report of the committee for differentiated education and guidance in connection with a national system of education for handicapped pupils at pre-primary, primary and secondary school level with reference to school guidance and other ancillary services as integrated services of the system of education for the republic of south africa and south-west africa: part III

a national system of education for cerebral palsied pupils
part III, volume 1

human sciences research council

HUMAN SCIENCES RESEARCH COUNCIL

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SOUTH AFRICAN HUMAN SCIENCES RESEARCH COUNCIL

REPORT OF THE COMMITTEE FOR DIFFERENTIATED EDUCATION AND GUIDANCE IN CONNECTION WITH A NATIONAL SYSTEM OF EDUCATION FOR HANDICAPPED PUPILS AT PRE-PRIMARY, PRIMARY AND SECONDARY SCHOOL LEVEL WITH REFERENCE TO SCHOOL GUIDANCE AND OTHER ANCILLARY SERVICES AS INTEGRATED SERVICES OF THE SYSTEM OF EDUCATION FOR THE REPUBLIC OF SOUTH AFRICA AND SOUTH-WEST AFRICA: PART III

a national system of education for cerebral palsied pupils
part III, volume 1

INSTITUTE FOR EDUCATIONAL RESEARCH
DIRECTOR: J.B. HAASBROEK

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1975

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REPORT OF THE COMMITTEE FOR DIFFERENTIATED EDUCATION AND GUIDANCE

TO THE CHAIRMAN OF THE NATIONAL EDUCATION COUNCIL, PRETORIA, REPUBLIC OF SOUTH AFRICA

The Committee for Differentiated Education and Guidance hereby submits to the National Education Council Part III Volume 1 of its report on a national system of education for pupils with handicaps at pre-primary, primary and secondary school level with a national school guidance service and other ancillary services as integrated services in the system of education.

The Committee met on several occasions and trusts that the discussions, conclusions and recommendations which appear in this report have contributed towards the effective organization of the matters with which it was entrusted.

MR J.B. HAASBROEK — CHAIRMAN

MEMBERS:

DR N.J. HEYNS

MR E.C. SMITH

MR P.J. VAN DER MERWE

MR D.S. POTGIETER 

MR W. VAN DYK 

MR J.G.J. HORN 

MR R.G. POST 

MR F.P. VILJOEN 

SECRETARIAL SERVICES

The Institute for Educational Research of the Human Sciences Research Council provided the secretarial services

Committee for Differentiated Education and Guidance
Human Sciences Research Council
PRETORIA

1 May 1975

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Mr J.B. Haasbroek	Director, Institute for Educational Research, Human Sciences Research Council. CHAIRMAN
Dr N.J. Heyns	Head, Psychological and Guidance Services, Department of Education, Cape Province.
Mr E.C. Smith	Chief Education Planner, Natal Education Department.
Mr P.J. van der Merwe	Chief Inspector, Department of National Education.
Mr D.S. Potgieter	Principal: New Hope School for Cerebral Palsied Pupils, Pretoria. Department of National Education.
Mr W. van Dyk	Principal: Transvalia School for Epileptics, Pretoria. Department of National Education.
Mr J.G.J. Horn	Inspector-Psychologist, Department of Education, Orange Free State.
Mr R.G. Post	Head: Psychological and Guidance Services, Department of Education, South-West Africa.
Mr F.P. Viljoen	Assistant Director of Ancillary Services, Transvaal Education Department.

STAFF OF THE HUMAN SCIENCES RESEARCH COUNCIL

Dr A.J. van Rooy	Vice-President.
Mr J.B. Haasbroek	Director, Institute for Educational Research, Chief project leader.
Dr C.R. Liebenberg	Assistant Director, Section for Didactical Research.
Dr A.E. Strydom	Assistant Director, Section for Non-White Educational Research.
Dr S.W.H. Engelbrecht	Head: Section for Orthopedagogical, Psychopedagogical, Sociopedagogical and School Guidance Research.
Dr H.C.A. Venter	Head: Subsection for Research on Comparative Education.
Mr A. Nel	Head: Subsection for School Guidance Research.
Mr F.P. Groenewald	Chief Research Officer.
Mr S.J. Maat	Chief Research Officer.
Mr M. Gouws	Chief Research Officer.
Mr P.G. van Z. Spies	Senior Research Officer.
Mr S.G. Lombaard	Senior Research Officer.

TERMS OF REFERENCE

1. INTRODUCTION

In consequence of a decision by the National Advisory Education Council (now the National Education Council) that research should be undertaken into differentiated education and guidance, it was agreed at a meeting of the Contact Body held on 6 August 1964, to establish a "reconnaisance committee" under the chairmanship of the Director of the National Bureau of Educa= tional and Social Research (now the President of the Human Sciences Research Council*) and comprising a senior official from each education department, and that this Committee would perform the following functions:

"(a) to study the questions of differentiated education and guidance;

(b) to determine what was already being done in these fields;

(c) to pinpoint the problems and to determine what research should still be undertaken before any steps are taken to evolve a mutually acceptable plan."[1)]

The Committee met on 1 October 1964, to discuss a memorandum dealing with the underlying principles of a system of differen= tiated education and guidance. The Committee decided that -

"(a) an amended version of the memorandum, together with a questionnaire should reach members' respective depart= ments on or before 8th October;

(b) the departments' replies should reach the Chairman on or before 30th October;

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* The National Bureau of Educational and Social Research became the Human Sciences Research Council on 1 April 1969.

1) Letter OR/M/1/3, dated 25.8.1964, from the National Advisory Council, Bureau correspondence file N/Y/118/3.

(c) a draft report incorporating the replies received from all departments would then be drawn up and circulated among the members as soon as possible; and

(d) the next meeting of the Reconaissance Committee was provisionally scheduled to take place on 9th November, 1964."[1]

The second meeting of the Committee was held on 26 November 1964, to discuss the report entitled "REPORT OF THE RECONAIS= SANCE COMMITTEE WITH REGARD TO DIFFERENTIATED EDUCATION AND GUIDANCE IN THE REPUBLIC OF SOUTH AFRICA AND IN SOUTH-WEST AFRICA". The concluding remark in this report (par. 4, p. 22) is a concise statement of the conclusions of the Committee and reads as follows:

> "As is apparent from the above report, all the education departments have not made the same progress in the field of differentiated education and the methods which are employed differ from one another in many respects. There is considerable agreement as to what should be understood by differentiated education, and all the education departments are convinced of the necessity of such education. The differences come to the fore in its actual application. It is not possible at this stage to identify the problems for research with regard to a mutually acceptable plan, since the problems will crop up when such a plan receives consideration. It appears to be desirable and essential to start the development of a mutual plan without delay." (Translation).

2. TERMS OF REFERENCE

The Committee submitted its report to the Contact Body and awaited further instructions. On 1 July 1965 the Chairman of the National Advisory Education Council (now the National Education Council) wrote a letter to the Chairman of the Committee. This letter contained the terms of reference of the Contact Body and these read as follows:

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1) Minutes of the First Meeting of the Reconaissance Committee for Differentiated Education and Guidance par. 5.5, p. 2.

"It was decided as recommended, that the Reconnaissance Committee should as a matter of urgency make an immediate start to evolve a system of differentiated education and a system of guidance for the Republic which would be acceptable to all education departments and to the National Advisory Education Council".[1]

3. IMPLICATIONS OF THE TERMS OF REFERENCE

The implications of the terms of reference are that consideration should be given to a system of education -

(a) which will promote the aims of education as such;

(b) in which the abilities, aptitudes and interests of the individual will be developed as far as possible and which will satisfy the needs of the domestic economy; and

(c) in which a suitable system of guidance will form an integral part of the system of education.

4. THE WORK PROGRAMME

In terms of the request by the National Advisory Education Council (now the National Education Council) that the National Bureau of Educational and Social Research (now the Human Sciences Research Council) should obtain the data required by the Committee [2], the Bureau drew up a memorandum dealing with a work programme for the execution of the terms of reference. On 7 December 1965, this work programme was submitted to the Committee for discussion.

The work programme makes provision for research on pre-primary or pre-school education, primary education, secondary education and special education or education for handicapped pupils and for research on school guidance for the above-mentioned levels of education. The Committee will, on the strength of this research, publish a report and make recommendations in respect of a national system of education for the Republic of South Africa and for South-West Africa.

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1) Letter 5/3/2, dated 6.7.1965, from the National Advisory Education Council, Bureau correspondence file N/Y/118/3

2) Letter OR/M/1/3, dated 25.9.1964, from the National Advisory Education Council, Bureau correspondence file N/Y/118/3.

"The Committee decided to approve the memorandum submitted, with the necessary amendments and additions, as its work programme [1] and the Committee ".... agreed to approach its mandator with an exposition of how it interpreted its instructions, ..."[2]

5. MEETINGS OF THE COMMITTEE ON EDUCATION FOR PUPILS WITH HANDICAPS

The Committee -

met on 20 June 1974 to discuss the reports on a system of differentiated education and school guidance for cerebral palsied and epileptic pupils;

met on 28 and 29 August 1974 to discuss the reports on a system of differentiated education and school guidance for partially sighted, blind, deaf and hard-of-hearing pupils; and

met on 17, 18 and 19 February 1975 to discuss the reports on a system of differentiated education and school guidance for physically handicapped, mentally handicapped, pedagogically neglected (behaviourally deviate) and hard-of-hearing pupils.

6. RESEARCH UNDERTAKEN BY THE HUMAN SCIENCES RESEARCH COUNCIL

6.1 RESEARCH PROJECTS

The Institute for Educational Research of the Human Sciences Research Council used the work programme which was approved by the Committee as a basis for launching research projects to enable the Committee to carry out its instruction. The systems of education and school guidance for pupils with handicaps were studied at the primary and secondary level of education in overseas countries, the Republic of South Africa and South-West Africa, whereas a thorough literature study of relevant publica= tions was undertaken. Data supplied on request to the Human Sciences Research Council by education departments and overseas bodies were explored and schools for pupils with handicaps were visited to enable researchers to study the practical educational situation of these pupils and to hold discussions

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1) and 2) Minutes of the Third Meeting of the Reconaissance Committee (7.12.1965), par. 5.3.1 and 5.3.2 respectively.

with the staffs of the schools. In order to publish the broad research reports and the Committee reports on a national system of education for pupils with handicaps at the pre-primary, primary and secondary level with school guidance and other ancillary services as integrated services in such a system, the following research projects were undertaken by the Institute for Educational Research:

(1) Education for cerebral palsied pupils.

(2) Education for epileptic pupils.

(3) Education for partially sighted pupils.

(4) Education for blind pupils.

(5) Education for deaf pupils.

(6) Education for hard-of-hearing pupils.

(7) Education for physically handicapped pupils.

(8) Education for mentally handicapped pupils.

(9) Education for pedagogically neglected (behaviourally deviate) pupils.

On the strength of these nine research projects, nine reports were compiled with a view to their discussion by the Committee at its meetings.

6.2 STAFF OF THE INSTITUTE FOR EDUCATIONAL RESEARCH

The research was undertaken by a term of 10 researchers:

Mr J.B. Haasbroek, Director, Institute for Educational Research, Chief Project Leader.

Dr A.E. Strydom, Assistant Director, supervisor of the research on the education for blind, deaf, hard-of-hearing and pedagogically neglected pupils.

Dr S.W.H. Engelbrecht, Head of Section, responsible for the research on the education for cerebral palsied and physically handicapped pupils and supervisor of the research on the education for epileptic, mentally handicapped and physically handicapped pupils.

Dr H.C.A. Venter	:	Education for partially sighted pupils.
Mr A. Nel	:	Education for epileptic and pedagogically neglected pupils.
Mr F.P. Groenewald	:	Education for blind pupils.
Mr M. Gouws	:	Education for deaf pupils.
Mr S.J. Maat	:	Education for mentally handicapped pupils.
Dr S.W.H. Engelbrecht and Mr P.G. van Z. Spies	:	Education for physically handicapped pupils.
Mr S.G. Lombaard	:	Education for hard-of-hearing pupils.

7. THE PRESENT REPORT

As is apparent from Paragraph 5, the Committee discussed 9 reports (Volumes 1 to 9) at its meetings. This procedure was adopted to expedite the research and in order to inform the National Education Council as soon as possible of the decisions.

In addition to these 9 reports, which constitute 9 separate volumes of Part 3 of the Committee's report the Committee submitted two reports to the National Education Council at an earlier stage. They are:

(1) "REPORT OF THE COMMITTEE FOR DIFFERENTIATED EDUCATION AND GUIDANCE IN CONNECTION WITH A NATIONAL SYSTEM OF EDUCATION AT PRIMARY AND SECONDARY SCHOOL LEVEL WITH REFERENCE TO SCHOOL GUIDANCE AS AN INTEGRATED SERVICE OF THE SYSTEM OF EDUCATION FOR THE REPUBLIC OF SOUTH AFRICA AND SOUTH-WEST AFRICA", Part 1, Human Sciences Research Council, Report No. O-1, Pretoria, 1972.

(2) "REPORT OF THE COMMITTEE FOR DIFFERENTIATED EDUCATION AND GUIDANCE WITH REGARD TO A NATIONAL PRE-PRIMARY EDUCATIONAL PROGRAMME FOR THE REPUBLIC OF SOUTH AFRICA AND SOUTH-WEST AFRICA", Part II, Human Sciences Research Council, Report No. O-2, Pretoria, 1971.

Part III of the Committee's report is titled: "REPORT OF THE COMMITTEE FOR DIFFERENTIATED EDUCATION AND GUIDANCE WITH REGARD TO A NATIONAL SYSTEM OF EDUCATION FOR PUPILS WITH HANDICAPS AT PRE-PRIMARY, PRIMARY AND SECONDARY SCHOOL LEVEL WITH REFERENCE TO SCHOOL GUIDANCE AND OTHER ANCILLARY SERVICES AS INTEGRATED SERVICES OF THE SYSTEM OF EDUCATION FOR THE REPUBLIC OF SOUTH AFRICA AND SOUTH-WEST AFRICA".

The nine volumes of the report are the following:

Volume 1: Education for cerebral palsied pupils. Report No. O-20.

Volume 2: Education for epileptic pupils. Report No. O-21.

Volume 3: Education for partially sighted pupils. Report No. O-22.

Volume 4: Education for blind pupils. Report No. O-23.

Volume 5: Education for deaf pupils. Report No. O-24.

Volume 6: Education for hard-of-hearing pupils. Report No. O-25.

Volume 7: Education for physically handicapped pupils. Report No. O-26.

Volume 8: Education for mentally handicapped pupils. Report No. O-27.

Volume 9: Education for pedagogically neglected (behaviourally deviate) pupils. Report No. O-28.

8. ACKNOWLEDGEMENT

The Committee wishes to thank the Human Sciences Research Council and the Institute for Educational Research for the research which was undertaken to enable the Committee to carry out its terms of reference. The co-operation of local and overseas education authorities, as well as that of school principals and their staff who held discussions with the researchers during visits to their schools is highly appreciated.

A NATIONAL SYSTEM OF DIFFERENTIATED EDUCATION FOR CEREBRAL PALSIED PUPILS

1. DETERMINATION OF FIELD, STATEMENT OF PROBLEM AND PLAN OF INVESTIGATION

1.1 DETERMINATION OF FIELD

1.1.1 Introduction

The aim of this investigation is to study the possibility of differentiated education for cerebral palsied children. Pro= vision has been made in South Africa for the education of such pupils in special schools since 1950, from which date ten schools for cerebral palsied children have been opened in the Republic of South Africa. Furthermore, there has been constant deliberation as well as planning with regard to the most effective manner in which provision may be made for the education of these pupils. This report aims at making a contribution towards the above= mentioned deliberation and planning.

It must be stated clearly at this stage that a detailed and penetrating deliberation and discussion on the neurological and medical implications of the phenomenon of cerebral palsy are not envisaged at present. In this regard the interested reader is referred to the many authoritative works on the subject. However, since the specific mode of existence of the cerebral palsied child (and consequently his education as well) is inseparably bound to his condition (in other words, brain damage), reference will be made in subsequent paragraphs to the various manifestations of cerebral palsy, its etiology and some other neurological, medical and physiotherapeutic aspects. Furthermore, it should be constantly remembered that a brief explication occurs with one specific object in mind, *viz* to give prominence to that which will be postulated at a later stage with regard to the formal and formative education of the cerebral palsied child.

In the same way as the concept "the cerebral palsied child" or "cerebral palsy" is not universally clear, thus justifying some elucidation, there is no general unanimity with regard to what is meant by "differentiated education". Where, on the strength of a difference in situation, different conno= tations may be attached to the last-mentioned term, a penetra= ting explication of what is meant by differentiated education in this report would appear to be essential for further cogitation.

1.1.2 Some remarks in respect of the concept "cerebral palsy"

Nielsen (34, p. 43) describes this concept as follows:

"The term cerebral palsy is applied to a group of neuromuscular disorders caused by brain damage. The motor disorders may present various degrees of paralysis, weakness, incoordination or other abnormalities. The designation cerebral palsy thus refers not just to one uniform disease but to a whole group of related conditions in which there are neuromuscular deviations from normal." Schonell distinguishes between the physical condition "cerebral palsy" and the clinical (psychological) connotation which is attached to it. She defines the former as follows: "Cerebral palsy is the term used to designate certain types of motor disability in which impairment or loss of muscular control is due to a lesion of the brain caused by injury to or faulty development of the growing brain tissues" (40, p. 6). In the latter case, she discusses the problems which arise from this motor inability, for example, that the child experiences difficulty in walking, sitting, talking, using his hands and in balancing the head on the body (40, p. 3).

Two further descriptions of the concept "cerebral palsy" are given by W.M. Cruickshank (9, p. 5). Firstly, he places cerebral palsy, on the strength of similarities, within the broad context of brain damage, defining it as ".... one component of a broader brain damage syndrome comprised of neuromotor dysfunction, psychological dysfunction, convulsions and behaviour disorders or organic disorders" and secondly, he refers to it in a more diagnostic sense as " .... a condition, characterized by paralysis, weakness, incoordination, or any other aberration of motor function due to pathology of the motor control centers of the brain".

In each of the above-mentioned examples of descriptions, "cerebral palsy" is defined in the same way as a disease, although it is in fact not a disease. In other words, the description does not refer to the person who is affected by it. Something is said about the condition "cerebral palsy" but nothing about the person who is cerebral palsied. This distinction should be understood fully, since its use will be of particular significance for the formal and formative educa= tion of the cerebral palsied child. If, for instance, one desires to design a system of education on the strength of this description, it is possible, by deductive reasoning, to conclude that provision should be made for children with

motor, neurological and psychological "deficiences" but no mention worthy of note is made in the description of the qualitative significance which the child's experiencing of his handicap has for him, and of which knowledge and understanding are absolutely essential for an accountable system of education for cerebral palsied children.

It should also be clearly stated that it is not the aim of this report to make use of a "definition" of the cerebral palsied child as its point of departure. It is simply impossible to define man and the fear exists that when such a definition has been made after endless cogitation, there will be no child left who satisfies it!

