THE REHABILITATION OF THE DEAF*

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When we are discussing the rehabilitation of the deaf we may well ask for a definition of the term deafness. To the doctor deafness means a particular pathological condition of a particular part of the human body resulting in inactivity of either that particular organ or of organs depending on it for its functioning. Amongst the public there is still a strong tendency to regard deafness as a sure sign of mental infirmity and the deaf and hard-of-hearing person as being just a nuisance. To the patient the problem means something radically different. To him it is a cause of utter isolation from his fellow men and from society. It means an inability to live a full life as a human being and a basic inability to grasp and understand the society in which he moves, and of which he is a part. The effect of deafness on the sufferer, therefore, is to exclude him from the society in which he has to live, resulting in varied educational, psychological and sociological problems.

Hardness-of-hearing is, of course, a lesser handicap, but again a condition presenting its own peculiar problems.

The South African National Council for the Deaf includes under the term 'deaf' all auditory defects—the totally deaf as well as the hard-of-hearing. That will be the interpretation of the term in this address.

When, therefore, a medical practitioner has to do with the problem of deafness it is as imperative for him to consider what sort of patient has the disease as what sort of disease the patient has. The disease is not merely a pathological condition of a particular organ. It is part and parcel of the human individual, of his total personality. The human being is not an abstract individual totally independent of other beings. The human individual is a social being and it is impossible to consider him without reference to his social relationship and contacts. An inevitable chain of cause and effect between individual and society is ever present. For that reason the medical practitioner, when treating an ear disease, must bear this chain in mind and must appreciate that his patient has social connections which are of vital importance in the treatment of the disease, and in its effects.

The effects of deafness on the individual are seldom realized. The blind and the cripple will always elicit sympathy and consideration from those with whom they come into contact. The deaf, however, often receive no consideration even in the medical world. When the world-known deaf-blind authoress, Helen Keller, was asked, if she could have one of her senses back, which one she would prefer, her reply was, 'Undoubtedly my hearing, as it is my deafness more than my blindness that stands as a wall between me and my fellow men.'

INCIDENCE

It is not always appreciated how high the incidence of deafness really is. Few reliable statistics are available but on a conservative estimate it appears that the incidence rate of hearing defects in the various categories per 1,000 population is as follows: Grade I 18·5, grade II A 3·3, grade II B 1·8, grade III 1·3. This gives a total incidence rate for defects of hearing of 24·9 per 1,000. From the census figures of 1946 it is therefore calculated that there are 59,079 Europeans in South Africa suffering from a defect of hearing, of which 2443 are completely deaf. This is a higher incidence rate than that of any other physical disability.

For the incidence amongst the non-European practically no figures are available. During 1951, however, Dr. P. S. Meyrick conducted a survey of the incidence of diseases of the ear, nose and throat in a remote Native reserve. He obtained the following figures for conditions of the ears: Wax in the ears, 80; Retracted ear drums, 146; Chronic suppurative otitis media, 139; Normal, 334. These conditions must bring about at least a temporary hearing loss, and if not treated early and efficiently will result in permanent deafness, with an incidence rate round about 400 per 1,000.

This alarmingly high incidence of hearing defects and
ear diseases must receive serious consideration. It is not my duty on this occasion to lecture on the causes of deafness, but I regard it as imperative to emphasize the social causative factors, in order to indicate the necessity of a wider attack on this problem than by the medical profession only, and to stress the basic role of the social worker in the treatment of ear diseases and the prevention of deafness.

In the survey mentioned Dr. Meyrick came to the conclusion that the nutrition of the people was poor generally, and very markedly so in the children, and that the high incidence of chronic discharging ears was directly associated with the nutritional state.

Prof. J. A. Ryle in a lecture in 1948 said: 'All diseases of prevalence may in fact be considered as social diseases. They are in the final analysis due largely to social causes. They wax and wane and change in type with changes in social conditions. They prove or will prove to be partly and sometimes wholly controllable not so much by medicine and hospital as by social planning and readjustments.'

