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INTERNATIONAL SOCIAL SERVICE REVIEW

No. 2 March 1957



UNITED NATIONS

HV 3011



AMERICAN FOUNDATION
FOR THE BLIND INC.

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INTERNATIONAL SOCIAL SERVICE REVIEW

No. 2 March 1957

REHABILITATION OF THE PHYSICALLY HANDICAPPED



UNITED NATIONS

Department of Economic
and Social Affairs
New York

HV3011
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ST/SOA/Ser.Q/2

March 1957

UNITED NATIONS PUBLICATION

Sales No.: 1957. IV. 4

Price: \$U.S. 0.80; 5/6 stg; Sw. fr. 3.50
(or equivalent in other currencies)

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Preface

This second issue of the *International Social Service Review* is devoted mainly to articles on the rehabilitation of the physically handicapped. It also contains notes on seminars, conferences and meetings held in connexion with various other branches of United Nations activities relating to the social services.

The bibliography, which contains a special section on the rehabilitation of the deaf and hard of hearing, supplements and brings up to date the bibliography published in *Rehabilitation of the Handicapped* in 1953.¹

It is planned to devote the next issue of the *Review* mainly to articles on the organization and administration of social services.

¹ United Nations, *Rehabilitation of the Handicapped*. Special issue of the Social Welfare Information Series (ST/SOA/Ser.F/11:2).

The Co-ordinated International Programme for the Rehabilitation of the Physically Handicapped

The United Nations Co-ordinated International Programme for the Rehabilitation of the Physically Handicapped, which originated in a resolution passed by the Economic and Social Council in August 1950, has now been in operation for four years, and although that is too short a period for any hard and fast conclusions to be drawn about its achievements and future prospects, enough time has elapsed to show how it is shaping as an instrument of international social policy.

Aims of the Programme

From the outset, the aims of the Programme were clearly defined. They were specified by the Technical Working Group on the Rehabilitation of the Physically Handicapped, set up by the Administrative Committee on Co-ordination in 1950 to hammer out the plan which the Economic and Social Council later adopted. The Programme was conceived as part of the long-term, comprehensive, continuous effort of the United Nations and its specialized agencies to help raise living standards throughout the world. Its function was to ensure the closest possible co-ordination between United Nations bodies and the appropriate non-governmental organizations in all activities relating to the welfare of the disabled and physically handicapped in every quarter of the globe. It was to concentrate on direct help to Governments in the organization and staffing of modern rehabilitation services; in the promulgation of measures to prevent, detect and limit physical disability; in the education of public opinion regarding the handicapped; and in carrying out research and offering technical advice.

In the pursuit of these aims, two guiding principles are constantly borne in mind. The first is that rehabilitation services cannot operate in a vacuum: they must be incorporated in a country's general health, education, social welfare and employment programmes. The second—a corollary to the first—is that the kind of assistance to be provided under this international programme must be adapted to the state of economic and social development in any given country.

The new approach

The aims and principles just mentioned are themselves subservient to what the Technical Working Party called “an entirely new approach to the problem of physical disability”, the main assumptions of which are listed as follows:

The handicapped person is an individual with full human rights, which he shares in common with the able-bodied; he is therefore entitled to receive from his country every possible measure of protection and assistance, and to be given the opportunity for rehabilitation.

By the very nature of his handicap, he is exposed to the danger of emotional and psychological disturbance, resulting from a deep sense of deprivation and frustration; he therefore has a special claim on society for sympathy and constructive help.

He is capable of developing his residual resources to an unexpected degree, if given the right opportunities, and can generally become an economic asset to his country instead of a burden to himself, his family and the State.

Handicapped persons have a responsibility to the community to contribute their services for the economic welfare of the nation in any way that becomes possible after rehabilitation and training.

The chief longing of the physically handicapped person is to achieve an independent life in a normal community, instead of spending his days in a segregated institution, or as an acknowledged invalid.

The rehabilitation of the physically handicapped can be successfully accomplished only if members of medical, educational, social and vocational services work together as a team.

To secure general acceptance throughout the world of this new attitude towards physical disability was, in the view of the sponsors of the programme, a top priority task for all international agencies, whether governmental or voluntary.

Co-ordination

Its course thus set, the Programme has made steady, if not spectacular, headway. All that is implied in the first words of its title, "Co-ordinated International Programme", is being put into effect by quiet, persistent work off-stage, the results of which are brought into the limelight only occasionally. Co-ordination is being sought in two different directions—inside the United Nations and its family of specialized agencies, and through co-operation between the United Nations and the international non-governmental organizations interested in the handicapped.

The pattern of co-ordination between the United Nations and its agencies has now been set. It was first seen in the composition of the Technical Working Group. There, representatives of the United Nations (including the United Nations Children's Fund), the International Labour Organisation (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO) worked together to produce at the Group's third session, in 1951, the programme plan which was accepted in the following year, first by the Social Commission of the Economic and Social Council and then, a few months later, by the Council itself. Having successfully accomplished its original task, the Technical Working Group continued to meet once a year, for another three years, to review the progress already made and to recommend future activities under the Programme. In 1955, however, it was decided to discontinue the Technical Working Group as such and to replace it by *ad hoc* inter-agency meetings, whenever necessary, to discuss important matters of policy and programme planning and also to establish day-to-day working arrangements between the agencies and the international non-governmental organizations.

This machinery for regular inter-agency consultation is well adapted to the task in hand. It enables each specialized agency, under the co-ordinating aegis of the United Nations, to pull its full weight in the Rehabilitation Programme, exercise the functions for which it is best equipped, avoid overlapping with the activities of other international bodies, and pursue a continuous policy in harmony with the Programme's declared aims.

In the general distribution of work, the United Nations, apart from its co-ordinating role, deals with legislative, administrative and social service matters connected with rehabilitation. The ILO concentrates on vocational questions, on the prevention of industrial accidents and occupational diseases, and on social security. The medical side of rehabilitation and, above all, the prevention of disease, is the province of WHO. UNESCO is concerned with the education and psychology of the handicapped, and UNICEF with direct assistance schemes for child health services having a bearing on the welfare of physically disabled children. This division of labour and responsibility is, however,

by no means rigid. If, for any reason, an agency is unable to embark upon an activity that would normally fall within its province, it may delegate the task to a sister agency, which it will then assist by its advice and close co-operation. Such flexibility of action enables the fullest possible use to be made of the limited resources at the disposal of the United Nations organizations.

Co-operation with non-governmental organizations

It would be hard to think of any sphere of social service where voluntary organizations have done more valuable work, or gained wider and more varied experience, than in the rehabilitation of the handicapped. They have not merely been of incalculable assistance to the handicapped themselves; they have also taken the lead in educating the public to consider and deal with physical disability in all its forms, and have prepared the ground for government action by showing the need for rehabilitation services as a part of social and economic planning. This they continue to do, internationally and through their national constituents, in countries at all stages of economic and social development. The co-operation of the voluntary organizations in planning and carrying out the Co-ordinated Programme is therefore of the first importance. Here, also, progress can be recorded.

From the inception of the Programme, the competent non-governmental organizations which were granted consultative status with the Economic and Social Council have taken a full share in framing rehabilitation policy and advising on the activities ensuing from it. They have also been active, together with other voluntary organizations, in supporting technical assistance projects started under the Programme, by helping the United Nations to find experts and suitable candidates for fellowships, or making training facilities available for fellows, or sometimes by providing experts and special equipment for rehabilitation work. Some of the chief technical assistance projects in rehabilitation were undertaken by the United Nations or its specialized agencies jointly with international non-governmental organizations. (A case in point was the dispatch in 1954, by the United Nations and the World Veterans' Federation, of three experts whose services had been requested by the Government of Indonesia, to spend two years transforming an existing rehabilitation centre in Indonesia into a national demonstration and training centre.) All the indications are that this co-operation between the United Nations organizations and the appropriate non-governmental organizations on technical assistance projects for the rehabilitation of the handicapped will increase in scope and effectiveness as the Programme develops.

Another fruitful result of co-operation with the voluntary organizations, arising out of the Programme, was the establishment in 1953 of the Conference of World Organizations Interested in the Handicapped. The first two meetings of this Conference, which were

neld before the fourth and fifth sessions of the Technical Working Group in 1953 and 1954, undoubtedly helped the Group in its own discussions. The third meeting of the Conference took place in Geneva in 1953; the fourth, convened at United Nations Headquarters in March 1956, was attended by delegates of twenty-four voluntary organizations representative of employers, trade unions, religious groups, and professional bodies interested in rehabilitation as a branch of social policy.

In the general prosecution of Programme activities, the non-governmental organizations are continuing their important task of educating public opinion concerning the rights of the handicapped and the value of modern rehabilitation methods. They publicize and explain projects undertaken by the United Nations and the specialized agencies at the request of Governments, and regularly provide in the field, as at the planning stage, the co-operation without which the Programme could not achieve a full measure of success.

How the Programme is being applied

The flexibility shown in the co-ordinating arrangements with the specialized agencies and the non-governmental organizations is even more marked in the application of the Programme. There is no such thing as a standard rehabilitation programme that can be applied to all countries alike. Consequently, assistance provided under the Programme ranges at present—and must long continue to range all the way from aid to countries where regular health, education and social welfare services are non-existent, to advising the Governments of highly-developed countries whose comprehensive social legislation nevertheless contains gaps in the provisions made for rehabilitating the handicapped. No country can yet claim to have established an ideal rehabilitation service, available to all sections of the people and adapted to all types of disability; the Programme therefore has something to offer to every country, though the nature of the offering varies.

In the less developed countries, the first concern of those responsible for carrying out the Programme is to assist the Government to strengthen, or if necessary create, the basic health, education and welfare services in which the special services for the physically handicapped can later be incorporated. Rehabilitation activities proper are generally limited at this stage to awakening public interest in the handicapped and to organizing pilot projects in rehabilitation work and the training of personnel. Meantime, anything that the Governments of the less developed countries can do, with the assistance of the international and voluntary organizations, to raise the standard of living, combat infectious diseases, improve nutrition and sanitation, and build more schools, will already begin to reduce the numbers of the physically disabled and set some of them on the road to ultimate rehabilitation.

Governments in other countries, though not yet ready to launch out on a full-scale rehabilitation programme, are interested to improve existing facilities. In the highly developed countries, where rehabilitation services are far advanced, Government requests are usually for specialists to advise on administrative and technical matters.

In planning activities for countries at all stages of development, however, due regard is paid to local conditions, in order to ensure that the project undertaken is in harmony with the culture, traditions and customs of the country concerned and is compatible with its economic and social resources. Experts sent out under the auspices of the Co-ordinated Programme pay special attention to these points.

Types of assistance provided

During the brief period that the Programme has been in operation, the types of assistance most in request by Governments applying to the United Nations and its specialized agencies for help in their rehabilitation plans have proved to be: the dispatch of survey and advisory missions; the establishment of demonstration and training centres, the granting of United Nations fellowships and scholarships—mainly for the study of rehabilitation methods in other countries; the provision of special equipment for rehabilitation purposes, and the organization of seminars, study groups and national or regional conferences on various branches of rehabilitation work.

It is not possible, within the scope of this short article, to describe in detail the many activities undertaken in response to these requests. A few selected examples of the work being done may, however, give some idea of the achievements already standing to the Programme's credit. The extent, moreover, to which the facilities offered by the Programme have become known, and are being used, is shown by the following figures: during 1955, twenty-one rehabilitation experts were sent out on technical assistance missions to thirteen countries in Asia, Latin America and the Middle East; and since the Programme's inception, scholarships and fellowships in rehabilitation have been granted to more than 200 persons from some forty countries.

Survey and advisory missions

If the assistance provided under the Programme is to be fully effective, it must be based on adequate information about the particular problem it is designed to meet. At the request of Governments, fact-finding missions can be sent out by the United Nations and its specialized agencies to make a survey of local conditions and resources and thus be in a position to advise a Government on the best course to pursue. These missions, which often include medical, educational and vocational experts nominated by the appropriate spe-

cialized agencies, usually spend from two to twelve months in the field. They seek to discover, for instance, what types of disability are most prevalent in a given country or region; what facilities, if any, already exist for the care and rehabilitation of the handicapped and for the training of the necessary rehabilitation staff; what measures can reasonably be adopted within the scope of a country's own resources, and whether certain activities can be organized on a regional, as well as a national, scale. On the basis of a survey mission's report, further assistance is often granted by the United Nations and other international organizations, frequently by the provision of experts, on long-term contracts, to organize training schemes or start demonstration centres. The presence and co-operation of experts of international repute also does a great deal to awaken or renew the interest of government officials and voluntary organizations in rehabilitation matters.

Survey and advisory missions under the auspices of the Co-ordinated Programme have been generally successful; the visits and reports of these experts have encouraged Governments to appoint national co-ordinators of rehabilitation programmes and also to set up advisory councils composed of representatives of government agencies and voluntary organizations interested in the handicapped.

Two other examples of this branch of the Programme's work may be taken from Burma and Italy.

In 1955 a United Nations expert visited Burma for the purpose of assisting the Government to plan services for the handicapped as part of a general health and welfare programme. This mission led to the adoption by the Burmese Government of a long-term plan for the gradual development of rehabilitation services over a period of several years, special attention being paid to the training of technical staff. The first phase of this scheme includes the establishment of a demonstration and training centre in Rangoon, with the assistance of two experts sent out by the United Nations and the World Veterans Federation. The United Nations has also made available to Burmese students fellowships for training in India, Indonesia and the United Kingdom. A team of five students is being trained at the Institute of Physical Medicine and Rehabilitation in New York, under arrangements made with the Institute by the Burmese Government.

The expert sent to Italy was working under the joint aegis of the United Nations and the American Foundation for Overseas Blind. She spent some months in the country during 1952, organizing a home teaching service and training specialized staff for work among the blind. This mission, reinforced by a follow-up visit in 1953, led to the establishment of home teaching centres in three Italian cities—an activity which probably marks the beginning of a more extensive home teaching programme covering both urban and rural areas.

Demonstration and training centres

These are particularly useful in countries where rehabilitation services are only in the first stage of development. They are designed partly to serve as models for similar centres which it is hoped will spring up in emulation of them in a particular country or region, and partly to provide—in the absence of a national rehabilitation programme—modern rehabilitation and vocational services for physically handicapped children and adults drawn from a wide area. Their other important function is to offer the opportunity for a sound technical training to persons interested in taking up rehabilitation work as a career, whether they belong to the country in question or to neighbouring countries, and also to provide research facilities, especially for United Nations fellowship holders.

The usual practice is for the Government of the country concerned to provide the necessary buildings for the centre and defray the running costs; the United Nations and its specialized agencies send out the experts, help in the supplying of special equipment, and grant fellowships.

The demonstration centre in Egypt, one of six already established under the Programme (the other five are in Brazil, Venezuela, Yugoslavia, Uganda and Indonesia), may be taken as an illustration of this kind of activity. The centre, which is located in Cairo, was the first large-scale demonstration project undertaken by the United Nations for the welfare of the blind. It was established in 1953 at the request of the Egyptian Government and upon the recommendation of a United Nations rehabilitation expert who had visited Egypt two years previously. This centre is the only institution in the Middle East which provides a full complement



Two blind students at the Cairo Demonstration Centre for the Blind using their fingers to read specially prepared Braille textbooks.



This young patient at the demonstration centre for the rehabilitation of the handicapped in Bombay is placing pegs in holes, to strengthen the weak muscles of her left hand.

of services for blind children and adults: it has a home teaching department, a school and technical training programme for blind children, a vocational training and employment department and a braille printing press.

The United Nations provided the services of two experts, one to act as director of the centre for a period of two years and the other, sent out on a two-and-a-half-year contract, to organize the home teaching service. It also awarded fellowships for study abroad

to four Egyptians, two of whom have now replaced the United Nations experts; the third, a Braille printer, has followed a course of training in France and the fourth, who like the present director of the centre used his fellowship to study in the United States, has gone back to the centre as a teacher of blind children. The American Foundation for Overseas Blind has made a very useful contribution to the scheme by training staff for the Cairo Braille printing department at the Foundation's printing shop in Paris and by providing educational equipment and Braille writers.

The Cairo demonstration centre is also designed to serve as a training centre in the various branches of welfare for the blind for rehabilitation workers from Egypt and other Arab States. It has already conducted two special training courses—a seven-months' course in 1954 and a nine-months' course in 1955-56—attended by some thirty students from Egypt, Iraq, Jordan, Lebanon, Libya, the Sudan and Syria. Three home teaching courses for Egyptian trainees have been organized by the United Nations expert; students who successfully completed these courses have been appointed by the Egyptian Government to posts in both rural and urban areas.

Sometimes, instead of organizing a centre where none existed before, an attempt is made to co-ordinate and develop rehabilitation services already in operation, so that they can serve the same purpose. It is in this way that the pilot project in Bombay is being organized. On this occasion, the Co-ordinated Programme provided an opportunity for successful co-operation between the United Nations and two of the leading non-governmental organizations concerned with rehabilitation—the International Society for the Welfare of Cripples and the World Veterans Federation. At the request of the Indian Government, an international team of four rehabilitation experts was provided jointly by the United Nations and the World Veterans Federation. The International Society for the Welfare of Cripples used its full resources to arouse interest in the project and to enlist support from professional organizations in India. The experts' contracts are for two years, during which, in collaboration with local specialists in rehabilitation, they will endeavour to transform the limited rehabilitation services now operating at several Bombay hospitals into a pilot project for the whole of India. Among the urgent tasks of the centre will be to train local staff in various branches of rehabilitation work and to find employment for handicapped persons. This pilot project is jointly sponsored by the Central Government, the Government of the State of Bombay, and the Bombay Municipality.

As regards training, the demonstration centres are finding it more and more expedient to adjust their standards to local conditions. Training standards in general have been established by international professional organizations representing the various special skills in rehabilitation, but it has been found that rehabilitation workers from the economically less developed countries, who are sent to be trained in the well-equipped and expertly-staffed centres of technically more advanced countries, are frequently at a loss to adjust themselves to local conditions when they return home. The present tendency, therefore, is to send out experts, on a long-term contract, to conduct training courses in countries where well-trained local staff does not yet exist. These training courses have been organized with good effect at the demonstration centres,

although they have also been arranged outside them, for instance in Japan and Guatemala.

Fellowships and scholarships

The fellowships granted in connexion with the Co-ordinated Programme have been used mainly to enable students and senior rehabilitation staff to see for themselves how rehabilitation services are operated in one or more countries apart from their own. The scholarships, which are for periods of up to one year, are usually awarded to junior personnel who have received a basic training in rehabilitation in their own country but wish to pursue some special study and receive training at overseas universities or institutions.

This part of the Programme has produced many gratifying results. Former holders of United Nations fellowships and scholarships may be found today in key posts in Bolivia, Guatemala, Haiti, Yugoslavia, Israel, Egypt, Pakistan, Philippines (the list is representative rather than complete), building up national rehabilitation services, acting as administrators of government rehabilitation agencies, directing demonstration and training centres and running voluntary organizations.

The record of the Guatemalan orthopaedic surgeon who was granted a fellowship in 1952 is a case in point. He used his award to make a special study of rehabilitation in Canada and the United States, and upon his return to Guatemala was entrusted with the organization of a rehabilitation service under the auspices of the Institute for Social Security. Two years later, at the request of the Guatemalan Government, the United Nations, in consultation with the World Health Organization, sent out a physical therapist, for two years to assist him in the development of this programme and to train the necessary staff. The resulting rehabilitation programme led to such a speedy and marked reduction in compensation payments to the disabled that the Institute of Social Security decided to allocate funds for the establishment of a special rehabilitation centre. The former United Nations fellowship-holder was appointed National Co-ordinator of Rehabilitation in charge of all rehabilitation services in Guatemala.

Special equipment

Present policy, under the Programme, is to supply equipment only as part of a larger project, such as the establishment of a demonstration centre or the organization of a training course, where equipment is essential but for one reason or another cannot be provided locally. The difficulties are mainly financial. Funds available for rehabilitation equipment in the budgets of the United Nations and its specialized agencies are strictly limited; it therefore frequently happens that the Government of the country concerned defrays some, and occasionally most, of the cost of equipment needed for field projects.

The United Nations Children's Fund has, however, provided equipment, in co-operation with the United Nations and the World Health Organization, for the rehabilitation of handicapped children in fourteen countries of Europe, the Middle East and South East Asia. The late Dr. Harold Balme, one of the great pioneers in rehabilitation work, acted as adviser to the United Nations, WHO and UNICEF in the earlier years of the Programme's operation. He visited a number of European countries, advising Governments on the use of equipment provided by UNICEF as the international supply agency. Medical rehabilitation staff have also been provided by WHO to work at centres where this equipment was installed.

Seminars, study-groups and conferences

The international exchange of information about rehabilitation and the pooling of experience among workers actively engaged in this task, are of importance to all countries alike. This is a sphere where the international action of the United Nations, its specialized agencies and the non-governmental organizations can be particularly effective.