One nevertheless talks of the cerebral palsied child and consequently there are children who are classified as such. For the sake of identification, it may be stated that those children who, prior to, during or shortly after birth, have suffered an injury to the brain or central spinal system, as a result of which the motor functions, that is the possibilities of movement have, inter alia, been affected, can be classified as cerebral palsied children. These children are thus brain-injured or brain-damaged but are not, without further ado, to be equated with the "brain-damaged child" or "brain-injured child" as described by Strauss and Lehtinen, Strauss and Kephart and, particularly in recent times, by Cruickshank. Those persons who are not acquainted with the syndrome or symptomatology which the above-mentioned writers have postulated with regard to the so-called "brain-damaged child" may find the foregoing statement contradictory. However, this is by no means the case and rather than to arrive at the apparently absurd conclusion that there are children with brain damage who are not "brain-damaged children", the scheme, category, definition or symptomatology of what the above-mentioned writers call the "brain-damaged child" should be reconsidered. More attention is devoted to this aspect in Section 2. It may be stated provisionally that, since all cerebral palsied children are of necessity brain-damaged, there will be some of them who reveal the symptoms described by Cruickshank and his collaborators.

1.1.3 Grouping and classification of cerebral palsied children

In consequence of the work of Cruickshank and Raus, Kotze (26, p. 99) offers a survey of the classification and grouping of brain damage. There is, in the first place, a theoretical,

classification, in which an attempt is made to correlate neuro-anatomical and neuropathological data with medical-clinical findings in order to integrate the theoretical and practical aspects. In this regard, post-mortem examinations and the use of the pneumo-encephalogram and electro-encephalogram are of particular importance. It was found anatomically that injuries in the pyramidal region and in the cerebellum and/or its couplings cause medical-clinical conditions of brain injury. Cerebral palsy is divided neuropathologically into:

(1) Spastic rigidity.
(2) Pyramidal type.
(3) Mixed pyramidal and extrapyramidal type.

In the practical classification, however, cerebral palsy is classified according to cause, clinical images or associated handicaps.

The etiological classification refers to causes which may be pre-natal, natal or post-natal. Hereditary or genetically transferable conditions and conditions acquired in the womb are important pre-natal causes. As regards the former, particular reference may be made to congenital genetic transference (for example congenital athetosis, familial tremor, familial spastic paraplegia), pre-natal porencephaly, hydrocephalus, agyria cerebri* and pachygyria.** Conditions acquired in the womb may be attributable to irradiation, tetratogenic agents and maternal infections (for example German measles). Another important cause is pre-natal anoxia which may result, inter alia, from placental abnormalities, maternal anoxia such as poisoning, abnormalities in the umbilical cord, bleeding during pregnancy, foetal brain haemorrhage, jaundice, prematureness, susceptibility to or inclination towards miscarriages and metabolic disturbances during pregnancy. As regards natal or paranatal conditions which may give rise to brain damage, the problem exists that it is difficult to determine which of the

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* Agyria cerebri: Development of the brain ceased before the gyri were formed in the fourth month of existence of the foetus (gyri are the brain folds).

** Pachygyria : Is caused by the non-development of the secondary and tertiary brain folds. This can occur from the sixth foetal month to the first year of postnatal life.

many factors are actually the cause. There are mechanical causes, in particular, such as prolonged labour, injuries during a delivery in which forceps are used and foetal asphyxia which includes respiratory obstruction and the injudicious use of drugs. Postnatal causes include traumatic injuries, infective conditions (encephalitis, septic meningitis, brain abscess), cerebral arterial thrombosis, parasitic conditions, toxic factors, blood-vessel accidents, cerebral anoxia and brain tumours (see 1, pp. 50-52).

The medical-clinical classification of cerebral palsied pupils, which also makes provision for the physiotherapeutic approach, mentions the following:

a. The spastic

Spasticity is the result of an injury to the motor cortex or the pyramidal tracts. One or more parts of the body may be affected and one consequently talks of a monoplegic, a hemiplegic, a triplegic and a quadriplegic. The first-mentioned and the triplegic are more theoretical names, since a second or fourth limb is always affected to a greater or lesser degree. In the case of the diplegic, the legs are affected, whereas there is little or no effect in respect of the arms. Paraplegia refers to a person whose legs have been paralysed as the result of an injury to the spinal cord and is in contrast with cerebral diplegia (1, pp. 67, 68).

b. The athetoid

Repeated, involuntary, slow and sweeping movements as a result of injury to the basal ganglions are characteristic of the athetoid.

c. The atactic group

This group is characterised by its walking with legs wide apart as a result of damage to the cerebellum.

d. The atonic group

They are also called the hypotonic group and are characterised by a slackness of movement. There is little or no resistance when the limbs are moved. Damage to the cerebellum is the cause in this case as well.

e. The mixed group

Spasticity as well as athetosis is found in this group.

f. The group with rigidity or inflexibility

In this group, the injury is localised in the extrapyramidal region.

In addition to the above-mentioned gross motor or movement disturbances, others, of which the following are the most important, are also found:

(1) "Spiritual" or "developmental disturbances".
(2) Convulsive disturbances.
(3) Behavioural disturbances (organic, emotional, mixed).
(4) Sensory disturbances (visual, aural, perceptive and kinesthetic disturbances, as well as agnostic conditions).

1.1.4 The incidence of cerebral palsy

As is apparent from the foregoing exposition with regard to the etiology of cerebral palsy, this form of handicap may occur in any country and among any population group of a particular country. It is furthermore obvious that much more can still be done to facilitate prevention. In this regard, Bruce Mayes (31, p. 142) points out that, since the 'forties, there has been a considerable decline in the risk which mothers face when giving birth. Whereas, in previous years, nearly four mothers died for each thousand live-born babies, practically no mothers are lost nowadays. Pre-natal care and the use of penicillin are chiefly responsible for this. As against this, the improvement in respect of the babies who are born, is not quite as satisfactory. For this reason, interest has shifted from the mother to the baby and specific research is being undertaken into the prevention of deaths at birth or shortly afterwards as well as of injuries in this regard. It is unfortunately true that cerebral palsy will never be wiped out entirely. Mayes is of the opinion that the problem which it poses is more complex than that of tuberculosis and cancer. Intensive precautionary measures and research can nevertheless lead to minimising the danger for mothers as well as babies (31, p. 148).

Tizard refers to Polani's statement that, if all the maternity homes in England were equipped and functioned as effectively as the best in the country, it would be possible, at the present time, to cut the incidence of cerebral palsy among live-born babies by as much as 30 per cent. Since many babies who die under present conditions may, as a result of such improvement, be born alive but suffer from possible brain damage, the actual decrease in numbers will not be 30 per cent, but approximately 10 per cent of the existing rate of incidence (50, p. 87). Tizard is also of the opinion that research and improved services for mother and baby should be the first step in reducing the incidence of cerebral palsy. In addition, early diagnosis followed by appropriate medical treatment, including physiotherapy, is of the utmost importance. Tizard subscribes to the general view that most cerebral palsied persons, irrespective of the age at which physiotherapy commences, will only benefit if they receive such treatment for approximately five years (50, p. 87). However, early treatment is important since, in this way, secondary handicaps are prevented.

The diagnosis of cerebral palsy in the broad, functional context does not pose any problems worthy of note, in spite of border-line cases. However, there is no suitable way in which to express the degree of the handicap. Many studies have been undertaken to determine the incidence and if all cases are included, that is the slightly handicapped who attend ordinary schools, as well as the seriously handicapped, of whom many are in institutes for the mentally handicapped, the incidence is high. A survey conducted by Tizard and his collaborators on the Isle of Wight reveals an incidence of 2,9 cerebral palsy cases per one thousand children between the ages of eight and ten years. This corresponds with most American incidence rates but it is high when compared with that usually found in Britain. Differences may be attributed to various definitions (many surveys ignore the seriously handicapped) and the adequacy of methods which are used to trace cerebral palsied persons (50, p. 91).

Investigations aimed at "educable" children of school-going age reveal an incidence rate of between 1,5 and 2 per thousand pupils. The following data from an investigation carried out in Birmingham (1955-1959) indicate the percentage of cerebral palsied children who attended various school types:

(1) 25 per cent attend ordinary schools,
(2) 50 per cent attend schools for handicapped pupils,

(3) 10 per cent are instructed in Training Centres for the mentally handicapped,

(4) 15 per cent are uneducable and are either in an institution or at home (50, p. 91).

The problem still exists that comparatively few children are identified as cerebral palsied during their pre-school years and particulary in the first year of life. In this regard, there is a need for better diagnostic techniques. In the case of the incidence of cerebral palsy among adults, reference may be made to an investigation which Ingram conducted in Scotland. He found that there are approximately two adult cerebral palsied persons for every thousand adults in the country. Of these, approximately 50 per cent are slightly cerebral palsied, whereas the condition of one out of every eight is so serious that they will never be able to compete in the open labour market. Somewhat more than 25 per cent are of average intelligence but almost 30 per cent have an intelligence quotient of less than 70. The majority of persons in the latter group (IQ<70) need permanent care. About 25 per cent of the total number of adult cerebral palsied persons suffer from "Grand Mal" attacks and more than 10 per cent from "Petit Mal" attacks. Furthermore, approximately 10 per cent experienced visual and more than half speech problems. About half of all cerebral palsied adults fail to find their feet in the open labour market and are compelled to seek a living elsewhere (50, pp. 91, 92).

1.1.5 Additional handicaps which may occur among cerebral palsied persons

a. Mental retardation

In Tizard's opinion, approximately 55 per cent of all cerebral palsied persons have an intelligence quotient which is less than 70. It may generally be averred that -

(1) approximately 25 per cent of all cerebral palsied persons are of average or higher intelligence;

(2) about 25 per cent are dull, that is they have an intelligence quotient which varies between 70 and 85;

(3) approximately 25 per cent are subnormal, with an IQ of between 50 and 75, and

(4) about 25 per cent are mentally handicapped to a serious extent and have an IQ of less than 50 (50, p. 92).

According to Nielsen, recent investigations indicate that approximately 25 to 30 per cent of the total cerebral palsied population possess normal and above-normal intelligence, where= as the remaining 70 to 75 per cent suffer from slight to serious mental retardation (35, p. 26).

Surveys on the intellectual level of cerebral palsied pupils have also been undertaken in the Republic of South Africa. In 1957, Murray indicated that special schools for cerebral palsied pupils were overflowing with children with low intel= ligence. Only 27 of the 380 pupils who were in such schools at the time were engaged in school work from Stds 6 to 10. More than half of the pupils of these schools were mentally handicapped (2, p. O-1). A survey in the Cape School for Cerebral Palsied Pupils in 1964 reveals that 22,5 per cent of the pupils have an intelligence quotient of 90 and higher; 17,5 per cent an IQ of 80 to 90 and 60,0 per cent an IQ of less than 80 (2, p. O-1).

b. Epilepsy

Tizard points out that approximately a third of all cerebral palsied children suffer from epileptic attacks. As regards most of these children, however, the attacks occur during the first five years of their lives only (50, p. 92).

c. Visual defects

According to Tizard, 25 to 50 per cent of all cerebral palsied pupils experience such eye defects that their physical handi= cap is exacerbated (50, p. 92). Meyerson carried out an ophthalmic survey at the Forest Town School for Cerebral Palsied Children in Johannesburg and found that 79 out of 131 children (60,03%) had problems with their eyesight. This corresponds with the finding of Schachat and others that 67 out of 98 (that is 68,3%) selected children with an IQ of 70 or more experience eye defects. Meyerson also points out that Breaky found eye defects in 56 per cent of cerebral palsied children, whereas, in the case of Carlson, the figure is 50 per cent (32, p. C-1). Among the eye defects traced by Meyerson are deficient visual acuity, myopia (although the percentage of cerebral palsied children with myopia is the same as that for the "normal" popu= lation, there were more who suffered from a more serious degree of myopia), muscle imbalance and squinting (particularly

in atetoid children), pigment defects of the retina, optical atrophy, nystagmus and other eye defects, as well as spatial problems which may possibly be attributed to convergence defects (32, p. C-1).

d. Hearing defects

Hearing defects occur among most cerebral palsied pupils who are kernicterus cases. They are also found to a significant extent among other cerebral palsied pupils (21, p. F-1).

Hatchuel (21, p. F-1) summarises the surveys which have been conducted with regard to the incidence of deafness among cerebral palsied children. From this it appears that, of a total of 1 189 cerebral palsied children who were involved in various investigations between 1952 and 1963, 497 (42%) suffered from deafness. The incidence rate for high tone deafness can be even as high as between 70 and 80 per cent among children who have suffered from kernicterus (see Gerrard's investigation). In Hatchuel's opinion, the incidence of deafness among all types of cerebral palsied children is approximately 20 per cent, which is twice as high as in the case of the population of non-handicapped children (32, p. F-2). An investigation undertaken with 77 cerebral palsied pupils of the Forest Town School during 1961 reveals that 14 (18,1%) suffered from hearing defects, another 14 (18,1%) from loss of perception and 4 from loss of conductance plus perception (21, p. F-2).

e. Defects in perception

Perception means more than the superficial sensory registration of impressions. In other words, there may be nothing wrong with the cerebral palsied child's sense of sight and hearing, but he may nevertheless perceive the object in a manner which differs from that of non-handicapped children. The fact that problems in perception arise as a result of the brain injury which is experienced is regarded by many authors as the greatest single problem which confronts the cerebral palsied child. The matter will be discussed in greater detail in a subsequent section.

f. Other problems

There are other problems which may be related directly or indirectly to the cerebral palsied child's brain injury. Among such children there is a high incidence of abnormalities

regarding laterality; there are speech defects in the majority of cases; nutritional problems (obesity among older children) as well as enuresis and slavering occur. The "psychological" problems, which will be discussed in a subsequent section, have not yet been mentioned (50, p. 93).

1.1.6 The concept "differentiated education"

In the report of the committee for differentiated education and guidance in connection with a national system of education at primary and secondary school level with reference to school guidance as an integrated service of the system of education for the Republic of South Africa and South-West Africa (Part 1), foundations are offered for differentiation and differentiated education (38, p. 122). Reference is made in the first place to man's concern with values and it is argued that since all men are called upon to display unconditional obedience to norms and values (compare the Christian-National principles, norms and values in this country), all men are equal. There can be no differentiation in education as such because all children must be brought up to obey values and norms (38, p. 122).

Although all people are created in the image of God and are therefore equal in His sight, they are nevertheless not equal to one another, since there are large individual differences. People are qualitatively unequal. They differ in respect of matters such as intellectual potential, temperament, emotionality, aptitude, interest and mastery of language which indicates that one child, because of his individual otherness, will be able to master that which another cannot or can only partially master (38, p. 122). Provision must be made in education for this inequality so that each child will be able to develop to the maximum of his potential. The report states that this can be done by means of differentiated fields of study, curricula and syllabuses which in turn lead to differentiated elaboration of the subject-matter and differentiation in measurement and the issuing of certificates (38, p. 122).

On the strength of the equality of child to child, on the one hand, and the inequality among them, which cannot be denied, on the other, the report under discussion suggests, inter alia, a system of cross grouping with regard to the school subjects at the secondary school level and on the basis of which pupils may take certain subjects at a higher and others at a lower level (38, p. 122).

As regards the primary school, a concise exposition of the necessity for differentiation at the primary school level* and the various factors which may give rise to the origin of individual differences and/or their consolidation is followed by certain recommendations, viz that

"(1) the deep-rooted nature and extensive scope of individual differences among pupils at the primary level of education should be acknowledged by the implementation of a system of differentiated education in which there will be sufficient possibilities for individualization;

(2) in the planning of the system, the dual function of the primary school should always be taken into account, that is as a place where pupils are equipped with basic knowledge and skills and secondly as a natural lead-up to differentiated secondary education; and

(3) the individualization of primary education should be tackled along the broad lines of organization, syllabus, presentation, assimilation and evaluation, and teacher training" (38, p. 152) (committee's italicization). (Translation.)

Whereas, in the primary school, the individual otherness of pupils is also acknowledged, no differentiation with regard to fields of study and curricula is recommended, since it is a basic school, that is a place where essential moulding occurs

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* The necessity of differentiation at the primary level of education which led to these recommendations was motivated on the strength of the following:

(1) The inequality among children as it becomes apparent when they commence their education.

(2) Individual differences which reveal themselves in the course of the primary school period such as, with regard to intellectual potential, intellectual and personality development as well as social development (38, p. 146).

on the strength of fundamental content. The approach with regard to differentiation in subject content must differ entirely from that at the secondary education level, if this appears to be necessary (38, p. 152).

It can be stated at this juncture that, although the foregoing described foundations of differentiated education apply in equal measure to the education of cerebral palsied as well as non-cerebral palsied children, the recommendations made in respect of differentiation at the primary school level cannot be transferred mutatis mutandis to the school for cerebral palsied pupils. Where the foregoing exposition of the specific problems which will confront the cerebral palsied child has already partly elucidated this statement, more detailed attention will be devoted to this aspect in the next section.

1.2 STATEMENT OF PROBLEM

It has already been stated elsewhere that the aim of this report is to design a system of differentiated education and guidance for schools for cerebral palsied children. This does not ignore the fact that the mere existence of separate schools for cerebral palsied pupils already constitutes a form of differentiation. That there are schools for cerebral palsied pupils is in itself a problem for those who reflect on education as such. Is it not the practice elsewhere in the world to educate cerebral palsied children at ordinary schools or at schools with other handicapped children? It cannot, therefore, be summarily assumed that separate schools for these pupils are necessarily desirable.

However, cerebral palsied pupils confront the educator with such a variety of orthopedagogical, orthodidactical, medical and paramedical problems that at the present stage it is difficult to foresee the placement of more seriously cerebral palsied children in ordinary schools.

The same problem which faces the teacher/educator in the ordinary schools, viz the apparently paradoxical simultaneous presence of equality and inequality among pupils, is also found in a school for cerebral palsied children. As regards the inequality among pupils, the problem in schools for cerebral palsied pupils has, however, become complicated. As may be deduced from the previous section, there are pupils with divergent motor problems. Add to this the fact that some may have deficiencies in eyesight, hearing, speech and/or perception, then the above-mentioned inequality assumes such an

aspect that it poses serious problems in the educational situa= tion. Where the distribution of intelligence in the ordinary school is such that only children with an IQ of higher than 80 are admitted and separate provision is made by means of schools for the mentally handicapped for pupils with an IQ of between 50 and 80, schools for cerebral palsied children generally admit pupils whose IQ is higher than 50. It often occurs that children whose IQ is lower than 50 are also admit= ted, since it is argued that these children, as a result of the particular nature of their handicap, have not performed in accordance with their actual potential. The latter concession is highly appreciated by this Committee but unfortunately by no means reduces the problem confronting the teacher in a school for cerebral palsied pupils. The brain damage suffered by the cerebral palsied child prior to, during or after his birth affects the child not only at the somatic level but, as is apparent from the foregoing reference to the distribution of intelligence, at the psychical-spiritual level as well. (It is realised that a distinction between soma, psyche and spirit may lead to all kinds of misinterpretations but it is made here for the sake of clarity. The fact is acknowledged that a child is always present in a situation as a totality, and particular reference will be made to the significance of this at a later stage). The fact is that the cerebral palsied child reveals other handicaps, in addition to his conspicuous movements (motor handicaps), which cannot be related directly to the external physical aspect. Here one thinks specifically of the so-called psychopathology of the brain injured child. According to this, the cerebral palsied child, like other brain damaged children, is subject to the incidence of, inter alia, perservation, disinhibition, hyperdistractibility, impulsivity, lability of affect, low frustration tolerance and over-compensation, to mention but a few. In the following section, there will be more detailed reflection on this matter but it can be stated at this point that one cannot deny that there are cerebral palsied children who will reveal one or more of these symptoms. What is the significance of this for a system of differentiated education for cerebral palsied children and how should the teacher cope with the concomitant didactical problems? It is obvious to everyone in the practical situation or to those who have become acquainted with the extensive literature in this regard that the answer to this question will not be found in a simple approach. The problems of perception experienced by some brain damaged children, to which reference has already been made, are closely related to the foregoing. This matter will also be elucidated in detail in the next section. The simplistic view held by

some authors, viz that disturbances in perception tell us all about the cerebral palsied (brain damaged) child, is rejected here. The teacher of the cerebral palsied children is nevertheless faced with a specific task and in any deliberation on a system of education of such children, one cannot avoid according prominence to this matter.

