from textbooks, from library books. After that I feel different.

'When I was moved to another group to work with Julia it made me very sad. I am very far on from her (Julia is now reading *The Young Guard* but I read the book *The Young Guard* a long time ago.). I must say again that Julia and I are not developed the same.

'Toma B. and I never quarrel and are real friends. Toma and I have the same level. We live and think and understand life the same way!'

*Toma B.* came to the home for the deaf-blind at the age of seventeen and a half. Her diagnosis read: meningoencephalitis at the age of six; deafness, loss of speech skills; complete loss of sight in the left eye and partial loss of sight in the right eye; remaining sight in the right eye was lost for good at sixteen as the result of an accident.

Toma received tuition at a school for deaf children, where she successfully covered a seven-year syllabus. During a summer holiday her brother injured her good eye by an accidental shot from a shotgun, and she lost all that remained of her sight. She was in a hospital for a long time and had no lessons for a year.

In the summer of 1967 Toma came to the home for the deaf-blind. During her first year she was frightened of literally everything. She was unable to walk about on her own and reluctant to try. Nor did she want to learn anything or have anything to do with the other children or the teachers, to participate in the life of the home in any way. She refused to carry out the errands asked of her. She had been emotionally shattered at the loss of her sight and kept saying: 'I do not want to live now I'm blind'.

She found it very difficult to communicate with people around her; she had not yet learnt to read finger-spelling and could not use it herself very accurately, her oral speech was not articulate enough and she could not even make use of written speech, since, with her sight lost completely she could not write the ordinary script, nor had she learnt to use Braille script as yet. In the first few months Toma communicated with the other children exclusively by means of sign-language, of which she had a good command.

During her first year Toma learnt to write using both Braille and ordinary type-writers, she learnt to use dactylic speech and communicate via a teletactor. In mathematics she covered the syllabus designed for Class 3 in ordinary schools: in the Russian language and speech development she followed the syllabus for schools for the deaf-blind.

In her second year Toma covered the mathematics, Russian language and speech development syllabus for Class 4 in ordinary schools, and the nature-study, physics and geometry syllabus for Class 5.

During her third year Toma covered the Class 5 syllabus in Russian language and literature, mathematics, history, geography, botany and the Class 6 syllabus in geometry and physics.

The following report was submitted by her teacher R. S. Burakova during Toma's third year of tuition at the home:

'In the elapsing years at the children's home major changes have taken place in this pupil's behaviour and mental state. Toma has begun to participate in the life of the home, come to know and grow fond of other children and conscientiously to carry out tasks entrusted to her. She has learnt to find her way easily about the home (in her bedroom, along the corridors, in the toilet, the dining room and cloak-room), but she is still frightened of being alone outside (in the yard): she then loses her bearings and becomes completely helpless.



‘However, her character is still very unpredictable. Her moods change very often: one moment she is bubbling over with infectious laughter, making other people laugh and enthusiastically carrying out her work, and the next all of a sudden she does not want to do anything at all, becomes melancholy or angry (this applied in particular to her first two years at the home, whereas now she is less subject to sudden changes of mood).

‘She enjoys reading and giving accounts of what she has read. She is friendly with all the other children. Initially, she was on close terms only with Natalia S., now her circle of friends is much wider. She shares many interests with and enjoys talking to Nadya K., Lida H., Julia V. to name but a few. Her friendship with Natalia S. does not figure so prominently in her social contacts as before.

‘She is not always sufficiently objective or aware of her own faults. However, she no longer complains of being bored or lonely as she did at first and she derives genuine pleasure from her work.

‘She works hard to master practical skills in the sewing workshop’.

The next passage is taken from Toma’s diary which she first wrote in Braille script and then typed out on an ordinary type-writer after she had introduced corrections in response to the teacher’s comments:

‘Yesterday we took our turn as dining-room monitors. The children had breakfast in the dining room. After breakfast the children said thank you to their teachers and went away to lessons. Nadya and I went to wash the dirty dishes in the scullery. Valya carried the dirty dishes to the scullery. I washed the dishes standing next to Nadya. Valya wiped the table with a cloth and swept the floor with a broom.

‘Nadya carefully put the cups in the washing-up bowl. Nadya brought the spoons, forks and knives to Valya. Valya put the spoons, forks and knives on the flap of the sideboard. She wiped the spoons, forks and knives with a drying-up cloth and put them away tidily in the sideboard. After washing up the plates we went to our lessons.

‘Nina Vassilievna asked us questions on our nature-study topic. We answered the questions well. When the lessons were over we wanted to go to the sewing room but it was

locked. Julia Ivanovna was not there. She had gone to Moscow. At the fifth lesson Nadya talked to me about the cinema. Nina Vassilievna called us to the dining room. After dinner we washed up again. Nadya went off to work in the workshop. I did not want to have my nap because there was little time left. So I began to read a book in the classroom. Outside it was raining and cold. Lyubov Ivanovna came into class in her overcoat. The boys and girls got up in their dormitories and went to have tea. Lyubov Ivanovna came to me and said Hallo. I said Hallo to Lyubov Ivanovna too and went to have tea. After that Lyubov Ivanovna said to us that the weather outside was nasty. We did not go outside for a walk. I sat on the settee and told Natalia Sh. about the story in my book?.

*Vasya U.* came to the home for the deaf-blind at the age of fourteen and a half. His condition was diagnosed as resulting from damage to the central nervous system caused by meningoencephalitis at the age of one month: the boy was blind and had impaired hearing.

Before coming to the home for the deaf-blind Vasya had attended a school for the blind, where he had covered the bulk of the syllabus for pupils in the first two years. He had found study there difficult because of his impaired hearing. Vasya's level of hearing was not constant: sometimes it improved, then it would deteriorate again. However, Vasya could always hear what people said if they shouted right into his ear. His skills in oral speech were well developed.

At the home for the deaf-blind Vasya began to follow the syllabus for Class 3 in ordinary schools.

His mastery of skills in self-care was good.

For the first six weeks he did not communicate with the other children at all since he did not know either finger-spelling or sign-speech. He could only communicate with other children via the staff. However, by the end of those six weeks he had mastered dactylic speech and had begun to communicate with the other children.

In the fifth year he spent in the home at Zagorsk Vasya was working through the syllabus designed for ordinary schools: the Class 5 syllabus in the Russian language, the Class 6 syllabus in literature, algebra and geography, the Class 7 syllabus in chemistry, zoology and history and the Class 8 syllabus in geometry and physics.