Even before the inauguration of the Co-ordinated Programme, a regional conference of experts on physically handicapped children was held, in 1950, at Jamshedpur, India, and was attended by representatives of the Governments of Ceylon, India, Indonesia, the Philippines and Thailand, and by specialists sent by the United Nations, the ILO, UNESCO and WHO. This was followed in 1951 by a group training course on the rehabilitation of handicapped children, held in the United Kingdom under the joint sponsorship of the British Government, the United Nations (including UNICEF) and WHO, mainly with the object of encouraging team-work in rehabilitation. It was also designed to give the orthopaedic surgeons, physical and occupational therapists, social workers, vocational instructors and limb fitters from Austria, Finland, France, Federal Republic of Germany, Greece, Italy, Yugoslavia, who attended the course, an opportunity to observe a comprehensive national rehabilitation programme in action and to study the latest techniques in their own special branch of rehabilitation work.

Under the Programme itself, five more international seminars or training courses have been organized: a group training course on the rehabilitation of the adult disabled held in Denmark, Finland and Sweden in September-November 1952 under the aegis of the respective Governments and the United Nations, with the co-operation of the ILO and WHO; a two-weeks' seminar for the exchange of information on the adult disabled, held in Belgrade, Yugoslavia, in 1954; a seminar on the selective placement of the handicapped, held in Sweden in 1955, and sponsored jointly by the United Nations, the World Veterans Federation and the International Society for the Welfare of Cripples;

a seminar organized in Austria in 1955 by the Government of Austria in co-operation with the United Nations and the World Veterans Federation, to enable specialists from several European countries to discuss rehabilitation in the light of Austrian experience; and finally, a national conference on the rehabilitation of the physically handicapped child, held in Italy in 1955, under the auspices of the Italian Government and the United Nations, with the assistance of five international experts provided by the United Nations, the ILO, UNESCO and WHO.

The group-training course held in Sweden, Finland and Denmark followed a novel plan well justified by results: Sweden was responsible for the part of the course dealing with scientific research and the components of a comprehensive rehabilitation service, Finland for the sections dealing with vocational training and the employment of the disabled, and Denmark for illustrating the application of rehabilitation principles and techniques to the treatment and after-care of particular types of disability. Each of the host countries appointed a committee to plan its part of the combined programme and provided generous facilities for the organization of the course.¹

* * *

The activities outlined above, useful as they are in themselves, are probably less important for the future of the Programme than the international co-operation and co-ordination which is steadily being achieved, and the growing interest which Governments throughout the world are showing in the welfare of the physically handicapped, both children and adults. That the Programme is, however, already breaking new ground, is shown by the pilot project started last year in Uganda, where the Government, the Uganda Foundation for the Blind and the United Nations joined together in the establishment of a research and demonstration scheme to promote employment opportunities for blind persons living in the rural areas of economically under-developed countries. When it is remembered that nearly 85 per cent of the world's blind population live in rural areas where conventional education and existing rehabilitation services have not yet proved adequate to solve the employment problem of the sightless, the importance of this new project, still in the early stages of its development, becomes apparent. This, and other forms of rehabilitation work in rural areas, offer, in all probability, one of the most promising fields for the Co-ordinated Programme activities of the United Nations and its associated agencies in the years ahead.

¹ Full particulars of this course are given in *Modern Methods of Rehabilitation of the Adult Disabled* — Report of a group-training course organized by the United Nations with the co-operation of the World Health Organization and the International Labour Organisation, held in Sweden, Finland and Denmark from 8 September-7 November 1952 (United Nations publication, Sales No.: 1952.IV.19).

Rehabilitation: Some Modern Trends and Developments

The process whereby modern society has come to regard rehabilitation as a social obligation has been greatly accelerated by the need to care for the civilian and military injured left in the wake of two World Wars, by the mounting toll of accidents in homes, at places of work and on the roads, and by the progress of medical science and public health services, which between them have prolonged the lives and eased the existence of countless persons suffering from chronic diseases and permanent disabilities, to an extent that at the opening of the century would have been thought unbelievable.

Improvements in rehabilitation techniques and constructive changes in public and private attitudes towards the disabled have kept pace with, and to some extent influenced, one another. This is especially true of countries with advanced social programmes, but there are encouraging indications that the same interrelationship is also beginning to appear, on a much smaller scale, in countries where social development is in its earliest stages. Indeed, when one surveys the rehabilitation picture throughout the world, the first impression received is of the considerable interest being taken in the subject by Governments, voluntary organizations, the general public and, not least, the disabled themselves.

Attempts to assess the size of the problem

One sign of this interest are the attempts that have been made during the last twenty years, and especially since the Second World War, to estimate the number of disabled persons in particular countries and regions. It cannot be said that the results, as yet, provide anything like reliable statistical evidence, largely because there is no systematic registration of physically handicapped persons and also because of the varying interpretations applied to the term "handicapped". Some of the figures obtained may, however, be of interest.

The national health survey carried out in the United States of America in 1953 showed approximately twenty-three million persons disabled to some extent by disease, accident, maladjustment or war. Later sample surveys have produced comparable figures; the survey carried out by the School of Public Health attached to the Yale College of Medicine found that 121 per thousand of the population of the United States suffered

from chronic illness, and that of these one-third were totally disabled.¹ These figures, which are merely estimates, include large numbers of persons suffering from temporary disabling conditions. The effect of disability upon employment may be surmised from the estimate that about two million people in the United States require vocational rehabilitation and that every year another two hundred and fifty thousand people become in need of it.

In the United Kingdom some three quarters of a million people are registered under the Disabled Persons (Employment) Act of 1944, but this figure does not include children. In Scotland, where much attention is paid to the ascertainment of handicaps, it is calculated that handicapped children, other than the educationally subnormal, number 5 per cent of the total school population.²

A sample survey of permanent physical disabilities was carried out in Canada as part of the Canadian Sickness Survey of 1950-51. It covered approximately 10,000 households distributed throughout the ten provinces in metropolitan, small urban and rural areas. The results revealed that the number of persons in Canada suffering from a permanent physical disability of some degree at that time could be estimated at 957,000, of whom some 324,000 were severely disabled and about 99,000 completely disabled. Of the total number it was calculated that 253,000 were between eighteen and sixty-four years of age. Diseases of the heart and arteries, impairments due to accidents, arthritis or rheumatism, diseases of the nervous system, deafness and blindness, in that order, appeared to account for 58 per cent of all primary permanent physical disabilities.³

In some areas of the world, a particularly high incidence of blindness adds considerably to the total number of handicapped persons. Sample surveys conducted in Middle Eastern countries indicate that about one

¹ Howard A. Rusk and Eugene J. Taylor: "Rehabilitation." Reprinted from *The Annals of the American Academy of Political and Social Science*, January 1955, pp. 138-143.

² Joan Simeon Clarke, *Disabled Citizens*, (London, Allen and Unwin, 1951).

³ Canada, Dominion Bureau of Statistics and Department of National Health and Welfare, *Canadian Sickness Survey, 1950-51*, No. 6, Permanent physical disabilities National estimates (Ottawa, February 1955).

per cent of the population of the region are blind.⁴ Estimates made by United Nations experts in Asia show that in a number of countries (including India, Pakistan, Ceylon and Malaya) blindness is almost as prevalent as in the Middle East. In Indonesia, the situation is believed to be even worse.

If effective means for the registration and diagnosis of disability are devised and applied, and rehabilitation services are extended to all kinds of physically handicapped persons, the existing large gaps in our information on this subject will gradually be filled in. Even at this stage, however, it appears that the need for rehabilitation services is still greater than had been supposed; recent sample surveys, in particular, suggest that earlier estimates of the incidence of disability in various countries may have been too conservative.

Here, then, is a vast and still uncharted social problem. What makes it challenging is the knowledge that the prevention, cure and alleviation of physical handicaps are all possible on a scale undreamed of until our own times.

Rehabilitation as an economic asset to the community

The numerical importance of the disabled population is causing rehabilitation to be considered, for the first time, as a possible asset to a country's economy. The primary aims of rehabilitation are still humanitarian and social: the handicapped person must be helped to develop his residual powers to the full and to take his rightful place in the economic and social life of the community. Nevertheless, as the loosening of family ties through urbanization and industrialization deprives the disabled of the traditional support of their kin, and as the extension of medical and social welfare services make ever larger numbers of handicapped persons dependent upon State or local authorities for their means of subsistence, a kind of economic balance-sheet is being drawn up.

On the one hand, rehabilitation services cost money. Special facilities have to be provided; special staff must be trained. Medical care is always expensive and chronic diseases needing long-term treatment are especially costly. Moreover, in countries with comprehensive social security systems, disability is increasingly a reason for granting public assistance or other cash benefits.

On the other hand, if a handicapped person can be rehabilitated to the point of being capable of earning a satisfactory livelihood for himself, he not only ceases to be an economic burden to the community; he actually adds to its wealth and resources. Even chronically ill and severely disabled persons can often be



Every man can become a useful citizen. The Rehabilitation Centre of Solo, Indonesia, supported jointly by United Nations Technical Assistance Administration, the Indonesian Government and the World Veterans Federation, demonstrates how this can be done. This man, like many other veterans and civilians, until recently dependent on government or private charity, is being taught to make use of his new artificial limb. Soon he will be self-supporting and an asset to the economy of his country. The International Labour Organisation recently co-operated in the Solo project by providing an expert for vocational rehabilitation.

enabled to look after themselves, thereby effecting in the long run a considerable saving of time and money by being able to dispense with the persons or services whose help they formerly required. At the same time, this assists them, morally and psychologically, to acquire a new sense of usefulness and independence.

In Australia, for instance, an outlay of less than £450,000 a year on rehabilitation services has been sufficient to restore to productive employment some 2,700 persons formerly receiving invalidity pensions under the Social Services Act. This represents a corresponding direct saving to the State of £500,000 in payments to the disabled, to say nothing of the sizable contribution which the rehabilitated persons now make to the national income.⁵

To take a still more recent example: during 1956 the United States Federal-State vocational rehabilitation programme spent \$9,200,000 on a group of nearly 70,000 handicapped persons, of whom some 13,000 had been receiving a total of \$11,000,000 in public assistance payments and 48,000 had been unemployed at the time when they were accepted for rehabilitation under the programme. Most of the others were in part-time or unsuitable jobs, or were threatened with loss of employment on account of their disability.

⁴ *Blindness in the Middle East; a Vocational Approach*. Prepared by the International Labour Office. (ST/SOA/Conf. 2/34). (Working paper for the *Ad Hoc* Technical Working Group on the Rehabilitation of the Physically Handicapped, 4th session, 11-13 February 1953).

⁵ *Rehabilitation in Australia; the Commonwealth Rehabilitation Services*. Commonwealth Department of Social Services, Melbourne, June 1955.

The results were impressive. By the end of the year no less than 66,273 persons had been rehabilitated to the extent of being able to enter productive employment. It was estimated that in the first full year after their rehabilitation their combined earnings would rise from \$17,000,000 to about \$119,000,000 and that they would contribute an additional 100,000,000 man hours a year to the country's productive effort. Of the group, some 3,500 entered professions like teaching, medicine and engineering, where the demand for recruits is constant. More than 8,000 are in skilled trades and about 6,200 have taken up farm work. This constitutes the programme's record achievement so far, but it may well be equalled and even surpassed in succeeding years.

Saving in medical care and hospital costs

Recent experience has also shown that a considerable saving in medical care and hospital costs, coupled with benefit to the disabled themselves, can be achieved by making physical medicine and rehabilitation a part of hospital treatment.

In 1950, for instance, the Gallinger Municipal Hospital, with the assistance of the United States Public Health Service and the District of Columbia Vocational Rehabilitation Service, carried out a demonstration project by inaugurating a physical medicine and rehabilitation programme as part of its general hospital activities.

A survey taken at the outset showed that about half the 1,200 patients then in the hospital would benefit from some form of physical medicine and that 20 per cent or so needed some or all the services of a total rehabilitation programme. During the first three months that the project was in operation, 278 patients were treated, and by the end of a year the figure had risen to 885. The average number of days of hospitalization per patient dropped steeply from 99.5 to 27.4, thus not only reducing the medical care costs of the patients concerned but also releasing beds for other persons in need of hospital treatment. Before the project started, many of the patients later treated under the rehabilitation scheme had been in hospital for many months, some for more than two years. In the end, only 8.2 per cent of the selected group remained totally dependent physically.⁶

The possibility, and the economic advantage, of cutting down the period of hospitalization and treatment for persons disabled at work is becoming apparent both to the injured and to the authorities responsible for compensation payments. In 1953, for example, a rehabilitation service was established in Guatemala at the Instituto Guatemalteco de Seguridad Social with technical assistance from the United Nations. As a result (according to an informal report submitted to the

United Nations by the Medical Director of this project), the average treatment period for injured workers fell from 203 days in 1952 to 36.85 days in 1955. At the same time, the number of insurance patients restored to full working capacity without the award of cash benefits rose from 141, or 43 per cent of those treated in 1952, to 792, or 72 per cent in 1954. The number of persons awarded compensation for total loss of working capacity decreased from 8.33 per cent in 1952 to 3 per cent in 1954. The total saving in compensation costs during the period 1952-54 amounted to the equivalent of \$98,856.

Broadening of aims

To bring about these useful economic consequences is, however, only one of the aims of rehabilitation as it is viewed today. Before the Second World War, services for the handicapped usually concentrated on preparation for employment, often to the exclusion of other equally important matters. Rehabilitation nowadays no longer has the establishment of full functional and economic independence as its sole object. The goal is rather to secure the maximum physical and psychological adjustment of each disabled person within the limits of his impairment: to enable him to live as useful and satisfying a life as is humanly possible.

For most of the handicapped this can include employment in productive work; for others, it may mean only the restoration of a certain degree of functional ability. In either case, rehabilitation in its modern form relies on the power of the human spirit and body to overcome obstacles and to compensate for reduced or lost physical capacities. It assumes that being handicapped for certain physical activities does not mean being handicapped for all of them. A disabled person, regarded from this standpoint, is not necessarily handicapped if he is adjusted to his disability and has found a place in society where his limitations are not an obstacle.

The purely physiological notion of disability, then, has been replaced by the realization that the handicapped person must be considered as a whole and that all sides of his nature are of equal importance. If rehabilitation is to be complete, or "total" as the modern phrase goes, there must be emotional and social, as well as physical adjustment of the handicapped person to his particular circumstances and environment. Thus the new psycho-physiological concept of disability which underlies "total rehabilitation" is concerned with all the needs of the individual in his relationship to the community to which he belongs, rather than with the treatment of the disability alone.

Teamwork

This new attitude towards the disabled accounts for many of the modern developments in rehabilitation theory and practice, one of the most important of which

⁶ Josephine J. Buchanan. *Rehabilitation Demonstration Project at Gallinger Municipal Hospital*. Medical Annals of the District of Columbia, vol. XXI, No. 9, September 1952, pp. 513-518.

is teamwork. At the centre of the team is the handicapped person himself; upon his co-operation, endurance and courage, success ultimately depends. Around him are grouped, ideally, all the services—medical, psychological, educational, social and vocational—that can be of assistance in his particular case. These services, moreover, work in collaboration with one another, each dealing with its own special side of the problem, but with full knowledge of what is being done by the other members of the team.

Teamwork, to be effective, must take place both at government and local level, but this is not easy in countries where no special rehabilitation legislation exists and where services are provided under a variety of social security laws and related provisions. Although, when one surveys the world as a whole, little enough has yet been done in this direction, some progress has been made in particular countries.

In the United Kingdom, where the most complete statutory provisions for handicapped persons are to be found, rehabilitation work is co-ordinated at government level by the Standing Rehabilitation and Resettlement Committee, composed of representatives of the various government departments concerned with the handicapped. An inter-departmental committee for the co-ordination and development of rehabilitation services was set up in France in 1948. The Government of Mexico has centralized all its rehabilitation activities, including services for both children and adults, in a single administrative unit, the Dirección General de Rehabilitación, under the Ministry of Health and Welfare. In Yugoslavia, the Federal Board of Rehabilitation is responsible for the development of rehabilitation services; it is composed of representatives of the various Ministries concerned with the handicapped, of the trade unions, the Red Cross and associations of disabled ex-servicemen. There is a corresponding Board with similar representation in each Republic, attached to the Council of Public Health and Social Welfare.

Canada has solved the problem of co-ordination by establishing a National Advisory Committee on the Rehabilitation of Disabled Persons to develop services for all civilian disabled. The Committee is composed of representatives of the Federal Departments of Labour, of National Health and Welfare, and of Veterans Affairs, together with representatives of each of the ten provincial governments, the medical profession, organized labour, organized employers, universities and voluntary agencies. A National Co-ordinator of Civilian Rehabilitation, who is a senior officer in the Department of Labour, administers the Civilian Rehabilitation Branch and is responsible for the co-ordination of local, provincial and federal rehabilitation work, arrangements for meetings of the National Advisory Committee, the circulation of publicity material concerning the handicapped, and technical research.

With the assistance of the National Co-ordinator, existing facilities for medical and social rehabilitation, vocational guidance and staff training can be used to best advantage. New projects contemplated by any of the participating agencies are examined to avoid overlapping and to ensure that they fit into the local, provincial and national plans. Grants are made to the provincial authorities by the Departments of Labour and National Health and Welfare, for the development of medical and vocational rehabilitation facilities.

The successful Canadian experiment has led to the appointment of rehabilitation co-ordinators in several Latin American countries—Brazil, Guatemala, Venezuela and Uruguay among them—in connexion with United Nations technical assistance projects.

Just as important as government co-ordination is the efficient local co-ordination of services for each handicapped person in the community. Services at the local level often include not only the regular rehabilitation programmes, but also housing, home help and transport, matters which can be satisfactorily handled only if all community resources are fully used. The trend in some of the socially advanced countries has been to train rehabilitation counsellors or disablement resettlement officers to guide each handicapped person through the entire process of rehabilitation, using specialists and existing services as part of a programme carefully planned to meet individual needs.

The rehabilitation centre

The same idea of effecting “total rehabilitation” through the co-ordination of all appropriate services lies behind the establishment of special rehabilitation centres, an increase in the number and variety of which has been a feature of post-war developments in this branch of social welfare.

Services provided in rehabilitation centres vary according to the type of handicap and purpose of the treatment. Some centres are designed to serve a general category of disabled persons suffering from injury or disease that produces a similar kind of handicap, such as neuro-muscular impairments and other conditions requiring orthopaedic treatment. Other centres are reserved for particular groups of disabled, like the blind, the deaf, the tubercular, paraplegics, persons suffering from cerebral palsy or heart disease.

The treatment itself may concentrate on physical rehabilitation and allied services; it may also include vocational training and guidance, industrial rehabilitation and placement, and the building up of work habits and stamina after illness or injury. The Appisburg Centre in Zurich, Switzerland, for example, carries out successful rehabilitation of tubercular patients. It runs a programme of work testing and work training designed to prepare the trainee gradually for the demands of a full working day. The course begins with one hour of work daily, interspersed with three rest periods, and the proportion of work is gradually

stepped up to six and a half hours with only one rest period. If no relapse occurs after at least six months' training, the trainee is sent to a placement centre to be found suitable employment, or to a vocational training school, if necessary.

In economically less developed countries, rehabilitation was limited before the war almost entirely to the blind and deaf. During the past few years, however, pilot centres for physically handicapped children and adults have been established in many countries of Asia, the Middle East and Latin America, generally with assistance from the United Nations, the specialized agencies and non-governmental organizations. Owing to the shortage of trained staff, these centres are usually not able to undertake much occupational or physical therapy; they are mainly concerned with vocational training and the supply and fitting of artificial limbs. The progress that can be made in often unpromising circumstances is shown by the story of the rehabilitation centre at Solo, in Java.

A few years ago, an orthopaedic surgeon and an engineer started making artificial legs in a small garage attached to the general hospital at Solo. They had no special tools, nor any training for the task. All they had to work from were the illustrations and specifications in a single foreign catalogue of prosthetic appliances. Their raw material consisted of odds and ends of domestic wood and leather, with scrap metal from damaged motorcars and wrecked aircraft. Their products were so successful, and so much in demand, that the Indonesian Government began to take an interest and provided temporary buildings for the organization of a vocational training programme. Soon more buildings were provided, for physical therapy, education and social service programmes. In 1955, a fully-equipped orthopaedic department was established with international assistance; the United Nations and the World Veterans Federation sent out a team of three specialists—an orthopaedic surgeon, an orthopaedic nurse and a physical therapist—to train staff and help develop the various services. As a result of all these activities and triumphs over difficulties, the Solo rehabilitation centre now has all the elements of a complete rehabilitation programme. Efforts are at present being concentrated on building up a competent staff from local recruits.

Administratively, rehabilitation centres also vary. Many are affiliated to medical schools and teaching hospitals, or are run in connexion with a general or orthopaedic hospital. They are also organized as independent concerns working in co-operation with hospitals, vocational centres and schools in their own locality.

In the main, they supplement, and in no way compete with, the growing number of medical rehabilitation departments being created within the hospitals themselves.⁷ This in-hospital rehabilitation treatment, in

⁷ In the United Kingdom, for example, there were only 2 hospitals with physical rehabilitation facilities in 1939. By December 1953, there were 475.

which the medical profession is taking ever greater interest, is the basis for all subsequent work carried out in the rehabilitation centres.

Mobile units

In sparsely populated countries and regions, the establishment of rehabilitation centres or hospital rehabilitation departments has proved inadequate to bring rehabilitation services to local communities. Mobile units are therefore used for case-finding and the provision of services that would otherwise be unavailable. In Finland and Norway, for example, mobile teams are sent out at regular intervals to examine patients and refer them for treatment and rehabilitation when necessary. In French North African territories, mobile limb-fitting units are used. In Canada, the Canadian Arthritis and Rheumatism Society operates forty-seven mobile units in eight of the ten provinces.

