

THE EDUCATION OF VISUALLY HANDICAPPED CHILDREN, WITH SPECIAL REFERENCE TO THE WORCESTER SCHOOL FOR THE BLIND

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I welcome this opportunity to write on a topic which deals with a group of children who are our common concern. It will be noted that I do not refer to these children now as 'patients' or 'pupils'. In the ophthalmologist's profession and in mine they come to us in these capacities and we are easily misled in concentrating on a particular aspect of the child's personality, well-being or development while underestimating the fact that the child with a visual handicap is a person in his own right, whose handicap is merely an aspect of his being; and while often forgetting that the visual impairment is more than a physiological or pathological phenomenon—that it contributes to the make-up of a personality and to a way of living.

In our daily work as teachers of visually handicapped children we emphasize the team approach. Experts in various fields work together to ensure the maximum degree of benefit for the child: educational administrators, classroom teachers, houseparents, teacher-psychologists, sports coaches, the school nurse and social workers, to mention but a few. Beyond the physical environment of the school the team effort continues through the co-operation of doctors, dentists, paediatricians, ophthalmologists, orthopaedic surgeons, neurologists and other specialists, and also hospital authorities, blind welfare services, employment agencies, government departments, etc. We have long felt a strong need for closer contact with the profession of ophthalmology. There are gratifying signs that this need may gradually be fulfilled.

The tendency is to be welcomed but the situation is still far from satisfactory. In our schools the teachers are required to gain a basic knowledge of the physiology and hygiene of the eye, the exact nature and effects of the most common eye diseases, the manner in which various abnormalities of the eye will probably affect such things as reading performance, mobility, emotional stability, social development, etc. They are expected to read and interpret ophthalmologists' reports and to create situations in the classroom that will help each pupil individually to make satisfactory adjustments and to overcome the obvious difficulties they are likely to encounter as a result of their particular visual defects. What is being achieved in this way is not yet always sufficient, but it is an essential starting point.

On the other hand, we feel there is an obvious need for the ophthalmologist in turn to move closer to the schools and to other rehabilitation agencies for the blind. When the ophthalmologist has diagnosed and treated an eye condition the patient, whether a child or an adult, is only at the beginning of the road. If complete recovery of vision is out of the question the patient is faced with challenges which other people will not meet. Both the patient and his or her relatives will be in need of moral support and practical advice and assistance. They will in all probability expect the ophthalmologist or the family doctor to indicate the next step to be taken or at least the name of an agency to which they may turn for help. In the case of children, even infants, reference to a suitable

school should receive priority.

We are often astonished to find that parents, after ascertaining that a child is blind or severely handicapped by poor vision, have apparently been left desperately in need of further guidance. In this respect a sympathetic but definite recommendation from the ophthalmologist that they should get in touch with a school, a social worker or a society for the blind can be most helpful. Better still, a note from the ophthalmologist to a school for visually handicapped children or to another agency for the welfare of the blind, such as the South African National Council for the Blind, would ensure that the name of the child is placed on record and that the necessary follow-up will take place in due course. Usually the schools do this immediately, whether the child is ready to be entered or not, and experience has shown repeatedly that the early contact between the school and the family of a visually handicapped child is extremely beneficial to both parties.

The purpose of this article, then, is to name the educational facilities for blind and partially sighted children in the Republic and to outline in greater detail the services offered by the one which is the oldest foundation of its kind in the country.

SCHOOLS FOR VISUALLY HANDICAPPED CHILDREN IN THE REPUBLIC

The following schools, all known as schools for the blind, provide opportunities of education for blind children but also accept children with varying degrees of partial vision:

For White children. The School for the Blind, 20 Adderley Street, Worcester (with departments for the blind, the partially sighted and the deaf-blind).

For Coloured children. The Athlone School for the Blind, Kasselsvlei Road, Bellville, CP.

For Indian children. The New Horizon School for the Blind, 87 Royston Road, Mountain Rise, Pietermaritzburg.

For Bantu children. (i) The Effata School for the Blind, P.O. Box 177, Umtata, Transkei; (ii) The Vuleka School for the Blind, P.O. Nkandla, Zululand, Natal; (iii) The Siloe School for the Blind, Private Bag 7354, Pietersburg, Transvaal; and (iv) The Bosele School for the Blind, P.O. Mpudule, Dist. Middelburg, Transvaal.

The Prinshof School for Partially Sighted Children (Prinshof Street, Pretoria) serves children of the White group and is the first full-fledged school for the *partially sighted* in the Republic. It also has a preparatory department for young blind children.