Apart from everything that has been said up to this stage, the cerebral palsied child is, in the first place, a human being, and he is confronted with the task of making the most effective use of a disfigured body. In modern pedagogical literature, much importance is attached to man's physicality and particular mention is made of the phenomenon of experiencing the body. Man does not only experience everything around him and everything which happens to him by means of his body but he also experiences his body as such. It cannot be denied that the nature and form of man's experiencing in general and the experiencing of his body in particular are of far-reaching importance for his affective (and also cognitive) stability and moulding. It is true that man as a result of self-acceptance, is able, to a greater extent, to obtain a stabilised and balanced perspective of the world. In this regard, the cerebral palsied child experiences specific problems. The educator (teacher) of the cerebral palsied child cannot, however, ignore this matter in the design of a system of differentiated education. For this reason, it is obvious that clarity will have to be achieved in this respect.

To sum up, the problems facing those persons who wish to design a system of differentiated education for the cerebral palsied child, are the following:

(1) The cerebral palsied child's motor (movement) handicap is of such a nature that he generally requires light to intensive medical and paramedical treatment. The present position in this country is that this treatment is integrated in the school programme. In the design of a system of differentiated education for cerebral palsied children, the place and value of these services and the eventual allocation of priorities to them will play an important part.

(2) The variety of additional handicaps which may be found among cerebral palsied children (such as partial sightedness, hardness of hearing, speech problems and problems of perception) poses a further problem for the planner

of a system of education for such children. At many schools for the cerebral palsied provision must be made for separate classes for the hard of hearing, partially sighted or pupils with speech problems. In addition, constant attention must be devoted in the classroom to pupils' problems of perception.

(3) There is, furthermore, the considerable distribution of intelligence that is found among pupils at schools for the cerebral palsied. This not only makes differen= tiation possible and even essential but intensifies the problems experienced in the presentation of subject-matter and the planning of a school system in this connec= tion. Unlike the case in an ordinary school, there can be no simplistic differentiation with regard to intel= ligence alone at a school for the cerebral palsied.

(4) Since all cerebral palsied children also suffer from brain damage and there may be some of them who experience perseveration, hyperdistractibility, disinhibition, impulsivity and possibly lability of affect as well, some or other provision must be made for these problems of the pupils. How does one cope with this matter in a system of education which already imposes so many other demands?

(5) As has already been stated, cerebral palsied children are primarily human beings and desire to be treated as such. How should a system of differentiated education for such children be designed in order to render possible the maximum experiencing of human dignity?

(6) There is, in conclusion, the problem of the aim of the education of the cerebral palsied child; a problem which should actually be stated first, since its solution will be co-determinative in respect of many of the other tasks. Is fully fledged adulthood striven for in the case of all, some or none of the cerebral palsied pupils? It is obvious that a decisive answer in this regard must be of great importance for matters such as curricula, syllabuses, method of presentation, guidance, after-care and the composition of classes and schools.

1.3 METHOD OF INVESTIGATION

The following may be stated with regard to the research methods employed in this report:

(1) In order to obtain information and gain personal expe= rience of the problems confronting the teacher of cerebral palsied pupils, visits were paid to various schools where cerebral palsied pupils are taught. In this way, it was possible to evaluate the functioning in practice of the present system of education. Much of the insight obtained into a system of differentiated education for cerebral palsied pupils may be ascribed to this modus operandi.

(2) In order to supplement the foregoing, questionnaires were sent to schools for cerebral palsied pupils, with the request that they be completed by the principals of the schools. Apart from the fact that this ensured obtaining information, much was learnt of the problems with which these schools have to cope.

(3) Intensive literature study was, in the nature of things, undertaken with a view to exploring the prac= tical situation in countries overseas.

(4) In conclusion, the education of the cerebral palsied child was reflected upon. This reflection did not, however, remain unqualified since a system of education and the upbringing of handicapped children are at issue. Fundamental pedagogical, didactical pedagogical, psychopedagogical, orthopedagogical and orthodidactical insight offered the bases upon which accountable cogi= tation could occur. Viewed in this light, it is obvious that the findings and recommendations which follow in this report are in all respects pedagogically accountable.

2 THE PSYCHOPATHOLOGY OF THE BRAIN-INJURED CHILD

Since, during the early decades of this century, Strauss and his collaborators have attached a particular symptomatology or behavioural disturbance pattern to so-called "exogenic mentally

handicapped children", much literature has appeared on what eventually became the "brain-injured" or "brain-damaged" child. Because, in the nature of things, all cerebral palsied children inevitably suffer from brain injury or brain damage, there is a possibility that anything which is said about the "brain-injured child" may also apply to cerebral palsied children.

In recent times, Cruickshank, in particular, has concerned himself with a description of the brain-injured child. According to him, the following are the six most important characteristics of such children: distractibility, motor disinhibition, dissociation, disturbances in the figure-background relationship, perserveration and the absence of a properly "developed" self-concept. An extremely concise exposition of the symptomatology, according to a grouping which Cruickshank derived from Rappaport, is subsequently presented (7, p. 251):

2.1 INADEQUATE CONTROL AND REGULATING OF IMPULSES

Under this heading, Cruickshank lists phenomena such as hyperactivity, hyperdistractibility, disinhibition, impulsivity, perserveration, lability of affect and motor disfunctions.

The symptom hyperactivity is actually self-evident. The child is constantly in motion: he is too active. One finds sensory as well as motor hyperactivity. Some persons, like Bortner, cast doubt on the symptom (5, p. 72), whereas others compare the incidence of hypoactivity with that of hyperactivity (35, pp. 33,36). In the case of the cerebral palsied child, in particular, with his serious motor impediment, one may expect the incidence of hypoactivity.

Hyperdistractibility points to a poor attention span. Cruickshank is of the opinion that this is the most important characteristic of the brain-injured child and he regards symptoms such as hyperactivity, disinhibition and impulsivity merely as ways in which the brain-injured child gives expression to this excessive distractibility. Disinhibition refers more particularly to the motor aspect: any object which can be pushed, pulled, twisted, folded or bent directs such an appeal to the child that he cannot ignore it (9, p. 5).

Impulsivity, as well, points to the fact that the brain-injured child finds it difficult, in any situation, to direct himself towards the essential, as opposed to the non-essential. The child acts first and thinks about his action later; he is quick-tempered and easily becomes frustrated and excited.

The brain-injured child's behaviour is often incomprehensible and, in all probability, involuntary (7, p. 252).

According to Cruickshank, perseveration is the other striking characteristic of the brain-injured child. This is defined as the inability to proceed easily from one psychical activity to another. The child finds it difficult to draw his attention away from a particular matter - he perseverates. One finds verbal and non-verbal perseveration (5, p. 71).

Lability of the affect refers to an inadequate control of impulses. The child reacts too strongly to unimportant matters or is too passive in his reaction (7, p. 254). The child is excitable and subject to outbursts of rage. He experiences anxiety and panic in strange situations.

All brain-injured children suffer either from gross or minor motor disturbances.

2.2 INADEQUATE INTEGRATION OF FUNCTIONS

Reference has already been made to the problems of perception experienced by the cerebral palsied child. Strauss and his collaborators approached these problems from the point of view of the Gestalt psychology and pointed out that these children have difficulty in synthetisising, that is in constructing a whole from the constituent parts. A result of this is that the brain-injured child concentrates on detail and consequently experiences figure-background disturbances. There is a type of "forced reaction" to the background data (the detail).

Since the brain-injured child has problems in distinguishing figure and background, he is also unable to localise objects in space with reference to each other and with reference to his own body. The brain-injured child thus not only experiences problems in respect of spatial orientation but also in building up a scheme of his own body.

Disturbances with regard to perception in brain-injured children are subject to particular attention. In the case of cerebral palsied children, it has already been said that disturbances in respect of perception tell the whole story!

In addition to the above-mentioned problems of perception, the brain-injured child also reveals a pathological pattern

of thought. Cotton describes these children's thinking as stereotyped, with a strong tendency towards concrete-bound thought. Abstract thinking is defective (45, pp. 56, 57).

2.3 POOR SELF-CONCEPT AND NARCISSISM

The brain-injured child is described as intolerant. Frustration easily leads to agression. He is otherwise apt to evade a challenge. Furthermore, there are symptoms of over-compensation and a striving for controlling and manipulating others.

In designing a system of differentiated education for cerebral palsied pupils, the aforementioned symptomatology of the brain-injured child cannot be ignored entirely. A considerable number of studies indicate that cerebral palsied children experience cognitive, perception and visual-motor disturbances similar to those of so-called brain-injured children (35, p. 84). It is true that no deviations unique to the cerebral palsied child were revealed, but investigations were carried out which indicate, for example, that visual-motor disturbances and disturbances in respect of perception are more prevalent among spastics than other cerebral palsied groups (35, p. 85). Ingram found distractibility, hyperactivity and variation in moods among the majority of cerebral palsied children. In this country, Kotzé, in his study of a small group of cerebral palsied children, discovered perseveration, feelings of uncertainty, insecurity (affective distress, poor vocabulary and command of language (thinking at the concrete level) and deficiencies in pathological observation (optical and acoustic agnosia). It is consequently important that there may be cerebral palsied children who reveal motor or observational deficiencies or who have to contend with problems of understanding or other psychopathological traits such as hyperdistractibility, hyperactivity and perseveration. The teacher-didactician and the planner should, however, take note of the fact that none of these phenomena need necessarily be present in a particular child.

In the light of the foregoing, the education programme or system which Cruickshank suggests for brain-injured children should not be applied to cerebral palsied children without further ado. He designs his educational system particularly on the basis of sensory hyperactivity (distractibility, figure-background disturbances, dissociation, perseveration) and motor hyperactivity or disinhibition and, assuming that a brain-injured child has an especial need to experience success, integrates the following as the most important aspects in his

educational programme: In the first place, the teacher's instruction should be linked to the pupil's level of achievement. Secondly, the educational programme should be a direct reflection of the child's psychopathology and precautionary measures should be taken in the teaching situation, by means of specially designed learning and instruction material, to cope with obsevational problems. In the third place, the teaching situation should be designed in such a way that the child is taught by initial conditioning to carry out particular instructions. Cruickshank regards learning as a conditioning process. In order to counteract hyperdistractibility, all unnecessary "stimuli" should be removed from the room. The pupil should preferably be partitioned off in a small cubicle with only his book in front of him (10, p. 59). Fourthly, the room should be small and the teacher always within arm's reach of the child, so that trust and intimacy may be achieved. Cruickshank regards it as extremely important that the educational programme should be structuralized in accordance with environment as well as methodology. The structuralization is related to reduced environmental stimuli, reduced space and such a structuralized educational situation that the pupil may learn by conditioning.

As has already been stated, Cruickshank's educational programme cannot be applied to schools for cerebral palsied pupils without further consideration. Apart from the reason which has already been mentioned, there are a number of other objections which are worthy of note:

(1) The design of a system of education should have as its point of departure a grounded didactical-pedagogical structure or theory. In this regard, Cruickshank's statement, "teach to the disability of the child", does not hold water. His educational programme is based on the psychopathology of the brain-injured child, a matter which, as such, rests on shaky foundations.

(2) Special education is orthopedagogically orientated to a considerable degree and in this respect, important consideration should be given to the problem of experience of the brain-injured child.

(3) A system of education must take reality into consideration since it is never isolated from that reality. Cruickshank's structuralized environment and programme are not related to what happens outside the classroom.

Furthermore, learning is not a conditioning process, with the result that the mechanical learning which is established in Cruickshank's programme can never be meaningful learning with insight.

3 THE SIGNIFICANCE OF THE PROBLEM OF EXPERIENCE FOR THE DESIGN OF A SYSTEM OF DIFFERENTIATED EDUCATION FOR THE CEREBRAL PALSIED CHILD

In the foregoing paragraph it was stated that the design of a system of differentiated education for cerebral palsied pupils is, in the first place, a didactical-pedagogical task. If, however, it is considered that special education does not require any "new" or "separate" didactical-pedagogical theory, it may be averred that special education and, by implication, the education of the cerebral palsied child, is characterised by the fact that it concerns a child who experiences difficulty in his formal and formative education, that is a child to whom justice is not done in the ordinary didactical-pedagogical situation. The previously mentioned phenomena of motor deficiencies, sensory and intellectual problems and the psychopathology referred to in the foregoing section, contribute to the fact that the cerebral palsied child experiences difficulties in his formal and formative education. In addition to the actual existence of these problems, it should also be remembered that the cerebral palsied child is always, to a greater or lesser extent, aware of his impairment; he is aware of being different from others and this experiencing of his otherness plays such a prominent part in his life that attention should necessarily be devoted to it. It would, for example, be of little use to provide the cerebral palsied child with all the technical aids necessary for adequate learning and to neglect his existential distress by refusing to accept his handicap. Various educationists have referred to the importance of the problem of experience for special education. Vlietstra writes that the teacher should know what it means to the child (that is how he experiences it) to be blind (or cerebral palsied) (58, p. 11). Richters points to the otherness of the handicapped child and the mode of experiencing in this regard. Van Liefland suggests that children who experience their impairment too strongly should be taken out of ordinary education. The basic characteristic of the handicapped child is his otherness and the fact that he lives from other experiences. In this country, Pretorius and Kotzé, inter alia, stress the otherness of the handicapped child and his experiencing thereof. Of particular importance is the fact that the cerebral palsied child discovers his otherness

within the relationship to other persons and objects surroun= ding him and that, in this respect, he is strongly aware of experiencing limited freedom. The child who is not handicapped can do many things which, by virtue of the nature of his impe= diment, are beyond the capacities of the cerebral palsied child.

As has already been stated, experiencing and awareness can, to all intents and purposes, be equated. All conditions of consciousness, all psychical life, all conscious life can be reduced to feelings and thoughts and these are both modes of expression of one basic form, viz experiencing. Although they can never be separated and the one cannot appear without the other, a distinction can be made between experiences of feeling and of thought. As a person grows up, his experiences change; they function at a higher level. The experiences of a tiny infant are of a sensory nature. One talks of senso= pathic (sensory-affective) and senso-gnostic (sensory-cognitive) experiences. As the child grows older and becomes better acquainted with his world, the experiences are at a higher level (pathic-gnostic) and when he eventually reaches the secondary school, his experiences have become stabilised to such an extent that one may talk of affective and cognitive experiences.

As in the case of the non-handicapped child, the cerebral palsied child's earliest experiences occur on the basis of sensations of taste, touch and feeling (inter alia by physical caressing) and sensations of sight and hearing, thus at the physical-vital level, and are characterised by their impulsivity.

In this earliest period of life, the physically unimpaired child is constantly obtaining more effective control over his own body as a means of exploration. Depending on the nature and locality of the brain injury and its resultant influence on the given potential of the child concerned, the previously mentioned sensations (touch, taste, sight, hearing) will not be able to develop to the same extent, by means of adequate experiences, as in the case of the non-handicapped child and the possibility of stabilising the emotional and intellectual life will consequently be more difficult to realise. A few examples should elucidate this point: The very young spastic child, who cannot grasp objects, who is possibly unable to turn his head to follow his mother's face and whose mouth organs perhaps cannot carry out the sucking movement, expe= riences such events as frustrated actions. Such a child is retarded in his approach to the world, the appeal which is directed towards him remains unanswered, with the

result that there can be no raising of the level of his expe= riences.

If the development of a child proceeds in "normal" fashion, the affective as well as the cognitive experiences will, in due course, occur at a higher level than the sensory one. Such a raising of the level of experience reveals itself at as early a stage as infancy and during the first classes of the primary school. There is still an experience of unity in respect of "feeling" and "knowing", but the affective expe= riences are now at the pathic and the cognitive experiences at the gnostic level. However, cognitive or gnostic experiences still occur at the concrete level as a result of their vivid= ness but the ability to abstract is in its nascent stage.

The growing cerebral palsied child becomes more specifically aware of his otherness and his limited physical potential is obvious to him. The convulsive contracted muscles of the spastic child prevent him from grabbing, touching, tolerating fondling and even from sitting, crawling and walking. The athetoid infant loses control over his intended movements, with the result that, in his dealings with objects, he expe= riences feelings of confusion and frustration from the outset. These objects are no longer of an inviting nature and reveal themselves to the cerebral palsied child as hostile, unruly, unserviceable and unrecognisable.

One result of the cerebral palsied child's limited potential in handling objects is that he does not learn to play properly. However, adequate experiences of play are essential for the development of the child, since a lack of these will result in his experiencing his infirmity emotionally in the presence of others. His cognitive experiences are also retarded because he is unable to explore his environment properly. Other modes of learning such as imitation, personification and phantasy are consequently not utilised to the full.

During this phase of life, the child acquires language, which is pre-eminently the instrument with which he may attain higher levels of experience. The level of abstract thinking is heralded by means of language. It is of extreme importance that various educationists have indicated the close relation= ship between language and thinking, language and intelligence and language and affect. In the first two cases, language plays the indispensable rôle of a means. However, there is a paral= lelism between language and thinking, on the one hand, and language and intelligence, on the other. This means that

language is the carrier of thinking and that language is not possible without thinking. Language, however, also plays an important part in man's emotional life, since it interprets and arouses feeling and elevates the impulsive sensory experiences of the child to a stabilised and acceptable form.

The acquisition and extension of language are consequently of considerable importance for the proper development of the child. Kotzé points out that the vocabulary and general command of language of cerebral palsied children are extremely scanty and that they consequently move at a concrete-visual level of thinking. As a result of the language deficiency, the cerebral palsied child's thinking, development of intelligence and affect are retarded. Viewed in this light, it is understandable that these children may reveal feelings of uncertainty, anxiety and insecurity; that the development of their intelligence will remain below par and that their thinking will stagnate at the concrete level.

As the child becomes older and eventually attains secondary school age, his development should proceed in such a way that he finally reaches the level of stabilised feelings and thinking, viz the affective-cognitive level of experience. It appeared from the foregoing that cerebral palsied children may be retarded to such an extent in their language, thinking, development of intelligence and emotional life that few attain stabilised affective experiences and predominantly abstract thinking. However, the cerebral palsied youth who enters the phase of puberty and adolescence is confronted anew with his otherness. He faces the task of forming a picture of his life with others, his occupational life and his relationship with, inter alia, the opposite sex. Here one is concerned with a field of tension between otherness and the fact that he is nevertheless expected to participate. The way in which the child will accord meaning to his own life is also determined to an equal extent by this field of tension. The occupational world, which gives meaning to the lives of many persons, is closed to the majority of the cerebral palsied. The cerebral palsied youth will consequently have to find alternative ways to give meaning to his existence and the educator is expected to play an important rôle in this regard.