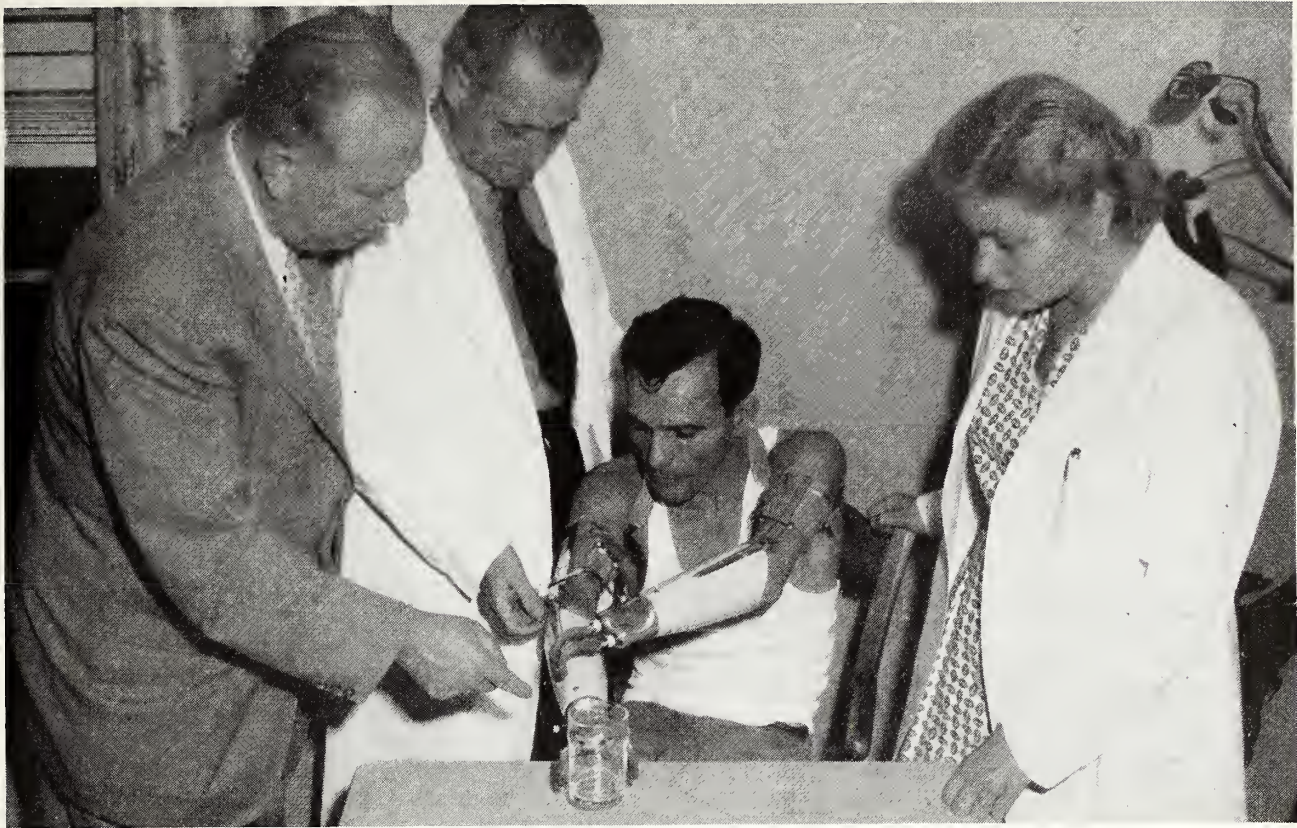
A slightly different purpose is served by the mobile home-treatment unit run by the Yale-New Haven Medical Centre in Connecticut, United States. Here the object is not so much the overcoming of distance, as to provide physical therapy for patients suffering from severe rheumatoid arthritides who cannot afford the expense of long periods in hospital and are physically unable to follow out-patient treatment. In the absence of skilled care, the condition of these patients, confined to their homes and often to their beds, steadily deteriorates. The mobile unit brings to their doorsteps a trained physical therapist and all the necessary equipment. Not the least important part of the unit's task is to teach the patient and his family to carry out the treatment by themselves.

Progress in prosthetics

Research and experiment are proceeding apace in all branches of rehabilitation work. In this article it is possible to glance briefly at only two out of many spheres of activity where new methods are producing good results: in prosthetic services, and in the selective placement of the rehabilitated in employment.

Governments and voluntary organizations were spurred into action at the close of the Second World War by the large numbers of military and civilian injured who urgently needed artificial limbs and other prosthetic appliances. In meeting this new demand, the aim was twofold: technical improvement of the appliances and the provision of better fitting and training services.

The countries which were actively engaged in the war, especially the United States, the United Kingdom, the USSR and Germany, have taken a lead in prosthetics research. In Sweden, too, the Central Committee for the Care of Cripples has established a research council on prosthetics and braces and an examining board for limb fitters and brace makers. The first international research centre on prosthetics was established



In Yugoslavia, a United Nations rehabilitation expert shows two Yugoslav doctors how an amputee patient can lift a glass unaided. This patient's cineplastic arms are operated by an ivory peg inserted in the muscle of the upper arm. He takes care of most of his personal needs unaided—can even dress himself and light his own cigarettes.

in Copenhagen in 1955 by the International Society for the Welfare of Cripples.

As a result of these research activities, a number of improved artificial limbs and other appliances have been produced. New technical developments and fitting methods, many of which are still in the testing stage, promise vastly better appliances in the future; care has also been taken not to make the appliances too complicated or too expensive. For economically underdeveloped countries, where employment can most readily be found in rural occupations, attempts have been made to design simplified artificial limbs that will be cheaper to produce from local materials and easier to fit and prepare.⁸ It is hoped that, in the long run, international co-operation in the production and regional distribution of prefabricated parts of some of the more complicated appliances will produce larger supplies at a lower cost.

Even the best artificial limb, however, is of little value unless it fits properly and the wearer has been trained to use it efficiently. Much importance is there-

fore attached nowadays to medical supervision and the proper preparation of the patient for limb-wearing. Good fitting requires not only preparation of the stump by expert surgical and pre-prosthetic treatment, but also the physical reconditioning of the patient himself, who must likewise be assisted psychologically to accept his disability and the use of an artificial limb. Throughout the fitting process, co-operation between the doctor, the limb fitter and the physical therapists who assist in the pre-prosthetic training is essential. The amputee is also given special instruction in the use of his appliance, and for this purpose instructors (many of whom are amputees themselves) or physical, corrective or occupational therapists are attached to all up-to-date limb-fitting centres.

The chief obstacle to the general improvement of prosthetic services is the shortage of limb fitters and technicians, particularly in economically less developed countries. According to a report published in 1955 by the International Society for the Welfare of Cripples, prosthetics workers are normally trained by the apprenticeship system, occasionally supplemented by formal courses or lectures. Hitherto, moreover, the worker's mechanical skill has been regarded as more important than his knowledge of anatomy, physiology

⁸ Cf. *Amputees and Prostheses*, Report of a conference on Prosthetics, Copenhagen, 23-28 August 1954. World Health Organization, Technical Report Series 100. Geneva 1955.

and other subjects considered by modern rehabilitation experts as necessary for good limb fitting.⁹

In order to overcome this difficulty, formal training schemes for limb fitters have been started in Western Europe and America, and an international training course (the first of its kind) was organized in London in 1952 by the World Veterans Federation. The United Nations and the specialized agencies have played their part by granting fellowships and scholarships to enable limb fitters from less developed countries to study abroad, and by sending experienced limb fitters to conduct training courses in India, Japan and Lebanon. Since the war, also, a number of limb-fitting centres have been established in Asia, North and West Africa and Latin America, but the training of limb fitters and technicians is still conducted haphazardly in most countries, and in some parts of the world artificial limbs made by untrained workers bear little resemblance to modern appliances.

Government or voluntary controls over the production and fitting of prosthetic appliances have been inaugurated in a few countries in order to raise the standard of prosthetic services. In Western Germany, for instance, a committee originally established by the orthopaedic technicians' organization is recognized by the Ministry of Labour as the official supervisory body for the development of new appliances. Manufacturers submit new artificial limbs or components to the committee, which gives them a thorough testing before placing them on the official list; the committee also controls prices. Another method of control has been adopted by the Government of Finland, which in 1955 appointed a limb-fitting surgeon (trained through the grant of a United Nations fellowship) to supervise the supply and fitting of prosthetic appliances throughout the country.

Selective placement

The desirability of "placing the right man in the right job" applies just as much to the rehabilitated disabled as to the naturally able-bodied, and especially since the end of the Second World War those concerned with the vocational training, guidance and placement of the handicapped have realized the importance of making sure that the physical and vocational capacities of the handicapped worker are really suited to the job he is to undertake.

For this purpose special placement staff have been trained in some of the more advanced countries to secure accurate information about the demands of particular jobs and the ability of the handicapped workers to perform them. In the United Kingdom, for example, a Disablement Resettlement Officer attached to each Ministry of Labour local employment exchange looks

after the initial placement of a handicapped worker and is responsible for the necessary "follow-up" to ensure that he is satisfactorily adjusted to his job. Where Governments have not adopted legislation for this purpose, placement is usually organized by voluntary placement services attached to the national employment service.

In the Union of Soviet Socialist Republics, close co-operation in the placement of the handicapped has been established between trade unions and management and the out-patient clinics where much of the rehabilitation is carried out. A representative of the out-patient clinic, frequently a doctor, maintains contacts with factories in the area. The placing of each handicapped person is discussed by a council composed of the factory medical officer, representatives of the trade union, the management, and the doctor handling the case. When a suitable job has been found, the council informs the fellow-workers of the placement, thus facilitating the adjustment of the handicapped person at the place of work.

There can no longer be any doubt that disabled persons, if properly trained and placed, make good and reliable workers. Recently a number of studies have been carried out, particularly in the United States and the United Kingdom, to determine the efficiency of handicapped workers as compared with that of non-handicapped workers employed on the same job. They prove conclusively that the handicapped compare favourably with the able-bodied in quality of output, accident rates and absenteeism.

Nevertheless, there will always be a residuum of handicapped persons who are physically unable to take up employment under competitive conditions. For them, home work and sheltered workshops continue to offer the best solution.

The training of rehabilitation workers

Unfortunately, the supply of trained rehabilitation workers has not kept pace with the advance in rehabilitation research, nor with the rapid expansion of rehabilitation services since the Second World War. Upon the solving of this urgent problem depends, in a very real sense, the whole future of rehabilitation work in every part of the world.

There are signs that this matter is beginning to command the attention it deserves. Before the war, physical therapy training, for instance, was limited almost entirely to North America and a few European countries. In the past ten years, physical therapy schools have been established in most European countries and in Australia and New Zealand. A beginning in physical therapy training has likewise been made in the Far East (Bombay), the Middle East (Israel) and Latin America (Colombia, Guatemala, Mexico and Uruguay). The fellowship programmes of the United Nations, the World Health Organization and other international bodies also provide opportunities for study in countries

⁹ *A Report on Prosthetics Personnel: A survey of the problems and personnel situation in the prosthetics field based on reports received from eighteen countries. International Society for the Welfare of Cripples. New York, July 1955.*

where physical medicine and rehabilitation have reached an advance stage of development.

The present tendency is to train physical and occupational therapists separately, since the two professions are highly specialized. Canada, Mexico and Puerto Rico are, however, all trying out combined training courses in physical and occupational therapy with the object of turning out rehabilitation workers competent in both fields. It is too early yet to say whether this experiment will prove successful. There is also a trend towards the closer affiliation of physical and occupational therapy schools with university medical schools, although in some countries training of this kind is still provided at courses run in connexion with rehabilitation centres, without direct co-operation with the universities. Co-operative agreements with rehabilitation centres, hospitals and limb-fitting centres also ensure a wide variety of opportunities for varied and intensive clinic training in both branches of therapy.

Practical training for vocational guidance officers specializing in work for the handicapped is usually arranged at rehabilitation centres, vocational-training workshops and employment exchanges. Special seminars and study groups for training purposes have likewise been organized by rehabilitation centres and voluntary organizations. Vocational guidance, the training of rehabilitation workers and the selective placement of the handicapped are also among the subjects that have been discussed at international seminars and meetings organized by the United Nations in collaboration with the specialized agencies and non-governmental organizations.¹⁰

The continuing importance of voluntary organizations

In all parts of the world, voluntary organizations pioneered in the provision of services for the handicapped, and the assumption by Governments of increased responsibility for these services since the Second World

¹⁰ For the training of the social worker in rehabilitation, see the article on "Social Work in Rehabilitation" in this issue.

War does not mean that voluntary work is no longer needed. Indeed, the number of voluntary organizations working for the handicapped has grown steadily in most countries during the post-war period, the tendency being to set up organizations devoted to a particular disability, such as poliomyelitis, cerebral palsy, heart disease or multiple sclerosis—a development which has the advantage of bringing the problems of the groups concerned more forcefully to the attention of the public and of Governments.

Most rehabilitation services, with the possible exception of hospital rehabilitation programmes, are still operated by voluntary organizations in the majority of countries. Among their manifold activities these organizations often assume exclusive responsibility for the organization of sheltered employment and the provision of work for the home-bound.

Close co-operation in work for the handicapped exists in most countries between voluntary organizations and the Government. Sometimes, the Government purchases services from voluntary organizations on the basis of co-operative agreements, or, particularly where there is as yet no rehabilitation legislation, the Government subsidizes voluntary organizations to cover a part of the national cost of rehabilitation. Governments often farm out research projects to various voluntary organizations specializing in particular branches of rehabilitation.

A frequent method of securing co-operation between Governments and voluntary agencies is the establishment of national advisory committees and councils, to pool government and voluntary efforts. These committees are generally composed of representatives of the Government, the employers, the workers and the appropriate professional groups and voluntary organizations.

In economically less developed countries, voluntary organizations play a particularly important part in initiating pilot programmes in rehabilitation and thereby preparing the ground for government action on a larger scale at a later stage.

Social Security Provisions and Rehabilitation

In many countries, compensation for injured workmen, providing for cash benefits and, usually, medical care, was the first type of social security legislation to be enacted. Sickness and invalidity insurance programmes, the latter mostly in connexion with old age and survivors' provisions, are of more recent origin in many countries, several of the schemes having been initiated during and after the Second World War.

In general income maintenance schemes, such as those concerned with aid to dependent children and various kinds of benefits relating to family allowances or low-cost housing, the disability of the breadwinner is frequently the justification for liberalized eligibility requirements and sometimes for increased benefits.

In several countries, special provisions have been made for pensions or allowances for the blind, generally under public assistance legislation. This type of supplementary allowance has been extended in some countries to include other severely disabled persons in addition to the blind. In Canada and Finland, new programmes have recently been started providing allowances for severely handicapped persons under special laws separate from public assistance and social insurance legislation, and linked with rehabilitation measures. Also, training allowances and subsistence payments to persons undergoing rehabilitation, and to their families, have been introduced in many countries, either under social security programmes or as part of special rehabilitation legislation.

Information about existing legislation concerning sickness and invalidity benefits under social security laws is available in a number of publications and will not, therefore, be dealt with in this article.¹ We propose instead to discuss some aspects of the relationship of income maintenance provision to rehabilitation services.

The need for co-ordination

The close co-ordination of cash benefit programmes with programmes for the reduction or elimination of the disabling condition and the rehabilitation of the

handicapped is essential in dealing with extended or permanent disability. Most handicapped persons can be rehabilitated to the point of performing productive work, whether in ordinary employment, self-employment, sheltered work or home employment. For such persons, cash benefits should be related to rehabilitation measures. Various cash benefits are needed to encourage the handicapped in this category to take advantage of rehabilitation services and to ensure reasonable income security during rehabilitation.

Adequate invalidity benefits are important in cases of total and permanent disability where the recipient cannot be gainfully employed. Even in these circumstances, rehabilitation to enable the handicapped persons to achieve a certain degree of self-care is of great assistance to the individual concerned and may also have an economic value in reduced costs of care and attendance.

The importance of correlating various kinds of social security benefits with rehabilitation measures has been increasingly recognized as a result of improved rehabilitation techniques and services. The extent to which this has been accomplished varies from country to country.

The provision of subsistence allowances and rehabilitation grants in conjunction with rehabilitation programmes raises few problems of co-ordination, since the recipient of financial aid is eligible for such aid precisely because he has been accepted for rehabilitation. In some countries, allowances are paid from public assistance funds, but the general tendency is to make provision for maintenance allowances and rehabilitation grants separate from those available under public assistance laws.

Some examples of co-ordinated programmes

In countries where special rehabilitation laws exist, these usually provide for income maintenance during rehabilitation, and the necessary allowances are normally paid by the authorities who are responsible for the actual rehabilitation programme. Co-ordination with other agencies granting cash benefits, such as invalidity and unemployment allowances, is necessary to determine the need for assistance in each case. In some countries, benefits such as war disability pensions are

¹ See particularly: *International Survey of Social Security; Comparative Analysis and Summary of National Laws* (Geneva, International Labour Office, 1950).

not counted towards the maximum amount of assistance to be granted during rehabilitation.

The Care of Disabled Persons Act of 1947 in Finland is an example of legislation providing for income maintenance for persons undergoing rehabilitation. Under this Act, trainees without means are provided with free board and lodging, travel expenses and a weekly training allowance, and the families of needy trainees receive a maintenance allowance for the duration of the course.

Another example is the Australian programme, under which rehabilitation allowances and tuberculosis allowances are granted for the purpose of rehabilitation. A person undergoing training may receive, subject to a means test, a rehabilitation allowance equal to the amount of the invalidity or unemployment benefit in addition to a weekly training allowance. A trainee receiving rehabilitation treatment away from his usual place of residence may be paid an extra living allowance.

In the United States, persons receiving rehabilitation treatment under the Federal-State programme may be paid a maintenance allowance to cover living expenses, transport and training materials. Such grants are authorized by the State vocational rehabilitation agency. In the United Kingdom, trainees undergoing vocational rehabilitation are paid training allowances, including increases for dependants. A trainee who lives away from home receives free accommodation or a lodging allowance, as well as an additional weekly separation allowance if he has a family.

In several countries without special rehabilitation Acts, social insurance laws contain provisions for assistance during rehabilitation. In Belgium, there is a special vocational rehabilitation fund within the sickness and invalidity insurance programme from which assistance for apprenticeship training, including supplies and living and travel expense, is provided. In France, persons requiring vocational training in consequence of an employment injury are entitled to the same daily subsistence allowance as was payable during the period of incapacity for work. In Italy, the workmen's compensation law provides maintenance allowances for the duration of vocational rehabilitation.

Social security and rehabilitation benefits

The co-ordination of cash benefits with rehabilitation measures is more difficult in general health and income security programmes such as sickness and invalidity insurance, workmen's compensation programmes and special allowances for the severely handicapped, which are not contingent on rehabilitation measures.

The social security laws of a number of countries provide that failure on the part of the beneficiary to avail himself of rehabilitation services when such exist is ground for suspension of the cash benefits. In

Sweden, for example, the Old Age and Invalidity Insurance Law of 1946 prescribes that the invalidity pension may be totally or partially suspended should the insured person refuse to undergo medical care or vocational training, available at public expense, which would be likely to reduce or eliminate his disability. In France, benefits provided by the Social Security Funds may be discontinued if the recipient refuses to take advantage of rehabilitation services made available to him by the Funds. Provisions of a similar nature exist in several other countries, such as Australia, Belgium, Finland, Denmark and the United Kingdom.

These provisions are of little value unless they are supplemented by practical measures for the provision of rehabilitation services to reduce or eliminate the disability on account of which cash benefits are granted. Measures of this kind are enforced only to a limited extent in most countries, notwithstanding the fact that many old-age and invalidity insurance laws contain provisions for medical care, prosthetic appliances and even vocational training. This is also true of health insurance and workmen's compensation programmes.

In several countries, attention has been paid to these problems during recent years. In Sweden, for example, a National Pensions Board, which is responsible for the old-age and invalidity programme and until recently also for the health insurance scheme, issued instructions in 1946 to all local sickness funds that steps should be taken to provide rehabilitation services in all cases where medical care or vocational rehabilitation was considered advisable; the importance of co-operation between the Board of Pensions, its local committees and sickness funds was emphasized. The Government of Sweden appointed an *ad hoc* committee in 1955 to consider the whole question of rehabilitation in relation to health insurance and workmen's compensation programmes.

France offers an outstanding example of a social security scheme in which rehabilitation services have been integrated. The Social Security Funds provide rehabilitation services for all claimants considered likely to benefit from such services, which include physical rehabilitation, the supply and fitting of prosthetic appliances, vocational guidance, training and placement. During rehabilitation, the claimant is entitled to full daily subsistence allowances. Under a recent statutory provision, free medical treatment is provided for a maximum period of three years.

Because this social insurance system covers all salaried workers, the Social Security Funds constitute the main source of rehabilitation assistance in France.

The Commonwealth Rehabilitation Service in Australia is another example of a gradually expanding rehabilitation programme within the general social security scheme. The present programme originated in 1941 in the form of vocational training, at the Commonwealth's expense, for selected invalid pensioners.