Another important aspect is that the medical practitioner can do nothing if the patient is not brought to see him. The early symptoms of certain ear diseases are so common that nobody really worries about them, and they are not regarded in any serious light. It is therefore found that children are running about with continuous and recurring earache, and with chronic discharging ears, and are never brought to see a doctor. In this field of the prevention of deafness the South African National Council for the Deaf has undertaken very important projects. Some years ago the Council had a van touring through South Africa showing films on the treatment of the ear and the prevention of deafness, distributing leaflets and displaying posters to draw the attention of the public to the elementary symptoms, and inducing them not to neglect ear disease, but to consult their doctors. The Council has lately appointed a subcommittee to draw up a programme for health education and the prevention of deafness. Eighteen months ago a conference was held in East London on the Prevention of Deafness and good progress has since been made. It is anticipated that in the near future the Council will be able to tackle this matter in a more forceful way. The survey that I have referred to was undertaken under the auspices of the National Council and further surveys are contemplated. A complete audiometrical survey of all school-children in the Orange Free State is to be undertaken shortly.

TREATMENT

An important consideration in treatment is the psychological reaction of the patient to his disease. An illuminating example is the refusal by some patients to wear hearing aids although they may be in dire need of them. Nobody, however, would refuse to wear glasses should their eyesight become bad. For the same reason people are probably reluctant to consult doctors on deafness. The doctor himself can greatly contribute to overcome this bias and prejudice, but assistance of the social worker is necessary to cultivate the correct attitude of the patient towards his disease.

Even in treatment the patient's social and economic circumstances are very closely involved. The nutritional factor, for example, may not receive the required attention either because of the patient's ignorance of nutritional values of food, or because of his economic inability to provide the necessary foods. Again, the patient may be involved in high costs for treatment or operations. Cases have come to our notice where patients have received partial treatment, but have had to refuse further treatment, being unable to afford it. Much damage has been caused and in most cases those patients were brought to our attention at a stage too late for medical treatment to be of any further value. It often requires the assistance of the social worker to attend to these personal matters of the patient.

The doctor may find the patient suffering from noise deafness, and it may be futile for him to receive any kind of treatment while he continues to work under noisy circumstances. He may be a trained artisan capable of performing only that one particular trade. It requires a complete readjustment to find occupation under different circumstances in the same trade or perhaps to change over to a different trade altogether. Once again the assistance of the social worker is required.

Thus I emphasize the role of the social worker not as the odd-job man, but as a person that plays a very vital role even in treatment. It is not suggested that the social worker will now become a junior doctor or attend to purely medical matters, but it is emphasized that the role of the medical practitioner and that of the social worker are both important aspects of the same process. They should recognize each other's professional fields and work in close and continuous cooperation.

You probably know that the South African National Council for the Deaf some 6 years ago started a scheme for the supply of hearing aids. That scheme is still in operation and we have succeeded in supplying a large number of hard-of-hearing people with effective aids at a price that they can afford. Since the inception of our scheme the Department of Health has consented to supply hearing aids under their arrangements for the supply of medical aids to the indigent.

This scheme, however, has brought us certain problems in which the assistance of the medical profession is seriously solicited. You probably can quote cases from your own experience where hearing aids were sold to people who required not a hearing aid but a syringing of the ear canal. By whom, and under what circumstances, should hearing aids be sold? There is at present no control. Can this situation be allowed to continue? We had a case some years ago where manufacturers of farm implements sold hearing aids, and at an exhibition proudly displayed a hearing aid mounted on a farm tractor.

A further problem is how to fit the patient with an instrument that will be successful. There are two opinions today. On the one hand we have the audiologist who claims that a clinical examination and a hearing-aid evaluation is absolutely essential. On the other hand there are those who say that the only sure test is to let the applicant use the instrument for some time and decide himself. The one section holds that under all circumstances the work must be done under the supervision of a medical practitioner, while the other claims that the services
of a medical practitioner are not necessary in the fitting of a hearing aid. These matters require serious consideration and a joint effort by my Council and the medical profession.

I have also referred to the problem of noise. With growing industrialization and mechanization noise has become more or less synonymous with civilization. Daily people are working and living under the most noisy conditions without appreciating the latent danger, and in many cases the actual damage being done, to their ears. Neither workers, nor industrialists, nor anybody else in our country, seem to have yet awakened to this situation. My Council has called a National Conference on Noise to consider this problem in its various aspects. This conference will be held in 1956, and the medical profession will be invited. It is hoped that they will make a positive contribution in tackling this grave problem of modern society.