The following extract was taken from a report submitted by his teacher N. V. Lazareva:

'Significant changes are now to be observed in Vasya's behaviour. He has started to take his studies more

seriously. Despite his limited capacity for grasping new material he is trying to complete his schooling programme as quickly as possible.

'He is interested in radio engineering, carpentry, and hopes to be able to work later on in a factory where he can use complex machine-tools.

'Hence his enthusiasm for physics and mathematics.

'He is friendly towards the other children and does not bully anybody. His best friends are Borya G., Kolya B., Vova L., and Alexander S'.

## **Chapter VI**

### **Deaf-blind Pupils Suffering from Severe Mental Retardation**

At the Zagorsk home it was decided to admit a special group of mentally retarded children. Some of them had no sight or hearing at all, while others had some residual sight or hearing or both.

These children possessed no skills of self-care. Their physical needs to eat, excrete and protect themselves from cold were attended to by adults looking after them, while the children remained completely passive.

Before coming to the home at Zagorsk, these children with multiple handicaps had not been given any instruction elsewhere. We tried to teach them, as the deaf-blind children who were not mentally retarded, normal habits of human behaviour, skills in self-care and work skills. Observation of these children in the course of their instruction revealed that there was not a single one among them who was utterly unteachable. It proved possible to teach them all skills in self-care and simple work operations, although of varying complexity. It also transpired that a different approach was required for teaching the mentally retarded children, as opposed to the deaf-blind of normal mental capacity. The differences involved, both quantitative and qualitative, in initial tuition are fundamental enough to merit special mention. With this point in view, this chapter has been included to describe results achieved in the tuition of mentally retarded deaf-blind children. Everything these children were taught, particularly in the early stages, was connected with the satisfaction of their immediate physical needs (to eat, excrete and protect themselves).

Usually all instruction took place in real-life rather than classroom situations, situations that were part of the everyday routine. Washing

in the morning, morning exercises, making beds, putting on day-time clothes and shoes, eating breakfast, dressing to go out, morning walk, undressing after the walk, washing hands and face before dinner, eating dinner, undressing for the afternoon nap, resting, dressing after the nap, washing face and hands before tea, washing hands, face and feet before bed, turning down the bed for the night and undressing; all these things taken together filled the children's day. They constituted their instruction programme. Movements involved in self-care and special exercises to develop them were all effected by the teachers: in the early stages the children's hands moved passively in the hands of the teachers. Just as when working with other deaf-blind children the teachers sought gradually to reduce their active role, while that of the children was gradually increased.

To illustrate this some examples of the early stages of instruction for children from this group are described below.

*Ivan D.* According to this boy's case history, he fell ill with tuberculosis meningitis at the age of two, after which he suffered from severe mental retardation, motor malfunction, epileptic fits, blindness and deaf-mutism. He was transferred to the home for the deaf-blind at the age of ten from a home for handicapped children. When he first arrived, Ivan could not walk or use the pot and he had no skills in self-care. He would not eat solid food, bread had to be broken into his soup or dipped into his tea, while any meat or sausage he ate had to be put through the mincer. He could not hold or use a spoon. When he was being dressed or undressed he made no active effort to take part in the procedure at all. All his movements were tense and inhibited.

I was difficult to either bend or unbend his arms, legs or trunk. He seemed to fear making any unnecessary movement, and if a teacher tried to carry out any action using his hands he would tense up and freeze over. Any ordinary movements on the part of other people seemed too abrupt for him. Everything had to be done very slowly. He put up less resistance to movements that were deliberately slowed down.

The boy was gradually taught to use the pot, and when he was being dressed and undressed Ivan's teacher held his hands in her own and made sure they went through the necessary movements.

Within the framework of a regular timetable the boy was given regular training in walking and needed less and less support. When he was led into the wash-room or play room one of his hands would be held, while with the other he was made to touch the wall. At first for a few seconds at a time, and later several minutes, he would be left on

his own, but the teacher would take his hand again as soon as he expressed fear. Periodically he was put through exercises to develop his motor functions: his arms would be stretched out and then bent back towards his body again, his trunk would be bent forward and then straightened out again, he would be made to take little jumps while his hands were held, and encouraged to look for objects that had been dropped on the floor. His hands would be passed over all objects in the rooms he went to, in the corridor and during his walks.

Gradually the boy became more active: whereas initially the teacher had to hold firmly Ivan's hand as he lifted the spoon to his face, soon Ivan's hand needed only gentle guidance and support as he fed himself, and this only because the boy's movements were not coordinated well enough and he might well end up with the spoon containing food the wrong side of his shoulder. Gradually Ivan learnt to coordinate his movements properly and lift his spoon to his mouth himself. However, scooping up food from the plate was an art which remained outside his grasp for a long time to come.

By the end of his first year at the home Ivan was able to walk about his room touching the furniture as he went for support. When he was being dressed he would hold out his arms and legs. In undressing he was even more active. At first his teacher used to take off his stockings holding his hands in hers from the beginning to the end of the operation, then she began to take the stockings off only half way, while Ivan completed the operation independently. Soon all that was required was to place his hands on his stockings or slippers for the child to start taking them off. At first, when his shirt was taken off, first one of Ivan's arms had to be pulled out of a sleeve and then the other, while he himself did not play any active part in the procedure; then he began to lift his arms, and finally all that needed doing was to raise the hem of his shirt for Ivan to pull the sleeves off his arms and take the shirt off over his head. In this way the beginning of the teacher's action in taking off stockings and shirt provided Ivan with a signal for continuing the operation the teacher had begun.

It took a great deal of time to teach the boy to go up and down stairs. The stairs led to the dining room and it was therefore necessary to go up and down them four or five times a day. In addition the teacher used also to take Ivan to the dining room to drink water several times a day to teach him to use the stairs independently.

At the end of his first year of instruction at the home Ivan was walking about his room and the corridor, going up and down stairs, while holding onto the banisters with one hand, and he learnt to walk outside as well. Having learned to walk, however, the boy would

never actually start walking independently; he would only walk if his teacher first set him off. He learnt to raise his spoon to his mouth, but he could not learn to tell whether or not there was any food in his spoon: he was quite capable of lifting an empty spoon to his mouth. Admittedly he did not learn how to use the pot by himself, but he would get up and become restive, and that was his signal to show that he needed the pot.