In 1945, a rehabilitation programme for disabled ex-service men and women was initiated and in 1948 a civilian rehabilitation service was organized for invalid pensioners and recipients of sickness benefits under the Social Services Consolidation Act (now called Social Services Act). The Act was amended in 1955 to provide increased services and to liberalize eligibility requirements to a certain extent.

Under the present Act, rehabilitation services are available to severely disabled persons seeking or receiving an invalid person or a sickness benefit, and to persons receiving benefit under the Tuberculosis Act of 1948, as well as to persons aged fourteen and over, who appear likely to become invalid pensioners on attaining the age of sixteen. The 1955 amendment also makes it possible to accept for rehabilitation patients the cost of whose treatment would be borne by private organizations, such as insurance companies concerned with workmen's compensation. Private cases are also accepted on a reimbursable basis.

Services provided include medical care and physical rehabilitation, the supply and fitting of prosthetic appliances, pre-vocational training, vocational guidance, training and placement, as well as loans for home employment. During the treatment stages of rehabilitation, the handicapped person continues to receive the pension or benefit for which he qualified when he was accepted for rehabilitation. When training begins, a special rehabilitation and training allowance is paid; and if trainees are required to live away from home, provision is made for a living-away allowance. If, at the completion of training, employment is not immediately obtained, rehabilitation allowances may be continued for three months. If the person is still unemployed at the end of this period, the original pension or benefit is restored.

The Commonwealth Rehabilitation Service is administered by the Department of Social Services through its Rehabilitation Division, with a branch in the Central Administration Headquarters and in each of the six State offices of the Department. All persons receiving benefits from the Department who are considered eligible for rehabilitation are referred to the Rehabilitation Branch in the State. Referrals for rehabilitation are also made by private practitioners, hospitals, insurance agencies, etc.

The Department of Social Services has established rehabilitation centres in all States except Tasmania, with a total accommodation of approximately 500 men and women.

In Denmark, the Invalidity Insurance Court assists persons entitled to benefits under the insurance scheme, and certain categories of children admitted to the scheme may obtain rehabilitation services, including medical and vocational rehabilitation. In addition to information derived from regular applications for benefits, the Court also collects data from other avail-

able sources. Schools and medical practitioners must report to the Court all persons under thirty years of age whose working capacity is or is expected to become substantially reduced within a foreseeable length of time. The Court also receives reports from the Board of Accident Insurance and the Board of Health Insurance Societies on handicapped persons in need of assistance.

In the United States, where assistance to the totally and permanently disabled is provided under the public assistance programme, a 1954 amendment to the Social Security Act provided that all persons applying for these benefits will be referred to the State Vocational Rehabilitation Division, which also determines whether the applicant is eligible on medical grounds. This system enables rehabilitation measures to be started as soon as the applicant reports for disability evaluation.

The value of linking sickness and invalidity benefit programmes with rehabilitation services is being increasingly recognized, and the tendency in many countries is to centralize the administration of various social security schemes, such as sickness, invalidity and workmen's compensation programmes, thereby facilitating such co-ordination. On the other hand, the shortage of facilities for the medical and vocational evaluation of persons applying for cash benefits still hampers efforts to make rehabilitation services available to claimants. The inadequacy of existing rehabilitation facilities in most countries has also been a great obstacle in this respect.

In some countries, the social security agencies have actively promoted rehabilitation facilities. In France, for example, several rehabilitation centres have been established by the Social Security Funds, which have also subsidized private facilities.

Rehabilitation in relation to workmen's compensation

Workmen's compensation legislation is the most widespread form of social security. It has been extending rapidly to more and more countries in recent years; thus fifty-seven countries had such legislation in 1949, compared with sixty-five in 1954.²

Workmen's compensation programmes have stimulated interest in rehabilitation. The growing medical expenses, caused to a considerable extent by increased life expectancy following serious injury or disease, have resulted in greatly increased insurance costs for cash benefits and medical care, so that rehabilitation as a means of reducing the time of hospitalization and incapacity for work, as well as of preventing or reducing permanent impairment, is receiving greater attention.

² Carl H. Farman, *Old-Age, Survivors, and Invalidity Programmes throughout the World, 1954*. Report No. 19. Division of Research and Statistics, Social Security Administration, U. S. Department of Health, Education and Welfare (Washington, D. C., U. S. Govt. Printing Office, June 1954).

As far as rehabilitation is concerned, workmen's compensation legislation is still incomplete in most countries. All fifty-seven of the workmen's compensation schemes in force in 1949 included provision for medical care, and twenty-eight also provided for prosthetic appliances, but only thirteen extended the services to include vocational rehabilitation in some form. In some countries, medical benefits are limited as to period covered, or costs, or both. Provision for vocational rehabilitation is limited in most countries to vocational training, but some laws also provide for vocational guidance and placement (Federal Republic of Germany), and employment in co-operatives (Union of Soviet Socialist Republics).

Restrictions on medical benefits are a great obstacle to the rehabilitation of injured workers. At the time when many of the existing workmen's compensation laws were enacted, modern medical rehabilitation was only beginning to develop, and medical benefits were intended only for precisely defined medical treatment. Although the laws have been gradually liberalized in some countries, they still exclude comprehensive physical rehabilitation services. On the other hand, there has been a tendency to include the provision of prosthetic appliances in workmen's compensation schemes in a growing number of countries. The same is true of vocational rehabilitation services, although statutory provisions for these are still limited in scope in workmen's compensation legislation in nearly all countries. The inadequacy of rehabilitation facilities has hindered more rapid progress.

Despite limitations that still exist, workmen's compensation legislation has come a long way since the first law was enacted in Germany in the 1880's. Conventions adopted by the International Labour Organisation have had a profound effect on developments in many countries.

Limitations in workmen's compensation provisions and the shortage of rehabilitation facilities are only two of the many administrative problems that have made it difficult to use to the full existing provisions for the rehabilitation of injured workers. The legal processes involved in workmen's compensation programmes present some of the greatest problems in this respect. Advanced rehabilitation measures are frequently not authorized until a settlement has been made regarding a compensation award for major disability, so that workmen's compensation authorities often delay sending injured workers for rehabilitation, to the detriment of the whole rehabilitation process. A study of 4,430 workmen's compensation cases in the United States, where vocational rehabilitation had been granted under the Federal-State programme in 1951, showed that the average interval between injury and referral to vocational rehabilitation agencies was seven years.³

³ United States of America, Office of Defence Mobilization. *Summary: Report of the Task Force on the Handicapped*, (Washington, D. C., 25 January 1952). Reprinted from *Journal of Rehabilitation*, March-April 1952.

Clearly, the prospects of successful rehabilitation would have been brighter if rehabilitation treatment had started much earlier. The incentive of the injured worker to apply for rehabilitation is also seriously lessened if it is dependent on the final compensation award, since cash benefits are related to the degree of disability. On the other hand, it is important that a measure of economic security should be established before rehabilitation begins. Speedy initial settlement of claims is, therefore, important from the standpoint of rehabilitation.

The role of workmen's compensation programmes in the rehabilitation of injured workers depends greatly on the extent to which administrative arrangements make it possible to take full advantage of community resources in rehabilitation. In countries which have enacted a special vocational rehabilitation Act, workmen's compensation cases usually receive services under this programme. In the financing of services, advantage is taken of the workmen's compensation provisions to the extent possible under the law. This system ensures equality of services for all handicapped persons and eliminates the effects of limitations regarding the eligibility and scope of services, which are usual in workmen's compensation laws. The problem under this arrangement is largely one of co-ordination between the workmen's compensation scheme and the general rehabilitation programme. The prompt referral of injured workers for rehabilitation becomes particularly important in these circumstances.

In countries with special rehabilitation legislation, workmen's compensation programmes are of great importance because they provide rehabilitation opportunities for a substantial number of handicapped persons. There has been a trend since the Second World War to start rehabilitation schemes as part of the workmen's compensation programme. In Guatemala and Venezuela, for example, pilot rehabilitation centres have been established by the workmen's compensation agencies with assistance from the United Nations. In Austria, the General Accident Insurance Institution, which is responsible for the workmen's compensation scheme, established in 1952 a large and excellently equipped rehabilitation centre at Tobelbad.

The workmen's compensation scheme in the Province of Ontario, Canada, is an outstanding example of a programme in which the value of rehabilitation has been fully realized.

This programme dates back to 1915, when the legislature passed an Act designed to provide compensation without recourse to litigation. The scope of the benefits was gradually widened and is now most generous. Medical care and rehabilitation for victims of industrial accidents and illnesses are provided without time limitation. Prosthetic appliances are provided, repaired and replaced. The Act also includes provisions for vocational guidance, training and placement.

The administration of the programme is the responsibility of the Workmen's Compensation Board, which is the sole judicial and administrative authority collecting premiums or assessments from employers, adjudicating claims and providing benefits including rehabilitation services. The Board has established a rehabilitation department with a staff of rehabilitation officers throughout the Provinces. All cases where permanent disability might result are reported to the Board and the rehabilitation programme is planned for each individual. The Board uses the services of private practitioners and rehabilitation facilities. For advanced medical rehabilitation, the Board has maintained since 1947 a special rehabilitation centre with 518 beds and an out-patient service.

The administrative system of the Ontario workmen's compensation programme is particularly favourable to rehabilitation. Adjudication of claims by a Board rather than by the courts removes many of the delays normally connected with workmen's compensation procedures. Emphasis in this programme is on rehabilitation of the injured worker without disregarding the importance of sufficient monetary compensation, and this has produced excellent results in Ontario. Several other Provinces in Canada have also launched similar programmes. In the United States, the programme in Puerto Rico follows the same main principles as far as rehabilitation is concerned.

An interesting example of rehabilitation services provided by a private insurance company is found in the United States, where one of the largest insurance carriers has established two rehabilitation centres, providing diagnostic and physical restoration services, as well as pre-vocational assistance.

Developments since the Second World War indicate that workmen's compensation programmes are being gradually improved in most countries as far as rehabilitation services are concerned.⁴ In Yugoslavia, for example, it is planned that "the reform of invalidity insurance will involve the separation of this branch from the present pensions scheme (invalidity—old age—death) and its establishment as a separate branch. The new scheme will be designed to provide vocational rehabilitation for all persons disabled in employment, and to place them in appropriate work. The objective is to bring back to productive activity persons who have temporarily had to leave it".⁵

The interest shown by workmen's compensation agencies in Latin American countries in United Nations technical assistance programmes in rehabilitation is also indicative of this trend.

⁴ The conventions and recommendations adopted by the International Labour Conference have helped to promote better rehabilitation services for injured workers. In the Social Security (Minimum Standards) Convention of 1952, there is a provision (part IV, article 35) concerning vocational rehabilitation in cases of employment injuries.

⁵ "Social Security News, Yugoslavia", *Bulletin of the International Social Security Association*, Year VIII, No. 1-2, Jan.-Feb. 1955, p. 60.

A statement entitled "Basic principles for rehabilitation of the injured worker", adopted by the Board of Regents of the Medical College of Surgeons in the United States, may be quoted to show the importance attached to this question by the medical profession: "Rehabilitation of the injured worker and his return to gainful employment should be the basic concept in an improved workmen's compensation system. We recognize that the disabled worker wants to be rehabilitated and restored to gainful employment. The settlement of cases on a basis of cash award alone does not meet the continuing needs of the injured worker and his family".⁶

Special laws for the income maintenance of the severely handicapped

As mentioned earlier in this article, special laws concerning income maintenance for the severely handicapped outside social insurance and public assistance programmes have been enacted in Canada and Finland. These maintenance programmes are particularly interesting in that they are closely co-ordinated with the rehabilitation programmes in these countries.

The Canadian Disabled Persons Act, which entered into force on 1 January 1955, provides for a joint Federal-Provincial programme of income maintenance for severely handicapped persons who cannot profit from rehabilitation. Allowances up to \$40 monthly are paid to persons considered totally and permanently disabled under the Act. The cost of these allowances, which are subject to a means test, is shared equally by the Federal and Provincial Governments.

The most interesting feature of this programme is that it is essentially aimed at rehabilitating as many severely handicapped persons as possible, disability allowances being granted only in cases where the disability is total and permanent in its functional effect. Under the Act, "A person shall be deemed not to be totally and permanently disabled where, in respect of that person, a favourable rehabilitation prognosis is obtained, or approved therapeutic measures are recommended by the provincial authority, and the requisite rehabilitation services or therapeutic measures are available".⁷

The evaluation of the disability and the provision of rehabilitation services, where needed, are therefore essential features of the scheme. Medical review boards in the provinces act as advisory bodies to the provincial authorities and evaluate the disability of each applicant. Where rehabilitation measures are advisable, the boards may refer the person concerned to a special rehabilitation assessment team, for complete rehabilitation assess-

⁶ Herman M. and Anne R. Somers, "Rehabilitation and Workmen's Compensation". Reprinted from *The Insurance Law Journal*, February 1954. (Chicago, Commerce Clearing House, Inc.), p. 203.

⁷ "Statutory Orders and Regulations", *The Canada Gazette*, part II, 23 November 1954, p. 2.

ment; on the basis of the team's recommendations, a rehabilitation programme is drawn up for the applicant. In this way, all applicants are screened and rehabilitation, rather than a cash benefit, is provided for those who have a favourable rehabilitation prognosis. Should rehabilitation not be feasible or available, the applicant retains his right to apply for a disability allowance under the Act.

This new Canadian programme is an interesting pioneer experiment in the full co-ordination of rehabilitation and income maintenance provisions. Its success will largely depend on the effectiveness of the disability evaluation procedures and on the availability of adequate rehabilitation facilities. It is expected to show the way to a better co-ordination of rehabilitation measures into cash benefits.

In Finland, the Disability Compensation Act of 1951 is an attempt to provide supplementary income to severely handicapped persons who are engaged in productive work. Under the programme, blind and otherwise handicapped persons who have lost at least one-half of their total working capacity and who are working for a living, are granted an allowance by the Ministry

of Social Affairs. The allowance is intended as a work incentive for severely handicapped persons and is closely linked with rehabilitation measures provided under the Care of Disabled Persons Act, which is also administered by the Ministry of Social Affairs.

Evaluating the degree of invalidity under social security laws and determining the relationship between disability evaluation and rehabilitation have raised many problems. Different systems have been adopted in various countries, all directed towards facilitating vocational rehabilitation and at the same time securing for the claimant cash benefits commensurate with the actual degree of disability. This complicated question was discussed at the XIIth General Meeting of the International Social Security Association held in Mexico City from 28 November to 2 December 1955, and a resolution was adopted stressing the importance of vocational rehabilitation and enumerating principles concerning invalidity evaluation and its relationship to rehabilitation.⁸

⁸ René Springer, *The Influence of Vocational Rehabilitation on the Evaluation of Invalidity*. Prepared for the Fourth Meeting of the Medico-Social Committee, International Social Security, Mexico City, November 1955 (ISSA/MSC/IV/1).

Social Work in Rehabilitation

In this article an attempt is made to summarize the most important social problems in rehabilitation for the guidance of persons without a professional training in social work who are concerned with the welfare of the handicapped.

The effects of a handicap on the individual are seldom limited to the pathology of the disability but have repercussions that are psychological, social, vocational and economic. Whatever its cause, a severe disability exposes the victim to the danger of emotional difficulties resulting from a sense of deprivation and frustration at being physically impaired and different from other people. This also frequently leads to a disturbance of social relations which may affect the family and the community environment in which the person lives. It is obvious, therefore, that the rehabilitation process can be successfully accomplished only by the closely co-ordinated work of a variety of services—medical, educational, social, psychological and vocational—dealing with all the problems of the individual handicapped person, within the framework of the community to which he is to be restored. Social adjustment in the widest sense of the word is thus the ultimate goal of rehabilitation.

The task of the social worker is not merely to assist a disabled person to obtain the necessary economic aid and rehabilitation services, but also to help him to understand how, in spite of his limitations, he can share in the life of the community as an independent and self-supporting member. The professional social worker does not attempt to solve his client's problems, but his efforts are directed toward helping the handicapped person to help himself. To accomplish this, a social worker draws upon his basic knowledge and experience to suggest the specific services that could be helpful in each particular case. Often, he renders some of these services himself by home visiting, by advising the patient and his family, by attending to various administrative arrangements, as well as by taking practical steps to brighten the patient's life, such as arranging for his recreation, transport, and leisure time activities. Above all else, however, the social worker continuously encourages the handicapped person, since the success or failure of rehabilitation depends primarily on the motivation of the patient himself and on his own efforts.

The family and community background

Any assistance that the social worker can provide must be based on a thorough understanding of the social situation of the individual and his family, seen against the background of conditions in the community in which they live. A careful study of these factors enables the social worker to analyse the problems and interpret the situation. He has thus a manifold and continuing task to perform in co-operation with other professional social workers in related fields, making use, like them, of community resources likely to be of assistance in carrying out the programme of rehabilitation as a whole.

The social worker's complete familiarity with regional and more distant facilities for rehabilitation frequently enables him to suggest solutions that the doctor, the vocational counsellor or the teacher failed to discover. It is the social worker who finds the answer to such questions as: "Can the patient go home?", "What employment possibilities are there in the local community?", "Are there facilities for any follow-up treatment the patient may need?"

It is now recognized that in all rehabilitation work the social record is just as important as the medical one. As a rule, it contains information not only on the patient's disability, but also on his attitude, and that of his family, towards his disablement. Where special problems exist, a brief description of these is included, together with a note of what the social worker is doing to help. All this is relevant since, although the first concern of the social worker is the disabled person and his personal adjustment, the patient has to be seen against the family background. The social worker must consequently include the family in the rehabilitation plans. The adjustment of the parents of a disabled child, in particular, is of decisive importance to the child's future. The parents must not only "do something": they have actually to do very much to prepare the child for his adult life. In this the social worker should be consulted, since he is qualified to be of effective assistance. The parents need guidance and encouragement to face, for instance, the problem of choosing a suitable occupation for a disabled child. The social worker visiting the home encourages the child to be occupied and helps the parents to understand the child's needs. He explains to them existing services and facilities for vocational rehabilitation and brings them into contact with the vocational employment officer, the dis-

ablement resettlement officer, or such vocational rehabilitation service as he may judge to be of help. Perhaps the parents already have a plan for the child's future which the social worker can discuss with them; or the child may have a natural bent for a certain trade or profession. Perhaps there is a local employer already interested—or who may be made interested—in the child. All this is of value and the social worker will include his observations in the social report. He will also be able to report on local economic conditions, and his familiarity with regional and other facilities will enable him to make helpful suggestions for the patient's future.

In the informal atmosphere of the family, the social worker has an excellent opportunity to get to the root of the situation in which the handicapped person is placed, and to discover clues suggesting the line to be adopted for a speedy rehabilitation which would put the patient on his own feet, or failing this, help him as well as those with whom he lives and on whose co-operation he depends, to adjust to the given situation as well as possible. For many handicapped persons, social adjustment is a continuing process and, like some medical services, may be needed at all stages of their lives.

Apart from the family, the local community also provides the natural environment for the handicapped person. It is of vital importance to him that he should find his place in it and be accepted by it. There he must face and resolve another group of his social problems—as a school pupil, as a citizen, as a job seeker or job holder—taking an active part in everyday life. It is here that others should do their share to help the disabled.

Public opinion and popular prejudices

The existence of an enlightened public opinion and willingness to co-operate is extremely important, for only the broadest community approach can define, interpret, influence and carry out a programme to provide the disabled person with full opportunity for independence. Rehabilitation is not a matter for one agency, group or profession alone. It is a community responsibility that requires community action.¹

In other words, "Rehabilitation is a social problem—one that has its roots set firmly in the life of the community . . . It is to the community that the person returns—a success or failure by community standards".²

Let us consider, for instance, the common prejudices which so often affect public opinion. Gadgets and technical aids must, of course, serve their purpose. It is

therefore not enough merely to provide them; it is also necessary to encourage the disabled to make good use of them. Yet prejudices against wearing, for instance, a hearing aid sometimes exist and must be overcome. Hard of hearing persons may still be prone to feel ashamed to wear such aids in public, and this will aggravate their difficulty, because protracted efforts to hide their disability may lead to real social deficiency. Similarly, disabled persons may have prejudices against orthopaedic appliances. This, of course, is understandable as long as members of the local community continue to show embarrassment, tactless curiosity or pity.

Role of the social worker

The social adjustment of the handicapped person may, then, be a complicated and difficult task—for himself, his family and the community. All possible help should therefore be made available to facilitate the social adjustment required throughout the rehabilitation process, and it is appropriate to ask what part the social worker should play in this task.

The role of the social worker in rehabilitation was thoroughly discussed by four groups (each composed of two national teams), and subsequently by the whole assembly, at the group training course on Modern Methods of Rehabilitation of the Adult Disabled, organized in 1952 by the United Nations with the co-operation of the World Health Organization and the International Labour Office.³ It was agreed that the task of the social worker in rehabilitation includes pre-hospital work, work in hospital, work in the rehabilitation centre, and post-hospital work or follow-up. This last phase covers, in particular, the family and community sides of rehabilitation.

Pre-hospital work consists chiefly of the detection and reporting of disablement, in collaboration with the public health centre and other competent authorities. Moreover, the problem has frequently to be solved of persuading the handicapped person and his family to accept the rehabilitation services and to realize that this is advisable, feasible and in the best interest of all concerned.