No two of these schools are exactly alike, but they all offer elementary school courses with various forms of vocational or pre-vocational training, while some take their pupils to Junior Certificate and others to Senior Certificate level, which is more advanced than the relative level of scholastic attainment in most schools for the blind in European and many other countries. For the purpose of giving more detailed information I intend to enlarge only on the school about which I am best qualified to speak.

THE WORCESTER SCHOOL FOR THE BLIND

Administration and Function

Founded as a private institution under the Dutch Reformed Church in 1881, this school has since grown to become one of the larger schools of its kind in the world and is now administered as a State-aided school under the Education Services Act (No. 41, 1967). In certain respects it is probably unique, one of these being the wide range of services offered to visually handicapped children and young people of varying ages, capabilities and degrees of vision. Special provision is made for the following categories of children: (i) blind, (ii) partially sighted, (iii) deaf-blind, and (iv) visually handicapped children with sub-normal intellectual capacity.

The present enrolment is 260 and pupils come from all four provinces of the Republic, from South West Africa, Mozambique and Angola, while in the past there have often been pupils from Zambia, Rhodesia and Kenya.

The Admission of Pupils

Although visual acuity, as expressed in conventional terms, is strictly speaking the basis of admission (with Snellen 6/60 or lower in the best eye after correction—for blind or braille candidates—and 6/60 to 6/24—for partially sighted candidates—as workable but flexible norms) experience has shown that one should not be too dogmatic in determining rules of admission to a school for visually handicapped children. A very important aspect of visual acuity is often overlooked when an ophthalmologist's report is sought for the assessment of a candidate, and this is the question of near-vision. Near-vision is of extreme importance in the classroom situation and particularly in reading and writing. A child with a relatively small degree of residual vision may be fairly independent and freely mobile but quite unable to cope with the strain of reading and writing by sight. For this reason a specific report on near-vision is essential when there is even the remotest likelihood that a child may have to apply for admission to a special school. Also, binocularity needs to be examined carefully.

Another factor to be considered is eye fatigue. Parents often inform us that specialists have found a child's vision to be quite adequate for ordinary reading, and this finding is usually based on a brief Snellen test. Yet, more often than not, further questioning yields evidence indicating that the child is subject to severe eye-strain and fatigue after prolonged reading and writing. This is often the case with children who have managed reasonably well in the lower primary classes of an ordinary school but find the increasing load of reading and writing too strenuous when they enter the higher primary classes or the secondary school. There is need for an objective assessment of eye fatigue, a factor which cannot be diagnosed by means of a brief conventional eye test.

Yet another matter requiring special attention is the field of vision. While a child may have useful visual acuity the field of vision may be so contracted or so peripheral as to render visual reading impracticable. Normal reading does not consist of deciphering letters one by one. It is based on the assumption that the reader sees and recognizes words and phrases as totalities without having to break them up into their component parts. Reading loses

most of its meaning when the latter procedure has to be resorted to, and it certainly does not then represent a useful tool for purposes of study or recreation.

Furthermore, useful visual acuity may be accompanied by other abnormalities such as strabismus, nystagmus and dyslexia, which will not directly present serious problems in the course of daily living but will most certainly have an adverse effect on reading performance.

Finally, the prognosis is most important. If a child is faced with certain deterioration of vision it is cruel to be kind. The child should enter a special school in good time to make all the necessary adjustments before useful reading vision disappears. It is imperative that parents should be informed fully on the diagnosis and the prognosis of the case. There is no justification for encouraging false hopes.

For information on the abovementioned aspects of a child's vision the educationist depends in the first place on the professional services of the ophthalmologist. Yet, as has been indicated before, cold facts and figures are guidelines only—very necessary and usually very significant—but many other considerations play a part. The 'personality' of a child (which includes such things as physical health, emotional life and degree of independence), motivation, powers of concentration and of perseverance, and also the family background will sometimes have a decisive influence on the question of enrolment in either a special or an ordinary school. Of two children with very similar eye conditions one may be able to cope satisfactorily in an ordinary class, while the other may definitely need to attend a special school. The final decision should be taken by the parents in consultation with the principal of a special school assisted by expert staff.

The law provides for compulsory education in special schools in the case of visually handicapped children, but it is always considered preferable to guide and persuade parents and thus to ensure wholehearted co-operation between the parents and the school from the outset. In most cases the need for special education is obvious; in some, the parents need persuasion because they do not fully understand or accept the implications of the child's visual impairment or are not yet ready to face the adjustment required of them. Total blindness or blindness in the legal sense is not easy to accept, but the parents have usually already realized during the child's infancy that special education is indicated.