The deficiencies in experience which have been described pose serious problems in respect of formal and formative education for both parent and teacher. The parent experiences failure in carrying out his basic function of upbringing since he does not know how to handle his child who is so different. The

teacher consequently receives pedagogically neglected children in the school, since many cerebral palsied children are either spoilt or rejected by their parents. Provision must be made for additional experiences of play, for promotion of language and thinking and the actualization of intelligence. Of parti= cular importance in this regard is the stabilization of the child's emotional life. Although, in a system of differentiated education, one cannot distinguish among pupils on the strength of the fact that their experiences differ, consideration should nevertheless be given to the problem of experience, since it is only when the child feels that his educators guarantee safety, security and acceptance, notwithstanding his impairment, that he will develop effectively and be able to utilise the teaching act to the full.

4 THE CONTROL OF EDUCATION FOR CEREBRAL PALSIED PUPILS

The establishment of facilities for special education has assumed the same course in practically all the countries which were studied. Initially, parents and other interested persons expressed anxiety and interest and this led to the founding of societies. In the case of the cerebral palsied, societies for the care of such youths and adults came into being. Examples are the Spastic Society in England and Wales; the United Cerebral Palsy Association in the USA; the Nederlandsche Centrale Vereniging voor Gebrekkigenzorg in the Netherlands; the Society and Home for Cripples in Denmark and the National Cerebral Palsy Division of the National Council for the Care of Cripples in South Africa.

After the founding of these societies, attention was, in due course, devoted to the establishment of educational facilities. Private schools were opened at the outset but the state usually recognised its responsibility and subsidised the societies. The result is that, at present, the majority of schools for cerebral palsied pupils in the RSA are government-aided. In this regard, a quotation from the opening address of the former Secretary of Higher Education, Mr M.C. Erasmus, during the Symposium on the Handicapped Child and his Integration in Society, which was held in Pretoria in September 1970, is of relevance. On this occasion, Mr Erasmus stated: "Government-aided schools are under the supervision of Managing Bodies, which enjoy considerable autonomy. The Department provides a liberal subsidy, approves courses and syllabuses which are offered and stipulates the qualifications which the personnel

should possess. The schools are also subject to inspection by the inspectors of education of the Department, as well as the administrative inspectors. There is very close co-operation between the Managing Bodies of the schools and the Department, as well as between the principals of the schools and the Depart= ment.

Thus, for instance, experts attached to the schools are involved in the compilation and revision of syllabuses. There is close liaison among the school concerned, its architect and the experts of the Department when new buildings are planned at the school.

When, approximately five years ago, it appeared that the Managing Bodies were unable to meet their share of the running costs of the government-aided schools, the Department, in consultation with the schools and the Treasury, revised the basis of the subsidy.

The following subsidies are payable to government-aided schools:

100 per cent of salaries of approved personnel.
90 per cent of capital expenditure, that is for new buildings and for equipping school buildings and hostels.
100 per cent of the expenditure on educational aids necessary for the teaching of pupils.
75 per cent of other approved expenditure.

The Department is responsible for all the expenditure at government schools for handicapped pupils.

There have been representations to the effect that the Depart= ment should take over the government-aided schools as full government schools. However, the Minister is of the opinion that the system of government-aided schools, with their auto= nomous Managing Bodies, can render an extremely important contribution to the education of handicapped pupils. It is the policy of the Department to encourage private initiative (all italics by the committee (17, pp. 12, 13).

The foregoing quotation provides an adequate explanation of the matter in respect of the control of schools for cerebral palsied pupils in the RSA.

5 DEGREE OF HANDICAP AND CRITERIA WITH A VIEW TO ADMISSION TO A SCHOOL FOR THE HANDICAPPED AND METHODS AND STAGE OF IDENTIFICATION

Up to the time of the establishment in 1955 of the Thomas de la Rue School for cerebral palsied pupils under the control of the Spastic Society, cerebral palsied pupils in England and Wales had, in the main, been educated together with other physically handicapped children. This system also determined the criteria for admission, since physically handicapped, and not cerebral palsied pupils were concerned. At the outset, the Spastic Society had an evaluation team in London, consisting of a social worker, a pediatrician and a psychologist, whose task it was to decide on the admission of pupils to schools for the cerebral palsied. The pediatrician acted as chairman. However, since it was difficult in the space of a few hours, to make a final pronouncement on a child's educational potential, the above-mentioned society established an observation centre, Hawksworth Hall, to which children could be sent for 10 to 15 months. If it appears that the child is educable, he is sent from this centre to an appropriate school (18, p. 38). In order to evaluate the child's intelligence, use is made, inter alia, of the Stanford Binet, the Terman Revision, the Merrill Palmer and the Coloured Progressive Matrices.

In the Netherlands, the position is at present such that cerebral palsied pupils are educated together with the physically handicapped. Pupils who apply for admission to a school and have to live in the hostel are admitted to a so-called "revalidation centre" for a trial period of eight weeks and are subjected to observation. There is an observation class for pupils of six years and older. The evaluation with a view to admission is carried out by a team comprising a physician, a psychologist, a social worker, the chief sister of the clinic and the various therapists, as well as a teacher. Admission is decided upon after thorough consultation among all the above-mentioned persons and the principal of the school.

Day scholars report for an observation examination; it is compulsory by law and is carried out by a physician, a psychologist and the principal of the school. This team may decide to place pupils who have been admitted in an observation class for a certain period so that their position in the school may be determined.

With regard to admission to special education, Vlietstra mentions two further matters which are worthy of note. He

points, in the first place, to the considerable importance of the teacher's rôle in the evaluation of the pupil with a view to admission. The teacher is pre-eminently suited to express an opinion on the seriousness of the handicap with regard to the educational act and consequently to make a prognosis in respect of the pupil's school career (58, pp. 35, 36). Vliet=stra is also of the opinion that handicapped pupils should not be compelled to attend schools for special education, since a large percentage of pupils would then have to be accommodated in hostels and would consequently forego the advantage of a family upbringing.

According to the report of the Ständigen Konferenz der Kultus=minister der Länder in der Bundesrepublik Deutschland, schools for physically handicapped pupils may admit pupils who are physically handicapped as well as pupils who cannot find their feet in ordinary schools or those who lose their zest for life or self-confidence in a community of physically healthy persons (28, p. 103). In the latter case, one is particularly concerned with children who, as a result of motor disturbances or defi=cient function efficiency, are unable to make use of their limbs at the required work tempo within the larger class con=text of the ordinary school (28, p. 112).

Pupils who cannot be educated successfully in ordinary schools are compelled by law to attend schools for special education (Sonderschule) or to receive suitable orthopedagogic education (Sonderunterricht) (33, p. 197). The lower education inspec=torate, in consultation with the parents, decides which special primary school should be attended. If necessary, this deci=sion may be preceded by a pedagogical, psychological and medical examination (33, p. 197).

The Educational Services Act (Act No. 41 of 1967) of the Republic of South Africa provides, inter alia, for special education for all those cerebral palsied pupils who cannot derive sufficient benefit from ordinary education or whose presence in an ordinary class at an ordinary school may be harmful to themselves or other pupils. However, it must be added that the pupil should be educable and that he should benefit to a sufficient extent from the education (which in=cludes therapeutic and medical treatment).

The above-mentioned act does not describe the concept "educable", with the result that the interpretation thereof is left to the Department of National Education. According to the question=naires which were completed by principals of schools for

cerebral palsied pupils, an IQ of 50 or higher is taken as an indication that a child is educable.

Determination of the cerebral handicap as such is left to the physician (neurologist). In some cases, so-called brain-injured children who are not explicitly cerebral palsied are admitted to these schools.

As regards establishing the educability of the child, the school principal, the school psychologist, the teacher and the various therapists each have a share in determining the extent to which the pupil will benefit from the school programme. Although an IQ of 50 is taken as the point of departure in this regard, it is interpreted with caution. Views such as, inter alia, that the intelligence quotient indicates the actual level of intelligence; that the intelligence quotient is a constant factor; that the level of intelligence is influenced only to a small extent by education and environment and that the intelligence quotient is, in itself, a reliable criterion with a view to predicting success at school (see 20, p. 11) are no longer accepted today. Furthermore, if it is considered that cerebral palsied children have to cope with a variety of problems (for example, visual, hearing, perception and speech problems) which retard them in the implementation of their intelligence, it is obvious that the above-mentioned intelligence quotient of 50 cannot without further ado be regarded as the line of demarcation.

In order to ensure an accountable modus operandi, a considerable number of intelligence and other media are integrated and an analysis made of the data, on the one hand, whereas, on the other, use is made of the opinions of the teacher and the various therapists to determine the "educability" of a pupil. For this reason, it has often happened that children with an intelligence quotient which is less than 50 have been admitted to schools for cerebral palsied pupils.

In addition to these precautionary measures, the majority of schools for cerebral palsied pupils in the RSA make provision for a pupil to be admitted for a trial period during which he has the opportunity of developing his potential to the maximum in a favourable environment.

On account of the realization that cerebral palsied children may derive considerable benefit from early treatment (physiotherapy and speech therapy, as well as medical-surgical intervention), the voluntary age of admission is set as low as possible.

Some schools admit children from the age of two and a half years, while others set the lowest limit at three years. The compulsory age of admission is the same as for ordinary schools, viz the year in which the pupil turns seven, on the understanding that, if a child turns six before June of a particular year, he may be admitted during that year.

Although cerebral palsied pupils are not compelled to attend schools for the cerebral palsied from the outset, school principals maintain that the majority of their pupils are admitted to the schools during the pre-school period.

The previously mentioned Educational Services Act (section 1, paragraph ix) stipulates that a pupil may be admitted to a school for the cerebral palsied up to his eighteenth year. If, however, a pupil may continue to benefit from the educational and therapy programme after he has reached this age, he may remain for a longer period (even up to his twenty-sixth year).

6. THE GROUPING OF CEREBRAL PALSIED PUPILS IN SCHOOLS AND CLASSES

If differentiated education may be viewed as one way in which justice can be done to the principle of accompanied individualization as a didactical modality within the school context, the establishment of separate schools for cerebral palsied pupils or the admission of such pupils to schools for a more comprehensive group of handicapped pupils may be regarded as a method of actualizing this didactical modality. It is consequently of particular importance, in the first place, not to relate the principle of individualization and differentiated education to planning within a school or class but to realise that the establishment of separate schools for handicapped pupils offers this didactical modality the possibility of fruition.

According to Loring, there were, during January 1963, about 11 000 cerebral palsied children of school-going age in England and Wales. This figure includes those pupils who were older than 16 and were still receiving education. Of these, approximately 2 500 are "uneducable", whereas the majority of the remaining 8 500 are in ordinary schools. However, about 1 500 are in schools which make special provision for the cerebral palsied. The Spastic Society and its affiliates care for 1 250 of these pupils; 315 are in five boarding schools and one evaluation centre and 47 in two centres for

advanced education (29, p. 14). In addition, there are 35 so-called "Day Centres" under the control of affiliated bodies, where care and training are mainly offered but where educational facilities are also available (29, p. 15).

The five boarding schools referred to above represent the core of the Spastic Society's educational activities and include two secondary schools, one school with a primary and a secondary section and two schools for mentally subnormal pupils. Two of the schools have sections for the hard of hearing - Hawksworth Hall is the evaluation centre to which reference was made. It is obvious from the foregoing exposition of the boarding-schools under the control of the Spastic Society that, in this type of educational provision, a distinction is made between more intelligent and subnormal cerebral palsied pupils by means of differentiated schools (29, pp. 16, 17).

As regards the overseas countries which were studied, the United States of America occupies a unique position, as a result of the fact that separate schools for handicapped pupils are not very popular in that country. The two basic principles of special education in the USA are that all handicapped pupils have the right to derive the maximum benefit from specialised assistance and that every child also has the right to identify himself with his peer group (12, p. 66, 67). In the light of these two principles, there is more emphasis on the principle of socialization in the organization of special education in the USA. Cerebral palsied pupils may consequently be admitted to special schools or special classes.

Three types of day schools for special education are distinguished. The first type of school admits various categories of pupils but they are separated in the school. However, few schools of this type are found. A second type of school caters more specifically for one category of handicapped children (for example the cerebral palsied) but also admits non-handicapped pupils from the neighbourhood. Thirdly, there is a type of school which provides for only one category of handicapped children, especially for the mentally handicapped (imbeciles). However, it is expected that this type of school will also disappear in the course of time. The establishment of special classes at ordinary schools is regarded in the USA as the most suitable system of education for handicapped pupils. These classes may assume various forms from an organizational point of view. In the first place, there are classes with a fixed number of pupils and with one teacher. Such class units are described as "self-contained" and are esta-

blished more specifically for mentally handicapped pupils. These classes are homogeneous as regards the category of the handicap (12, p. 70). There is, in addition, the so-called "co-operative plan", according to which handicapped pupils are also placed in special classes and receive specialised tuition in a number of subjects. For some subjects, however, they are taught together with non-handicapped pupils in the latter's classes. Thirdly, there is the "resource-room plan", which is growing in popularity. According to this, the handicapped pupil spends the greatest part of the day in his own class but he may go to the "resource-room" at fixed times for additional assistance. Gifted pupils are given the opportunity of working on projects in the "resource-room". The teacher who is on duty in this classroom may, however, provide orthodidac= tical assistance, if necessary. Finally, there is the "itinerant" or "contact" plan, according to which a teacher travels from school to school to instruct pupils in need of special education. So-called "home-bound" teachers are also found, who teach pupils at their homes (12, pp. 71, 72).

In the Netherlands, education for handicapped pupils is offered in schools established specifically for that purpose. One important result of this system is that, in such independent schools, differentiation may be applied with regard to each pupil's particular need of instruction (14, p. 4).

In the Netherlands, cerebral palsied pupils are taught together with other physically handicapped pupils either in day schools (the so-called Mytyl schools) or in boarding-schools (internates). Schools attached to internates are known as "revalidation centres" and are under the control of a physician-director. In these centres, intensive medical treatment is the primary reason for admission. In the Mytyl or day schools, the medical or paramedical treatment is relegated to the background, since the educational needs of the pupil are given preference in this case (59, p. 44). An educationist is usually in control of a Mytyl school.

According to Van Liefland, 80 per cent of the handicapped pupils in the Netherlands are in day schools. This represents an extremely favourable situation, since family upbringing should always have preference. The handicapped child feels safer and more secure in his own family circle than in any other place, whereas his affective and social development may be retarded in an institution. Experience of actual life is lacking in an institution and it can be stated that the child adopts a more passive rôle under such circumstances (54, p. 26).

As regards the organization of a centre or school for the physically handicapped, reference may be made to Johanna Stichting. In this school there is a nursery section (children from 2 to 7 years), an observation class (to which pupils are admitted before their final placement), and a core school with sections for seriously spastic children, the slightly handicapped, the mentally handicapped and children with aural handicaps. There are also sections for special industrial education, special domestic science education, special lower technical education and advanced special education (24, p. 1).

In Germany, cerebral palsied pupils are also instructed together with the physically handicapped. However, there are schools for special lower education for up to 20 per cent of the physically handicapped pupils (33, p. 199). The first school which was built especially for cerebral palsied pupils was opened in Hamburg in 1958.

From data obtained from 26 boarding-schools for 1963, it appears that only 3 of the 26 had secondary sections (Oberschule); that the majority had a primary section (Volksschule); that fourteen had a so-called Hilfschule; that ten had a nursery school section (Sonderschulkindergarten) and three a nursery section (Sonderkindergarten); and that 13 of the schools were able to offer speech therapy.

In addition to the above-mentioned boarding-schools, there are day schools as well, which, in the case of Germany, are also regarded as the most favourable educational provision as a result of the family upbringing which accompanies it. As regards the 18 day schools which were in existence in 1963, it appears that only two had a secondary section (Oberschule); that all had a primary section (Volksschule); that eleven had a "Hilfschule" and nursery school section (Sonderschulkindergarten); that eight had a nursery section (Sonderschulkindergarten); and that sixteen offered speech therapy.

In Denmark, particular importance is attached to educating the handicapped child as far as possible under the same circumstances as his non-handicapped contemporaries. This implies that a handicapped pupil must first be admitted to an ordinary school before he can be considered for special education (48, p. 127). In order to ensure that handicapped pupils keep up the pace, additional, special periods of instruction are provided. Compulsory education for the handicapped child commences in the year in which he turns seven but the parents may enrol him at an earlier stage (48, pp. 127, 128). The

Geelsgaard school near Copenhagen has about 130 pupils, of whom 100 are resident. The school has four sections which are known as elementary classes, secondary classes, special classes for slow pupils and special classes for seriously impaired cerebral palsied pupils. Pupils have the opportunity of passing the final examination of the Danish Secondary School (48, p. 130).

In the Republic of South Africa, provision has been made, since 1948, for educating cerebral palsied pupils by means of separate schools. All the schools admit boys as well as girls; are parallel medium schools and provide for pre-primary, primary and secondary (up to Standard Six) education. Approximately 20 per cent of the pupils of these schools reside in hostels. There are few pupils in the secondary sections and staffing constitutes a serious problem in this regard.

Some of the schools for cerebral palsied pupils in the RSA make provision for a special section, normally in the form of classes for pupils with language handicaps. There are also special classes for the less intelligent pupils, for whom emphasis is laid on the practical aspects. In the primary school, class teaching is the main form of instruction. Occasionally there are separate teachers for subjects such as Art, Physical Education, Geography, Physical Science and Domestic Science. In cases where secondary education is of= fered, this is done by means of subject teaching, although one teacher will usually have to provide instruction in more than one subject.

7 THE CURRICULA AND SYLLABUSES IN SCHOOLS IN WHICH CEREBRAL PALSIED PUPILS ARE TAUGHT

The curriculum refers to the collection of (school) subjects as they have been systematized and arranged over the various years of study in respect of the various fields of study and which are offered by a particular school (or other educational body). In some cases, the collection of subjects for a par= ticular school year is referred to as the curriculum for that year (standard) but the total number of subjects offered in a school is also often referred to as the curriculum of that school. However, the curriculum of a particular school year (standard) or school is compiled in the light of the educa= tional aim (general and particular) which is pursued. For this reason, the curriculum of the primary school in this country differs from that of the secondary school. Whereas the first-mentioned school strives for the general moulding

of the pupils, the secondary school is largely vocationally orientated and its curriculum is adapted accordingly.

It may be concluded from the foregoing that the curricula (and syllabuses) at schools for cerebral palsied pupils should reflect that which is envisaged with the education of these pupils. This is an important matter and is of great concern for designing a system of differentiated education for cerebral palsied pupils.

In England and Wales, vocational education only commences after the pupil has completed his primary as well as his secondary school career and the curriculum at the primary schools at which cerebral palsied pupils are instructed is consequently the same as that for the ordinary primary schools (48, p. 164). The curriculum includes the following subjects: English, a modern language, History, Geography, Mathematics, Physical Science, Handicrafts, Music, Religious Instruction and Physical Education (38, p. 16).