The skills for dressing and undressing, which Ivan acquired after a long period of training, proved extremely conservative. The boy would only use a downwards movement for taking off a stocking, and if his stocking became caught up in some way and would not roll down, Ivan would continue to pull it down in the same direction as before, without attempting to change the movement he had already embarked upon. If he was passed a shirt collar first, he would try and put it on that way without turning it round. He did not learn to distinguish his clothes from other people's. All the actions which he was able to carry out would only be embarked upon by Ivan at a signal from the teacher. No integrated patterns of behaviour ever emerged. It proved impossible to develop any cognitive need in his case: all things that were not connected with eating or dressing Ivan would push away or drop on the floor. It proved impossible to interest Ivan in toys. Nor was it possible to develop any need for communication: Ivan was not capable of apprehending or reproducing a single sign. Neither did he ever learn to imitate others.

*Anfisa K.* fell ill with meningoencephalitis at the age of five months, after which, according to her mother, she stopped reacting to light or noise and severe mental retardation set in. When Anfisa came to the home for the deaf-blind, it was discovered that the little girl did react to bright light and loud noises. Until the age of six Anfisa had been at a home for handicapped children. When she came to the home for the deaf-blind, she knew how to walk, liked climbing up onto a chair and from a chair to a table or window-sill. She was not able to feed herself and did not hold a spoon: she was able to hold a piece of bread in her hand, but she could not lift it to her mouth or bite off a piece. When she was having her clothes or shoes put on, not only did she not help the teacher but she resisted the latter's efforts—shouting, biting and scratching. Her resistance was particularly wild when attempts were made to sit her on the pot. She could not wash herself either. Anfisa was constantly sucking her thumb. She had no set sleeping times and was restless when just lying on her bed: at any moment she might get up and start wandering about the room.

On the very first day that Anfisa spent in the home for the deaf-blind work began to teach her to eat, dress, undress, wash, use the

pot and make her way to the lavatory or play-room on her own. During meals the teacher would put bread into Anfisa's left hand and a spoon into her right, and then lift her hands in turn to her mouth. This was an unfamiliar procedure for Anfisa, for her hands had never been involved in the feeding process before. She resisted this innovation. However, the same procedure was repeated day after day. Gradually her resistance abated and active movements on her part began to emerge: the hand with the bread in it started rising in the direction of her mouth and the spoon was also raised facewards. When the child was being dressed and washed, movements were also carried out involving her hands. Exercises to promote her orientation in space were carried out daily: Anfisa was led round her room and along the corridor in such a way that her hands were touching furniture or the walls as she went. Part of her route she covered without help, and this part was gradually increased. When she encountered difficulties or made mistakes the teacher's hands came to her aid. Anfisa was also given special exercises to promote intricate movements and tactile sensitivity. She was taught to roll out plasticine and to break off small pieces from larger ones, to crumple and tear paper, to put together and take apart pyramids consisting of balls or discs of different sizes, and to pile up building bricks moving them from one place to another.

After six months at the home Anfisa was able to take off her shoes and stockings by herself. She had been taught to wash independently as well. At first she had not enjoyed doing this. The mistake on the part of the teacher at this stage had been to try and teach her to wash with cold water. The little girl used to pull her hands away from the stream of cold water. Once warm water was used instead everything went much better. Anfisa enjoyed holding her hands under the stream of warm water and she was taught then to lift her wet hands to her face and wash it. She learnt quickly how to move her hands up and down her face but she could not manage to move them round and round it. The same applied to drying her face with a towel: she would move her hands with the towel up and down her face one or twice, and that was the end of her drying procedure.

In accordance with the general timetable Anfisa was sat on the pot at regular intervals throughout the day. She kept jumping up and trying to run away and it was almost impossible to hold her back. However, after three months she had learnt to use the pot properly.

Instead of resisting the teacher's efforts when the latter tried to dress her, Anfisa started to lift her leg when a stocking was to be put on or stretch out her arms when her dress was put on. By the end of her first year at the home Anfisa had become much calmer. Whereas

earlier she had fidgeted constantly during meals and at lesson-time, now she lifted bread to her mouth without being prompted and could bite off pieces from a slice, and she could also lift her spoon to her mouth by herself. She had, however, not yet learnt to scoop up food in her plate properly and still needed some help with this. She had also learned to drink from a cup, something that she had not been able to do at all before. Now all that she needed by way of a signal was to have her feeder tied on and then she would make her own way to the dining table and sit down at the table ready to start eating.

While she was being dressed Anfisa would now attempt to help the teacher, putting her hands into the sleeves of her dress, and trying to pull her pants and stockings up over her legs. When being undressed she could already participate in the process with fairly complex movements; if one arm was taken out of a sleeve of her dress Anfisa would then take off the rest by herself and do so properly.

Anfisa learnt to find her way about not just her bed room and play-room, but in the corridor as well. It proved possible to let her out of the lavatory at one end of the corridor and let her make her own way back to the playroom. There were occasions when she went past the required door, but then she would stop, mark time, go back again, find the right door and enter the room.

Anfisa was given special exercises to help her learn to cope with a sliding door. Initial attempts to open the sliding door guiding Anfisa's hands ended in failure. There was no active involvement on Anfisa's part: she simply waited for the adult with her to open the door using her hands. Then another means of stimulating her participation in the activity was devised. The door was opened wide enough for Anfisa to be able to squeeze her way through from the corridor into the room with difficulty. When she tried to squeeze her way into the room she could not help but push back the door to widen the gap between the door and its frame. On subsequent occasions the gaps left open were deliberately made smaller and smaller. In this way Anfisa was eventually taught to open the door even when no gap at all was left.

Before coming to the home for the deaf-blind Anfisa had been at a home for bedridden cripples. She had not been taken outside for walks there, and initially she was terrified when taken out into the yard. She used to cry and lie down on the ground. It was only very gradually that the girl grew used to walks, and began to enjoy them. By the end of the year she started to show some active response in connection with this activity. When the time came for the regular daily walks Anfisa would leave her bedroom and make her way to the door leading into the yard.



A most important factor in helping Anfisa find her way about was teaching her to walk with her hands stretched out in front of her. Before being taught to do this Anfisa had not dared to move very far. She found it safer to move about in a tiny familiar space. Usually she had moved around in a small circle in the middle of the room.

None of the movements which it proved possible to teach Anfisa as she was being dressed and undressed did she ever manage to carry out completely independently. She always needed to be prompted and never achieved any integrated patterns of behaviour. She only learnt to carry out certain actions if encouraged to do so by her teachers. It did not prove possible to interest Anfisa in toys, plasticine or paper. When these activities were in progress she was reluctant to stay sitting at the table: she kept trying to get up or sliding under the table. She acquired no active or even passive grasp of the signs (*eat, wash, dress*) that the teacher tried to teach her.