In the hospital, the social worker acts in close co-operation with the doctor and the other members of the rehabilitation team. The patients are interviewed at the bedside or in the social worker's office. The doctor must decide when the social worker should first contact patients who are confined to bed, except when the social worker has already had pre-hospital contact with them. The social worker must also get in touch with the family, to secure financial assistance where necessary. If the social worker is missing from the hospital team, the patient usually lacks the personal attention he so urgently needs for solving his psychological and family problems. Later on, in the rehabilitation centre,

¹ The American Association of Medical Social Workers, *The Evolving Concept of Rehabilitation*, in Series *Social Work Practice in Medical Care and Rehabilitation Settings*, Monograph I, (Washington, D. C., July 1955), pp. 29-30.

² Frederic A. Whitehouse, "Rehabilitation Centre: Some Aspects of a Philosophy", *American Journal of Occupational Therapy* (New York), Vol. VII, No. 6, November-December 1953.

³ See *Modern Methods of Rehabilitation of Adult Disabled*, United Nations publication, Sales No.: 1952.IV.19.

the work done in the hospital is extended and amplified. For example, if the patient is unable to do so himself, the social worker makes the necessary contact with the labour exchange or any other appropriate employment agency; in many countries he has himself to find employment for the patient. In the follow-up phase, the social worker has to secure assistance if, for example, the disabled person is not satisfied with his job or if he needs further medical care, and also help him, if necessary, in his readjustment to the family and community.

It is important that each case should be followed by the same social worker throughout the rehabilitation process. The advantages of this arrangement are obvious: the social worker assumes responsibility for the social care of an individual patient, both at the in-patient and the out-patient stage. At the initial evaluation conference, he mentions any social, economic and emotional factors which might hinder the patient's progress towards rehabilitation. He reports on the results of home visits made by himself, the health visitor, or other social workers, and describes circumstances that might interfere with the continuance of the patient's rehabilitation in his own home. He interprets the patient's feelings about his situation and comments on his behaviour and desire for rehabilitation.

In his dealings with the disabled person, the social worker should consider what are the needs of normal people, and reflect that these needs are basically identical with, or very similar to, those of the handicapped.

Adopting this attitude, the social worker regards his service as a building up towards normality, rather than a filling in of gaps. His efforts will thus have more meaning and continuity, and in the end will become a co-ordinated endeavour rather than a series of disjointed actions.

If the handicapped person has to spend long periods of his life between hospital and convalescent home, or in a residential school, it is more important than ever for him to feel part of a family. Great care should therefore be taken by those in charge to see that the constructive attitude towards disability shown by the hospital or the rehabilitation centre is maintained by the patient's family, and that the disabled person is properly integrated into the family unit as well as into the larger frame of the community. What can happen if this is not done may be seen in the following instance:

Anita was a child of seven when she fell ill with poliomyelitis. She spent three years in hospital, where everything about her helped to make her calm and give her a cheerful confidence in her powers of recovery and in the future. The mother, however, was very despondent and kept wondering why such a fate should have befallen her child. When Anita was discharged home with very good hopes of a reasonable recovery, her confidence was destroyed by her mother's attitude and by being present at frequent conversations with the

neighbours when her disabilities were discussed in a most pessimistic way. The result was that Anita began to feel that she was a disappointment to her mother and a burden to her. She had a serious physical relapse, and had to be sent back to the hospital for a period of rehabilitation. If this mother had been provided with the services of a social worker, and if the physician had been able to find time to persuade her that all was not lost, this distressing relapse might never have occurred.

The rehabilitation team

No one person can have all the knowledge and experience required for the different phases of rehabilitation. Medical and surgical treatment may be of decisive importance, but it is never all-sufficing for a severely disabled person, who needs the understanding, advice, care and expert knowledge of all the members of the rehabilitation team. This team varies in composition with the individual needs of each disabled person, and may include the services of any number of specialists, e.g., physician, nurse, physiotherapist, occupational therapist, rehabilitation counsellor, psychiatrist, vocational counsellor, home helper, social worker, or any other specialist whose help may be needed in a given situation. In general, the services provided by the team normally call for the co-operation of specialists in medical rehabilitation, psychology, education, social work and employment, and each specialist can make his contribution, fully effective only with the participation of all the other members of the rehabilitation team.

In the social services, the idea of teamwork is not new. It has been developed, for instance, in the child guidance clinic, where the psychiatric social worker, the pediatrician, the psychologist and educator, as well as others concerned with the behaviour of the child, work closely together in diagnosing the difficulties and in prescribing, and often in carrying out, the treatment. Similarly, the growth of rehabilitation services in the past decade has been influenced by two main ideas. The first is that rehabilitation "takes the patient as an individual, evaluates his current level of functional ability—physically, emotionally, socially and vocationally—and then attempts through retraining to aid the patient in reaching the highest possible functional level". The second is "... the team concept, in which the professional skills and experience of a number of disciplines are integrated so that the full impact of all are brought to bear on the needs and abilities of the handicapped in terms of his life situation".⁴ Thus, modern rehabilitation, based on the principle of treating the "total person", emphasizes the desirability of various skills and professions working together in diagnosing and treating the medical, psychological and social problems of the patient.

⁴ International Society for the Welfare of Cripples, *Changing Attitudes Towards the Disabled*. Proceedings of the Sixth World Congress, held at The Hague, September 1954. (New York, 1955), pp. 151-152.

Co-operation between hospitals, special schools or welfare agencies for disabled persons and their families is now a generally accepted aim. Social workers attached to hospitals and clinics, social workers in special school departments of a local authority or on the staff of a residential special school, social workers of voluntary organizations for the welfare of the disabled—all these act as liaison officers, giving information on the social aspects of the rehabilitation problem to the medical officer, the therapist, the teacher and the team as a whole. They help parents to adjust to the subsequent stages of the rehabilitation programme, when the patient is discharged from hospital or special school or when he has to be transferred to a sanatorium, convalescent home, residential school or to institutional care.

The social worker as co-ordinator

A fundamental part of the rehabilitation process is to determine which of the specialized services are needed, and then assist the disabled person to obtain them. Of equal importance, however, is the question of how such specialized services and facilities can best be co-ordinated and integrated. This calls for a team co-ordinator. Which of the specialists in the team is or should be the co-ordinator has been much discussed, and the multiplicity of views advanced is no doubt responsible for a certain confusion in the definition of his functions.

The task of the team co-ordinator is not to attempt to plan and direct in detail every aspect of the rehabilitation programme, but to make sure that nothing of importance is overlooked, to plan and integrate the necessary administrative arrangements for facilitating the work of the individual members of the team and, at the same time, to see that the various services and skills are brought to bear on individual cases in proper relation to one another.

The co-ordinating function may rest with different team members on different occasions, depending on the kinds of services required in each case. In the hospital and medical rehabilitation centre, the doctor is usually the link between the other team members. In a school for crippled children, the teacher logically takes over this function, while in an industrial rehabilitation centre, the vocational instructor or counsellor is usually the person who is most directly concerned with the progress of that phase of the rehabilitation programme.

In the community, when the team is called upon to assist in the resettlement of the handicapped person within the family and society, the social worker carries the main responsibility. But it is not only in the community that he has much to contribute to the rehabilitation of the handicapped. Being the person who follows the patient throughout the rehabilitation process, from admission to hospital or rehabilitation centre to final resettlement in the community, he has an important

role in ensuring an integrated approach to the total problems of the individual handicapped person. The adjustment problems with which the social worker has to deal at each phase of the rehabilitation process particularly qualify him to assist the rest of the team in planning the programme and carrying out its various stages so as to make full use of the experience and skills of each specialist and each service concerned.

The social worker is thus the essential link between the patient and all other members of the rehabilitation team, whether in hospital, at a rehabilitation centre, or in the vital task of assisting the disabled person to make the necessary adjustments at home, in his community, or in employment. He is also the principal link with industrial rehabilitation units, vocational training centres, limb-fitting facilities, and sheltered workshops; he is also actively concerned with the organization of home work, and with arrangements for the recreation of the handicapped. The social worker is not specialized in any one particular phase, but he is able to appreciate the effect of each of the specialized services upon the general adjustment of the disabled person.

It should always be remembered that the patient himself is part of the rehabilitation team. The social worker should encourage this idea, which was graphically described by the chairman of the United Nations European Seminar on the Rehabilitation of the Adult Disabled, held in 1955 in Yugoslavia, who said he thought of the rehabilitation team as a football team in which the patient in the centre-forward who scores the final goal: successful rehabilitation.

The social worker in economically less developed countries

The aims of a rehabilitation programme in the economically less developed and in the developed countries are basically the same. Since, however, the particular circumstances of each individual case are determined not only by the personal situation of the patient, but also by socio-economic and cultural conditions in the respective countries, the task of the social worker in rehabilitation may vary considerably from one country to another. This was recognized by the experts who attended the United Nations Conference of Experts on Physically Handicapped Children for Countries of South East Asia, held at Jamshedpur, India, from 19 to 21 December 1950. In their judgement:

“One thing for social workers to remember . . . is that while certain basic principles of the practice of social work and welfare are universal and applicable to all humanity, many of their social problems are regional and stem from local conditions and climate, customs, mores, beliefs, traditions, ritual and codes of behaviour, local social structure and organization. They must not, therefore, blindly adopt imported methods of approach or unthinkingly apply wholesale foreign or foreign-learned techniques. While the

physical handicaps themselves in varying proportions are the same in South East Asia and in Europe or America, and the basic methods of treating them can be adopted everywhere, the social and psychological impact and incidence of the handicaps on the sufferers would be different according to differing social conditions. The solution of the various aspects of social and psychological rehabilitation should, therefore, be entrusted to local experts, although their scientific training can be undertaken regionally and would give proficiency in the universally adopted principles and methods of diagnosis and treatment.”⁵

In countries where there are many social services and facilities for the welfare of the under-privileged and handicapped, the social worker acts mainly as a co-ordinator, channelling the required community services to the individual in need of help. He also has more time to spend on his therapeutic duties as a caseworker, i.e., dealing with the personal adjustment problems of the patient.

In economically less developed countries, where there is a lack of facilities, services and qualified staff, the social worker has to cope with problems related to more basic needs, such as the need for food, shelter and clothing. His role is therefore broader and his functions are more diversified and time-consuming. In contributing to the rehabilitation of the handicapped, he has to work very closely with the community and use methods of community organization to help develop community resources and facilities which the social worker in economically well developed countries takes for granted. Consequently, though his main concern is the handicapped individual who needs his care and attention, he sees the patient's needs against the background of the overwhelming needs of the community, and these may often have to be met first, before help can be extended to individual disabled persons. For the process of social adjustment is a two-way process: the handicapped person has to get adjusted or readjusted to his place in the social environment, and the local community has to adjust itself—its resources, facilities and services—to the needs of its handicapped persons. Only when the patient and the community are brought into a workable relationship, can the social worker, and indeed the whole rehabilitation team, perform their task successfully.

To an even greater extent than in an advanced country, the social worker in an economically less developed area has to be able to detect and differentiate between problems arising out of personality and those caused by environment. He must also be skilled in working with the community at large, so that he may contribute to the solution of urgent and pressing social problems due to local conditions.

⁵ *Report of the United Nations Conference of Experts on Physically Handicapped Children for Countries of South East Asia*, Jamshedpur, India, 19-21 December 1950 (United Nations publication, Sales No.: 1951.IV.7), p. 16.

The economic and social changes taking place in economically under-developed countries give additional weight to these considerations. The situation in Burma may serve as an illustration:

“One of the main features of Burmese society is the closely-knit family unit. It is the traditional responsibility of the family—a unit much wider than the family in the Western sense of the word—to care for its members. In cases where this is not possible, the neighbours and the monasteries are there to help.

“In this type of family-centred society, built on the Buddhist philosophy of charity and service to the fellowman, the handicapped have been furnished with protection, food and shelter. They have normally not been exposed to life outside the family and the village. . . .

“With the gradual loosening of the strong family ties under the impact of changes in the economic and social conditions of Burma, the handicapped will find themselves more and more exposed to the stresses and strains of ordinary life. Although these changes seem to be slower than in many other countries of Asia and Africa, their effect on the handicapped of Burma is a factor to be taken into account in social planning.”⁶

It is clear that for decades to come, problems of this nature will require the continued attention of those responsible for the planning of social services, as well as of those actually providing them—including social workers specialized in rehabilitation. It must be expected that gradually, and to a certain degree at least, the trend towards specialization, noticeable at present in countries with a more complete and more advanced system of social services, will make headway also in the economically less developed regions. The home teaching service for the blind in Egypt, established by a United Nations expert sent to that country in 1953, is an illustration of this trend. This service, which deals specifically with the welfare of the blind, also shows how “down-to-earth” must be the work of the social worker in an economically less-developed country. The United Nations expert reports that the home teacher in Egypt has to be a versatile person, able to devise innumerable ways and means of helping the blind clients, who are men, women and children of all ages, drawn from all walks of life and with widely differing needs. He further reports that a number of blind boys have been discovered by the home teachers and sent to the Demonstration Centre's model residential school. The home teachers often accompany these children when they first arrive at the school and sometimes take them home at the end of term. During the holidays they keep in touch with them. Many of the vocational training department's trainees in the workshops are former home-teaching clients.

⁶ *Rehabilitation of the Physically Handicapped in Burma* (UN/TAA/BUR/6), p. 3.

Training of social workers for rehabilitation

The development and success of rehabilitation services depend to a large extent on the availability, qualifications and training of staff.

There is a serious shortage of social workers specializing in rehabilitation, as indeed there is of all categories of rehabilitation staff. This shortage exists alike in countries with comprehensive rehabilitation programmes and in less-developed areas where such schemes are still very limited.

The general principles and practice of social work are the same, regardless of the field in which the social worker eventually functions. The basic preparation for social work in rehabilitation should, therefore, be a general training in social work. Instruction in medical social work, if available, is a helpful additional training for future rehabilitation workers.

Specialization in work with the handicapped usually takes place through field work and in-service training at hospitals, rehabilitation centres, employment exchanges, schools for crippled children and other services for the handicapped. The general trend has been to include in the field work a practical study of services for crippled children and adults, in order to enable the social worker to gain extensive experience of all branches of rehabilitation. This arrangement also makes it possible for the social worker to become thoroughly acquainted with existing community resources that may be drawn upon to assist the handicapped. Although the formal training frequently takes place outside the area in which the social worker is to be posted, the extensive use of community services and facilities in practical training for field work helps to prepare the social worker for his eventual task by making him realize the importance of gaining a detailed knowledge of existing services in the local community.

In recent years, several schools of social work have included in their general courses lectures on the principles of rehabilitation and on existing programmes and facilities for rehabilitation. These lectures are designed to give all students an understanding of the problems of the handicapped and of modern rehabilitation methods. They also provide future rehabilitation workers

with a basic knowledge of the field in which they are to specialize.

In some countries, special post-graduate training courses for rehabilitation workers have been organized by schools of social work; in others, training courses and seminars have been organized by rehabilitation centres, or courses on rehabilitation teamwork are held at regular intervals to promote co-operation between the members of the rehabilitation team. An increasing number of social workers attend these courses.

Training in economically less developed countries

Although the basic task of the social worker in rehabilitation is the same everywhere, that is, to assist the handicapped to achieve maximum adjustment physically, emotionally and economically, rehabilitation workers in economically less-developed countries must be prepared to work with fewer material resources at their disposal. This requires resourcefulness, imagination and initiative to make full use of whatever facilities the local community can offer and to adapt methods and techniques to local conditions. Instead of being "specialized", the social worker has to be highly qualified as an efficient "polyvalent" worker, for he has to do and arrange by himself much that in more advanced countries would be the responsibility of other specialized staff. Frequently, the social worker in the less developed countries has to improvise services and also cope with traditions and customs that have a profound influence on people's behaviour and are often not conducive to rehabilitation. These circumstances determine the social worker's approach to the task of enlisting the co-operation of the family and the community to help the handicapped person find his place in active life.

As the social problems of the handicapped are better recognized and understood, the role of social workers in rehabilitation becomes more important. As a member of the rehabilitation team, the social worker is instrumental in promoting services designed not only to help the handicapped person to overcome the physical and emotional effects of his disability, but also to help society in general to eliminate social and economic obstacles preventing the integration of the handicapped into the community of which they form part.

The Ascertainment and Prevention of Hearing Impairment*

Impairment of hearing is found among millions of people in all parts of the world. It may be present at birth or it may be acquired at any time thereafter and the degree of loss may vary from slight to severe. It was early recognized that the hard of hearing—those with less severe impairment of hearing—possessed residual hearing and could be taught to speak and be educated through the normal medium of hearing. In former days, however, it was not believed that the deaf—those with severe hearing impairment—could be educated in any way, much less be taught to speak. Even in modern times parents, through ignorance and shame, frequently hide their handicapped children from public view.

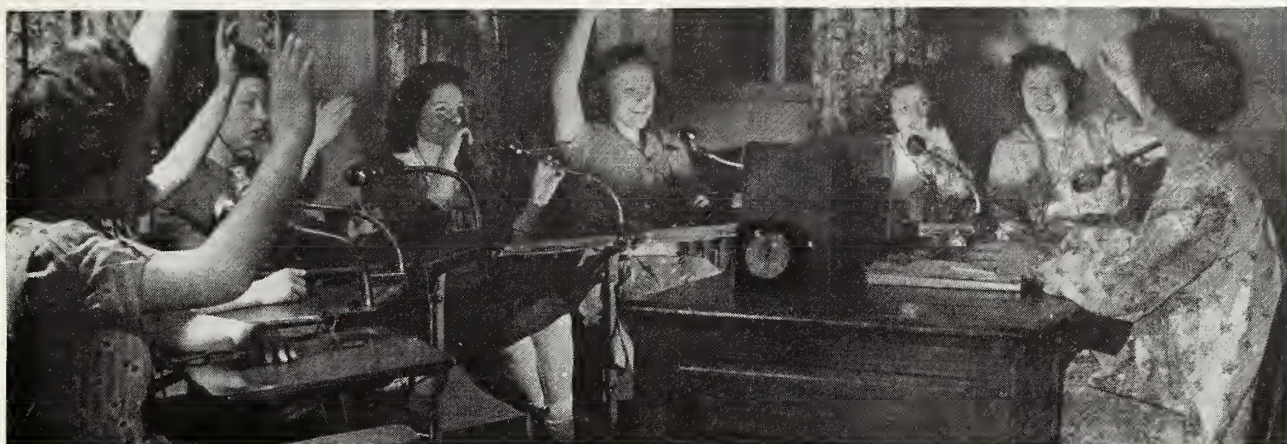
The discovery some three hundred years ago that there was no connexion between a lack of hearing and the speech organs gradually helped to dispel the notion handed down from generation to generation that the inability of the deaf to talk was due to brain lesions and defective vocal cords. From that time to the nineteenth and into the early twentieth century, medical and surgical provisions for the alleviation of deafness increased, while concurrently, but independently, better provision was made for the welfare and education of the deaf.

The past several decades have witnessed a gradual merging of interests of many groups of specialists who previously approached the problems of impaired hearing solely from their own specialized point of view, showing little concern for the interests of peripheral groups. This broadening of co-operative effort has developed along both national and international lines, resulting in a new scientific approach, namely, audiology—the science of hearing. The comprehensive nature of this new science has enabled many and diversified groups of specialists to focus their services upon hearing impairment. Thus the contributions of the otologist, the physician, the audiologist, the physiologist, the physicist, the psychologist, the educator, the rehabilitation expert and the social worker are brought together.

* This article, and the article immediately following, substantially reproduce a Report on the Deaf and Hard of Hearing, written for the Bureau of Social Affairs of the United Nations by Dr. Clarence D. O'Connor, M.A., L.M.B., Superintendent, Lexington School for the Deaf, New York City, and President, Alexander Graham Bell Association for the Deaf, Washington, D. C.

The Medical Research Council in England was one of the first to encourage this kind of co-operative activity. The Aural Rehabilitation Programme established in the United States during the Second World War employed both medical and non-medical teams and achieved excellent results with the 13,000 service personnel suffering from impaired hearings. The otological societies of the United States and the Section of Otology of the British Royal Society of Medicine invite educators, physicists, audiologists and research workers to address their meetings. In the United States some schools for the deaf, such as the Central Institute for the Deaf in St. Louis, Missouri, the Clarke School for the Deaf, Northampton, Massachusetts, and the Lexington School for the Deaf, New York City, hospital hearing and speech clinics such as the Johns Hopkins Hospital Speech and Hearing Center, Maryland, and the Presbyterian Hospital Speech and Hearing Center, New York City, and, in Great Britain, the Department of Education for the Deaf at the University of Manchester, have expanded their fields of service to the point where they operate as centres and meeting places for experimental research, study, and discussion of the problems of deafness from many angles. Professional non-medical organizations, such as the Alexander Graham Bell Association for the Deaf and the American Speech and Hearing Association in the United States, similarly invite specialists working in related fields of hearing impairment.

The same need for international collaboration between medical and non-medical workers has been formally recognized. A joint approach in dealing with the problems of the deaf and hard of hearing was discussed at the Third and Fourth Congresses on Oto-Laryngology, held at Stockholm and London in 1948 and 1949, by the participating oto-laryngologists, medical officers of health, audiologists, educators, physicists and sociologists. The following year three resolutions were unanimously adopted at the International Congress on the Care of the Deaf, held at Groningen in the Netherlands. These resolutions, which were also the result of teamwork, emphasized the importance of continuing research on auditory training and training through vibration for the deaf, the need to promote psychological research and the application of psycho-



The combined use of lip reading and residual hearing is of great help to the deaf.

logical methods in the education of the deaf, and the establishment of a body to promote international conferences and other contacts.