In the secondary school, the cerebral palsied pupils are instructed, inter alia, in practical, vocationally directed subjects such as horticulture, pottery, leather-work and the manufacture of mats (48, p. 165). Boys as well as girls are also instructed in cookery lessons, manual labour and carpentry. The previously mentioned subjects do not exclude the fact that the pupils at the Thomas Delarue, Wilfred Pickles and Craig-y-Parc schools are prepared for the final school examination at the advanced as well as the ordinary level and that considerable success has been achieved in this regard (29, pp. 16, 17).

The curriculum for the ordinary primary school in the United States of America is not differentiated. The following subjects are offered in accordance with the pupil's level of development and experience: Language Instruction (including Speech, Reading, Spelling and Literature), Social Study, Physical Science and Hygiene, Mathematics, Art and skills (Music, Painting, Drawing, Drama) and Physical Education (38, p. 17). As appeared from Section 6, handicapped pupils at primary education level are also involved in this curriculum.

The curriculum for ordinary primary schools in the Netherlands includes the following subjects: Reading and Writing, Dutch, Arithmetic, History, Geography, Hygiene, Singing, Physical Education and Needlework (38, p. 16). The curriculum of special primary education is usually linked to that of ordinary primary education. In the Johanna Stichting, for example, a

distinction is made among A, B and C groups of pupils and, as regards the A and B groups, an attempt is made to implement the same curriculum as that applying to the ordinary primary schools in Arnhem (24, p. 6).

Considerable emphasis is nevertheless laid on vocationally directed education and occupational moulding. There is an industrial school for girls in the above-mentioned Johanna Stichting, in which the general moulding of the female is the principal aim. Subjects such as Cookery, Needlework and Child Care are offered, but complete training in domestic science is beyond the scope of the girls (24, p. 4). The girls are divided into two groups on the strength of intellectual potential in order to make differentiated education possible. Group A receives ordinary training but at a retarted tempo.

It is difficult, if not impossible, for the girls in Group B to obtain the ordinary diploma; what they, in fact, receive, is a "school statement", to the effect that they have made the necessary progress.

In the technical school for boys, metal-working is stressed. Woodwork does not appear to be very successful. The boys are also divided into groups on the strength of intellectual potential. The members of Group A complete the six classes of primary education successfully and obtain a fully-fledged testimonial which enables them to find employment without difficulty. The maximum level of achievement of the boys of Group B is the fourth or fifth school year. After two years' practical training, they are issued with a "School statement" and they also find little difficulty in being employed. The members of Group C do not even attain the standard of sheltered employment (24, p. 5).

In addition to the foregoing, provision has been made, in the nature of things, for advanced special education for intelligent cerebral palsied boys and girls to enable them to qualify, inter alia, for administrative occupations.

As from January 1974, schools for cerebral palsied pupils in the RSA make provision for differentiated education on the basis laid down by the Committee for Differentiated Education and Guidance. According to a "Manual to Schools with regard to Differentiated Education", which was made available to schools by the Department of National Education (47), education will in future be provided in four school phases, viz :

(1) The junior primary school phase: initial education and Standard 1;
(2) the senior primary school phase: Standards 2, 3 and 4;
(3) the junior secondary school phase: Standards 5, 6 and 7; and
(4) the senior secondary school phase: Standards 8, 9 and 10.

In accordance with the report of the Committee for Differentiated Education and Guidance, the above-mentioned manual suggests that differentiation in primary education should be effected by means of differentiated presentation, the classification of pupils in ability groups (as far as possible) and the enrichment and attenuation of the subject-matter for the higher and lower ability groups respectively. Education in the junior secondary school phase should be of a generally formative nature, the majority of subjects compulsory and the syllabuses undifferentiated. However, the subject-matter should be presented in a differentiated manner in accordance with the needs of particular groups of pupils.

The curriculum for Standard 5, the lowest limit of the junior secondary school phases should be as follows:

Non-examination subjects

(1) Religious Instruction
(2) Physical Education
(3) School Music
(4) Basic Techniques (Art and Manual Training).

Examination subjects

(1) Home Language
(2) Second Language
(3) Mathematics
(4) General Science
(5) History
(6) Geography.

The following curriculum is suggested for Standards 6 and 7:

Non-examination subjects

(1) Religious Instruction
(2) Physical Education
(3) School Music.

Examination subjects

(1) Home Language
(2) Second Language
(3) Mathematics
(4) General Science
(5) History/Geography
(6) Technical orientation for boys and girls: Compulsory for Standard 6 but schools decide whether they wish to make it optional for Standard 7.
(7) Optional subjects (47).

The subject "Technical Orientation" is a collective noun for the subjects "Industrial Arts" and "Homecraft". Two optional subjects may be taken in Standard 6 and three in Standard 7. These optional subjects are related to the future field of study of the pupils. In addition to the foregoing curriculum, which is more particularly suited for pupils of average and above average intellectual ability, a practical course (Standards 6, 7 and 8) is also suggested for those pupils who cannot derive sufficient benefit from the ordinary education which is normally provided in the course of secondary education (the dull normal pupils). For these pupils, differentiated syllabuses are offered from Standard 6 (the year in which the course commences). The course is of three years' duration but may be lengthened during the secondary school period.

The curriculum for these pupils is as follows:

Non-examination subjects

(1) Religious Instruction
(2) Physical Education
(3) School Music.

Examination subjects

(1) Afrikaans/English (First language)
(2) English/Afrikaans (Second language)
(3) History - Geography
(4) Practical Mathematics
(5) General Science
(6) Practical field (3 or 4 subjects).

The following five fields are offered in the practical vocational= ly directed course:

(1) Commercial field (Subjects: Typing, Accounting, Business methods, Salesmanship – all practical).

(2) Domestic Science field (Subjects: Cookery and Home Management; Needlework and Dressmaking; including Care of Textiles; Mother Craft and Health Guidance and Business Methods – all practical).

(3) Technical field (Subjects: Workshop Practice, Workshop Theory, Technical Drawing and Sketches; and Business Methods – all practical).

(4) Agricultural field (Subjects: General Agriculture; Farm Mechanics; Farming Practice; Business Methods – all practical).

(5) (a) General field for boys (Subjects: Industrial Arts Theory; Industrial Arts Practice; Art and Music; Business Methods – all practical).

(b) General field for girls (Subjects: Homecraft; Business Methods; Typing; and Art and Music – all practical) (47).

As was made possible in ordinary schools by means of the National System for Differentiated Education, differentiation is achieved in the senior secondary phase of the schools for special education by means of the following –

(1) A choice of a field of study;
(2) subject choice in a field of study; and
(3) a choice among subjects at two levels (higher or standard grade).

The following are compulsory subjects in all fields of study:

Non-examination subjects

(1) Religious Instruction
(2) Physical Education
(3) School Music.

Examination subjects

(1) An official language at the higher level.
(2) The other official language at the higher or the standard level.
(3) Another four subjects pertaining to a particular course of study (47).

Since only about 25 per cent of cerebral palsied pupils are of average or higher intelligence, while approximately 25 per cent are dull normal (intelligence quotient between 70 and 90) and about 25 per cent mentally retarded (intelligence quotient between 50 and 70), it is to be expected that considerably less than a third of the school population of a school for the cerebral palsied will be capable of pursuing the courses for the ordinary senior secondary school. This is particularly true if it is taken into account that a large percentage of the given 25 per cent of pupils of average and above-average intelligence are only mildly handicapped and thus attend ordinary schools. The practical course as proposed by the Committee for Differentiated Education and Guidance and specified by the Department of National Education would be more suitable for the 25 per cent of the general cerebral palsied population who can be classified as "dull normal" and who would constitute considerably more than 25 per cent of the school population in the case of a school for cerebral palsied pupils. The school principals also feel that the majority of their pupils will have to be included in this practical course. Nevertheless, in every school for cerebral palsied pupils there is a group of children whose needs the ordinary curricula and syllabuses cannot fulfil. They represent the group of pupils who can, to all intents and purposes, be called mentally handicapped, having an IQ of less than 70. Separate provision will have to be made for those pupils by means of specially compiled curricula.

Cerebral palsied pupils thus fall into three broad groups as far as scholastic achievement is concerned:

(1) Those with an IQ of over 90, who can be regarded as normally gifted and who can master the curricula and syllabuses of the ordinary primary and secondary school.

(2) A second group are those pupils with an IQ of above 70 and below 90. They will be able to cope reasonably well with simplified syllabuses but will have to fall back on the practical course at secondary school level.

(3) Thirdly there is a large group of pupils whose IQ is less than 70. They experience considerable difficulties even with the attenuated syllabuses. Basic knowledge with regard to Reading, Writing and Arithmetic could possibly be included.

In schools for cerebral palsied pupils the curriculum will thus also have to be differentiated in the primary section. The curriculum and syllabuses of the first group could thus be similar to those for the ordinary primary schools, i.e. generally formative in nature and leading up to the occupational=ly orientated education given at the secondary level. Since the third, and to a lesser extent the second, group will not reach secondary school level at all, their syllabuses would have to be attenuated and the curriculum compiled in such a way that provision can be made for other manual skills or elementary occupationally directed subjects which have a bearing on life in general.

8 THE DIDACTIC-PEDAGOGICAL AND ORTHODIDACTICAL STRUCTURE OF SCHOOLS FOR CEREBRAL PALSIED PUPILS

There are three matters in particular which occupy a prominent position in modern didactic-pedagogical thought, to wit:

(1) the essence of the didactic-pedagogical act;

(2) the meaning of the didactic-pedagogical act; and

(3) the potential of this act or the way in which it takes shape in practice.

It is sufficient for the purposes of this investigation merely to state that the essentials of the educational act cannot be distinguished from each other in the case of ordinary and special education. In both cases the following are involved: learning, rendering material understandable, moulding, accompanying, orientating, objectifying, formalizing, delimiting (length of time), reducing (content) et cetera.

Comment is subsequently made on the significance of the edu=cational act and the ways in which instruction is given. Because it is of such far-reaching importance for both educational objectives and methods of instruction, the question of learning and the implication thereof in the design of a system of diffe=rentiated education for cerebral palsied pupils is placed at the head of the list.

There is no one who does not learn and adequate learning is an imperative prerequisite for the proper development of the child. Mention was made earlier of the significance of the problems of experience in the cerebral palsied child's learning act. This matter will now be elucidated more fully.

On the one hand, learning is rendered possible by the fact that man has senses and is thus capable of observation. By means of his senses man discovers duration of time, form, colour, size, weight, sound and taste (51, p. 56). Unblemished senses are imperative for effective learning. The cerebral palsied child, however, may experience problems in hearing, vision and touch. Poor hearing is usually accompanied by speech and language disturbances. Apart from the visual and auditory problems which are of a sensory nature, the cerebral palsied child also often has perception disturbances stemming from the brain injury as such. A child like this has difficulty in construing parts into a whole (i.e. in synthesizing); there are figure-background disturbances and problems relating to the bodily scheme and spatial lay-out. Consequently there are evidences of optical and acoustic agnosia and aphasia. These perception or observational disturbances impede learning, make particular demand on the didactician in the didactic situation and are of significance in the designing of a system of diffe= rentiated education for cerebral palsied pupils.

Owing to his motor and visual (also acoustic) problems, a cerebral palsied child cannot play properly. However, ade= quate experience of play is very important to learning, for the child explores through his play. Frustrated play experiences lead to stagnation in the learning occurrences. The signifi= cance of this for teaching deserves attention.

The importance of language for ratiocination, intelligence and affect was mentioned in the discussion on problems of expe= rience. Speech as a mode of learning is thus of particular importance in a child's development. However, it is common knowledge that a remarkably high percentage of cerebral palsied children have speech and langugage problems, and this sets the didactician or pedagogue a formidable task. In most schools here and abroad there are sections for those with linguistic impediments and the services of speech therapists are employed.

Other modes of learning worthy of mention are mimicking, phantasizing and working. The realization of all these modes of learning is very closely linked to observing, playing and

talking which have already been mentioned. If the child cannot observe, play and speak properly, he will not be able to use mimicking, phantasizing and working adequately as modes of learning. Disability with regard to one or more modes of learning thus also impedes the child in his efforts to master efficiently other modes of learning.

Repetition may also be mentioned as a mode of learning. This mode often operates to the cerebral palsied child's disadvantage. Faulty observation, incorrect movements (in playing, working, mimicking), poor articulation (speech) and the repetition thereof in everyday situations result in patterns being laid down in the cerebral palsied child's modes of learning which will be eliminated only with the utmost difficulty unless the said child is identified and helped at an early stage.

The child's modes of learning are supplemented and given direction by the instructive action of the parent or teacher. However, essential phenomena of the didactic-pedagogic act, such as objectifying, progressivity and anticipation of the future already indicate that the child is getting somewhere. Neither learning nor the teaching act takes place for its own sake but has a formal or formative educational objective in view. This educational objective is adulthood and should children not be able to acquire maturity, education would be a senseless, needless and time-wasting business (52, p. 28). Amongst other things, adulthood is characterized by moral independence, taking the responsibility for one's own decisions, independent and accountable occupational choice and practice and independent exercising of one's own outlook on life.

The question at issue is this - what should be striven for in the formal and formative education of the cerebral palsied child? Can all those cerebral palsied children acceptably described as "educable" be guided to fully-fledged adulthood? Should the answer to this question be positive, it would mean that the education system for cerebral palsied children could not differ basically from that for normal children. In practice, however, it has been shown that there are cerebral palsied children who cannot acquire the subject matter necessary for fully-fledged adulthood (they only progress to the level of the fourth of fifth school year), that these children do not achieve independence with regard to occupational choice and practice; that they remain forever dependent on others for material care; and that owing to a labile affective life

they cannot make any claim to independence as far as the moral aspect is concerned. The implication of the foregoing is that, with regard to educational objectives, a distinction should be drawn between groups of cerebral palsied children and that in designing a system of differentiated education for these children, this fact should be noted. In the next paragraphs where the lesson structure and its significance for the design of a differentiated system of education comes under discussion, the matter of content and its implications as regards the educational objective will be discussed.

The significance of the didactic-pedagogical theory for the design of a system of differentiated education for cerebral palsied pupils is worked out on the strength of the lesson structure, since all the fundamental structures of this theory come into the lesson structure. In the first place, a distinction is drawn between form and content in the lesson structure. Since the content is of particular importance to the educational objective, it is subjected to scrutiny at the outset. In the first place, the teacher's concern with the content (See 17, p. 32) embraces a reduction of that content. The reduction of content can be so broadly interpreted here, that one could almost speak of the learning content as a life content with a view to meaningful learning and instruction for the cerebral palsied child. Owing to the limited learning capacity of a large percentage of cerebral palsied children, the learning content has to be reduced (fewer subjects, less content per subject) and its abstraction level lowered so that what the child learns is significant and meaningful to him. This reduction of learning content does not apply to all cerebral palsied pupils, but only to those who cannot cope with the ordinary curriculum and syllabuses. In this way an explicit distinction is drawn with regard to the curriculum and syllabuses and an implicit one in respect of the educational objective. Apart from the reduction of content, the teacher also concerns himself with a statement of problem and the arrangement of the learning content. With regard to the former, it is important that the teacher shall remain consistently aware, and that the system of differentiated education for cerebral palsied children will be such that the teacher can remain consistently aware of the diminished level of abstract thought encountered in some cerebral palsied children. However, the teacher's concern with the arrangement of the learning content demands a knowledge of the child with whom he is dealing.

In the first place, when it comes to form in the lesson structure, one is concerned with a choice between basic or fundamental forms. The four basic forms (play, conversation, example, instruction) which are fundamental ways or forms whereby the teacher sets his instruction in motion (Cf. 52, p. 42), arise from the human being's world of experience where they are encountered as basic forms of living. The teacher in a school for cerebral palsied children also employs these forms and it is difficult to see how any one of these basic forms could be given precedence over the others. Thus no differentiation is possible as far as the basic forms are concerned.

When the teacher has decided upon the basic form(s) he is going to use, he must arrive at a choice with regard to didactic principles. Van Dyk (52, p. 108) distinguishes between the following didactic principles: the principle of activity, the principle of individualization, the principle of socialization and the principle of tempo differentiation. All these principles are involved in any educational practice, but the principles of individualization and socialization especially, play an important rôle in the education of the cerebral palsied child. The socialization principle is so strongly emphasized in the USA, and to a lesser extent in Denmark, that cerebral palsied children are, by preference, enrolled in schools for non-handicapped children. In the other countries studied for the purposes of this report, including the RSA, differentiated education, and thus the principle of individualization, is rated first, with the result that separate schools for cerebral palsied children have been instituted in these countries. Since differentiated education can also to a large extent allow the principle of tempo differentiation to be realized, it can be stated that the principles of individualization and tempo differentiation occupy an important place in a system of differentiated education for cerebral palsied children. However, this does not mean that the principles of activity and socialization are not applied.

When the teacher has made a choice with regard to basic form(s) and didactic principle(s), he should ascertain the method he intends employing. All the known methods such as narration, question-and-answer, textbook, free activity, demonstration, experimentation and drill (practice) can be implemented in a school for the cerebral palsied. However, owing to the learning problems experienced by these children and the fact that, in many cases, their thought processes are confined to the concrete level and stagnate there, it is evident that the inductive approach will be of greater value to the teacher than

the deductive one, and that methods such as drill (practice), experimentation and free activity will produce better results as far as learning is concerned. The approach and methods mentioned are better suited to the limited world of experience of the handicapped child.

The teacher does not present a lesson without employing one or another particular educational aid. Owing to the fact that modes of learning such as observing, thinking and memorizing are brought about pre-eminently through educational aids, these aids and the choice thereof are of great importance. By reason of their limited learning modes, cerebral palsied children are more dependent on efficacious educational aids than are other children, because disturbed perception for example, can be rectified by implementing the correct learning or teaching aid and the adequate repetition thereof.

Finally, the teacher must make a decision regarding the principles of arranging learning matter. Once again, it can be stated that owing to the concrete level of thought of some cerebral palsied pupils, preference will be given to the synbiotic principle of arranging learning matter rather than the chronological principle and that the spiral and punctual principles will, for the same reason, be given precedence over the linear principle.

Although it is impossible to differentiate with regard to the didactic-pedagogical theory in the sense that a new or different theory could be compiled for schools for cerebral palsied children, it is apparent from the foregoing that there could nevertheless be a shift in emphasis in respect of the basic forms, the didactic principles, the didactic methods, the teaching methods and the principles of arranging learning matter (matters relating to form) with a view to what is more particularly suited to the cerebral palsied child. There must be differentiation with regard to the educational objective and this implies that there must be differentiated curricula and syllabuses with varying possibilities for different groups of cerebral palsied pupils.

By reason of the cerebral palsied child's deviant learning modes and the differentiated education proposed in this context, it can be asserted that the system of education for cerebral palsied children is orthopedagogical and orthodidactic in its entire conception. It is therefore not anticipated that a special section for orthodidactic assistance will have to be created in a system of differentiated education for cerebral palsied pupils. The training of teachers and the

school system must be of such a nature that any learning problems or difficulties with regard to formative education can be dealt with in the classroom itself. The school guidance officer (at present the school psychologist) could play a supplementary rôle in this context; however, this will be expanded upon at a later stage.