*Kirill K.* came to the home for the deaf-blind at the age of fifteen. He was classified as mentally retarded and deaf-blind. He had not learnt any skills of self-care.

During his first year at the home he was taught to eat properly, to use the lavatory, to dress and undress, and avoid wetting his bed. At a sign from the teacher Kirill learnt to take off his clothes and shoes, hang up his clothes on the back of his chair, place his shoes next to his bed and find them again when he got up. He even learnt to distinguish between his right and left shoe or boot. Kirill learnt to brush his own teeth (albeit without tooth-paste or powder), to use soap, to wash and dry his face and hands. At meals Kirill learnt to eat his main course with a spoon (initially he had picked it with his fingers) and he learnt to use a teaspoon for eating stewed fruit. He was not at that stage able to use a fork. He did not manage to learn how to tie or untie his shoelaces, to find his cupboard in the cloak-room or to use a handkerchief.

During his second year Kirill learnt to find his way about in his room, in the corridor, on his own floor and in the cloak-room. He could not, however, find his way about the yard. At meal-times he learnt to eat properly using not just a spoon but a fork as well. He did not master the skills necessary for wielding a knife. By this time he was good at dressing and undressing and used the lavatory properly.

Attempts to teach Kirill to count, to model and to sort out toys into boxes, etc. met with no success.

Later after countless repetitions Kirill learnt to understand signs denoting the following actions: *get up, wash, eat, go outside, sleep*, and

perform the corresponding actions. However, he did not use these signs on his own initiative.

After a long period of training during which the instructor carried out actions using the hands of the pupil, Kirill learnt all the operations necessary for the manufacture of safety-pins. Yet he could not make the transition from one operation to another independently. He worked slowly, but his output was up to standard.

Kirill also learnt how to sew on buttons to shirts, jackets, coats so that the positions of buttons and buttonholes corresponded satisfactorily. He also learnt to use scissors properly.

Everything that Kirill knew how to do he only did at a signal from the teacher. All he did on his own initiative was go to the lavatory. If Kirill was not given any signals for action he could just sit in one place the whole day not doing anything and drop off to sleep sitting up.

To sum up, let it be said that severely retarded children with defective sight, hearing and speech could only be taught a few skills of self-care and in certain cases some work operations.

The execution of the few movements they mastered required long periods of training and represented inert skills performed in response to external stimuli. Skills in self-care and habits of behaviour that they acquired did not constitute an integrated purposeful behaviour pattern.

The reasons behind all this are explained in the results of research into the nature of higher nervous activity of mentally retarded children. These findings show that associations developed in the mentally deficient do not constitute complex elective systems: nervous processes in these cases are inert and this inertia manifests itself in the frozen nature of their motor stereotypes that cannot be regulated by analysis of concrete irritants. Neither are the signals to which they are exposed analysed by them, they serve merely to trigger off stereotyped sets of reactions.

## By Way of Conclusion

When a child comes into the world, he finds himself in a humanised environment. The space around him is filled with objects made by man: the house in which the child is born and lives, the cot in which he spends the majority of his day at first, the clothes and numerous objects required for his care, household and work implements linked to functions and modes of action devised by man long since. The whole of his humanised environment is initially actualised for the child through certain actions performed by others and designed to satisfy his needs.

A child possessed of normal sight and hearing is himself rendered human through his interaction with the phenomena of his humanised environment, i.e. he moulds his human mind in the natural course of his life, in a way that goes virtually unnoticed by those around him.

For a deaf-blind child the natural ways of communicating with those around him are drastically curtailed and therefore the process of his mind's emergence and development is slowed down. It falls into clearly distinguishable stages and therefore it is easier to analyse than the same process in normal children.

Before a deaf-blind child starts to receive special instruction, the adult looking after him satisfies his physical needs using methods that have taken shape over centuries of human experience: in accordance with a special timetable he feeds and dresses the child and puts him to bed, etc. This very care, although it involves activity exclusively on the part of the adult, while the child's activity is minimal, sows the seeds for the development of the child's human mind.

These first elements of human mental processes take shape because the child's needs are satisfied with human objects (clothing, household articles and implements, the paraphernalia of infant care) and through human methods (feeding, dressing, using the pot). An event of vital importance in the child's life takes place: his physical needs become human needs since they are satisfied with the help of human objects and through human methods.

Another fact of fundamental importance for the development of the child's human mind is that his needs are satisfied with the help of tools (i.e. a child eats with a spoon, he does not eat the spoon).

This circumstance gives rise to a special relationship between the subject (child) and the tool through which a need is satisfied.

It thus becomes *possible* and indeed *necessary* for the subject to learn the objective properties of the thing – the tool. The *possibility* of reflecting the objective properties of this thing in the activity carried out with it stems from the fact that the thing does not present itself directly to the subject as the object of his need, but as a tool with its various objective properties. The *need* to understand the objective properties of this tool for the satisfaction of needs stems from the fact that the child has to act in a correct way in order to achieve his aim. What does ‘acting in a correct way’ with a tool involve? It means modifying action in accordance with the objective properties of a given tool, properties that have been revealed and consolidated in the course of social development in a specific mode of action. The socially evolved mode of action constitutes the social significance inherent in the tool or thing. In this way between the subject (child) and object of his need there comes in a thing (tool) complete with its intrinsic social significance. It is precisely this that is the decisive factor in a child’s humanisation. As a child masters a thing, i.e. learns to satisfy its needs with the latter, he appropriates its social significance and transforms it into personalised meaning.

In order to understand the essence of the process of formation of mentality as reflection of objective reality, the following points should be made clear.

In order to form an image of a thing reflecting its objective properties it is essential for the individual to carry out a practical action in relation to it. Perception of a thing without practical action in regard to it does not enable the individual to really grasp its essence.

On the contrary, the essence that is concealed behind a phenomenon, turns it into a riddle, lends it a significance that escapes initial perception without practical action. This essence is revealed in transforming action. Transforming action is effected through a tool, i.e. one object is changed by the subject by means of another (the tool). Action with a tool of necessity brings out the objective properties of a thing, properties that are independent of the subject of the cognitive process. It is the totality of the objective properties of a thing, that are necessary and sufficient for its utilisation in social practice, that constitutes its essence.