The criterion for admission to the School for the Blind at Worcester is defined rather leniently (and this is done deliberately) as follows: 'According to the definition of blindness as accepted by the Committee the applicant's sight must be so impaired as to render him or her incapable of being educated by the ordinary methods in a school for sighted children'.

This reflects the spirit in which the school considers the suitability of a pupil for enrolment.

Parents of young blind children are advised to get in touch with a suitable school as early as possible. The principal and staff are usually in a position to give valuable guidance on such matters as the early training of the child, the promotion of independence, stimulation of play and of observation, etc. Some schools have good libraries on the education and training of blind children and offer

books on loan to parents who wish to read about these subjects or about any other aspects of blindness. The 'education' of the blind child's family circle is almost as important as what is done for the child itself.

The incidence of blindness and inadequate vision among children of preschool and school-going age is a matter of genuine concern to all who are engaged in work for and with the blind. Inquiries in a number of western countries have shown that the problem is still a universal one. Between birth and admission to school very few children with significant visual defects are likely to be detected unless the impairment is already an obvious hindrance in daily living. It can probably be accepted that the incidence of amblyopia in the 'normal' school population is between 3% and 4%.

There is general agreement in our field about the unqualified desirability of having every preschool child examined by an ophthalmologist in early infancy and at least once more before entering school. Although there is no reason to believe that a significant number of blind children are not receiving the kind of education best suited to their needs, the fact cannot be denied that there is also as yet no satisfactory manner in which the occurrence of visual impairment in children can be adequately recorded and that hundreds of partially sighted children in need of special education are still struggling on in ordinary schools. Blind children are sometimes brought to the notice of the schools in haphazard ways and some (though few) parents are clearly not concerned about the necessity of planning for the future of these children.

It would be extremely useful if some sort of central register of blind children (which would gradually grow to become a comprehensive register of blind persons) could be compiled. Since this would probably require legislation and would also affect the medical profession, the views of ophthalmologists on the matter would be most welcome. With a register of this nature it would be possible for the schools to help and co-operate with the parents of these children from the early infancy of a child, and this would be a tremendous gain to all concerned. Consideration has been given in blind welfare circles to the introduction of compulsory registration of all persons with visual defects, but there are numerous reasons why this has not yet proved feasible.

Finally, there is a pronounced need for genetic counselling. Young people contemplating marriage are usually unaware of the factors that may cause genetic blindness in their offspring. (An important study of genetic blindness in the White population of South Africa was published a few years ago by the Bureau for Educational and Special Research.) The need for a central bureau to undertake the registration of blind persons and to record all the relevant information on various forms of hereditary and familial eye conditions, seems clearly indicated.

Services Offered by the School for the Blind

(a) *General: the four categories.* (i) Blind children learn and use braille as a reading and writing medium and their methods of learning are based mainly on the senses of touch and hearing. They examine raised maps, scale models, live animals, museum exhibits, sculpture, plants, etc., by touch and take in a great deal of information by listening to conversations, to the radio, to teachers using

oral methods of instruction and to tape-recorded study material and other literature. The senses of smell, taste and kinesthesia also make their own contribution to the processes of perception and learning in various situations.

(ii) Partially sighted pupils are grouped separately as far as circumstances will permit. They read by vision and learn by the senses employed in similar situations by normally sighted persons. The weaker a pupil's vision is, the stronger the emphasis on the auxiliary sense of touch and other senses should become. Partially sighted children can derive considerable benefit from some teaching methods designed for blind pupils. In classes for partially sighted children, provision is made for textbooks in enlarged type and for special equipment such as adjustable desks, a variety of reading lamps, reading projectors, microscopic projectors and other magnifying devices. Closed-circuit television is also proving to be a valuable aid. Artificial illumination is an important feature of the classroom for partially sighted children. The problem of lamp heat has still to be overcome and the use of cold light for the purpose of reading is a subject for further research. Thick pencils are used for handwriting and pupils in one class may not all be using the same type of pencil or the same colour of paper. Various kinds of lineation are produced for different purposes, and unlined paper is preferred by some pupils. One pupil may require bright artificial lighting; the photophobic child must be given a darker corner or sometimes even a screen to protect him against light. Each child is treated individually and the teacher must plan his teaching programme and methods with due consideration for the visual condition of every pupil. In and out of the classroom some pupils must be protected against the hazards of retinal detachment. (It is surprising that some myopes with pathological retinal conditions come to us and, with their parents, inform us that they have never been warned before and have therefore never taken any precautions in regard to activities which may cause retinal detachment. This is a matter which should in our view also be taken up seriously by the school medical services of the education departments.)