**REHABILITATION**

Hearing defects have a vital effect on the future life of the patient. Let us refer to the individual who has turned deaf or hard-of-hearing in later life and was not born with that condition. The implications of the defect are far-reaching in the patient’s personal life, in his family and social relationships, and in his vocation.

I can quote a case of a lady who turned deaf as a result of an accident; her family life was completely upset and the disruption nearly led to a dissolution of the marriage. It often implies that the patient will have to change his whole career.

The task, therefore, is not fulfilled when the doctor has completed his medical work. There is a definite follow-up process which is essential; but the case is seldom brought to the attention of the correct authorities. The case of the lady that I have just quoted was brought to our attention 18 months after the accident, and after she had passed through the hands of several ear, nose and throat specialists. A further example is a child who at the age of 16 months contracted tubercular menigitis and was left deaf and blind. The case was not brought to our attention until 18 months after the onset of the disease. The child was under the best medical attention that South Africa could afford, but that was beside the question. To decide whether a deaf child is educable is the task of the deaf-educationalist and not of the medical man. To decide whether a deaf person is readjusted to social life and to his occupation is the task of the social worker and not of the medical man.

I cannot but refer to these examples as criminal negligence on the part of the relative medical practitioners. It is our common experience that patients are discharged from hospitals having turned deaf or hard-of-hearing and nothing is done for their future social adjustment. They are not referred to the proper authorities and channels to attend to their social needs. It is left entirely to the patient in his ignorance to acquire a hearing aid or special instruction.

Allow me to refer to a case that appeared in an allied field and was quoted at a public conference in Pretoria 2 years ago. An orthopaedic surgeon, passing one day a crippled person who was begging for his daily maintenance, recognized the deformity as due to curable disease. He offered free treatment, the patient was eventually discharged as cured, and the problem was apparently solved. The patient, however, returned to him shortly afterwards with the remark: ‘Whatever you have done to me, please undo it. As a cripple I could beg and live on the mercy of other people; as a normal man I am untrained for any vocation and am offered no opportunity.’ A striking example of the futility of medical attention without the necessary social readjustment!

In all the major cities of South Africa we have Societies for the Welfare of the Deaf. Some of them employ full-time personnel, others not; but at least some facilities exist and it is incumbent on doctors to refer to those societies the cases that may come to their notice. I admit that our facilities are insufficient to cope with the problems knocking on our door, but let us first use the facilities at our disposal and then ask for more. If we utilize those at our disposal the rest will automatically follow. Th assistance that may be required by patients after they have had the necessary medical treatment can briefly be listed as follows:

1. **Lip-reading.** Very few people appreciate to what extent any normal individual is utilizing lip-reading nor how important it is that a hard-of-hearing person should undergo special training in lip-reading to enable him to carry on with conversations. The Council do not yet provide facilities for lip-reading instruction, but trained logopaedists are available and arrangements can be made to afford people the necessary instruction. The problem however, has not yet been presented to us by the reference of specific cases for attention.

2. **The Supply of Hearing Aids.** Many patients are referred to commercial dealers. It is in the discretion of the doctor to refer his patient to whom he wishes, but it is futile to refer a patient to a dealer to buy a hearing aid which he cannot afford, whereas no person who comes to the National Council or its affiliates for a hearing aid is turned away on account of lack of financial means.

3. **Schools for the Deaf.** Special schooling is needed where the patient is a young child. Until the new School for the Deaf in Pretoria was opened in 1955, the authorities concerned were under the impression that the European deaf in South Africa were adequately catered for in the existing schools. It was expected by the authorities concerned that this school would draw its pupils from the existing schools for the deaf. Amongst the first 60 applications, however, there were 40 applicants from children who had never been to a school for the deaf, the majority of whom were of school-going age. Is it still necessary to emphasize to professional people that a deaf child at the age of 3 should be in a school for the deaf and nowhere else? Continuous cases are referred to us where hard-of-hearing children are attending classes for normal children but are classified as backward, as mentally deficient. In most of these cases the child has been under treatment of a medical practitioner. It may not be the duty of the medical practitioner to attend to the social or educational...
requirements of his patient, but it is his duty to refer those cases to the relative agencies.