However, practical action of an individual, which is essentially a transforming action, although necessary, is not in itself sufficient to enable the individual to apprehend through it the essence of things. Things which make up man’s environment are products of social labour. In them is objectivised knowledge acquired through social practice. This knowledge reflecting the essential properties of things is

expressed in their functions, in modes of action. In order for an individual to acquire objective knowledge it is essential that his practical action correspond adequately to the socially evolved function of the thing, i.e. that the action be carried out in the mode associated with the thing in question.

However, the use by an individual of socially evolved modes of action, while essential, is still inadequate for the full assimilation of knowledge inherent in things. It is essential that actions be directed towards the satisfaction of the individual's needs. The orientation of object actions to the satisfaction of existing needs, their development and the formation of new needs, is the essential condition for an individual's active behaviour. The acquisition of new knowledge must correspond to the needs stemming from the individual's practical activity.

Only the sum of the above-listed conditions (the need for practical action, the utilisation of social modes of action, the orientation of action to the satisfaction of needs) makes possible the appropriation by the individual of socially evolved knowledge. These conditions are necessary and sufficient for the appropriation by the individual of social values inherent in things as products of labour, for the transformation of these values into individualised meanings.

All physical needs of a child develop into human needs in the normal course of things, although they vary in their importance for the child's development and the shaping of patterns of human behaviour. Teaching a child to eat with a spoon and drink from a cup turns the physical need for food and drink into a human need, laying the foundation for the emergence of complex forms of behaviour connected with feeding.

The body's physical need for protection (against cold, overheating, injury and discomfort, etc.) is transformed in the course of a child's instruction into human needs, such as the need for clothes corresponding to the temperature of the air around him, and the need for caution while moving about. A child's excretive need is objectivised through his learning to use a pot and behave in the proper manner in the lavatory. Even a need as profoundly physical as breathing is objectivised in human actions, such as airing a room.

The needs which take shape during the early stages of a child's development are satisfied by adults. When teaching a deaf-blind child, the adult transfers his active behaviour to the child, as it were, when he deliberately reduces his active role in actions involved in the care of the child, and gradually fosters and increases the child's active role.

The adult literally hands over to the child the function of his own care, which becomes self-care.

Teaching a deaf-blind child the skills of self-care proceeds according to the principle of 'shared object activity' originally formulated by Professor Ivan Sokolyansky.

At the first stage of this instruction the adult carries out the entire action himself. At the final stage the teacher merely provides the signal for action and, without touching the child, watches-over his completely independent action, only helping him when he makes mistakes. Later even the adult's signal for the child's action can be dropped. The signal for the next action should be provided by the completion of the preceding one. Help from an adult in developing independent action should be administered in strictly defined doses and it should be reduced at a rate corresponding to that at which the child's activity increases.

If the combined activity of the adult and child necessary for the execution of the object action which the adult is teaching the child is taken as one, then as the child masters the action in question the adult's share in the execution of the action decreases from one (when the adult carries out the whole action for the child) to nought (when the adult no longer participates in the execution of the action), while the share of the child increases from nought (when he is wholly passive) to one (when he carries out the entire action independently). The sum total of the two shares of activity at each stage of the child's tuition should come to one, i.e. the combined activity of the adult and child should be sufficient for the execution of the entire object action possessing a purpose that is within the child's grasp.

During the early stages of his instruction a child's needs constitute the levers for his independent human activity, in this case, self-care.

A deaf-blind child is taught to eat, dress, wash, and take care as he moves about, etc. All types of such activity engaged in by the child for the satisfaction of his needs are built up from actions, operations and methods evolved by the human race and assimilated by the child. These actions, operations, and methods – whether locomotory, orientative, imitative or executed in conjunction with an adult – when mastered by the child give birth to new needs corresponding to those actions. These new needs then constitute the prerequisite for the acceptance by the child of the task to teach him new forms of activity: activity connected with play, cognition, imitation, or communication.

The emergence of new types of activity within those already established is one of the essential features of the development of hu-

man behaviour. A graphic example of this is the process of emergence and development of cognitive activity. Its emergence is directly linked with the use of tools<sup>15</sup> in activity for the satisfaction of primary (physical) needs. A human mode (in this case a mode involving the use of tools) for the satisfaction of needs confronts the child with the need to master a tool. A child has to use it properly and to this end needs to know it. A kind of vicious circle develops: in order to know how to act with the tool the child has to know it, and in order to know the tool it is essential that the child act with it. The vicious circle is broken when the adult begins to teach the child to act with the tool in the process of satisfying its needs. This instruction is only possible in the form of joint object action shared between the adult and the child.

When he masters an object action, a child comes to understand the object involved in the action. This means that the child, as he masters the method of action, assimilates the social value inherent in the object concerned. Indeed, knowledge of objects is social values transferred to the mind of the child, i.e. appropriated by him. In attaining this knowledge the initial act, as we have seen, is the practical action involving the object. The social experience assimilated by the child lies at the basis of his knowledge of the world. This ensures that the knowledge is both objective (independent of the cognising subject) and also essential, since it is social experience which selects from the enormous quantity of phenomenological properties precisely those which constitute the essence of things.

Reproduction of an activity developed earlier always takes place in conditions that are subject to some change, so the reproduction can never be an identical copy of the original activity. Specific actions involving tools change in accordance with changed conditions. Knowledge of objects is therefore modified in accordance with changes that have taken place in the actions. Cognitive activity directing the reproduction of a specific activity in changing conditions is aimed not merely at the recognition of objects and the actualisation of existent knowledge, but at changing that knowledge, amplifying and modifying it. For this reason the actual process of perception (linked with object action in constantly changing conditions) always involves the reproduction of images and their modification.

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<sup>15</sup> The word tool is used here in its wide sense, to denote everything which provides a medium for the satisfaction of man's needs through socially evolved methods. It can mean objects (spoon, clothes, house, etc.) and norms of behaviour (timetable, rules, customs, etc.).

In order to reproduce any activity in changed conditions new knowledge is required to supplement that obtained earlier. The contradiction between the ability to perform a given activity in one set of conditions and the necessity of carrying it out in different conditions necessitates anticipatory orientative activity of a wider nature than that required in each concrete case. Knowledge is acquired of alternative tools and modes of action from which the most suitable for the given conditions can be selected. In this way orientative activity creates conditions for a free choice of tools and modes of action in attaining the set tasks.