9 THE PERSONNEL ATTACHED TO SCHOOLS (INSTITUTIONS) WHERE CEREBRAL PALSIED PUPILS ARE TAUGHT

Apart from the teaching staff, schools for cerebral palsied children usually also have medical and paramedical personnel who serve on a temporary and permanent basis, as well as a school psychologist(s) and matrons where the schools have boarding-houses. Teamwork is a word often used in connection with the personnel of these schools, but other than might have been expected, there is often a lack of unanimity in respect of each staff member's task when it comes to playing his rôle in the child's maturation. This matter will be discussed again and again in the following paragraphs.

Since a school is an educational institution, the teaching staff may be reviewed first. Particular attention will be devoted to the training of these staff members.

In none of the countries studied (England and Wales, the Netherlands, Germany, Denmark and the Republic of South Africa) it is possible for anyone to embark upon special education without initial training for ordinary education. In most countries it is a prerequisite that the prospective teacher should first be trained for ordinary teaching and should also have practical experience of it. Training pertaining particularly to the teaching of cerebral palsied children is rendered possible in England and Wales by the Spastic Society. This association made funds available to the University of London by means of which a course was instituted. Accredited teachers can study for a year at the university on full salary, while their place is taken in the school for the cerebral palsied by a temporary teacher (41, p. 26; 8, p. 183).

Since the end of the Second World War much has been done in Western Germany with regard to the training of teachers for special education. At present there are thirteen institutes (mostly affiliated to a university) which offer training in special education. Teachers are drawn from ordinary education and are stringently screened; amongst other things they

must be attached to a special school of their choice for a trial period in order to determine their attitude and con= tinued interest. The teacher receives his full salary for the duration of training and an increased salary upon successful completion of the course. Owing to the stringent screening there is a great shortage of teachers at all schools for special education excepting those for the deaf and blind. The current shortage of 2 600 teachers is increasing by a further 100 to 200 every year. The content of the course relates to problems unique to the educational field, the historical deve= lopment thereof, the particular methodology which may be appli= cable and the philosophy underlying the special education (27, p. 10). The examination consists of an oral, a practical and a written section and the last-mentioned, amongst other things, comprises two tasks which must be worked out (27, p. 11). The plan was to institute courses from 1972 onwards, which would enable prospective teachers in special education to begin their training at once. This course will be of four years' duration, will prepare the teacher for both ordinary and special educa= tion and will be followed by a trial period of two years during which the teacher will acquire practical experience (27, p. 11).

As has been stated, there is no direct training for special education in South Africa. Some universities offer diplomas in special education and only at the University of South Africa can one receive training that is specifically applicable to cere= bral palsied pupils. The principals of schools for cerebral palsied pupils may and do appoint people only qualified for ordinary education, although value is attached and preference given throughout to those who have a diploma in special educa= tion. On the whole the situation is unsatisfactory and the fact that the authorities do not set higher requirements with regard to training, dooms to failure the universities' efforts to provide special training. It is no use offering courses if there are no students who want to or have to make use of them.

In all those countries where separate schools are provided for cerebral palsied children or where they are taught together with other handicapped children, provision is made on the staff for the full-time appointment of physiotherapists, occu= pational therapists and speech therapists. Without going into details it can be stated that there is this gap in the training of these personnel - they are not thoroughly schooled in the essentials of the formal and formative educational act. Conse= quently what happens is that the children are referred to and treated as "patients" in the school context. Thus the situation with regard to the training of paramedical personnel is not entirely satisfactory.

In some countries the appointment of a social worker to the staff is rendered possible and in most countries where no such staff member may be appointed, this is found to constitute a real deficiency. In the RSA too, schools for cerebral palsied pupils experience a need for the services of a social worker. More details of this will be given later on.

Provision is made for the appointment of school psychologists in all the schools for cerebral palsied pupils in the RSA and in some of those in the foreign countries studied. In the RSA the school psychologist must be a graduate, but teacher's training or teaching experience is not a requirement for appointment although it would usually be a recommendation. Amongst other things, the task of the school psychologist embraces initial and later evaluation of the child (his educability and progress) by means of intelligence and other tests, and is of importance in the child's admission and placing. Moreover, the school psychologist must render therapeutic and where necessary, he must undertake guidance in the sense that he must assist teachers, children and parents when they experience problems, the treatment of which lies within his field; and he must keep records of his activities. For the last-mentioned purpose there should be a file on each child in which test data and other details are recorded.

The task undertaken by the school psychologist in schools for cerebral palsied pupils is a very important one and much of the success of an education system for cerebral palsied children is determined by the thorough execution of this task. For this reason it seems incomprehensible that people who do not have pedagogical training are sometimes appointed for this important task. In the course of time recommendations will be made for the institution of a school guidance system in schools for cerebral palsied pupils similar to the system at present being introduced in the ordinary schools.

Finally, there are the hostel staff. These persons are generally referred to as matrons and, as the name indicates, they are supposed to take the place of the children's parents. The matron has an extremely important task of formative education since children are admitted to hostels as toddlers. On the one hand there are those children who come from a healthy, loving family climate - to them the matron must represent the substitute haven to whom they can take their problems and confidences. On the other hand there are also children who come from families in which rejection and the absence of a natural upbringing make them subject to pedagogical neglect.

To these children the matron must become the first real anchor of love and trust. It can therefore justifiably be said that the matron must take up an important position within the peda= gogical and orthopedagogical design of a school for cerebral palsied pupils. It is thus important that attention be devoted to ways and means whereby the appointment of thoroughly qualified people as matrons could be ensured.

As is apparent from the foregoing, people with diverse qualifi= cations and tasks are brought together in a school for cerebral palsied pupils. Naturally, the education offered is of primary importance. After all, a school is an institution in which all labour is orientated towards the child's future, and in this context the very first concern is his maturation. Apart from the time set aside for school-work, it is the various thera= peutic (paramedical) services in particular, which claim the child's time. This creates an organizational problem which has not yet been really effectively eliminated anywhere in the world.

In the Netherlands the problem of time distribution between the education and therapy programmes has been partially solved by the distinction encountered between the Mytyl schools and the internates. Since the latter are more particularly con= cerned with medical and paramedical treatment, and the Mytyl school thus bears the brunt of the educational task, medical and paramedical treatment is only offered on a supplementary basis. As the school day of a Mytyl school lasts from 9.00 am to 3.30 pm, such supplementary guidance cannot make great inroads on school work.

Schools of the Spastic Society in England and Wales have individual lesson timetables in order to make provision for physiotherapy, occupational therapy and speech therapy. The day is fo full that pupils often have to attend evening classes to make up for work lost during the day as a result of therapy sessions (41, p. 216).

The Geelsgaard School in Denmark has a remarkable system in that the traditional class division has been abandoned. Pupil's in this school are divided into large groups and each of these groups is again subdivided. A main group consists of approxi= mately 20 pupils and is led by a team of teachers and therapists who together work out a teaching and therapeutic programme. By means of subgroups it is possible to provide for individual pupils' particular needs.

Since the therapy and teaching programmes in schools for cere= bral palsied pupils in the Republic of South Africa must take place simultaneously in the course of a school day, pupils necessarily have to be taken out of the classroom to attend therapy sessions. In one school it was observed that a pupil had to be absent from the classroom for almost two periods. It is obvious that under such circumstances pupils' school-work cannot be done properly.

The total length of time that a child is out of the classroom during a day or week depends on the nature and degree of his handicap. If a child has to receive physiotherapy, occupational therapy and speech therapy, no more than 3 sessions per week for each type of therapy are permitted. The child thus has a total of 9 sessions and at 30 minutes per session, this means that he can be absent from class for as much as 4,5 hours. Calculated at a rate of 5 hours of school-work per day the child has lost 25 per cent of it and must either forego it or catch up on another occasion. Since there may be various pupils in one class who are involved in therapy for a shorter or longer period, the class as a whole is disrupted. There is not a ready-made solution to this problem. However, the practice followed in some schools, i.e. of not sending senior pupils for therapy in the mornings (until about 11 am) is a positive step towards improving the situation.

10 SCHOOL GUIDANCE, OCCUPATIONAL AND OCCUPATIONALLY ORIENTATED TRAINING AND AFTER-CARE FOR CEREBRAL PALSIED PUPILS

The report of the Committee for Differentiated Education and Guidance describes school guidance as a service. The same view will be adopted in this report and it should therefore not be regarded as an additional subject. However, what is of importance is that the school guidance service is pre-eminently an auxiliary formative educational service and must not be seen as distinct from the formative educational activity carried on within the school. Owing to the specialized nature of the school guidance service - in this context one is referring to a generally informative, a pedodiagnostic, an advisory, an orthopedagogical, a relegatory and a prophylactic aspect - this service must be offered by specialized persons who have been trained in the following subjects, amongst others: Fundamental Pedagogics, Psychopedagogics, Didactic Pedagogics, Sociopedagogics, Clinical Child Psychology and Guidance (38, pp. 195, 196). As regards the fields which will be em= barked upon by means of school guidance, a distinction is drawn

between educational guidance, occupational guidance and guidance in respect of the personality structure.

Occupational training and in-service training are two related concepts. Although the concept is not universally interpreted in this way, occupational training should be seen as the training a person receives when he is already practising an occupation and is receiving further preparation for it. A distinction is usually drawn between occupational training and scholastic instruction. The training a child receives at school and which is aimed at a specific occupation or is of importance in a specific occupation, is called occupationally orientated training.

The concept "after-care" is brought into relation with post-school assistance offered to pupils. This concept implies that there are pupils whose capacity for independent task-assumption and completion is so defective that further aid or support is necessary even after they have left school. As will become apparent most cerebral palsied pupils have a marked need for after-care.

In England and Wales actual occupational training is only offered after the child's fifteenth birthday and in separate institutions (48, p. 164). Provision is made in the secondary school for occupationally orientated subjects such as gardening, pottery, leather work and woodwork and the making of mats.

School guidance is offered in the form of occupational training and "placement advice". School-leavers also receive assis= tance from the Youth Employment Service. Officials of this body do not only provide occupational training, but also observe the child in his job situation and render further as= sistance if necessary. Occupational opportunities are created for the handicapped in England and Wales on the strength of the fact that every employer is compelled by law to allocate 3 per cent of all appointments after the twentieth, to handicapped people.

Pupils at the Craig-y-Parc, Wilfred Pickles and Thomas Delarue Schools who show no occupational aptitude can attend evaluation courses. After completion of such a course the cerebral palsied youth can be enrolled at any of the Spastic Society's industrial or office training centres. If they do not qualify for training they can be referred to one of the Society's places for sheltered employment (41, p. 217).

The Spastic Society does a great deal in connection with aftercare. Residences are built for those cerebral palsied youngsters whose jobs in the open labour market take them away from their own homes. Youngsters who cannot enter the labour market are also given a home in such residential centres where they find interest, companionship, self-activity and physical care (41, p. 218).

In Denmark, cerebral palsied youngsters take so-called psychotechnical tests and receive vocational guidance before they leave school. Suitable occupational training is decided upon with the aid of these test results. The Society and Home for Cripples has various occupational schools and centres. Some of the handicapped are employed in the society's workshops for the manufacture of orthopaedic apparatus (48, p. 138). Occupational training for seriously handicapped persons is offered at the Vocational School and Home in Copenhagen (48, p. 138).

In the Netherlands occupationally orientated training is offered to pupils in schools for the physically handicapped as is apparent for example, from the section for special industrial education instituted at the Johanna Stichting. There is an industrial school for girls with the accent on general feminine moulding and a technical school for boys where the subjects concentrated on are Metalwork, Electrotechnics and, to a lesser extent, Woodwork (24, pp. 3, 4). The services of a social worker are highly prized with regard to school guidance and after-care. In the opinion of Vlietstra and Kingsma, a social worker could be involved in the selection and placement of pupils; in guidance during school periods; and in after-care when the child has left school. Thus the function of the social worker takes the form of school social work (59, p. 184).

Such school social work as an auxiliary service has not yet been made an integral part of individual schools, but is offered by bureaux in Alkmaar, Amsterdam, The Hague, Groningen, Zaandam and Zutfen. Besides the social worker, occupational choice advisers and labour experts are also involved in the services (59, p. 185).

Without exception, schools for cerebral palsied pupils in the Republic of South Africa have the services of one or more school psychologists. The working field of these psychologists includes psychometry, remedial teaching, group observation, diagnostic and therapeutic conversation, staff discussions and the compilation of reports, amongst other things. Some, but not all of the fields of school guidance as described by the

Committee for Differentiated Education and Guidance, are thus embarked upon through the activities of the school psychologists. Since the school guidance service is an auxiliary service to formative education and school psychologists are not always trained in formative education, it is foreseen that possible recommendations may be made in this context with a view to a more effective service.

Schools for cerebral palsied pupils in the RSA use the curricula and syllabuses of the local provincial education department in their primary section and in consequence the instruction is of a generally formative nature and is not occupationally orientated. Subjects such as Woodwork and Metalwork and the use of sewing and knitting machines are indeed offered but nowhere at such a level that one could talk of occupationally orientated educa= tion.

The practical course introduced from January 1974 in the schools for special education, which comprises five occupational= ly orientated fields, i.e. commerce, domestic science, technical subjects, agriculture and a general field should, according to school principals, bring about alleviation in this context. Nevertheless, it is foreseen that a lack of machines, locales, extended specialized practical courses, physical space and instructors will still give rise to problems. One school principal says that provision can only be made for the General and Commercial fields.

In as much as a choice between various occupationally orientated courses would seem to be feasible, school principals mention the following factors which should be taken into account when pupils are placed in a particular field; intelligence, apti= tude, handicap, interest, personality, powers of concentration, perseverance, capacity for working in a group, emotional, social and cultural factors, domestic circumstances, possible accommodation and transport and the availability of an occu= pation.

Differences exist with regard to the procedures followed in placing a pupil in an occupation. Amongst other things the assistance of the school psychologist, the occupational therapist and a social worker (if available) is employed. Liaison is maintained with employment bodies (for example SAR and H) and with relief organizations (for example the Depart= ment of Labour). One school sends its school-leavers to two after-care centres (one in Johannesburg and one in Pretoria= which render assistance in occupational placement.

However, school principals concur on the whole that job opportunities are poor for cerebral palsied pupils. A cerebral palsied child can theoretically be trained for a suitable occupation and all occupations are thus theoretically open to the cerebral palsied, but prejudice and scholastic and training problems prevent all but a few cerebral palsied youngsters from inclusion in the open or the sheltered labour market. School principals urge that sheltered labour centres be instituted for the physically handicapped alone and that government institutions and private bodies be compelled to employ a certain percentage of the handicapped. Otherwise, boarding facilities and regular specialized transport services should be created for those cerebral palsied youngsters who are indeed capable of pursuing an occupation. Some school principals also recommend the institution of after-care centres, if necessary at every school, and the appointment of a social worker(s) to the staff.

11 RECOMMENDATIONS WITH A VIEW TO THE DESIGNING OF A SYSTEM OF DIFFERENTIATED EDUCATION FOR CEREBRAL PALSIED PUPILS

11.1 SCHOOL DIFFERENTIATION FOR CEREBRAL PALSIED PUPILS

11.1.1 Motivation

In the countries studied for the purposes of this report, educational provision for cerebral palsied children basically takes one of three forms, i.e.:

(1) Education at ordinary schools with some or other form of class differentiation;

(2) education at separate schools which also enrol other handicapped children, often the physically handicapped; and/or

(3) education at schools established specifically for cerebral palsied children.

The last form of educational provision is the one which prevails in South Africa for those cerebral palsied children who are educable, but cannot come into their own at ordinary schools or whose presence at ordinary schools could have a deleterious effect on themselves or other pupils. This practice represents the system of differentiation in schools and is in direct opposition to the different forms of class differentiation

that enjoy preference in the USA, for example. The most impor= tant question is whether the existence of separate schools for cerebral palsied children is pedagogically accountable.

As indicated elsewhere in this report, the difference in em= phasis placed on the principles of individualization and socia= lization constitutes the most important grounds for the difference in approach between school and class differentiation as applied here and in the USA respectively. It should be thoroughly understood that neither of these systems sacrifice the less strongly emphasized principle completely. It remains just that - a less strongly emphasized principle.

However, this difference in preference for didactic principles has important implications and the question is whether or not the system of giving preference to the principle of individua= lization has merit.

The system current in the USA and in which major emphasis is laid on the principle of socialization, has as its objective the eventual integration of the handicapped child into society. It is argued that the handicapped child should daily and consistently be made familiar with the competitive spirit of the Western world so that he may be prepared to compete with his non-handicapped fellows on an equal footing. It is of particular importance that the handicapped child should not be reared in isolation for he would then be unfamiliar with the demands of reality (and, in the final analysis, reality is the reality of the non-handicapped) and he cannot help but lead an unhappy and incompetent existence. Nonetheless, the prin= ciple of individualization is recognized within the framework of this type of school which enrols handicapped children, in the sense that such handicapped pupils are taught in a differen= tiated class context for the major part of the day. No funda= mental fault can be found with this system providing that a number of organizational and administrative prerequisites, which are themselves not without didactic-pedagogical implica= tions, can be met. Here one is thinking of the following problems:

(1) What must the population density be if there are enough cerebral palsied children within the school zone of a parti= cular school to warrant the creation of a separate class(es) for the cerebral palsied? Owing to the fact that two to three babies out of every thousand born are cerebral palsied, it is to be expected that there would not be sufficient cerebral palsied children within the zone of one school to set up a

separate class. Consequently cerebral palsied children would have to be referred to central schools if the principle of individualization is to be realized at all.

(2) Will such a system render possible further differentiation within the existing differentiated class context? As has appeared time and again from this report, cerebral palsied children differ far more from one another with regard to learning potential than do non-handicapped pupils. This is due to all sorts of mental, sensory, perceptional and other disturbances to which the former are prone. Therefore, to achieve homogeneity within the group context, as is striven for by means of the principle of individualization, is no easy task. Thus it is difficult to see how this principle can come to full fruition unless the group of cerebral palsied pupils at the school is so large as to constitute a separate section.

(3) In accordance with the foregoing one might ask to what extent the distribution of cerebral palsied children in various schools would influence the availability of medical and especially, paramedical services. Once again such services would only be effective in cases where a reasonably large group of cerebral palsied children were concentrated in a school.

A system in which school differentiation is carried out, puts the principle of individualization first. Homogeneity is sought and the first step in this direction is the creation of separate schools for the cerebral palsied. Here the concept of "homogeneity" must be interpreted with care. It is not intended to imply that children who are similar in all respects should preferably be grouped together. The question at issue here is homogeneity with regard to learning potential and, in the case of cerebral palsied pupils, the learning problems encountered. Owing to the diversity apparent among the cerebral palsied in respect of their learning potential, the establishment of separate schools should be seen merely as the first step towards the realization of the principle of individualization. Further differentiation must be carried out within the school.

However, it should immediately be stated that a system of differentiated education for cerebral palsied children which is embarked upon in separate schools for these children need not necessarily neglect or underrate the principle of socialization. Efforts will be made within but particularly outside the school context to acquaint the children with reality as it is experienced by the non-handicapped and the demands made by that

reality. The view that cerebral palsied children who are edu= cated in separate schools are so isolated that they lose touch with reality can only be true where these schools do not effec= tively carry out their formative educational task in respect of the principle of socialization.