4. Social Intercourse. In the field of social adjustment of the deaf the Council and its affiliates have embarked on a wide field of operation. In the various towns where there are Societies for the Deaf there are clubs where these people can enjoy the limited social intercourse that their condition allows, but at the same time they are given an opportunity to mix normally in society. The various deaf societies extend to all the necessary branches in the adjustment or readjustment of the auditorily handicapped.

With greater recognition of the social and emotional factors in illness there has grown a greater acceptance of the social worker and his help. It was the intention of this address to bring to the notice of the medical profession the work done by the South African National Council for the Deaf and its affiliates, to offer our help wherever we may be of assistance, and to appeal to the profession for its cooperation and assistance.

THE TETE RADIO-ACTIVE MINERAL AREA IN PORTUGUESE EAST AFRICA

A BRIEF SURVEY OF CASES AFFECTED BY RADIO-ACTIVE RAYS

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The atomic age on which we are embarking is now a few years old, and it is time that information on nuclear science were disseminated both among medical men and the public. The medical man will in the near future come in contact with patients affected by this new scientific development. The South African public will feel the impact of this new science through the mines which develop uranium ore. We feel justified, then, in publishing a brief and not yet fully accounted for.

One of us (A.S.) recently saw a patient (the co-writer) who, after spending some months in the highly radio-active area of a uranium mine in Portuguese East Africa, presented some disturbing symptoms, pointing to possible causation by radio-active rays:

The patient's first experience was in October 1954, after spending 3 days in workings at Inhatobue Mine, where a certain amount of pitchblende is found but where the radio-active intensity is relatively low. The first symptoms were exhibited a day after leaving the mine and consisted of vomiting, though not violent. Thereafter a general feeling of unwellness set in and persisted for 2 days. Nausea, headache, dizziness and vertigo were manifested.

In June 1955 after working for 2 weeks at Mavuzi mine in places where radio-active intensities varied up to 300 backgrounds, the patient suffered a fresh onset of symptoms, in the form of a sudden and violent attack of vomiting.

The most marked symptom was now deterioration in vision. It became difficult to read even the well illuminated scales of the instruments. Plotting of maps and drawing became hard labour. Nevertheless, distance vision remained good, so that it was thought that accommodation of the eye had been affected. This condition has not cleared up yet. Indeed, without spectacles, vision at close quarters is poor, so that occasionally food on a plate looks very blurred.

Acute headache was often experienced and this is still so today. The headache is localized behind and above the eyes and is sometimes accompanied by stabbing pain in the eyes, as well as nervous jumping of the eyes.

After the first attack of vomiting the patient took to suppressing the urge to vomit whenever it was felt, which was at irregular intervals and under all conditions. It might come on at meal times, when walking in the bush, at night in bed—there seemed to be no specific set of conditions that would cause the sudden and intense feeling of nausea. Even after the patient finally left the area at the end of September a strong recurrence of nausea and the associated general malaise occurred on 18 October, and lesser manifestations thereafter.

During the period 12 June to 28 September 1955 the patient on 3 occasions went away from the mine to non-radio-active areas, and on each occasion experienced a feeling of great relief, as though a considerable burden had been lifted from his limbs. On returning to the mine the lassitude, headaches, nausea and sleeplessness would return within 72 hours.

Owing to the very active life on the mine, the patient's weight fell from 178 lb. to 168 lb. The diet was rich in meat and potatoes, poor in green vegetables and fruit. He took one Paludrine pill every week as prophylaxis against malaria. The intake of alcohol was low, amounting to 1 pint of red wine daily. That of water was generally large, averaging 1 gallon daily, some days rising to 2 gallons (all drinking water is imported from Tete, 30 miles away).

We carried out examinations in this case, all with negative results, on the blood for abnormal cellular composition, the urine (24-hour collection) for radioactivity, the eyes for possible neutron-induced cataract, and the sperm for oligospermia or aspermia, which are often encountered in patients suffering from effects of gamma rays.

Other tests that may be used in investigating radio-active effects are:

(a) Objective studies of frontal-lobe functions to reveal an acute or late impairment of these functions.