Orientative activity thus emerges within practical forms of activity. It is generated by the contradiction within the practical activity, between the necessity to carry out an action (so that needs can be satisfied), and the impossibility of carrying it because of inadequate knowledge of methods for its execution. The disparity between the knowledge evolved in the course of earlier types of activity and that necessary for new types of activity creates a constant motive force for the development of cognitive activity.

Many types of activity which a child is taught are called forth not by one particular need, but by a complex combination of needs. Play activity, for example, satisfies at least three needs – those for movement, imitation and communication; activity in observing clean habits is dictated by man's excretive, locomotory and imitative needs, and so on. In a child's subsequent development as well the perfecting of types of activity already mastered and the emergence of new types of activity are dictated by a complex interweaving of many different needs.

The relationship between a need and the activity corresponding to that need is also rife with contradictions. Each activity emerges (or rather is accepted and assimilated by the child) only if there is present a need which corresponds to it, while the need develops in the course of the corresponding activity. The contradiction between the need and the means of its satisfaction, i.e. the activity, during the first stage of the emergence of a new type of activity, lies in the fact that the need is insufficiently satisfied by the as yet imperfect methods of action. This contradiction is the motive force for perfecting modes of action. As these are perfected, they in their turn, outgrow the need which brought them about. The need becomes too cramped for them. Thus a new contradiction emerges, between the developed modes of action and the need that lags behind. This contradiction furthers the development or modification of existing needs and generates new needs, which, in their turn, would require new modes of action.



This contradiction can never be completely resolved, and at the same time it is being constantly resolved in part in the vital process of the emergence of new human forms of activity and the development of human needs. This contradiction is indeed the motive force behind the process in which the methods for the realisation of the activity, determined by existing needs, brings forth new needs which give rise to the emergence of new forms of activity. ‘... The satisfaction of the first need, the action of satisfying and the instrument of satisfaction which has been acquired, leads to new needs; and this creation of new needs is the first historical act’.<sup>16</sup>

This process of the development of needs and the emergence of new forms of activity is infinite both in the historical perspective and with regard to individual development. In the development of deaf-blind children this process ensues when they are being taught to satisfy their physical needs through socially evolved methods, as a result of which physical needs develop into human needs, which pave the way to the child’s acceptance of the task to develop new types of activity, while in their turn these new types of activity give rise to new needs. The need to protect the body from cold, for instance, leads the child to accept the task of learning to put clothes on, but as he masters the skills of putting on clothes, the wearing of clothes becomes a need in its own right, and then, as the child becomes acquainted with various types of clothes, this need develops into a need to dress correctly and smartly.

Skills of human behaviour are also shaped through imitation. Yet it would be wrong to consider imitation an innate human capacity. Man merely possesses the potential to imitate, but the realisation of this potential is called forth by social factors. The fact that a little girl imitates her mother and a boy his father is determined not by their instinct to imitate, which simply does not exist, but by the division of labour between men and women existing in a given age and in a given society. In human behaviour imitation is none other than a special form of learning. This comes clearly to the fore in the emergence, development and manifestation of the capacity to imitate in the deaf-blind. In teaching deaf-blind children elementary skills of behaviour a good deal of effort is devoted to fostering this imitative capacity. When an adult takes the child’s hands and makes them witness his action, and then suggests to the child that it carry out the same action, this is precisely teaching via imitation. Yet it is nevertheless teaching, teaching with reinforcement. Satisfaction of a child’s needs consti-

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<sup>16</sup> “German Ideology,” *MECW* vol. 5 p 42.

tutes reinforcement of a child's first imitative actions. This reinforcement lends expedience to the child's imitative activity, develops it, shapes its operations and devices, which, as they are perfected, further the transformation of imitative activity into independent activity. However, even in this case imitation does not cease to be a special form of learning, and this is particularly obvious in the case of deaf-blind children, who have to perceive an action through their hands and consequently carry out together with an adult the action that they will have to imitate and that they will have to learn, which, for them, means one and the same thing. In its subsequent development, imitative activity, like many other human activities, ceases to depend directly on physical reinforcement. Moreover, reinforcement factors start to take shape within the activity itself. Research carried out by A.V. Zaporozhets and his colleagues revealed that the coincidence of an operation performed by a child with his conception of that operation can serve as reinforcement for an advanced imitative action. Advanced forms of imitation, so-called 'intellectual imitation' were investigated in detail by the French psychologists Paul Guillaume and Jean Piaget.

In all cases a child's imitative activity represents a form of learning coupled with reinforcement. In some cases the coincidence of an action performed with the child's conception of the action can provide the actual reinforcement, while in others the reinforcement comes from approbation on the part of an adult or friend. It is important to remember that factors which actually reinforce imitative action conceal complex and long motivational chains and that the final links in those chains, on which is built up the multi-storeyed edifice of reinforcements, can be far removed from the action, and the connection between them and the action being performed may be far from self-evident. An important step in the development of imitative activity for the deaf-blind is transition from imitation of an action actually perceived to imitation of an imagined action, i.e. transition to imitation of a model perceived previously.

Both these kinds of imitation represent a kind of learning for the deaf-blind: in the first case the learning aspect is clear and obvious and in the second it is removed in time from the manifestation of its results. For this reason, when a child imitates a model he conceived in his mind, his actions may appear spontaneous rather than as something taught. The essence of the child's actions carried out in imitation both of models actually perceived, and of models perceived previously, consists in there being two participants in the actions, the adult and the child. The essence of imitative action lies in the sharing of its execution by the adult and the child.

When patterns of imitative activity are being fostered in a child, it is essential to bear in mind the state of his skills, the level of his development, his preparedness for imitative action of a specific degree of complexity. If a child is not yet ready when he is taught action through imitation such action is no more than superficial copying that only reflects the external aspects of the action and not its essence. In order to imitate an adult in reading for instance, a child must learn to read, otherwise he will be imitating not reading but the holding of a book.

The behaviour of a deaf-blind child emerges as human behaviour thanks to the fact that he is taught to use objects of human culture (culture in the broad sense of the word, of course). A child is taught to eat with a spoon for instance: a spoon is an object of human culture, with which a specific mode of action is firmly linked. It dictates a specific action to the child, and when he learns this action and performs it the child is performing an act of human behaviour. There are thousands of such objects of human culture in everyday life and learning how to use them shapes human behaviour.

In this connection one 'tricky' question arises, a question which has been raised in these pages more than once and which can be summed up as follows: if learning to use a spoon and other everyday objects renders a child human, then why do not similar skills, when they are developed in animals, such as monkeys, transform animal behaviour into human behaviour, why do they not render animals human?