There is still the possibility of educating cerebral palsied children with other physically handicapped children (polio, asthma, spina bifida, heart abnormalities, et cetera). It has been maintained that the existence of separate schools for the cerebral palsied is only owing to the activity of voluntary organizations such as, for example, the Spastic Society in England and the National Division for Cerebral Palsy of the National Council for Cripple Care and the Transoranje Institute for Special Education in South Africa. Some of the advantages of such a system where cerebral palsied pupils and the physi= cally handicapped are taught in one school, would then be the following:

(1) Greater homogeneity in respect of learning potential within the class context.

(2) The establishment of a miniature community (asthma sufferers are regarded as physically normal).

(3) Competition with other schools is more feasible.

(4) Mutual aid becomes feasible.

(5) There is more opportunity for physical and scholastic competition and a more reliable yardstick for compari= son is available (49, p. K-1).

Each of these statements contains a certain element of truth. However, it must be stated that the existence of separate schools for the physically handicapped and cerebral palsied is a means of differentiation because a distinction is drawn between those pupils who have brain damage and thus unique learning difficulties, and those whose physical disability is not primarily connected with brain damage. Some cerebral palsied children, and they are the exception, can indeed compete with the physically handicapped children but if their motor disability is not marked, they usually find themselves in ordinary schools. There are also cerebral palsied children who are enrolled at schools for the physically handicapped. However, the question is whether that large group of cerebral palsied children with below-average intelligence and severe

learning problems would not necessitate a separate section in schools for the physically handicapped – and if so, would the advantages mentioned above still stand?

11.1.2 Recommendation

Although it is realized that there is much to be said for each of the foregoing methods of differentiation and that none should be rejected out of hand as pedagogically unsound, the following recommendations are made in the light of the existing organi= zational set-up and the undisputed pedagogical advantages that accompany it:

(1) that the present system of separate schools for cerebral palsied pupils in the RSA be maintained;

(2) that the practice of making provision for a pre-primary section in each school for cerebral palsied pupils, in which section pre-schoolers can be admitted from the age of 3 or younger in special cases, be continued;

(3) that preparatory classes such as those now in existence be maintained and, where necessary, established for the purpose of preparing children for elementary education;

(4) that on the whole the organization of a school for cere= bral palsied pupils will be such that provision is made for –

(a) a junior primary school phase (elementary education and Standard 1),
(b) a senior primary school phase (Standards 2, 3 and 4),
(c) a junior secondary school phase (Standards 5, 6 and 7), and
(d) only one year of the senior secondary school phase and also only insofar as it comprises part of the practical course offered to students.

11.2 DIFFERENTIATED EDUCATIONAL OBJECTIVES WITHIN THE FRAME= WORK OF A SCHOOL FOR CEREBRAL PALSIED CHILDREN

11.2 1 Motivation

The question of the formal or formative educational objective has already been touched upon in various sections of this report. With regard to the non-handicapped child this objec= tive is fully-fledged adulthood. By this one means that the

child must be given formative education in such a way that he will eventually, amongst other things, be able to make decisions independently; that he will be able to behave independently as regards his moral life; that he will be able to pursue an occupation independently; and that he will not be dependent on others for his material welfare. This image of adulthood is actually an ideal image which not even a non-handicapped person will be able to achieve completely. Nevertheless, most adults fulfil the requirements to the extent that they are recognized in the community as independent adults. However, it has already become apparent from this report that not all cerebral palsied pupils can be educated to such an extent that they may become "completely" adult. This does not mean that they are ineducable, but that they cannot complete the entire course of "normal" formative education. Somewhere on the way to adulthood they stagnate with the result that they will possibly remain dependent as regards moral decision-making; or in respect of material care; or emotional stability to mention just a few possibilities.

This phenomenon can be ascribed to the fact that people always rear someone on the strength of something. The acquisition of that something (knowledge of whatever kind) is rendered possible by means of learning and instruction. The child who is on the path to adulthood must learn and the adults instruct him in what he has to learn. Should the child fail to attain success in the learning act as a result of immanent or acquired problems, there are gaps in the knowledge he must master and the level of adulthood aimed at, is not reached. In many respects this touches the core of the problem of the formative education of cerebral palsied children. That is to say, there are some of these children who have learning problems and who cannot acquire the knowledge necessary to make decisions and pursue an occupation. Their affective life is disrupted; they are emotionally overtaxed; cognitively incapable of more than the concretely perceptible. If there is stubborn persistence in offering these children standard learning content, sooner or later their learning act lapses into a meaningless and frustrating repetition which shows no progress and serves no purpose. The obvious solution is the abandonment of the general image of adulthood and the learning content offered in this context. Learning content for these pupils should be chosen according to their capabilities and the formal or formative educational objective should be correspondingly more modest. Naturally, strenuous efforts should be made to conduct the cerebral palsied child as far as possible along the path to adulthood on the strength of the newly chosen learning content, for the implication of the foregoing is not that all hope of rearing a child to adult

status should be abandoned. Educational circumstances can always be adjusted as the child shows progress. In view of the latter thought, no differentiation in educational objectives can commence unless the child has shown, over the course of a few years that he will reach the general level of adulthood.

A formal description of a different kind of formative educational objective for that group of cerebral palsied children who will never reach an adequate level of adulthood is not necessary in an explicit sense. In the formulation of such an objective one is also confronted with this problem – that within this group of cerebral palsied children, each has his own level of adulthood. Thus, rather than forcing these cerebral palsied children into a scheme, the concept of a different kind of formative educational objective is deemed adequate and a closer definition thereof, according to class differentiation and differentiated curricula and syllabuses, is being worked out.

11.2.2 Recommendation

With a view to the realization of differentiated educational objectives, it is recommended –

(1) that a distinction should be implicitly drawn, in respect of the formal or formative educational objective, between those cerebral palsied children who will indeed achieve the general educational objective and those who will not, and that the educational objective of the latter group should be made explicit by means of differentiated curricula and syllabuses and a differentiated group context; and

(2) that such differentiation should not commence before the fourth school year (i.e. the first year of the senior primary phase of the primary school), since all cerebral palsied children must be granted sufficient time and opportunity to bring their potential to optimum realization in a favourable school climate.

11.3 DIFFERENTIATION WITH REGARD TO CURRICULA AND SYLLABUSES

11.3.1 Motivation

In the light of the foregoing it is to be expected that there will be differentiation between groups of cerebral palsied pupils with regard to curricula and syllabuses. With regard to this matter a distinction is drawn between three groups of

cerebral palsied pupils in Section 7, to wit –

(1) those with an IQ of over 90 who can be regarded as normally gifted and who can master the curricula and syllabuses of the ordinary school;

(2) a second group with an IQ above approximately 70 but below 90. They can master attenuated or elemental syllabuses to a reasonable extent; and

(3) a third group of pupils whose IQ is below 70. They experience considerable difficulties even with the attenuated syllabuses. However, basic knowledge with regard to Reading, Writing and Arithmetic must be incul= culated.

Although general moulding must be one of the aims in the in= struction of all three of these groups in the primary school (particularly in the junior phase), it is important to realize that in the senior primary phase there can no longer be any question of a single curriculum thus, other than is the case in the ordinary primary school, there must be differentiation with regard to curriculum in schools for cerebral palsied pupils. It would seem that in its undifferentiated aspect, the curricu= lum of the ordinary primary schools could be made applicable to the first two groups of cerebral palsied pupils, provided that the second group is offered fundamental or elemental syllabuses. In the case of the third group of cerebral palsied pupils referred to above, there would have to be a further attenuation of the learning content in the sense that some of the subjects in the curriculum for ordinary primary schools will have to be omitted. These pupils must thus be acquainted with basic learning matter in only a few subjects. However, time and again, i.e. in all three groups of cerebral palsied children, <u>generally formative content</u> does arise. The atten= uation of the learning content for the second and third group by means of elemental syllabuses and differentiated curricula (fewer subjects) respectively, should not create the impression that there is proportionately much more time to devote to "new" or additional content. For a variety of reasons cere= bral palsied pupils (and this includes the first group) do not master learning content at the same rate as non-handicapped pupils and the second and third groups in particular, need considerable additional time to absorb even the attenuated learning content thoroughly.

The curriculum and syllabuses of the first group which are the same as those for the ordinary primary schools of the local provincial education department, are not only generally formative, but are also orientated towards the curricula and syllabuses of the secondary schools which are of a more occupationally orientated nature. However, owing to the fact that few if any pupils in the third group will ever reach secondary school level, their cirrucula cannot be considered orientated towards the secondary school level. This group's curriculum must to a large extent be orientated towards the life the child is going to lead after he has left school. Thus, if there are additions to be made to the curricula, they must be in the form of "subjects" which prepare the child for an ultimately meaningful existence. The use of the concept "manual skill" or "manual skill subjects" should preferably be avoided, but nevertheless it is realized that activities which call upon the child's sensory and physical capacities, will play an important rôle in this context. Such activities may be of importance in eventual employment on the sheltered labour market or for the pursuit of one or another occupation. Thought might also be devoted to possible activi= ties within the framework of the envisaged settlements, but in the final analysis, the point is that the child must be offered something to keep him busy daily at home in a meaning= ful and creative manner.

11.3.2 Recommendations

In the light of the foregoing, the following recommendations are made with regard to the curricula and syllabuses in the various school periods of a school for cerebral palsied pupils:

(1) There should be no real differentiation in curriculum and syllabus in the pre-primary school years, the ele= mentary years and the first three years of the primary school (junior primary school phase); this in spite of the fact that some pupils will already be starting to lag behind.

(2) The curriculum and syllabus in the pre-primary school and in the preparatory class must be of such a nature that particular attention will be paid to the promotion and development of the pupils' playing potential, their language and affective capacity.

(3) The curricula and syllabuses of the first three years (junior primary school period) of the primary school must be of a generally formative nature and orientated towards the addition of basic knowledge and skills. The curriculum might be compiled as follows:

First Language (Reading and Writing - but "writing" only in so far as it is physically possible for the pupils concerned. The use of electric typewriters must also be regarded as "writing").

Second Language (Reading and Writing) but only where possible.

Arithmetic - (Basic Mathematics).

Environmental studies (Geography/History).

Religious Instruction.

School music.

(4) From the fourth school year (Standard 2) onwards, i.e. from the beginning of the senior primary school period, differentiated curricula and syllabuses must be introduced for 3 groups of cerebral palsied pupils, i.e. a first group whose IQ will probably not be below 90; a second group whose IQ will not be lower than 70 or higher than 89, and a third group with an IQ of less than 70.

(5) The first group of cerebral palsied pupils (IQ 90 and higher - Group A) consists of those pupils who are capable of successfully pursuing the curricula and syllabuses of the ordinary primary school (even if it takes somewhat longer) and whose prognosis with regard to success at secondary school is good. A curriculum like the following should be compiled for this group:

Non-examination subjects

Religious Instruction
Physical Education
School Music

Examination subjects

First Language
Second Language
Mathematics
General Science
History
Geography

(6) The second group (IQ 70 to 89 - Group B) consists of those pupils who find it difficult to reach a level higher than Standard 5 or 6 in their school-work and who thus have an inhibiting effect on the progress of the first group, but who are nevertheless not so scholastically retarded that they have absolutely no hope of eventually reaching a higher level in the ordinary curricula and syllabuses.

(7) This second group has the same curriculum as Group A, but the syllabuses are of such a nature that reduced content (elemental content only) is offered. These pupils nevertheless acquire enough basic knowledge to reach a higher level of comprehension. Otherwise they must be prepared for life outside the school by means of activity subjects (see what follows).

(8) The third group (IQ below 70 - Group C) consists of pupils who, owing to intellectual or other shortcomings, are incapable of rising much above the Standard 3 or 4 level and then not before they are considerably older than the age at which pupils of normal intelligence reach this level. Their basic reading, writing and arithmetical skill must be orientated towards simple situations in life.

(9) From a specific time onward (probably from their fourth year in the primary school) these pupils must be offered additional activity subjects* (Cf also the Basic Techniques of the Department of National Education) which are

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* In this context one is thinking of activities such as music appreciation; collecting of all sorts of objects; manufacturing (weaving, knitting, braiding, neelework, et cetera); painting, assembly-line work and gardening, to mention but a few examples.

more particularly orientated towards preparing these pupils for self-activity of a meaningful kind when they can eventually derive no further benefit from the school programme.

(10) The second group must be regarded as a transitional group with the possibility that members of the second group might be transferred to the first or third group, depending on progress, and that the second group should therefore also share in the activity subjects, although on a less extended scale.

(11) In deciding which pupils belong to what group, the given IQ figures are only used as guidelines and the child's scholastic achievement during the foregoing school years and other prognostic data the teacher(s) or school guidance officers* might possess, are regarded as the definite signposts.

(12) The three groups of pupils are grouped in different classes during any particular school year with the possibility that pupils in the first and second group and pupils in the second and third group can be present in the same classroom for some subjects (or activities).

(13) Schools for cerebral palsied children should only make provision for instruction up to and including the end of the junior school period of the secondary school (the present Standard 7) and, after successful completion of this standard, pupils should be referred for further instruction either to an ordinary school, or the local school for the physically handicapped or the government school for handicapped pupils at Diskobolos in Kimberley, with the exception of those pupils who pursue the practical course and can remain until Standard 8.

(14) The recommendation in respect of the junior secondary period is that pupils from Group A who reach this level of education, should follow the curricula and syllabuses at present prescribed by the Department of National Education, i.e.:

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* In this context see the recommendations with regard to the staff of schools for cerebral palsied children.

Non-examination subjects

Religious Instruction
Physical Education
School Music
Basic Techniques (that is, those for Standard 5)

Examination subjects

First Language
Second Language
Mathematics
General Science
History
Geography
Technical Orientation for boys and girls
Subjects of own choosing (3 subjects)

The last two subjects are only applicable in Standards 6 and 7. The subjects of the pupil's own choice relate to a future field of study in Standard 8.

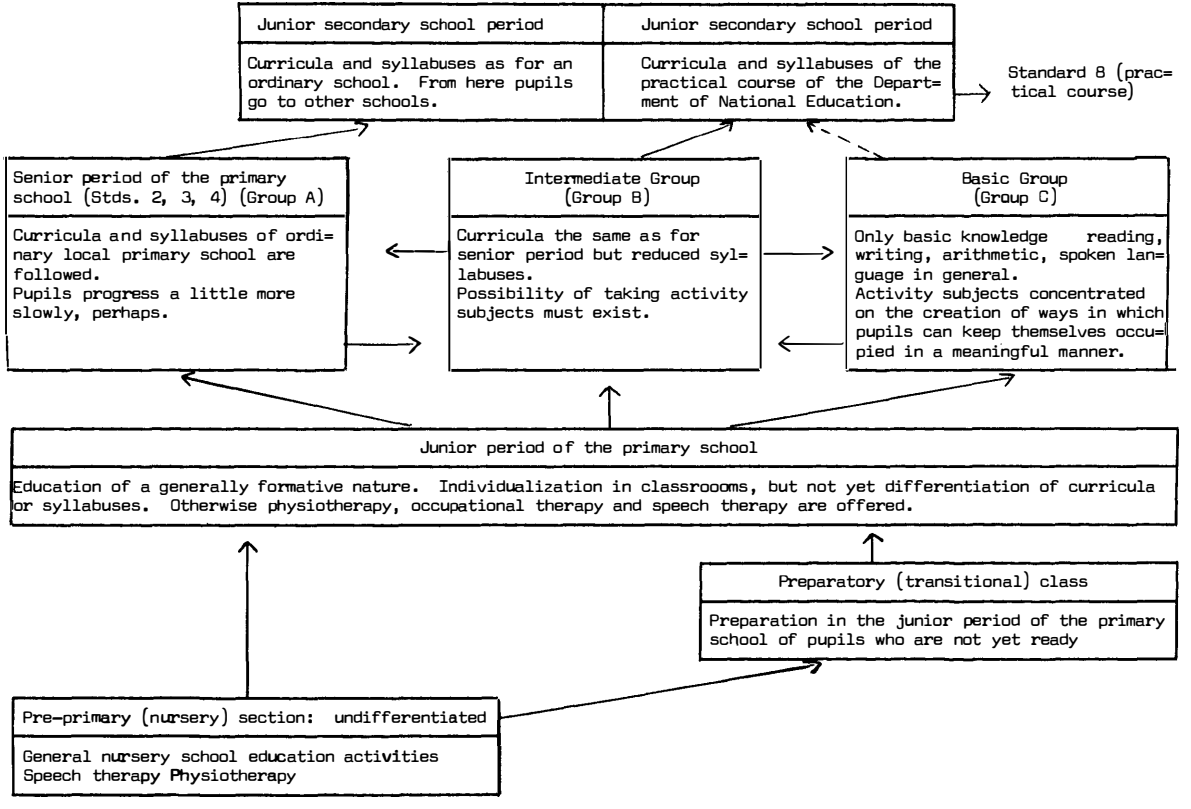
(15) It is obvious that pupils of Group B and also pupils of Group C who eventually appear to be capable of the practical course as prescribed by the Department of National Education, should be allowed to take this course.

(16) With regard to specific syllabuses and curricula for the Group C pupils, it is recommended that the recommendation as contained in the report compiled by the Human Sciences Research Council in respect of education for mentally handicapped pupils, should be carefully studied and that that report should serve as a guideline in the compilation of similar syllabuses and curricula.

In the light of the foregoing recommendations, the structure of a school for cerebral palsied pupils, in so far as differentiation is carried out with regard to scholastic achievement will be as follows (Table 11.1).

TABLE 11.1

THE SUGGESTED STRUCTURE OF DIFFERENTIATED EDUCATIONAL PROVISION FOR CEREBRAL PALSIED PUPILS



11.4 CRITERIA FOR ADMISSION TO A SCHOOL FOR CEREBRAL PALSIED CHILDREN AND THE STAGE AT WHICH AND THE METHODS ACCORDING TO WHICH IDENTIFICATION CAN TAKE PLACE

11.4.1 Motivation

As has already been stated, the Educational Services Act (Act No. 41 of 1967) describes the criteria for admission to a school for cerebral palsied pupils as follows: A handicapped child is one who deviates to such an extent from the majority of children in body, intellect or behaviour that he –

"(a) cannot derive sufficient benefit from the ordinary instruction supplied in the normal course of education;

(b) needs education of a special nature to facilitate his adjustment to society; and

(c) ought not to attend an ordinary class in an ordinary school because such attendance could have a deleterious effect on him or other pupils in that class, but is nevertheless educable and will derive great benefit from education indicated in Paragraph (b)."

When the Act specifies which children can be described as handicapped, reference is being made to cerebral palsied children, amongst others. The implication is that there are cerebral palsied children who are educable, but who cannot derive sufficient benefit from ordinary instruction; who ought not to be in an ordinary class in an ordinary school, since this could be disadvantageous to him or other children in the class, and who thus needs education of a special nature to facilitate his "adjustment" to society.