This co-operative approach to the problems of hearing impairment will ultimately help to bring about the rejection of meaningless and cruel terms still in common use today, such as deaf-mutes, deaf and dumb, mute and dummy. It will also ultimately bring to the handicapped child the assurance that he will be regarded first as a child whose total needs are cared for rather than only his specific hearing needs.

Problems of hearing impairment

Hearing impairment, to any appreciable degree, creates a variety of problems for those who are unfortunate enough either to start life with such a handicap or to acquire it in later years. The child who is born with severe loss of hearing (the deaf) cannot learn to talk by natural means. Because his hearing, being defective, cannot influence the quality and rhythm of his speech, this important element of his equipment for normal living will always be imperfect and frequently disturbing to listeners. He will have to meet at all times the frustration of ineffective communication, both expressive and receptive. He must acquire all his concepts of language through sight, touch, and, if some small residuum of hearing remains, through hearing with the aid of amplifying equipment. In addition he must acquire, almost entirely through his eyes, the educational and vocational skills, knowledge and competence necessary for effective living. Not only will his choice of a career be restricted, but for a full life he must also build for himself a set of spiritual and moral values and social skills from his day-to-day experiences in a world of silence uninfluenced by the shades of meaning conveyed through audible speech.

The child whose loss of hearing is less severe (the hard of hearing) will face problems comparable to those of the deaf child, but to a lesser degree. His com-

munication deficiencies may be substantial, and his educational, vocational, social and emotional growth will be beset by continuing difficulties. The adult who suffers severe hearing impairment later in life will also meet a variety of new problems as his loss of hearing becomes evident. His speech will deteriorate: his understanding of the spoken language will also be reduced, and this decrease in his ability to communicate creates in turn the additional problem of possible social inadequacy. He may also be faced with the necessity of selecting a new field of employment.

These difficulties can be reduced through research and through the development in each country, according to its possibilities, of a programme of assistance to the deaf and hard of hearing, comprising the following elements:

- (a) Investigation of causes and types of hearing impairment;
- (b) Ascertainment and prevention of hearing impairment;
- (c) Determination of the incidence of hearing impairment;
- (d) Preparation of educational and vocational programmes for children with impaired hearing;
- (e) Rehabilitation of the adult deaf;
- (f) Rehabilitation of the adult hard of hearing.

Types and causes of hearing impairment

1. TYPES

Hearing impairment may be classified according to the time at which it occurred, or according to its nature. On the basis of time, hearing impairment is either congenital (present at birth) or adventitious (acquired after birth). On the basis of type, there are two fundamental kinds of impairment—conductive and perceptive.

Conductive impairment results from mechanical interference with the passage of sound waves through the external canal and ossicular chain to the inner ear or perceptive portion of the auditory apparatus. Either of two conditions usually underlies a conductive impairment: (a) sound waves are prevented from reaching the middle ear by wax or some other obstruction in the external auditory canal; or (b) normal movement of the ossicles is impaired by changes around the ossicular joints or is due to changes in the middle ear mucosa that result from Eustachian or auditory tube blockage and infection. Conductive impairment simply diminishes the loudness of sound; it never causes total deafness and is often wholly or partly reversible, depending upon the nature of the lesion, early diagnosis, and adequate treatment.

Conductive deafness is not a great handicap to hearing in a noisy place. In fact, a person with a moderate degree of pure conductive deafness can hear conversation just as well as the average person can (and better than many) in streetcars, aircraft or similar noisy surroundings. In such conditions he simply does not hear, or hears only faintly, the noise that disturbs his normal companion and masks any speech at ordinary conversation levels. But in noisy surroundings all of us automatically talk louder, so that we can hear ourselves above the noise.

Perceptive impairment, or nerve deafness, as it is frequently called, is due to atrophy or lack of development of the cochlea nerve or organ of Corti cells in the inner ear, or to a lesion of the central auditory pathways. High tones are commonly more affected than low tones, but when the loss of hearing is severe, whatever the cause, perception of both high and low tones is markedly impaired. Perceptive impairment may exist because of developmental factors resulting from a focal infection, such as mumps or meningitis; direct extension of a neighbouring lesion (brain tumour); or interference with the circulation of intra-labyrinthine fluids, especially endolymph. It is often an associated condition of certain types of cerebral palsy and must be suspected as a possible concomitant of various forms of cerebral degeneration. Perceptive impairment always involves distortion of sound and may result in total loss of hearing or "deafness" in the true sense of the word. There is, in general, no adequately demonstrated treatment for perceptive impairment.

A thorough otological examination and diagnosis of the hearing impairment is imperative, for this will greatly facilitate the prediction of the future course of the condition. Dr. Edmund Prince Fowler, Jr., of New York, has stated that "Conductive deafness, especially in its early stages, can often be arrested, improved, or circumvented. Nerve deafness, which implies degeneration of delicate but essential elements of sense organ or nerve, can rarely be improved by medical treatment. Unfortunately, this type of deafness also is less favourable than conduction deafness for fully satisfactory use

of a hearing aid."¹ The evaluation of the results of the classical tuning fork test, the speech and pitch-range audiometer tests, the vestibular reactions, and the characteristics of the phenomena of tinnitus and recruitment, all contribute to this essential early diagnosis which may make possible the prevention of such hearing impairment.

In addition to the two basic types of hearing impairment, namely conductive and perceptive, the following may be considered supplementary types:

Mixed impairment. This is a combination of the two basic types. The conductive portion may be wholly or partly reversible even though the perceptive element is not amenable to treatment.

Central impairment. This is a total or partial loss of hearing where the auditory nerve and the sense organ have suffered no damage. It may be caused by any one of a number of brain diseases which may affect the auditory passages anywhere along their course.

Psychogenic impairment. This occurs frequently in early adult life but it is by no means rare in children. A discussion of this complex question is not possible in this article, but information on psychogenic hearing impairment may be found in several of the books and journals listed in the special bibliography published at the end of this Review.

2. CAUSES

Extensive studies concerning the causes of deafness have led to the following generally accepted conclusions:

- (a) Fewer than 50 per cent of children with hearing impairment were so afflicted from birth;
- (b) The vast majority, probably more than 80 per cent, of those with hearing impairment, suffered their loss of hearing as a result of respiratory or ear infections which can be corrected by current methods of medical therapy;
- (c) In approximately 70 to 85 per cent of all cases studied, loss of hearing occurred before the age of two;
- (d) Causes of hearing impairment include the following:

Congenital causes

(i) *Hereditary*

Research into the influence of heredity on hearing impairment has been carried on for many years at the Clarke School for the Deaf, at Northampton, Massachusetts, United States. The histories of a considerable number of families have been documented as far back as five generations. The results confirm that two born-deaf parents will probably produce deaf children, that the probabilities of deaf children resulting from the

¹ See special bibliography on the deaf and hard of hearing, item 6.

marriage of one born-deaf parent and one not-born-deaf are about 50 per cent, and that two parents born with normal hearing will probably not have any children with impaired hearing.

(ii) *German measles (rubella)*

A study of pupils in schools for the deaf in Australia, undertaken fifteen or twenty years ago, revealed that the hearing impairment of 16 per cent of the children was associated with German measles (rubella) in the mother during the first three months of pregnancy.

(iii) *Other maternal diseases*

Other maternal diseases, such as mumps and influenza, occurring during pregnancies, may also cause impairment of the infant's hearing.

(iv) *Rhesus (RH) factor*

A relatively recent discovery is that incompatibility of the blood of otherwise perfectly normal parents may also be a cause of congenital hearing impairment.

Adventitious causes

(i) Brain infections such as meningitis, brain fever and sleeping sickness;

(ii) Infectious diseases such as scarlet fever, measles, mumps, influenza, pneumonia, whooping cough, infantile paralysis, syphilis, typhoid fever, diphtheria, and chicken pox;

(iii) Infections of the ear, such as suppurative otitis media, suppurative otitis media-mastoiditis, mixed infections, and tuberculosis;

(iv) Mechanical injury, including skull fracture;

(v) Excessive noise;

(vi) Otosclerosis.

These conclusions concerning the causes and the time of onset of hearing impairment, together with the accepted belief that many cases of hearing impairment could be prevented if discovered early, are a powerful argument for the adoption in every country of an effective programme to ensure the early detection of hearing impairment, to provide medical care and treatment for the prevention of impairment wherever possible, or failing this, to indicate at an early stage the need for habilitative or rehabilitative measures.

Ascertainment and prevention of hearing impairment

The probability of hearing impairment increases with age. Results of the British Social Survey of Deafness of 1947, which was undertaken by the Central Office of Information to provide social data for Government Departments, indicated that the probability of bilateral deafness increases from 1 in 100 at 20 years of age to 2 in 100 at 35 years and 9 in 100 at 65 years.² A study

published in the United States in 1940 revealed that the percentage of persons with clinical histories of hearing impairment was 13.9 from the ages of 25 to 34 years, 28.1 between 45-54 years of age and 40.9 from the ages of 55-64.³ This study also disclosed that the rate of occurrence of new cases is greater in early childhood—from the ages of 2½ years to 10 years—than at any stage up to the age of 30 years. Various investigations would seem to confirm this conclusion.

Dr. R. Gamlin, former Chief Assistant Medical Officer of the City of Liverpool, England, stated in his text-book on school hygiene that most cases involving otorrhoea, or discharge from the ear, "commence during school life, between 1 and 2 per cent of school children being found with this condition. A number of cases also commence during pre-school life."⁴ Dr. J. A. Grant Keddie, Chief Medical Officer for Scotland, stated in 1946 that about 1 per cent of Scottish school children had this condition.⁵

It was also found by two other investigators that about 70 per cent of 344 pupils in schools for the deaf were deaf before the age of two.⁶ Of 430 children under the age of 5 years referred by doctors to Manchester University, there was evidence that hearing impairment occurred before two years of age in 86.8 per cent of all cases.

It is probable that much of the hearing impairment which occurs in adult life could be prevented if its onset were detected at a much earlier age. Certainly all medical experts agree that much impairment could be prevented by effective programmes of ascertainment and prevention. One study, undertaken by Dr. Donald K. Lewis, Associate Director at the Winthrop Foundation for the Investigation of Deafness at the Massachusetts Eye and Ear Infirmary, supports this view. The study reports that of a group of children who received medical treatment after hearing impairment was discovered, 85 per cent showed improvement and 65 per cent regained normal hearing. Of a group receiving no medical treatment, 23 per cent showed some improvement and the remainder retained some loss of hearing or showed a greater loss at a second testing.⁷

The development of such preventive programmes must be recommended as a primary objective of international action. It would place in a favourable position for medical treatment and possible prevention of further or more serious impairment those whose hearing difficulties can be helped by medical therapy. Moreover, the early discovery of hearing loss would make it much easier to provide educational opportunities, including measures to prevent total dumbness, for those whose impairment cannot be corrected. In certain countries considerable progress has been, and is being,

² *Ibid.*, item 2.

³ *Ibid.*, item 25.

⁴ *Ibid.*, item 25.

⁵ *Ibid.*, item 21.

⁷ *Ibid.*, item 23.

² *Ibid.*, item 36.

made towards the development of preventive programmes, but even in countries which at present make provision for those with impaired hearing, services do not meet the need as estimated by authoritative investigators. In many countries services for those with impaired hearing are at a preliminary stage of development or are non-existent.

The ascertainment of hearing impairment at an early age is merely the first phase of a good programme for prevention and alleviation. It must be accompanied by a comprehensive programme of medical treatment, education and rehabilitation. The complete programme of detection and alleviation must be carried out by the co-operative effort of all who are working on hearing impairment. The degree to which progress can be achieved will, of course, depend upon the level of development, or potential development, of each phase of the programme in each country. Economic and social structure, and local traditions, will of course play a part. But at least some phases of the programme for early detection and alleviation as listed below can be instituted or expanded in all countries.

A. ASCERTAINMENT OF HEARING IMPAIRMENT

1. *Symptoms of loss of hearing in children*

Any one of a number of symptoms of abnormality in a child can be observed by parents, nurses, teachers or social workers and should prompt them to insist on a thorough otological examination. Parents are frequently the first to observe these symptoms but very often they minimize them and doctors also often minimize the parents' concern. The symptoms are important danger signals, however, and should be studied. One of them is the absence of a startled response to sound: an infant with a pronounced loss of hearing would probably not react to sudden loud noises, such as the ringing of the telephone, the banging of a door, the loud clapping of hands, shouting, the backfire of trucks, the screech of fire-engine whistles, etc. Other symptoms may be moisture, discharge, or odour from the external ear canal, deformities, swelling in or about the external ear canal; failure to learn to talk normally; backwardness in school; failure to respond to a parent's call or inability to locate correctly the source of sound.

2. *Tests for assessing hearing impairment*

Qualitative tests. Simple qualitative tests of hearing can be made by parents, teachers, nurses, audiologists or doctors and may reveal a hearing impairment. This type of test will only prove that a child does not hear some sound of particular basic pitch but will not indicate the degree of the hearing impairment. Bells, snapers, buzzers, watch ticks, whistles, natural noises, recorded music, speech and a number of other sources of sound may serve as the testing medium. Dr. and Mrs. Ewing of Manchester University, England, have developed this type of testing programme with very young

children to a highly scientific degree and have successfully determined hearing difficulty in children as young as nine months.

Standard tuning-forks. Although the use of tuning-forks by the doctor will not tell him the extent of the hearing impairment, it constitutes one of his most important media for diagnosis.

Screen tests. The most common use of screen tests is to find pupils attending regular schools who should undergo individual audiometric and otological examination. The device most commonly used hitherto for testing large groups of children has been the phonograph audiometer. Recorded speech is amplified and transmitted in decreasing volume from one unit to ear-phones worn by as many as forty school children at a time. The pupils record what they hear on test sheets. This test will identify, fairly reliably, the children who have difficulty in discriminating words, but it will not indicate the extent of hearing difficulty or at what sound frequencies it occurs.

3. *Objective tests*

Pure tone audiometer. This is an instrument designed to produce a complete graph of the hearing ability of an individual who gives evidence of having some hearing impairment. Pure tones are generated by a vacuum-tube circuit covering a frequency range of 64 to 8,000 cycles, or even lower and higher than this in certain instruments. Intensities of as high as 110 to 120 decibels⁸ at some frequencies may be produced, so that any degree of hearing can be detected. The audiogram developed by the technician as a result of this test gives valuable diagnostic information for both the doctor and the educator.

Speech audiometer. This instrument is useful in determining not only whether a person can hear voice sounds, but how far he can identify the words he hears. The current is generated either by speaking into a microphone or by electrical pick-up from a phonograph record. The strength of the current sent to the headphone of the listener (or loudspeaker) is varied by a volume control manipulated by the tester. This test is most useful with adults and those with residual hearing; it is not designed for use with children born with severe hearing impairment or whose impairment occurred early in life.

Psycho-galvanic skin response test. This is a new test which is being increasingly used in hospital audiological clinics and speech and hearing centres in the United States. It is particularly effective in the individual testing of very young children who are unable to co-operate in a pure-tone audiometric test. The technique utilizes a conditioned response obtained by associating sound stimuli with electric shock. After conditioning is established, the sound alone, if it is heard, will produce a sweat response which is transferred

⁸ A decibel is a unit for measuring the loudness of sounds.

through electrodes attached generally to the palms of the hands, and recorded automatically on a chart sheet by a moving stylus. This test should, however, be used with caution, and it may be advisable to wait until further experimentation has proved that the electric shock does not produce adverse psychological reactions in children.

B. TREATMENT AND PREVENTION OF HEARING IMPAIRMENT

Comprehensive measures for detecting hearing difficulties as early as possible must be reinforced by the fullest co-operation of all the specialists concerned, in order to prevent hearing impairment or stop it from becoming worse. Thus conservation of hearing becomes, in a sense, a broad problem of public health, since primary prevention of hearing impairment can be achieved, for example, through improved control of certain diseases, such as meningitis, mumps and rubella (in pregnant women), and secondary prevention may be secured through early diagnosis and treatment of infections and allergic diseases of the middle ear during pre-school and early school years. Immunization against children's diseases is also important.

A complete pediatric health examination should be made of every child suspected of having impaired hearing. A thorough medical examination should likewise be the starting point in adults. A detailed personal and family medical history should be obtained, including those social aspects of the family situation which bear on access to or acceptance of treatment. This initial evaluation should also include a thorough physical examination and pertinent laboratory tests.

From the oto-laryngological standpoint, the principal emphasis is placed on accurate diagnosis of the type and cause of the defect in the hearing mechanism and the choice of medical or surgical therapy which will restore the function of the ear or prevent further deterioration. Diagnosis includes a careful inquiry into the history of the case; ear, nose and throat examination; nasopharyngoscopic visualization and tests involving pure-tone and speech audiometry as well as the classical tuning-fork tests. The therapies most frequently needed include chemo- and antibiotic therapy, radium irradiation of the nasopharynx when indicated (in approximately 45 per cent of the cases), tonsillectomy and adenoidectomy, mastoidectomy, sinus surgery, submucous resection, and management of allergic disease.

In Maryland and elsewhere in the United States, otologic development has been influenced by the work of Dr. S. J. Crowe, specialist in oto-laryngology at Johns Hopkins Hospital, who has stated that "impaired hearing in children, whatever the primary cause, is almost invariably complicated to a greater or lesser degree by partial Eustachian tube obstruction, secondary to hypertrophied lymphoid tissue in the nasopharynx . . . this lymphoid tissue may impair the function of the

Eustachian tubes and cause a low grade tubo-tympanic catarrh, which may lead to chronic progressive deafness . . . this lymphoid tissue is so sensitive to radiation that the dosage employed in the treatment of the nasopharynx is far below the amount that could cause any irritation or injury to the mucous membrane, . . . [and therefore radium treatment] may be used for the sole purpose of reducing obstructing modules of lymphoid tissue, decreasing the secretion of mucus, and restoring the normal ventilating function of the Eustachian tubes".⁹

The refinement of the technique used in the "fenestration" operation has brought hope for the alleviation of loss of hearing to many whose hearing impairment has been diagnosed as conductive. However, certain conditions must exist before such operations can be performed successfully. Briefly, the inner ear must be intact, that is to say, the nerve must be undamaged; the eardrums must be normal, and the loss of all airborne sounds should be about the same for all frequencies. Surgeons agree that usually the anticipated result should be no more than a 30 decibel improvement. Dr. Edmund P. Fowler, Jr., discusses this operation in detail in a publication devoted to the problems of hearing and deafness.¹⁰

General recommendations

To be successful, a complete programme of ascertainment, treatment and prevention of hearing impairment must be many-sided. Parents, teachers and public health nurses must be encouraged to be on the alert for significant symptoms that may cause or accompany hearing impairment. General practitioners, pediatricians, and otologists should regard the presence of these symptoms as serious, and ensure expert otological examination and treatment for children displaying them. Medical societies should sponsor programmes of public information that will enable all persons dealing with young children to make a more effective contribution to the programme of early detection and alleviation. The well-known otologist, Dr. Edmund Prince Fowler, Sr., of New York, has advocated measures to indicate on birth and baptismal certificates that the child's hearing be tested at an early age and annually thereafter.

The competent local or national authorities in each country should provide for the compulsory and regular routine testing of the hearing—with otological follow-up for those who need it—of all children in regular schools and classes, and of children of pre-school age where possible. Such regulations already exist in Australia, Canada, Denmark, Norway and Sweden. The State of Massachusetts, United States of America, passed a similar law in 1951 pertaining to the school-age child, and in the States of Colorado, Delaware,

⁹ See special bibliography on the deaf and hard of hearing, p. 75, item 5.

¹⁰ *Ibid.*, item 6.

Maryland, Utah and Virginia teachers are required to test the hearing of their pupils annually. New York State has such a law. Permissive legislation of this nature exists also in the States of Ohio and Indiana. In England and Wales, the school medical officers of local education authorities have had more specific responsibility for locating handicapped children in general since the School Health Regulations of 1945 were issued. A special problem exists in countries where a considerable number of children of school age do not attend school, or where there is a shortage of schools, so that the only centres for the ascertainment of hearing impairment may be in hospitals or small schools for the deaf.

Programmes already in operation

Voluntary agencies all over the world have helped to establish programmes for the ascertainment and treatment of hearing impairment. The League for the Hard of Hearing throughout the United States, the Volta Bureau in Washington, D. C., and the John Tracy Clinic in Los Angeles, California, have provided services and information programmes dealing with hearing impairment which are available to, and used by, people all over the world. Manchester University in England, and many private university centres in the United States, such as Syracuse University in Syracuse, New York, and Northwestern University in Evanston, Illinois, have sponsored and supported speech and hearing conservation programmes which are available to all who seek assistance.