An animal inherits the experience of preceding generations, experience that is genetically fixed in anatomical and physiological structures and forms of behaviour determined by these structures. Individual morpho-physiological changes (mutations) can be handed down to the species in the evolutionary process through biological heredity. In animals experience accumulated in the course of an individual life is lost if it is not fixed in gene mechanisms. Any 'wisdom' achieved during the individual life of an animal is of no use to his species, since there is no opportunity to pass it on to future generations.

Man is much less apt to inherit forms of behaviour that have been fixed biologically. He inherits the experience of his forbears, fixed in human culture. The individual experience of a human being via social contacts becomes the property of society, and this social possession is assimilated by individuals and comes to constitute part of their own behaviour. Sooner or later positive experience of a human individual becomes the property of the whole of mankind: any

member of society gleans his individual 'wisdom' from the coffers of 'social wisdom'. The more the individual gleans from the coffers of social wisdom and the more he contributes to them of his personal experience, the more he comes into his own as a human being.

The appropriation by the individual of social forms of behaviour and attitudes and 'returns' society receives from the individual in the shape of special features of his behaviour and mentality constitute dialectical interaction between the individual and society.

Hegel in his analysis of the differences between animals and man wrote in his *Philosophy of Nature*:

'The urge in a particular animal is a quite distinct urge; each animal only has a limited range of phenomena serving as its own inorganic nature, which is peculiar to it alone and which it has to seek out from a multitude of phenomena and relying on no more than instinct. A lion does not need to see a deer to desire it, nor an eagle a hare, nor other animals grains of corn, twigs, grass, oats etc. to desire them, nor do they make any choice in these matters. The desire is so immanent to the animal that in the animal itself is to be found the specific distinctness of the grass, and indeed of a definite grass, of definite grains etc., while all else does not even exist for him. Man as the universal, thinking animal has a nature with a far wider range and takes all objects into his inorganic nature and in its knowledge too'. (*Werke* Bd 9.2, pp 474-75)

Hegel did not appreciate, and as an idealist could not appreciate that man is a thinking being because his nature is a social one. For him man's social nature was the outcome of his primordial rationality. Yet he is quite right in asserting that virtually all objects can come within the range of man's needs. Before becoming the object of an individual's activity, a thing has to be the object of a social need, and so the need of a specific individual is at the same time a social need. All genuinely human forms of activity and the needs underlying them are social.

When we compare man's forms of behaviour, that are social in origin, with the biological activity of animals, it is important to draw the following distinction. Biological forms of animal behaviour are forms of the animal's practical relationship with life and his environment. 'Human' or 'cultivated' forms of behaviour in an animal that are trained or rather 'schooled' are artificial and opposed to his biological forms of behaviour. Indeed, an animal, when it finds itself in its natural environment, reverts to the biological forms of behaviour

peculiar to it. If man is left to his own devices, no human mind will develop. Let us recall Kaspar Hauser for instance, who was incarcerated in early childhood, so that he did not see, hear or touch other people. The development of the boy's mind was thus brought to a standstill and, when at the age of seventeen he was set free, the youth's mind proved to be at the level of that of a child at the age at which Kaspar Hauser had been condemned to solitude. It is not possible here to cite cases of human children brought up among animals because of the dubious reliability of such accounts. They do, however, seem to support the idea that there are no specifically human inherited forms of behaviour and that among wolves for instance a human child starts to behave and think like a wolf. When I read of these cases described from time to time in popular literature, one question always comes to my mind: why does it not prove possible to humanise the children found living among animals? This idea is in direct contradiction to our experience in instructing deaf-blind children. Of course, the earlier their instruction begins the better. This is why we take on a child at any early age, as soon as he is discovered to be deaf-blind. Yet if a deaf-blind child is already fourteen or fifteen years old, he can be taught and humanised just as well as a young child. Probably children who were thought to have been brought up among animals were mentally deficient children who had wandered off into forests and were discovered there soon afterwards.

Human behaviour is shaped entirely in ontogenesis: it is the result of the interaction between the individual and society, the result of upbringing on the part of other people. This behaviour emerges as the only practical relationship with life and the environment for man. Indeed he has no other behaviour patterns.

It would therefore appear that on the one hand (in the case of animals) the assimilation of 'cultured' behavioural skills does not constitute 'practical life' but rather mechanical schooling for purposes of display, little more than a conjuring trick, while real life and a practical relationship with the environment finds expression in the biological forms of behaviour that are customary for the animal: on the other hand (in the case of men) skills of cultured behaviour constitute the realisation of his *human* life, and are the specific and only form of his practical relationship with his environment.

In the process of this human behaviour, that is integrated in its structure, there emerges and develops a systematised reflection of the external world. A child's first images of objects and actions are formed when his needs are still attended to by adults. A child's physical needs satisfied by an adult with the help of specific objects determine the formation of his first images. When a child is being taught

to satisfy his needs independently, i.e. when he is being taught the skills of self-care, the child's first operations of orientative activity take shape. A child's success in self-care activity depends on whether or not his images correspond adequately to objects in the real world. This dependence calls forth the development of orientative activity, which initially forms part of self-care activity and serves the same ends.

A child's increasingly complex activity in the world of objects, starting with the cot in which he sleeps, with an ever greater number and variety of things coming within his orbit to be used by the child with an adult's assistance in its practical life, gradually shapes in the child's mind a system of images of the objects around him.

The reflection of the reality around the child in a systematised way is ensured by the stability of the child's object environment and by a strict, well-ordered timetable.

Just as the space around a child is rendered human and meaningful by man-made objects that fill it and that the child uses to satisfy its needs, so the filling of a child's days with actions following on one from the other renders time human for him. Just as the constant arrangement of objects in the space around a child helps him to find his way about in that space and makes the world around him stable, something he can envisage and understand, and, in the final analysis, a world that has been apprehended and in which the child can act purposefully and sensibly, so the stability of his timetable makes it possible for a child to find his bearings in time. Time ceases to be something amorphous and indiscrete that just flows past him. In view of this a timetable can be referred to as humanised time for the child.

Thanks to the sequence of actions stipulated in a timetable it becomes possible for time to be reflected in the mind, and an image of time takes shape. A child thus starts to conceive of time, and he can do this not merely retrospectively, i.e. remember the past, but also forwards, i.e. imagine the future. Thanks to a timetable a child can not only find its bearings in past time but also in time to come and then plan his activity in an expedient (rational) way.