Factors which should further be borne in mind include familial incidence of retinal detachment, the degree of myopia, the type of stress a child is likely to encounter and the question whether one only or both eyes are involved in regard to the likelihood of retinal detachment taking place.

(iii) The deaf-blind form a small group—about 10 now—for whom a highly specialized service is provided. Some of these children are able to acquire speech or to preserve and further develop such speech as they may have had before finally losing their hearing. Others acquire language (in writing) but not speech. And there are also some who make very little scholastic progress but are helped to become more socialized and to grow towards greater independence. The staffing quota in this department is very high and almost all the work is based on individual attention.

The cause of the deaf-blind has made gratifying progress in both western and eastern countries during the past two decades. Though one or two exceptional deaf-blind persons such as Helen Keller have long been well-known internationally there were, until recently, only a

few educational centres for deaf-blind children in the world. A considerable number have now been established but the fact that many of these children are educable is not yet widely appreciated. In this connection it is common knowledge that the deaf-blind are frequently classified as imbeciles and referred permanently to mental institutions. The time for a reappraisal of the potential of multiple-handicapped blind children is overdue. We would appeal to ophthalmologists, ear, nose and throat specialists, paediatricians and general practitioners to bear this in mind before pronouncing a final verdict on the future of a child with a combination of severe handicaps. Children referred to the Deaf-blind Department at Worcester will always be given all the time and consideration we can offer if they are even remotely capable of deriving any benefit from the programme that has been developed there in conjunction with the best known units for the deaf-blind in western countries.

(iv) The visually handicapped children who are also intellectually subnormal require a separate programme of education in special classes, with teachers trained to work with children of lower intelligence and with slow learners in general. (As a matter of interest, it can be reported that we have for some time been treating a few selected pupils with Encephalol in order to determine whether their intellectual performance is stimulated, thereby raising the level of scholastic attainment. Although there is as yet no conclusive evidence, preliminary observation suggests the possibility of interesting results being obtained in the long run.)

(b) *The educational programme.* The school provides tuition and training for children from both Afrikaans-speaking and English-speaking homes and usually has several children from Portuguese families too. The system is co-educational and the ages of pupils range from 5 to 19 years or more.

The tuition offered by the school could be described as threefold: (i) primary education for all; (ii) secondary education to Junior and Senior Certificate for those who have the necessary aptitude and motivation; (iii) vocational and pre-vocational training for those who qualify for eventual employment in either sheltered or open work situations.

The school course leading to the National Junior and Senior Certificates and to university admission can be taken from such subjects as the following: Afrikaans (higher or lower grade), English (higher or lower grade), physics and chemistry, mathematics, German, history, geography, physiology and hygiene, commercial law, and typing.

Vocational training is offered in industrial occupations such as weaving, machine knitting, basketry, cane furniture manufacture, woodwork, metalwork (at the Worcester Workshops for the Blind) and in mattress making.

Some of the processes are mechanized and blind pupils are trained to operate various types of power-driven machines.

Courses leading to technical and commercial occupations include piano tuning and repairing, switchboard operating and secretarial training (typing, dictaphone typing and office routine). Plans for training computer programmers are now at an advanced stage. Pupils are prepared at post-matriculation level for entrance to a

college or conservatorium of music at any South African university.

Candidates who matriculate may gain entrance to universities and colleges. Former pupils of the school are to be found studying at almost every university in the country from time to time and also at the College of Physiotherapy for the Blind in London. These students have entered such professions as law, the church ministry, social work, teaching, music, public relations work and physiotherapy.

Three teacher-psychologists attend to the individual personal, social and emotional problems of the pupils; to intelligence, developmental and aptitude testing; to assessment and career counselling; to problems encountered with children by the school staff and housemothers; to arrangements for enrolment of pupils at universities; to placement in suitable occupations and to numerous other matters arising from the effects of blindness on the growth of personality.

A comprehensive range of leisure time activities creates opportunities for self-expression, social growth and the development of leadership. Physical recreation includes wrestling, athletics, roller-skating, swimming, rowing, gymnastics, eurhythmics and judo. A number of clubs and organizations keep pupils occupied with religious activities, debating, folk dancing, musical appreciation, choir singing, dramatic art, chess, discussion of current affairs, etc. The pupils take responsibility for these activities themselves through their own committees, with a member of staff in each case to give the guidance that may be needed.