In recent years, particularly in the United States, a new programme designed to encompass all phases of early detection, diagnosis, treatment and guidance has developed through audiological centres or clinics, sometimes called speech and hearing centres. Although some of these centres are more closely affiliated with universities than with hospitals, all have medical service programmes. There is a growing and welcome tendency to locate these centres in or near hospitals, so that medical staff can exercise general supervision while well-trained audiologists carry out the general administration. The Speech and Hearing Clinics at Johns Hopkins Hospital, Baltimore, Maryland, and the Speech and Hearing Clinic at Columbia Presbyterian Hospital in New York, exemplify this trend. These centres can undertake a complete treatment, including testing, surgery if necessary, and the application of therapeutic, non-medical measures for alleviation, in-

cluding parental guidance, lip-reading and speech instruction, fitting of hearing aids, and educational and vocational recommendations. In several countries, such as Australia, Canada, the United Kingdom, the United States, guidance centres for the parents of deaf children are attached to hospitals. The Department of Education of the Deaf at Manchester University has workers who give guidance to the parents of children under five years of age. Many American universities and colleges also give guidance to the parents of deaf children.

Many specialists in hearing consider that the establishment of more of these centres in different countries will provide the stimulus needed to publicize and expand the programme of detection and diagnosis. It is important that these centres should be staffed by thoroughly trained workers representing a wide variety of interests and services. Thus the staff would normally include an otologist, an audiologist, an educational psychologist, testing technicians, social workers and vocational rehabilitation experts, including one who is familiar with the problems of the severely deaf and one who has had experience with the hard of hearing. Important, too, is a clear understanding of the functions and responsibilities of each area of service. For example, the medical officer in charge, or the audiologist, should refer to the educational and rehabilitation experts the problem of determining educational goals when otological diagnosis and treatment have been concluded.

A complete description of an audiological centre is given by Dr. Moe Bergman in one of his publications, which describes the space required, the sound-proofing of certain areas, personnel and training, equipment and standards of installation and use, and also medical and educational phases of the programme.¹¹ The clinic he describes is designed for adults, but much of this material would serve as a basis for any clinic.

Dr. William G. Hardy, of the Johns Hopkins Hospital Speech and Hearing Center, Baltimore, Maryland, is another source of authoritative advice concerning the establishment and administration of clinics of this nature.

Other helpful details may be found in the works of Dr. and Mrs. Ewing, which are listed in the special bibliography at the end of this Review.

¹¹ *Ibid.*, item 3.

Education and Rehabilitation of the Deaf and Hard of Hearing

I

EDUCATIONAL AND VOCATIONAL PREPARATION OF CHILDREN WITH IMPAIRED HEARING

Enough surveys and studies on the hearing of school children have been made in various countries in the past few decades to lead us to accept the conclusion that in each country between 3 and 4 per cent of all school-age children have some impairment of hearing. At least one fifth of these children need some special educational assistance if they are to achieve satisfactory educational and social development. This knowledge in itself is, however, meaningless unless these children are identified and subsequently enabled to benefit from special provisions.

A long-range publicity programme, sponsored jointly by medical societies, health and welfare agencies, and departments of education and rehabilitation should be undertaken to make everybody realize that much hearing impairment can be prevented if it is detected early, and that the alleviation of problems arising from irreversible hearing impairment can be greatly assisted by early detection.

Public awareness of those two facts will help in the establishment of an effective system of testing and reporting to ensure the identification and listing by name of children who need special help. Even in countries where there is very meagre provision for a technical programme of detection and alleviation, much can be accomplished if parents, teachers, doctors, nurses, and others who come into close daily contact with children are educated to report to specified centres any shortcoming in a child's performance which might suggest inability to hear effectively.

Children reported in this way should then be given a careful examination, including a medical examination, to establish whether hearing impairment exists, and if so, to what extent; this examination should be followed by medical or other treatment to correct the condition if possible. Those who need a special educational programme should then be provided with the one most likely to help them, the decision as to what constitutes the best special programme for any particular child with impaired hearing being the responsibility

of persons who, by training and experience, are acquainted with the differing requirements of aurally handicapped children. Guidance of this kind might be given by trained administrators of schools for the deaf; teachers of the deaf and hard of hearing; audiologists; city, state or national directors of special educational programmes; directors of universities where there are departments for the training of teachers in special education; or audilogically trained directors of speech and hearing clinics.

Special educational programmes

The establishment of special educational programmes should not be delayed until individual cases of hearing impairment are identified or listed, but should be in existence for the benefit of children as soon as their problem becomes known.

The most extensive programmes of this type are found in countries with a high level of economic and social development, such as the United Kingdom and other countries of Western Europe, and the United States. In some of the under-developed countries, special educational measures are either non-existent or very inadequate, as are also, of course, educational facilities for the normal child. One Far Eastern country, for example, with a population of 70 million, has only two schools for the deaf, and these can provide for only a few hundred of the thousands of deaf children who undoubtedly exist in that country. No country in the world, however, no matter how extensive its special educational programme may be, is yet fully meeting the needs of all the aurally handicapped. Governments in all countries should increasingly assume financial responsibility for special educational programmes or provisions for all handicapped persons, the administration of which should rest with state, provincial, or local governments. If the State undertakes the education of normal children it should logically accept the obligation of educating the handicapped. A handicapped child should be looked upon first of all as a

child, the compensatory provisions needed for his adjustment to life being provided as freely and without question as would desks, books and materials for normal children.

The following features should be included in a comprehensive special programme designed to meet the varied needs of aurally handicapped children: pre-school home instruction; a favourable classroom seat in a regular class; instruction in speech reading (lip reading); speech correction; use of a hearing aid; tutorial assistance; part-time attendance in a special multi-graded class;¹ full-time attendance in a special multi-graded class; full-time attendance in a special day school; full-time attendance in a special residential school.

In deciding which of these features, alone or in combination, should be incorporated in a special programme for any particular child with impaired hearing, the following circumstances should be taken into account: age of the child; age when hearing impairment occurred; degree of hearing impairment; intelligence; speech-reading ability; speaking ability; emotional stability; general language ability, including skill in reading; home conditions, parental interest and education; special programmes available.

It is important, of course, that children with impaired hearing should be given the benefit, as early as possible after their hearing loss has been verified, of the special programme best suited to their needs. The normal age of admission to ordinary classes, in most countries, is five or six years: this should also apply to the handicapped child. In many countries, established schools for the deaf provide special nursery or pre-school programmes for severely deaf children at the age of three. Research carried out by educational experts, such as Arnold Gesell of Yale University and the Gesell Institute of Child Development, has proved that the first five years of life are the most prolific years of learning for normal children. Experience gained during the past twenty years by centres working with the young deaf child, such as the clinic for the deaf at the University of Manchester, England, the Lexington School for the Deaf in New York City, the Central Institute for the Deaf in St. Louis, Missouri, the John Tracy Clinic in Los Angeles, California, and others, confirms that this is also true of the deaf child. Early admission to these and similar centres makes it possible to reduce the backwardness at school normally expected of deaf children because of their severe communication problems, to improve speech, and to secure a more stable emotional and social adjustment.

For those children with impaired hearing who are under the age of three, or below the normal age of admission to special programmes, home instruction is most desirable. Fortunately, a number of excellent sources of guidance and assistance are available for this

¹ i.e., a group of children varying widely in age, ability and hearing.

purpose. The techniques used by Dr. and Mrs. Ewing at Manchester University have been most effective and are widely followed. The John Tracy Clinic in Los Angeles, California, has a free correspondence course for parents of young deaf children that has been used successfully for instruction in the home by parents in many countries outside the United States. The Volta Bureau in Washington, D. C., which was established by Alexander Graham Bell in 1887 to disseminate information concerning deafness, has a wealth of printed material which is most helpful. The importance of parents as partners with educators in influencing the linguistic, social and vocational growth of children with impaired hearing, not only while they are very young but throughout the school-age period, is very great.

The main problem facing all children with serious hearing impairment is that of communication. Through the combination of a hearing aid and speech-reading skill, this limitation can be considerably lessened. Severely deaf children, however, must depend principally upon some other medium than the human ear for the acquiring of information. The provision of specialized educational services by well-trained teachers will enable the severely deaf to learn how to communicate through speech-reading and speech, and through the effective use of whatever residual hearing is present. Children with impaired hearing can thus benefit from an education and vocational training comparable to that of children with normal hearing. Certainly an effective elementary education is within the reach of most of them and the successful completion of secondary and even college education is not uncommon in many countries. Intelligence, degree of hearing loss, age at onset of loss, and effectiveness of available special programmes will, of course, have an important bearing on the ultimate achievement of any particular individual.

Classification of children

In planning a comprehensive special programme for aurally handicapped children, it would be helpful to consider their special needs under the following classified headings:

GROUP A. CHILDREN WITH SLIGHT LOSS OF HEARING

Children whose loss ranges from 15 to 20 decibels in the less defective ear, those who have quite marked monaural loss, or children whose slight impairment can be alleviated by medical treatment within six months, do not generally need a special educational service. They must, however, be watched and rechecked periodically so that any tendency toward progressive deafness may be noted and treated.

Slightly hard-of-hearing children should be given the choice of favourable seating in the classroom. For example, the child with hearing loss in one ear should be seated so that the defective ear is turned toward the noisy side of the room if the room faces a busy thoroughfare. The other ear should face the side of the

room from which speech emanates. These children should be allowed to move to the seats from which they can hear best. This group constitutes a very large proportion of the estimated 3 to 4 per cent of school children who suffer from impaired hearing.

GROUP B. CHILDREN WITH MODERATE LOSS OF HEARING

Children with a loss as low as 25 decibels in the speech range in the less defective ear, and whose deficiency cannot be corrected by medical treatment, may be introduced to speech-reading (lip-reading) as a means of helping them to comprehend oral communication. They should remain in the regular classroom for all instruction other than lip-reading. If speech therapy is indicated, provision should be made to include this in the child's special programme. These children can be helped by a visiting teacher trained in speech correction.

Children whose losses range from 35 decibels to 50 or 55 decibels in the speech range in the less defective ear should be encouraged to wear hearing aids, if the hearing loss is of the type that lends itself to improvement with an aid, and to learn lip-reading.

Most children in this group will be able to remain in regular classrooms if they receive special instruction in lip-reading, as well as auditory training and speech training, when necessary. This special instruction may be given by visiting teachers, or the child may be taken to a centre where he can be taught by a teacher trained for the purpose. Certain classroom adjustments will also be necessary. Like the child with a slight hearing loss, the child who is hard of hearing should be given the opportunity to sit near the source of sound. Since, in the modern classroom, this is liable to change, the child with impaired hearing should be allowed to sit in the most favourable position at any particular time. In addition, the teacher, as well as the other children in the room, should be aware of the child's hearing limitations and of his dependence upon lip-reading. They can help by facing the child while speaking and by standing behind the source of light rather than in front of it whenever possible. They should speak distinctly but not in an exaggerated manner, neither too fast nor too slow.

As the degree of loss in the less defective ear approaches 50 to 55 decibels—if the loss is of long standing and if the child has not had the privilege of using amplified sound most of his life—adjustment to a regular class may be too difficult for him. A child who is slow to learn (though not necessarily mentally deficient), who is educationally retarded, who seems to have poor ability to read lips, or who is not well adjusted socially, may need the more individualized services of a special class.

Another group of children for whom the special class is indicated are those who suddenly become deaf

through illness or accident when speech and language patterns are already well established. The period of adjustment to a world of utter silence is frequently stormy. These children, suddenly deprived of hearing, need the guidance and understanding that can be given in the special class. They will need training in lip-reading and in the use of whatever residual hearing exists. The voices and the speech of such children frequently show deterioration unless a special effort is made to help them retain adequate speech patterns. Though they may be considered deaf, their educational needs closely resemble those of children who are hard of hearing, rather than those of deaf children.

GROUP C. CHILDREN WITH MARKED LOSS OF HEARING

Children with marked hearing loss (55-60 to 70-75 decibel loss in speech range in the less defective ear) present a more complex educational problem than do hard of hearing children, since they must be taught to communicate by specialized techniques designed to meet their needs. They have a truly great advantage, however, over the very deaf. Though "educationally deaf", they have some residual hearing that can be used in their education. The sense of hearing can become functional with amplification, though it can never be relied upon as the only means by which speech and language are to be acquired. With the best quality of amplification available, these children will still experience difficulty in understanding speech because their discrimination may remain defective as the result of the type and the severity of their loss of hearing.

Even so, residual hearing will be of great help to them in their education. Many children who started out as "educationally deaf" may eventually be classified as hard of hearing because of the speed with which they can acquire speech and language.

The educational needs of children with marked hearing losses are best met, as a rule, in special classes or in schools for the deaf. These children should receive their basic elementary education largely from teachers trained to teach the deaf, since they understand the process of developing language concepts and of correlating them with oral and written expression. Continued practice with the tools of communication is necessary to establish correct language and speech patterns.

It is quite possible that children in this group who attend special classes in the regular schools and who progress rapidly in learning language and intelligible speech can participate in ordinary classroom activities to some extent. They might, for example, first join an art class, or a physical education class, with children of their own interests and abilities. Later they might add classes in arithmetic or spelling, and so forth. Children with marked hearing loss should be given the same opportunities as hard of hearing children to participate in extra-curricular activities.



A very deaf child using his eyes, ears and sense of touch to develop his communication skills.

GROUP D. CHILDREN WITH PROFOUND LOSS OF HEARING

The education of these children must, in general, be carried on in special day or residential schools. Since the percentage of the school population suffering from profound loss of hearing is small, those falling within this group will be widely distributed in any community and must be assembled at one central point for special education. If a community has a large enough population, a central day school may be established. In areas where the population is not concentrated, it may be necessary for these children to attend a residential school. The larger the groups the more effective will be the programme, for children with profound loss of hearing will need the continuous benefits of specialization. Unlike children with moderate or slight loss of hearing, they will not be able to adjust to the fast-moving activities of classes for children with normal hearing. There are exceptions to this generalization, of course. Certain deaf children with unusual abilities and advantages may be able to fit into regular classes, but they are the exception rather than the rule.

Generally, then, those children whose average hearing impairment places them in groups A and B may be classified as hard of hearing and, as indicated, compensatory educational provisions should enable them to complete their entire educational and vocational preparation for life in the regular classes for children with normal hearing. Those falling in groups C and D may be classified as deaf. Most of those in group C will succeed most satisfactorily in an educational programme designed for the deaf. Many, however, after communication skills have been established, can profitably move into regular classes. The great majority of those in group D will always need the benefit of the slower-paced and more individualized programme provided in either day or residential schools for the deaf. This does not mean, however, that particularly able children in this class cannot also meet the challenge of the faster-moving programme for those with normal hearing: they can, provided that a combination of favourable factors is present, such as good intelligence, good use of residual hearing, good linguistic ability, and effective parental assistance.

Vocational training

Although some children with severe impairment of hearing are able to extend their general education to the secondary or college level, the majority should be taught to acquire elementary vocational skills before the age of eighteen. The main purpose of this vocational training should be to teach the pupils basic skills adaptable to a wide range of activities; courses leading to only one field of employment are not to be recommended. A diversified preparation is more consistent with modern trends in industry: employers prefer to train their own workers according to their own particu-

lar industrial needs. Deaf workers today are able to compete successfully with normal workers in a wide variety of occupations and have proved themselves dependable, reliable and efficient. They can become competent in any field of employment where normal hearing is not a primary requirement. The United States Civil Service Commission, for example, has listed 1,260 types of employment for which normal hearing is not considered essential, and it is probable that there are deaf workers in each of these occupations.

Demonstration centres

The need for expanded special programmes for aurally handicapped children in all countries is clear. This is true even in the more advanced countries, where great progress has been made during the past two centuries. In the less developed countries, the need is critical, but it is not reasonable to expect these countries to achieve sudden, wide-spread expansion at one blow. It is suggested, therefore, that in the immediate future all available international resources should be employed to promote the establishment in these countries of pilot schools or programmes to serve as demonstration centres, where the presentation of the most modern equipment and progressive methods selected from the best programmes for hearing impairment operating particularly in the United Kingdom and other countries of Western Europe and the United States, might help to show how a broader expansion of special education for the deaf and hard of hearing in the countries concerned could ultimately be brought about. Such demonstration educational centres should work in close co-operation with audiological centres affiliated with hospitals and universities.

Planning special educational programmes for deaf children

In planning special educational programmes in any country, consideration should be given to the following points:

(a) Means of communication

Children who fall into groups A and B, namely those who are classified as hard of hearing, will have no insurmountable communication problem if they are given the benefit of good hearing equipment and have the opportunity of acquiring skill in speech reading. This combination will bring them to a relatively normal level of communication through spoken language. The deaf, particularly those in group D who are severely deaf, have a more acute communication problem. Because they cannot hear speech clearly, their own speech will always be defective. The world-famous Helen Keller, who is both blind and deaf, has said on many occasions that her greatest sorrow has always been that she was never able to learn to speak normally. In spite of this, however, her ability to speak, even though defectively, constituted perhaps her most re-

markable achievement, for it brought her into verbal contact with the hearing world. It should be a matter of primary concern for all countries to provide the most complete opportunity possible for deaf children to acquire the ability to communicate with the hearing world through speech and speech-reading. Educational programmes for the deaf should therefore function on an oral, rather than on a manual basis (signs and finger spelling).

The development of the vacuum tube several decades ago brought about a great change in the lives of those with hearing impairment. The recently developed "transistor", which is coming into wide use in the United States, gives promise of even greater benefits, not only to the hard of hearing but also to the severely deaf, for with this so-called "mighty mite", even greater power with less distortion and much greater economy is now possible, particularly in individual hearing aids. The experience of those working with severely deaf children in the United Kingdom and the United States confirms the belief that the modern hearing aid is one of the most helpful inventions of the century. Group hearing aids employing one or more microphones and a powerful central amplifier, which are able to transmit sound to as many as ten or twelve pupils wearing earphones, are now in common use in schools for the deaf in many countries. Many children with severe hearing impairment are also able to use profitably the new, improved individual hearing aids that are now available. In an address before the American Otological Society in Atlantic City in 1951, Dr. Clarence D. O'Connor, President of the Alexander Graham Bell Association for the Deaf, and Superintendent of the Lexington School for the Deaf in New York, observed that "a radical change has occurred in most schools for the deaf, profoundly influenced by the extensive use of hearing aids. It is well recognized now by most educators of the deaf that there are very few so-called completely deaf children. Most have some residual hearing, and children with hearing losses of 60 to 90 decibels, and even those with greater losses, will experience at least the benefit of improved voice and speech as a result of the consistent use of hearing aids. Many will also develop improved ability to interpret spoken language through the combination of speech-reading skill and improved use of residual hearing".²

At Manchester University in England, it has been the practice to give deaf babies the experience of hearing the human voice first without recourse to hearing aids. This has been followed by use in the home of hearing aids for children as young as two years. This practice is still under study and thus far the results have been most gratifying. Important experimental work in the use of hearing aids with the deaf child is also being carried on at the Clarke School for the

Deaf, Northampton, Massachusetts, at the Central Institute for the Deaf, St. Louis, Missouri, U.S.A., and at the Instituut Voor Doofstommen, St. Michielgestil, in the Netherlands.

A word of caution must be added, however, concerning hearing aids and what they may be expected to accomplish. They will not transform a truly deaf child into a hard-of-hearing child. Neither will they solve miraculously all the educational and linguistic problems of children suffering from severe loss of hearing. These children will still have to acquire their education and vocational preparation in schools for the deaf, acquiring their education as a rule by visual means, but their task will be made easier and their ultimate accomplishment will be more gratifying because of the improved hearing aids of today.

(b) *Special classes or schools for children
with impaired hearing*

The hard of hearing, especially those described in groups A and B above, should receive their education entirely in, or close to, the regular classes for children with normal hearing, special educational provisions being arranged as needs indicate. Some may need only a favourable seat; some may also need speech-reading instruction which could be given by visiting special teachers of speech-reading in the regular schools; others may need both these benefits, as well as speech therapy; yet others may need all these special provisions and a personal hearing aid as well, which should be accompanied by instruction (auditory training) on how best to use the aid. In addition to all these benefits, some children who are hard of hearing may need varying amounts of private assistance in the form of tutoring to enable them to succeed in competition with children who have normal hearing. Local communities, with financial assistance and guidance from the state or national Government, should provide this special service for the deaf and hard of hearing as part of a comprehensive special educational programme for the handicapped in general. Funds invested in such a programme would be recouped many times over by the communities concerned, since these handicapped children would not have to continue in school year after year, and particularly since they would grow up to be self-supporting citizens rather than public charges.

Children with severe hearing impairment (the deaf), such as those referred to in groups C and D above, must be educated in special schools or classes, in centralized locations serving a large area. In predominantly rural areas, resident schools would be essential, since distances are too great for children to travel daily to and fro. These schools would serve deaf pupils who would return to their homes only at holiday times. Board and lodging, education, medical care and other services, should all be provided by the State, which should accept the principle that all children, including those deaf children who must be educated away from

² *Transactions of the American Otological Society*, vol. 39, pp. 66-67.

their homes for varying periods of time, are entitled to a free education.

Some countries of Western Europe lodge and board deaf children in foster homes in centralized communities, so that the children attend schools for the deaf for their normal education, and do not reside in them. The advantage of this scheme is that it enables the child to feel that he is a member of a family group, even though it may not be his own family. The disadvantage is that the deaf child loses the benefit of continuous contact in and out of classrooms with the trained staff who know his problem best and are available at all times to help him. In large cities, enough deaf children would be found to justify the establishment of a day school. New York, for example, maintains a day school for deaf children which is attended by more than 500 children with severely impaired hearing. Some are transported from the outlying areas to and from the school daily free of charge. This plan has the obvious advantage of enabling the child with severely impaired hearing to receive his education and continue to live with his own family outside school hours.