The determination of whether or not a child is cerebral palsied, the category in which he belongs, the medical and paramedical implications thereof and the etiology can safely be left in the hands of the neurologist. The evaluation of a child's educability on the one hand, and his ability to enjoy education at an ordinary school or his deleterious effect on an ordinary class in an ordinary school, on the other hand, is, however, a matter for the education experts and in this respect current practice is not on an accountable basis everywhere. Here one is particularly concerned with the methods of identification in respect of which a few recommendations have been made.

11.4.2 Recommendations

Identification, the determination of a child's scholastic prospects and the general concern with the child during the reconnaissance and evaluation periods, have an important function within a system of differentiated education. Thus it is recommended in this context that -

(1) cerebral palsied children be diagnosed by a medical practitioner in order to be considered for admission to a school for cerebral palsied pupils;

(2) pupils diagnosed as brain-damaged but who do not necessarily display many motor dificiences, be admitted to schools for cerebral palsied pupils if the following three criteria mentioned by the Act (Act No. 41 of 1967) apply to them:

(a) the pupil does not derive sufficient benefit from the ordinary instruction provided in the normal course of education;

(b) the pupil needs education of a special nature to facilitate his adjustment to society; and

(c) the pupil should not attend an ordinary class in an ordinary school, as this could be deleterious to him or other pupils in that class, but is nevertheless educable and will derive great benefit from the education described in paragraph (b);

(3) the determination of the cerebral palsied child's educability or lack of it should be left to the principal and staff of the school for cerebral palsied pupil's and that, in this context, they should be guided by data pertaining to historicity, personal observation by other people (including parents) and the results of reconnaissance media.

(4) in the evaluation of a child's educability, the school guidance officer* will employ intelligence media, projection media, observation media, personality questionnaires and interest inventories;

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* As regards the training of school guidance officers, see the recommendations in respect of personnel.

(5) in the evaluation of a child's "educability", an IQ of 50 be taken as an arbitrary basis, but that a qualitative analysis of the intellectual achievement (including an analysis of such factors as affect, language, thought processes, memory and arithmetical ability) should be supplemented by a school readiness investigation (in the case of young children or those entering school for the first time) and previous scholastic achievements (children who were formerly in an ordinary school, for example) and that a complete personality profile should thus be compiled;

(6) where the educability of a child is in doubt, provision should be made for an evaluation period;

(7) with regard to the evaluation period, small children (those entering school for the first time) should be enrolled either in the pre-primary section or the preparatory class and that the establishment of a separate class in this context should only be necessary in exceptional cases;

(8) in the case of any child evaluated with a view to admission, the practice must be to approach the child in the evaluation situation as a pupil and not a guinea-pig and that the same approach should apply when pupil's are introduced to the new and strange school environment.

11.5 DIDACTIC-PEDAGOGICAL AND ORTHOPEDAGOGICAL ACTIVITY IN SCHOOLS FOR CEREBRAL PALSIED CHILDREN

It has become thoroughly apparent from this report that there is no question of the establishment of a "different" didactic-pedagogical theory when it comes to the designing of a system of differentiated education for cerebral palsied children. In respect of its why, wherefore and how the didactic-pedagogical structure has as much authority for an ordinary as for a special system of differentiated education. However, it is true that there is a shift of emphasis with regard to certain matters and in this context it is recommended that -

(1) in the selection and arrangement of learning matter, the three groups differentiated between in the senior period of the primary school should be taken into account, and particularly in the sense that the given learning matter should be adapted to the learning potential of each of these three groups of pupils;

(2) as regards the didactic principles of arrangement for all three of these groups of pupils, the symbiotic, the punctual and the spiral principles should enjoy preference since, in this way, the pupils are continually conducted from the known to the unknown;

(3) although no distinction can be drawn between learning modes such as observation, speaking, mimicking, phantasizing, memorizing, repeating, et cetera, despite the limited learning capacity of some cerebral palsied children, great emphasis should be placed on, and the necessary opportunity offered for, repetition (particularly in the case of the second and third groups of cerebral palsied children). in order to correct whatever has been faultily observed and absorbed;

(4) greater stress should be laid on the principles of individualization and tempo differentiation in schools for cerebral palsied pupils;

(5) there must be strong accentuation of teaching methods through which personal experience (inductive) can be supplemented and in which repetition, practice and drill are important;

(6) the view that schools for cerebral palsied pupils are, on the whole, orthopedagogical and orthodidactical institutions, should be maintained and that the organization of the school and the training of teachers and the school guidance officer should also take place in the light of this;

(7) as regards teaching methods and the motor ability of some cerebral palsied pupils, consideration should be given to providing some pupils with typewriters and even electric typewriters much sooner in order to eliminate the frustration of thoughts which far outstrip the pen.

11.6 THE STAFF ATTACHED TO SCHOOLS FOR CEREBRAL PALSIED PUPILS

11.6.1 Motivation

If the part-time personnel (doctor, neurologist, et cetera) and those personnel who are not directly concerned with the children (for example the administrative staff) are not taken into account, the following personnel are those under discussion here:

the teachers;
the paramedical personnel (physiotherapists);
occupational therapists and speech therapists);
the school guidance officer (school psychologist);
the hostel staff (matrons or house-parents) and;
the social worker.

An attempt has been made in this report to indicate the impor= tance of consistently formative educational concern with the child. There are no hard and-fast boundaries between the activities of the teacher, the therapist, the psychologist and the house-parents. On the contrary, the continuous communal task of formative education must be explicitly stated and maintained. Unfortunately there are schools in which the prevailing theory is that teachers are there to teach, psycho= logists to measure, therapists to practise therapy on a "patient" and the matron solely to provide care. The training of these various staff members should be such that the ubiquity of their formative educative task should enjoy prominence.

As regards the training of the teaching staff, there is the problem that in none of the countries studied are teachers trained for special education at the outset. In Germany courses were to be instituted from 1972 onwards which would make it possible for prospective teachers to begin their training for special education directly after completing their schooling. One advantage of such direct training is that the shortage of teachers - meaning the shortage of properly trained teachers - can be alleviated provided enough interested parties can be found. Another advantage is that the total training period for special education can be shortened. However, there are many disadvantages to a system like this and, in the committee's opinion, these disadvantages are such that they overshadow the few advantages. In the first place, there is the prerequisite that the teacher who wishes to make a success of special education, must have knowledge and experience of ordinary education. In special education the teacher is for the most part concerned with children who have learning problems, i.e. children who do not do so well as those in ordinary schools and it is consequently easy to misapprehend the optimal learning potential of children. To the teacher who has no other experience, the level maintained by handicapped children can gradually become the "normal" or desired level. Knowledge of the non-handicapped child and teaching experience in this context are thus of quite as much importance as specialized knowledge of the particular category of handicapped children. The fact that direct training leads to teachers being trained

to teach children of whom they have little or no prior knowledge, must be regarded as a further disadvantage, since later practical experience might discourage the teacher.

In conclusion, it should be pointed out in regard to teaching staff, that in schools for cerebral palsied pupils it is being found more and more necessary to employ White auxiliary personnel who will assist the teachers, particularly in the nursery section. The nature of these teachers' activities and the number of pupils they have to supervise in each class are such that formal instruction simply cannot take place properly in the absence of additional help.

11.6.2 Recommendations with regard to the training of teachers

It is recommended that -

(1) as in past, teachers in schools for cerebral palsied children should be drawn from the teaching corps of the ordinary primary and secondary schools and that all prospective teachers for schools for cerebral palsied children should have at least two years' experience of ordinary education;

(2) in order to acquaint teachers with special education, arrangements should be made for student teachers to visit these schools (for example, schools for cerebral palsied pupils) once or twice and undergo teaching practice there;

(3) where it does not already exist, a course in special education (a diploma) requiring at least one year of full-time or two years' part-time study, should be instituted at universities and that the possibility of specializing with regard to a specific category of handicapped pupils should exist;

(4) teachers attached to ordinary schools who have two or more years of teaching experience and wish to enrol for this diploma, will not be admitted before they have had a year's full-time teaching experience at a school for cerebral palsied children (or another special school of their own choice);

(5) the Department of National Education should make the necessary funds available for teachers at present attached to schools for cerebral palsied pupils and who have one or more years of experience in special education, so that they may take a one-year diploma course of this kind on a full-time basis at a university while retaining their salaries;

(6) teachers who come from ordinary education and undergo their one-year trial teaching period, should serve as replacements for those teachers then occupied with full-time study;

(7) a course in special education (insofar as it concerns specialization in the teaching of the cerebral palsied) should include the following amongst other things, as part of the curriculum:

(a) The causes, description and incidence of cerebral palsy and the various disfunctions (motor, sensory, observational, psychopathological) which may occur.

(b) The problematics of experience and the effect that disturbed experience (affective-cognitive) may have on the total development of the cerebral palsied child, and the important formative rôle the teacher can play by lending the child his support.

(c) The pscychopathology of the brain-damaged child and the possible implications thereof for the formal or formative educational act.

(d) The problems involved in the formative education of the cerebral palsied child, in broad outline, but also paying particular attention to the problem of the educational objective.

(e) The didactic-pedagogical situation within a school for cerebral palsied children and the particular measures that can be taken to allow the didactic occurrences to take shape with maximum success.

(f) The various ways in which cerebral palsied children may be impeded in their learning methods, the significance of this as regards the learning occurrences in general and orthodidactic measures that each teacher can take in his own classroom.

(g) The part played by the medical practitioner, paramedical practitioner, school guidance officer and matron in the development and rearing of the child, and the way in which the teacher will co-operate in this context as the primary educator.

(8) the Department of National Education should consider granting a better salary to teachers who have acquired the aforementioned Diploma in Special Education;

(9) provision should be made on the staff of the school, for White helpers to assist in pre-primary education, particularly in a supervisory capacity.

11.6.3 Recommendation with regard to the training of paramedical personnel

It has already been mentioned that paramedical personnel also have a formative educational task. It is thus regarded as unfortunate and undesirable that these personnel are not better acquainted with the fundamental structure of education. As regards the training of physiotherapists, occupational therapists and speech therapists for schools for the cerebral palsied, it is recommended that -

it be made a requirement that in order to qualify for employment in a school for the cerebral palsied, these staff members should take courses in the following subjects at least, as an endorsement of their general training:

(1) Fundamental Pedagogics
(2) Psychopedagogics and Sociopedagogics
(3) Orthopedagogics and Orthodidactics
(4) The problems involved in the formative education of the cerebral palsied child.

11.6.4 Recommendations with regard to the training of the school guidance officer (school psychologist)

Another staff member who occupies a prominent position in schools for cerebral palsied children, is the school psychologist. As is propagated in the case of school guidance officers for ordinary schools, the psychologist in schools for the cerebral palsied, renders a service. He evaluates, compiles reports, advises parents, children and teachers and lends assistance to children who have problems, of whatever kind they may be. He does this, amongst other things, in the form of therapy.

The fact that the aid offered by the school psychologist is realized in a school situation; that the persons involved are an adult and a non-adult; and that in such situations where help is given one is usually concerned with a child who is in formative educational distress, determines that these events may not be undervalued as acts of formative education. Thus there is doubt as to whether the present training undergone by the school psychologist can be regarded as adequate for the task he has to carry out. In the committee's opinion, the nature of the task at present undertaken by school psychologists is not such that it can be described as primarily psychological. Although psychometric elements do exist, the situation is a formative educational one and the child with problems is not so much in psychic distress as in educational distress. Thus the person who renders aid cannot deny his responsibilities with regard to providing pedagogical support.

As is the case of the school guidance officer in the ordinary primary and secondary school, the person who desires to help cerebral palsied children with regard to personality, structural, occupational and educational problems, must be a staff-member especially trained to do so. In this connection training in psychology and psychometrics, although imperative, is not sufficient. Fundamental theories on education should provide the framework within which the school guidance officer's - this is the preferred name - training programme is worked out. It follows from this that a study of the various subsidiary disciplines of pedagogics - i.e. Fundamental Pedagogics, Didactic Pedagogics, Psychopedagogics, Sociopedagogics, Orthopedagogics and Orthodidactics - should constitute the most important facet of the school guidance officer's training. By means of Orthopedagogics and Orthodidactics, the school guidance officer is acquainted with the handicapped child's world of experience, the handling of learning problems, the accountable use of pedotherapy in all its different forms and the pedagogically accountable method of making use of reconnaissance media (tests) and the evaluation or interpretation of the results.

Owing to the fact that training of this nature will necessarily be post-graduate, the above-mentioned does not imply that the school guidance officer does not have to have qualifications in psychology or psychometrics. The undergraduate or baccalaureate training undergone by the school guidance officer will always include a study of these two subjects. Recommendations are made further on with regard to a closer definition of the content of the school guidance officer's activities.

However, in respect of the school guidance officer's training, it is recommended that -

(1) school guidance officers be trained for schools for cerebral palsied children and that the name "psychologist" or "school psychologist" be abandoned since the nature of the school guidance officer's activities cannot be equated with that of the psychologist;

(2) school guidance officers should be trained as educationists, since the nature of their job is such that they are daily involved with children in intimate encounters - as formative educational situations - and they should thus be acquainted with the structures of these situations and their own share in the successful conclusion thereof;

(3) a suitable training course at Education Faculties of universities should be instituted for school guidance officers on a national basis (for example a four-year degree in school guidance comprising subjects such as Fundamental Pedagogics, Psychopedagogics, Sociopedagogics and Orthopedagogics, Didactic Pedagogics, Orthodidactics and Clinical Child Psychology);

(4) during his training the school guidance officer should undergo practical experience in school guidance at a child guidance clinic of an Educational Faculty or Education Department, under the supervision of experienced school guidance staff;

(5) provision should be made for adequate financial aid, including aid for full-time study;

(6) after completing the training course the school guidance officer must attend a refresher course in school guidance under the leadership of experienced school guidance personnel once a year in order to keep abreast of the task that school guidance entails; and

(7) persons currently working as (school) psychologists at schools for cerebral palsied children should be given the opportunity (either by full-time or part-time study) of becoming acquainted with the bases of School Guidance and Education. and that training in this case could take the form of the training courses referred to in (6) above.

11.6.5 Recommendations with regard to the appointment and training of social workers

It has already been mentioned that there is an increasing need in schools for cerebral palsied pupils for the services of a social worker. Some of the reasons given are the following:

(1) In the first place the social worker's task is to trace the parents of probable entrants and to provide guidance in the evaluation of the pupil.

(2) The social worker must be part of the evaluation team and for example have background data about the family ready for evaluation.

(3) If the child's primary problem does not seem to be cere= bral palsy, the social worker must assist in his eventual placement.

(4) The social worker must supply the family with guidance, in co-operation with the school guidance officer and other members of the evaluation team - an auxiliary service to the parents of the handicapped child.

(5) She must assist in the placement of pupils in

(a) primary schools/secondary schools
(b) work situations

and carry out after-care with a view to evaluating the child's integration into his new environment.

(6) The social worker must render a service in respect of the disability grants to which pupils are entitled, and

(7) In co-operation with the school guidance officer, the social worker must collect data in respect of matters such as placement and where the pupil finds himself.

With a view to integration into the educational climate of the school, it is necessary that social workers who wish to be appointed to schools for cerebral palsied pupils, must acquire additional courses in the subsidiary disciplines of Pedagogics and/or a Diploma in Special Education.

In the light of the foregoing it is recommended that -

(1) provision be made for the appointment of a social worker in each school for cerebral palsied pupils, i.e. that the social worker should be included in the establishment of these schools; and

(2) in order to be considered for appointment, a social worker should have undergone courses in the subsidiary disciplines of Pedagogics and/or acquired a Diploma in Special Education, additional to her training as a social worker.

11.6.6 Recommendations with regard to the training of hostel parents for cerebral palsied pupils

It appears that great value is attached to the general formative educational work done by the hostel parents. However, it is realized that problems are experienced in the filling of vacancies of this nature and that "suitable" people are not easy to find. Therefore it is recommended that -

(1) there should be careful screening of applicants for vacancies for matrons, and that only those persons who show signs of having had a good upbringing themselves and who show particular love for and interest in the handicapped child, should be considered for appointment;

(2) in order to supplement these persons' intuitive, formative educational knowledge, a training programme should be compiled for them or they should at least be given talks regularly on the importance of their formative educational work by the school principal, the school guidance officer, other teaching personnel or an educationist from elsewhere; and

(3) the salary scales of these members of staff should be reconsidered, particularly when they have acquired additional qualifications. This would also encourage better applicants to come forward.

11.6.7 School Guidance, occupationally orientated training and after-care

a. Recommendations in respect of school guidance as a service

In the foregoing paragraphs and recommendations, reference has

been made both directly and indirectly to the task and training of the school guidance officer. The following recommendations are made with regard to school guidance in schools for cere= bral palsied pupils, in accordance with the exposition and recommendations of the Committee for Differentiated Education and Guidance (Report, Part I):

(1) that school guidance in these schools will be a service rendered to pupils;

(2) that the areas of concern of the school guidance service will be guidance with regard to the personality struc= ture, vocational guidance and educational guidance;

(3) that the methodological aspect of the school guidance officer's task will embrace the following:

(a) diagnosis, i.e. identification of pupils with learning problems, determination of their "educa= bility" or lack of it, by the application of the necessary psychological and pedagogical reconnais= sance media;

(b) pedotherapy (orthopedagogical help) i.e. specialized assistance to pupils with formative educational problems (more particularly, for example, emotional problems, behavioural problems, et cetera);

(c) orthodidactic aid (remedial teaching), i.e. assis= tance to pupils with learning problems;

(d) the giving of advice, particularly to older pupils confronted with subject choice, school choice, choice of field of study or occupational choice;

(e) reference, in so far as the school guidance officer refers the pupil to another body for more specialized assistance, for example in regard to choice of occupation or employment;

(4) that the school guidance service will function from the pre-primary school years to the senior secondary school period and that there will be continuity with regard to the service rendered to any particular pupil;

(5) that personality profiles of pupils be compiled and that these profiles be continually supplemented and amplified as the child progresses in his school career;

(6) that such personality profiles be placed at the disposal of the teaching and paramedical staff so that they can account for their educational concern in the light thereof.

b. Recommendations regarding after-care

With regard to after-care, it is recommended that -

(1) the school guidance officer should keep a record of the doings and activities of pupils who have left school and that such pupils should be invited to return to the school guidance officer for counsel and support in occupational problems and problems of everyday life;

(2) the sponsoring bodies of the various schools for cerebral palsied pupils should consider the creation of after-care centres and sheltered labour centres especially for cerebral palsied youngsters.

c. Recommendations with regard to occupational and occupationally orientated education

With regard to occupational and occupationally orientated training it is recommended that -

the occupationally orientated practical course followed by pupils of Group B (and possibly Group C) and that followed by pupils of Group C should be of such a nature that these pupils should, on the one hand, be prepared for leading a meaningful (even if perhaps jobless) life and, on the other, that by means of such training they will find a niche in whatever is envisaged by the after-care centres, sheltered labour refuges or settlements.

12 CONCLUDING REMARKS

In this report an attempt has been made to arrive at a system of differentiated education for cerebral palsied pupils on the strength of scientifically accountable methods of investigation and deliberation. In conclusion the hope is

expressed that the findings reached and the recommendations made will result, in practice, in the creation of still better educational circumstances for cerebral palsied children. In an approach of this nature, special education is also seen as a dynamic occurrence in which there is continual movement in the direction of a steadily more efficaciously organized and planned educational system.

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