A systematised conception of the environment is made possible not merely by the stability of the object surroundings in which the child finds himself, but, most important of all, by the integrated nature of his actions within that setting.

The actions of a child, which he is being taught by an adult, should not remain isolated, disconnected actions. One of the main principles to be adhered to in instructing deaf-blind children is the need to develop an *integrated* system of behaviour as soon as a child

has learnt a minimum of behavioural elements necessary for budding up such a system.

A child's actions in the course of his day must all be linked up one with another, although initially they might only have been called forth by his physical needs. With the help of an adult a child gets up, sits on the pot, washes his hands and face, dresses, eats his breakfast, goes out for his walk, etc. One action follows on another, one instance of behaviour provides the signal for the next. Taken together these actions constitute an integrated pattern of behaviour, in which each link follows on naturally from the one before and leads on naturally to the next.

Isolated and disconnected skills of self-care and habits of behaviour, however complex they might be in themselves, do not possess decisive significance for the rearing of a deaf-blind child, if, when taken together, they do not constitute an integrated pattern of human behaviour.

Attempts to teach deaf-blind pupils suffering from a severe degree of mental retardation have shown that they can be trained in certain skills of self-care and behaviour, indeed even in fairly complex work operations. However, these separate actions were not linked together in an integrated pattern of human behaviour. Each skill or ability that had been established was only put into practice in response to a specific external stimulus.

Objects are cognised in the context of their functions and designations, in their external correlations and functional links, because their cognition is incorporated in a child's integrated behaviour which for him possesses practical significance.

Images of objects take shape as a child masters actions involving objects. Purposeful activity which brings together these actions in a system gives rise to integrated structures of images that in their totality form an integrated picture of the external world.

In the case of mentally retarded children no integrated picture of the world took shape, because in their case no integrated pattern of behaviour could be established. Of course this is not the only factor which distinguishes mentally retarded children from those who are mentally normal. Individual behavioural skills and work operations, which the mentally retarded children succeeded in learning, differed from the corresponding behavioural skills and work operations as found in normal pupils. The skills which could be taught to the mentally deficient children were few in number and they only took root after long periods of tuition: if for example a normal child only needed to be shown a necessary action two or three times before he

grasped it, even a simple operation would have to be repeated hundreds of times for a mentally retarded child. A skill learnt by a mentally retarded child would be of an inert and inflexible nature.

In carrying out actions required for self-care mentally retarded children developed no orientative or investigatory behaviour. No interest in the objects around them which were not directly necessary for the satisfaction of physical needs could be fostered in these children. Nor did any imitative activity or need for such emerge. It also proved impossible to encourage a need for communication; hence their rejection of all instruction in means of communication. Apart from simple signs that were direct designations of actions connected with the satisfaction of physical needs, these children could not learn to perceive any signs. Nor did they ever use even these simple signs on their own initiative.

The mind of a deaf-blind child only starts to develop when he enters into a relationship with an adult. The essence of this relationship is that the child grasps and assimilates the experience of other people, that he uses it for the satisfaction of his own needs. And what the child learns first of all is practical activity – everyday behaviour.

The practical activity of a deaf-blind child, initially of the very simplest variety and directed towards the satisfaction of his physical needs, later, as his needs develop, becomes more and more complex and shapes his mental development.

The first step towards the emergence of independent human behaviour is the establishment of shared actions involving objects. The nature of such actions is determined by objects created by human labour and modes of action which in the course of social experience have come to be associated with the objects in question.

As he masters these modes of action for the satisfaction of his needs, the deaf-blind child appropriates social experience. His appropriation of social experience is effected through shared action involving objects. If the process of a child's initial instruction is correctly organised, the action of the adult in attending to the child's needs develops into joint action of adult and child and is shared between them. In this joint action shared with the adult a child *of necessity* forms an image of the object involved in the action and likewise an image of the action itself, since the action could never be performed were there no anticipatory conception of it. A child must *of necessity* imagine what he himself is going to do, otherwise independence in the execution of an action is impossible. The function of this image of the action is an orientative one. A child's conception of an object and the action to



be performed with it help him to decide what he needs to do next, i.e. after the adult began a specific action.

Shared action involving objects is indeed the tiny cell from which sprouts the whole 'body' of human behaviour and mentality. Initially, in this shared action only immediate reflections of objects take shape as well as of actions carried out with the latter. Subsequently more complex reflections of reality will be built up on this foundation, expressed through signs and symbols which will foster the cognition of concepts.

The initial sharing of actions involving objects between adult and child takes place as a child is being trained in the simple skills of self-care; subsequently the child masters, through shared action, more complex self-care skills (cleaning and mending clothes, cleaning shoes, washing and ironing small articles of clothing). As he masters skills of communal chores a child grasps operations for work shared between him and his fellows; together they tidy their rooms, carry out monitorial duties in the dining room, and work in Pets' Corner. Later the child will work in a workshop and learn skills of productive labour. In the practical experience of participation in collective work he acquires knowledge of the social division of labour and relations between people.

As a deaf-blind child acquires skills of self-care, household duties and various types of work, he assimilates human experience accumulated in objects and modes of action with the latter in the context of social relations; he acquires grains of universal knowledge and builds up elements of human mentality which make possible further assimilation of universal human experience through specially developed means of communication.

The leading principle in our work has always been involvement of a deaf-blind child in an active life that corresponds to the norms of human culture, initially to the norms of everyday culture in the home, the culture of self-care fostered in the child as he is taught how to act correctly (i.e. in accordance with the rules of our human way of life) as regards objects.

If this is achieved, then all other tasks are basically straightforward: instruction in language (first sign language, then finger-spelling and finally word speech), the development of logical thinking and the mastering of moral norms. All these skills are built onto the foundation provided by the previously established culture of behaviour. I am firmly convinced that a reversal in the procedure must result in a failure, both as regards shaping everyday behaviour and imparting moral principles. Our experience disproves the idea which is still adhered to

by some pedagogues to the effect that the human mind is awakened only when language or speech is mastered. In our view, language in the early stages only gives form to elements of human thought that have already taken shape in the context of practical behaviour involving objects. It goes without saying that, once language has become established, it exerts an extremely powerful influence on a child's established patterns of behaviour and on his mind, enabling the latter to advance to the higher level of development, one that would have been unattainable without language. It is only after mastering language that a deaf-blind person becomes capable of comparing his own actions against the cultural standards evolved by mankind in relation to all spheres of life.