(c) *Other services.* A full-time nursing sister is in charge of health services, treats injuries, guides the housemothers in caring for indisposed boarders, informs parents on the health of their children, and provides the necessary liaison between the school and doctors, dentists, ophthalmologists, other specialists and hospital authorities.

A post for a physiotherapist has also been approved. A considerable number of blind and partially sighted children have additional handicaps, including spastic conditions, faults of posture, insecure and clumsy gait, etc., which require special attention and remedial treatment.

A recent addition to the facilities of the school is an ophthalmological clinic which enables the school ophthalmologist to examine pupils in their familiar environment and to confer on the spot with the principal, supervisory staff and teachers on matters pertaining to a child's vision and the relationship thereof to such things as reading performance, eye fatigue, mobility, physical exertion, etc. The dialogue between the ophthalmologist and the school, the opportunity for the ophthalmologist to see children in the classroom situation and on the playground, and for teachers to learn from the ophthalmologist exactly what a child's visual condition entails—these factors are considered by the school to be of great significance.

The clinic is also placed at the disposal of the Head of the Department of Ophthalmology at the University of Cape Town and Groote Schuur Hospital for the purpose of examining our pupils, usually by means of one or more registrars, who are likely to benefit considerably from the opportunity to see what is now the largest concentration of visually handicapped children in the country. It is hoped that ophthalmological research will play a prominent part in this programme in the long run.

Consideration is being given to the desirability of developing in the clinic a programme of orthoptic and pleoptic treatment on the lines of the system of Prof. A. Bangerter of St Gallen, Switzerland. The stimulation of the peripheral and para-macular visual fields calls for special attention. A contact lens service and the application of telescopic spectacles as a visual aid may in due course be included in the activities of the clinic.

In addition to the abovementioned services note should also be taken of the fact that the school accepts newly-blinded adults for brief periods of rehabilitation and vocational assessment and retraining. Furthermore, an extensive information service is at the disposal of blind persons, parents of blind children and students, and professional and research workers. Parents' meetings have been introduced and plans have been approved for the organization of periodic short courses at the school for parents of blind children.

(d) *Literature production units.* Auxiliary services of a technical nature are to be found in the braille printing press, the tape recording department and the enlarged type press. These units produce literature in the relevant media for use by the school, by other schools and by visually handicapped individuals all over the country. It would, I think, not be out of place to draw the attention of ophthalmologists to the tape recording service. Every ophthalmologist has elderly patients with failing vision and also a number in other age-groups. For such persons visual reading gradually becomes impossible. Some were avid readers before and now find that they have much time on their hands. For many patients in this situation tape recordings offer a very satisfactory solution. Our studios have recorded some 1 400 books on tape and the number increases every year. An Afrikaans periodical is recorded weekly and reaches readers all over the Republic soon after the printed edition. Blind physiotherapists receive their professional journal on tape, and visually handicapped university students apply for their textbooks to be recorded. The service is offered free of charge. Ophthal-

mologists can render their patients a valuable service by drawing their attention to the existence of our tape library. Satisfactory recreation is a very significant aspect of the rehabilitation of visually handicapped persons.

CONCLUSION

I think it is fitting to refer to what was said at the beginning in connection with the importance of team-work. It is our belief as educationists that the ophthalmologist is a key member of our team. In the past we have too often worked in isolation or with only incidental and sporadic contacts, leaving every shoemaker to keep to his own last. Closer contact is essential. Neither the ophthalmic phenomenon nor the school curriculum is of paramount importance. It is the *child* that counts. The visually handicapped child is our common responsibility. Having received the ophthalmologist's professional attention, he needs help and expert advice with a view to his future. It is the ophthalmologist's privilege to help him on his way until we are ready to take over. We would be grateful to the ophthalmologist for directing patients with serious problems of vision to our schools or to other organizations for the blind, whatever need is indicated, or for devising ways and means of passing on to us the information we require in our efforts to trace blind children as well as others with seriously impaired vision and to help them and their parents as soon as we possibly can. Furthermore, comprehensive reports not only indicating visual acuity but also furnishing information on the diagnosis and prognosis of the case, on near-vision, and on the incidence and severity of other relevant abnormalities are a great help to us in the assessment of applicants and of pupils already enrolled.

If this article should bear any positive fruit towards the establishment of increased personal contacts and the forging of a closer bond between ophthalmologists and educators of blind children in Southern Africa, and also between our respective professions, this will be abundantly rewarding.