A special school for the deaf, whether day or resident, should have an enrolment of not fewer than 100 pupils, so as to ensure better grading according to age, ability and hearing loss, as well as more effective supervision. Cities with a population of only 100,000, for example, would probably not have more than 25 or 30 severely deaf pupils to provide for; it is generally uneconomical and impractical to run a school of this size.

Some communities try to solve the problem by running one or two multi-graded classes in a regular school for children with normal hearing. This has the advantage, as does a large day school, of permitting children to live at home while attending school; it also brings children with impaired hearing into daily contact with normal children. The disadvantages are numerous, however: the inclusion, in one group, of children of divergent ages, abilities and hearing impairment add to the problems of instruction and, moreover, effective supervision of the programme is usually not possible, since the supervising staff are unfamiliar with the problems of deafness.

(c) *Financing of schools*

In countries where there are adequate services for the handicapped in general, the establishment and maintenance of schools for the deaf and partially deaf may be the responsibility of central or local government authorities. Where provision is made by a local body, it should not be restricted to health and welfare, but should also include education. This body should, however, co-operate fully with government and private agencies for health, employment and welfare in obtaining facilities for the deaf and partially deaf children in its charge.

Methods of financing the education of the deaf vary from country to country. Experience in boarding schools for the deaf in Western Europe shows that half of the total cost is made up of salaries and wages for teaching and other staff; expenditure on food, fuel, clothing and other expenses of a household nature amount to approximately a quarter of the total cost; the remaining quarter includes the outlay on equipment and building materials, upkeep and decoration of the buildings and grounds, office expenses, insurance, travelling, medical charges, pensions and local taxes.

The funds required for the education of the deaf may be obtained by different methods. In the United Kingdom, for example, the income of schools for the deaf or partially deaf is derived almost entirely from the local education authority, which receives approximately half of its educational funds from the central Government. Any small balance remaining may be derived from voluntary sources.

In many countries the expenditure for handicapped children is covered only to a small extent by public funds, the greater part of the balance being supplied from voluntary sources and parents' payments. As already pointed out, however, if the State undertakes the responsibility of educating normal children, it should also assume a similar responsibility for its handicapped children. The only sound principle upon which grants should be made is that where education is free for normal children, it should also be free for handicapped children, and no additional cost should fall upon the parent solely because his child happens to be deaf or partially deaf and therefore more expensive to educate. So long as this principle is accepted, the division of financial responsibility between voluntary agencies and the State is one for each country to determine.

(d) *Mentally retarded and gifted deaf children*

In most countries, educational programmes for children with normal hearing are designed to suit the capacities of the average child, but in many countries headway is being made in designing programmes to meet the particular needs of mentally subnormal and supranormal children. It is all the more regrettable, therefore, that so little progress has been made in designing special curricula for deaf children who fall into either of these two categories, and attention should be given to this need. Teachers of highly intelligent deaf children should have experience in teaching normal children of this type, as well as being trained to teach deaf children. There should be enough teachers to give tutorial instruction to very small groups and even to individuals.

Experience in the United Kingdom shows that when children are selected and taught in this way, the totally and partially deaf can be taught together without disadvantage to either, and very intelligent children who become deaf after speech has been acquired can also profitably attend these classes. There are also records

of very intelligent deaf children who, after receiving a good basic education from expert teachers of the deaf have, after the age of eleven or twelve succeeded in ordinary elementary schools without any further instruction from specially trained teachers.

In all schools for the deaf and partially deaf, there are some children who are mentally retarded and others who, though they seem within the normal intellectual range, are generally backward or have specific disabilities in the acquisition of speech and language. This happens also in schools for normal children, though for various reasons the proportion of these children found among the deaf (as among the blind) is greater than among the hearing (and seeing).

Experience suggests that there should be special schools for deaf children with very retarded mental development, and classes in the ordinary deaf schools for those with less serious retardation. Only in a few countries have such specialized schools been established and in none does the number meet the need. One obstacle to an increase of specialized schools is the lack, up to now, of an authoritative method of selection may help. A more general practice in the larger schools is to have one or more classes where the less able children can learn at a slower pace and obtain slightly different treatment, but the success of these classes has not been great. The main difficulty is ignorance of the most suitable methods for teaching children who can hear but are subnormal mentally; moreover, verbal teaching is particularly inappropriate for children who are not deaf but mentally subnormal, and the curriculum in schools for the deaf is predominantly verbal. The subnormal deaf and those who are specifically retarded in linguistic development (including speech and lip-reading) constitute a problem of education for the deaf that can be solved only when there are enough services for deaf children, and when more specialized schools and departments are set up by authorities no longer overburdened by the needs of mentally normal deaf children who are not being educated.

(e) *Children with handicaps additional to hearing impairment*

In addition to impaired hearing, many children have other secondary handicaps which further complicate their problems—cerebral palsy and blindness are among the most serious. It is obvious that special techniques in addition to those designed to overcome the difficulties caused by hearing impairment alone must be devised for such children. In the United States a great deal of attention is now being given to this very complicated problem. The United Cerebral Palsy Fund has carried on fund-raising campaigns for a number of years and subsidizes pilot programmes for the care of sufferers from cerebral palsy. The Perkins Institute for the Blind in Massachusetts has been highly successful

in preparing deaf-blind children to lead a full life, not only by giving them a sound basic education and vocational training, but also by developing in them a high degree of skill in verbal communication.

(f) *Countries with more than one language and culture*

In certain countries or regions, it may be difficult to establish a complete programme for the care of all children with hearing impairment, because more than one language is spoken in the area and two or more communities, with different patterns of culture, live side by side. For instance, in Malaya, in January 1952, there were 720,000 normal children in schools. Of these, 285,864 were in schools where Malay is spoken, 207,133 were in Chinese schools, 110,630 in English schools and the remainder in Indian schools. If the incidence of deafness among children in Malaya is not less than elsewhere in the world, and places in special schools for the deaf are provided in the same proportion as in other countries (i.e., in the ratio of one deaf child to every thousand children in ordinary schools), separate schools for Malay, Chinese, English and Indian deaf children will ultimately be needed. In Ceylon, where there are Sinhalese, Tamil and English-speaking communities, this problem was solved with some success by organizing a school in which separate classes for children of the different communities were taught by specially trained teachers of their own culture. The total number of pupils was about 120. It was reported that deaf children who were taught a foreign language during an earlier period of the school's development inevitably found it of little use outside the school and relapsed into silent communication by signs. Since pioneer schools of this kind are obliged to provide board and lodging for many of their pupils whose homes are at a distance, it would seem advisable for the children of each community represented to live in separate homes, with their own teachers and house-mothers or matrons.

(g) *Training of teaching staff*

Teachers of the deaf must be specially trained for their work; this training has commonly been given by the schools to which young teachers were first attached, and in some countries this "in-service" training by experienced school staff is the only form of training available. It is now realized that recent advances in knowledge about deaf children, and of techniques for their instruction, developments in the use of hearing aids, and changes in education brought about by psychological study, have made it more difficult for teachers to learn their professional task while they are in service. Moreover, the best practical system for the education of the deaf is now far in advance of the techniques actually in use in schools for the deaf. Specialized full-time training for teachers of the deaf in institutions of higher learning is now regarded as a possibility in some countries and is in actual practice

in a few, notably the United Kingdom and the United States.

If teachers of the deaf are to take advantage of this kind of professional training, their preliminary education should be of university standard.

It is also realized more and more that teaching the deaf is a branch—a very specialized one—of education in general, and must keep pace with the ideas that inspire normal education. Teachers of the deaf should be regarded (and trained) as teachers of *children* first and foremost, and only secondarily as teachers who are specialized in the education of the deaf. They should therefore be trained as qualified teachers in primary or secondary schools for normal children, as well as receiving special training for work with the deaf. After graduation, they should also keep in touch with all developments in the education of the normal child with whom, as adults, their deaf children will live and compete in employment.

The details of the training of teachers of normal children differ from one country to another, and it is assumed that the methods of specialized training for work with the deaf will also vary. Nevertheless, four principles have been found important in training teachers for children with impaired hearing:

- (i) The training should be undertaken in a specialized centre and in conjunction with training establishments for teachers of normal children.
- (ii) The training centre should be closely linked with good schools for the deaf, where the students can observe and practise and, if possible, reside for certain periods.
- (iii) The staff of the training centre should include persons with recent practical experience in teaching the deaf, and also research workers in psychology, acoustics and educational philosophy, and possibly also sociology, who can apply their principles and techniques to work for the deaf.

- (iv) The centre should be in a position to examine and treat individual children in order to give advice to parents, school doctors and educational authorities on certain cases, and thus engage in child study at first hand and apply and check research work.

The status and authority of the training centre will largely depend upon the degree to which it initiates and develops research and uses results to improve methods of training.

Although the techniques employed in the education of partially deaf children differ considerably from those applied to the deaf, much of the specialist training is required by the teachers of both categories of children. Thus, one training centre can apply its research to the training of both groups of teachers; it is important, however, that each group should be conversant with the work of the other.

It is suggested that in countries where there is a dearth both of programmes and of trained staff for the education of the deaf, well-qualified teachers of children with normal hearing, psychologists and audiologists should be selected and sent to the United Kingdom and other European countries, or to the United States, for training. Such persons might then establish training centres in their own countries. A study is now being made by the United States Department of Health, Education and Welfare, as part of a broader study on “Qualifications and Preparation of Teachers of Exceptional Children”, to determine the competence, skill and knowledge which teachers of children with impaired hearing should possess. The results of this study should provide valuable criteria for the establishment of “teacher-preparation” programmes in each country. The standards of “teacher-training” prescribed by Manchester University in its teacher preparation programme may also serve as a guide.

II

REHABILITATION OF ADULTS WITH IMPAIRED HEARING

Hearing impairment in adults, whether it occurred at birth (congenital) or later in life (adventitious), creates a communicative disorder which affects, in varying degree, the educational, social and economic life of the person concerned. Those so affected usually need the help of a well-organized rehabilitation programme. Adults who were born severely deaf and have received education and vocational training in a well-established school for the deaf, may need a rehabilitative service in later life on account of changing employment trends or other circumstances; they may need to acquire new skills or to re-establish skills formerly possessed. Adults who were suddenly afflicted by loss of hearing, or whose hearing gradually deteriorated as

they grew older, may need a rehabilitative service to help them achieve a healthy adjustment to their problems and to learn the skills that will enable them to take part in normal life.

A complete programme for the rehabilitation of adults with impaired hearing should include the following services:

Medical care

Otological examination should be given to determine the degree and type of hearing impairment. This information will help in the selection of a suitable employment, should a change of employment be necessary. Noisy or damp working conditions might be sat-

isfactory for some, but not for others. Some might be able to work in high places—for example, in buildings under construction—without fear of loss of balance; others might not. Medical examination would also reveal whether further impairment could be prevented through medical treatment; it could show, too, if the patient was suitable to undergo the “fenestration” operation.

Improvement of impaired communication skills

Those who are born severely deaf learn to speak and understand speech with great difficulty and with varying success. Those who lose their hearing later in life, even if only partially, immediately reflect this loss in impaired speech and reduced ability to understand speech. This, of course, seriously affects their social and economic way of life. A rehabilitation programme should be provided to improve the ineffective communication skills of adults who were born severely deaf and to restore as far as possible to adults with partially impaired hearing the ability to communicate normally. This programme would include selecting persons to be fitted with hearing aids, fitting the aids, and following that up with training in their use. It would also include instruction in speech-reading and speech correction. Some ten years ago, the Veterans Administration in the United States inaugurated a comprehensive aural rehabilitation programme for thousands of servicemen who suffered hearing impairment in the Second World War. One of the most important and successful aims of this programme was to restore to maximum efficiency previously normal communication skills disturbed by loss of hearing sustained in the war. The programme established under the British National Health Scheme in 1948 and 1949 has also been very successful: by 1952, 210,000 people suffering from severe loss of hearing had been provided with hearing aids and were showing a decided improvement in communication ability as a result.

Psychological testing

Personality, achievement and aptitude tests should be given. These will provide useful information for finding suitable employment and achieving the social satisfaction and adjustment of adults with hearing impairment.

Psychiatric treatment and guidance

Many adults who suffer severe loss of hearing in later life and are consequently faced with the problem of rearranging their lives need guidance to help them achieve their goal.

Vocational training

Rehabilitation can be effected with or without training, according to the individual circumstances. Normally, training is necessary only when it is not possible, without it, to place the person with impaired hearing in a suitable occupation. In several countries

vocational training is provided either in special centres for the deaf, or through trainees in training centres, technical schools and colleges, or by employers. The type of training will naturally depend on such factors as residual hearing with or without a hearing aid, the kind of occupation for which training is necessary and the physical and psychological state of the trainee.

Vocational counselling and placement

The satisfactory placement of persons with impaired hearing is a highly skilled technique that should be carried out by specially trained staff. Not only is it necessary to know the abilities of the particular person who has to be placed and the exact requirements of the selected employment; the induction process must also be supervised. Persons with impaired hearing are frequently at a disadvantage, without the help of a counsellor, in an interview centring rather on their disability than on their ability. For this reason they need an intermediary who can speak on their behalf and place their qualifications before a prospective employer, and then assist them in the settling-in process once they have started work. During the settling-in period advice should be given to the employer and the new employee, in the interest of good staff relations, on such matters as communication, safety, methods of instruction, psychological reactions and integration into the firm's working team.

It is essential that abilities should match employment requirements, because all placements should be the outcome of a business arrangement and not of sympathy. In the long run, success in rehabilitating adults with impaired hearing (congenital and adventitious) depends on the skill with which rehabilitation is carried out and on understanding between employer and employee.

In some countries placement is carried out by the specially trained staff of voluntary organizations for the deaf and hard of hearing, acting either on behalf of, or in co-operation with, national employment services. The staffs of these voluntary organizations are experienced in all matters relating to the welfare of the deaf, including placement, and are well qualified to inform a prospective employer of their client's qualities and capacity for communication. It is usual to emphasize abilities, training, experience, etc., rather than the disability. In the United Kingdom, the deaf are generally placed in employment and supervised by welfare officers of the various societies and missions for the deaf. In Canada, the placement officers of the National Society for the Deaf and Hard of Hearing carry out placement in co-operation with the National Employment Service. In the Union of South Africa, placement is the concern of the officials of the National Council for the Deaf. In the United States, the Federal Office of Vocational Rehabilitation has a Department for the Deaf and Hard of Hearing which works through State Departments of Vocational Rehabilitation and through voluntary organizations such as the New York League

for the Hard of Hearing, the Chicago Hearing Society, and others, to achieve the best possible placement for each adult with impaired hearing.

Follow-up after placement

No rehabilitation of an adult with impaired hearing can be regarded as satisfactorily completed until the follow-up of the case shows that the worker has settled down well in his new job and the employer is satisfied with his services. This follow-up may entail several visits by the special placement officers to the place of employment in order to give assistance to both employer and worker.

Some general principles

Any national plan for the rehabilitation of adults with impaired hearing should take into account the special factors and particular needs discussed in the preceding paragraphs. Two principles, above all, should be recognized: first, that hearing impairment is not an occupational disability for the majority of occupations and, secondly, that the foundation of any rehabilitation scheme should be the placement of each individual in the most suitable and useful occupation.

Techniques of rehabilitation should be based medically on quick identification, diagnosis and prognosis of the disability, its effects and possible remedies; educationally, on instruction as close as possible to normal instructions; vocationally, on orientation towards the most suitable employment. In each case, rehabilitation should spring from the needs as well as from the abilities of the individual. Co-ordination and co-operation between the health, educational and voca-

tional authorities should be complete and directed towards the aim of rehabilitation, i.e., individual satisfactory placement.

For this particular physical disability, certain special remedies are necessary. In vocational rehabilitation, visual methods of guidance, training and employment-induction very often replace aural methods. Guidance and training should be realistic and related to the current conditions of the employment market. In countries like the United Kingdom and the United States, where the standard of training is high and its scope varied, and where the demand for workers in industry and the professions is large, the deaf have ample opportunities for employment in a wide variety of manual and non-manual occupations. In countries like Australia and New Zealand, which are not heavily populated, the demand for labour is so great that the deaf have little or no difficulty in finding employment. On the other hand, in heavily populated countries like Ceylon, it has been found necessary to provide extensive training courses as well as residential accommodation for young men with impaired hearing. The need to make adjustments to differing economic conditions when undertaking the vocational training of the deaf must always be borne in mind if the deaf are to be enabled to compete successfully against persons with normal hearing in available occupations.

Finally, rehabilitation services for adults with hearing impairment should be incorporated in a comprehensive scheme for the rehabilitation of all handicapped persons, the particular needs of the deaf and hard of hearing being dealt with by special services provided within the general framework of this programme.

III

CONCLUSIONS

Impaired hearing in children

To all who are responsible for training and carrying out programmes for the conservation of hearing and the rehabilitation of children with impaired hearing, the following ten principles, which emanated from a joint discussion of pediatricians, otologists, audiologists, speech pathologists, and teachers of children with impaired hearing, at the annual meeting of the American Academy of Pediatrics in Chicago in November 1952, are of interest and value:

(1) Hearing rehabilitation is a many-sided, co-operative endeavour calling for the services of the pediatrician, the otologist, the clinical audiologist, the psychologist, the teacher, and, above all, the parent. It cannot be effectively achieved except by team work.

(2) Communication in children is a process comprising acoustic, linguistic, visual, behavioural, developmental, sensory-motor and social elements. Lan-

guage, hearing and speech cannot be isolated one from the other, or divorced from the general process of a child's development.

(3) All treatment and training must be based on a full diagnostic appraisal, which includes an early diagnosis of the amount of residual hearing and, when possible, of the child's ability to use it.

(4) Treatment and training should be started as early as possible in life, between the ages of eighteen and thirty months. Between two and five years of age, the child is capable of making rapid progress in learning to speak. Never again, in any single period of his life, will he be in such a state of readiness, need and desire for the acquisition of habits of speech and language. So far as the tools of communication are concerned, the child's career does not begin at school, but in infancy.

(5) With care, most children, even those with severe impairment, can learn to talk and take part in normal communication.

(6) Most children with hearing impairment have a great deal of residual hearing and can derive maximum benefit from amplified sound provided they begin to use it at an early age, so that it becomes an integral part of mental development. Even the child with a profound loss of hearing can derive some benefit from amplified sound.

(7) Wearable hearing aids increase the volume of sound and can place the child in constant contact with sound all his waking hours. Most children make the best adjustment to a wearable hearing aid between the ages of two and three years. The timing for a particular child, however, always needs careful clinical judgement; it must depend upon his readiness and his growing needs. It is a grave error to wait too long, say, until the child is six years old or more, and has already formed certain defective habits of speech which are difficult to eradicate.

(8) With any particular child who suffers from hearing impairment, the question is not: "Is special training necessary?" but: "How much and what kind of special training?" Some special care is always necessary at home, and generally in school. The important thing is that it should be the right type of training for the child's particular needs. It is the duty of the clinical audiologist to guide the child's education. Here, there can be no generalized procedure: sometimes it can be done by special instruction in a regular nursery or ele-

mentary school; sometimes a special school, either day or residential, is best suited to the child's requirements.

(9) Most children develop best in normal surroundings. These should also, if possible, be provided for the handicapped child, but special attention must, of course, be paid to his particular needs.

(10) Understanding and guidance by the parents are essential for the success of early measures in training the child with a severe hearing impairment.

Comprehensive programmes

Comprehensive rehabilitation and conservation of hearing programmes need to be established or expanded in all countries. These programmes should include:

(1) Testing and reporting routines to identify persons with hearing impairment;

(2) Medical care programmes designed to determine the cause, type and degree of impairment, and procedures for the prevention of impairment;

(3) Special educational programmes to alleviate the damaging effects of hearing impairment;

(4) Training programmes to provide qualified staff for all branches of service on behalf of persons with impaired hearing;

(5) Rehabilitation programmes for adults with impaired hearing, designed to endow them with a greater measure of social and economic competence, so that they may cease to be non-productive members of society and become instead self-supporting citizens.

The Problem of Blindness in the Far East*

Growth of international action

Since the end of the Second World War, considerable progress has been made both at government and non-governmental levels towards the development of services for the blind throughout the world and the establishment of forums for the international interchange of ideas and experiences.

The first active steps leading to the creation of a permanent international non-governmental organization for service to the blind were taken at the 1949 International Conference of Workers for the Blind, which met at Merton College, Oxford, England, in August of that year. By a unanimous resolution of the Conference, the International Committee for the Welfare of the Blind was established and made responsible for taking all necessary action to ensure the widest possible international recognition and implementation of the Conference resolutions, for co-operating fully at the interim stage with the United Nations and its specialized agencies towards the introduction of a comprehensive co-ordinated plan of assistance in the development of services to the blind through government channels, and for taking the necessary steps towards the creation of a legally constituted permanent international non-governmental organization for the well-being of the blind.

The preliminary meeting of the United Nations *ad hoc* Technical Working Group on Rehabilitation of the Handicapped, held in Geneva in February 1950, followed by the endorsement of its proposed programme, first by the Social Commission and later by the Economic and Social Council, marked an important step in the development of international programmes for the welfare of the blind.

Since that time, a number of important international conferences of direct concern to the operation of services for the blind in all parts of the world have been held. At three meetings of the United Nations *ad hoc*

Technical Working Group special aspects of work for the blind figured prominently on the agenda. Three meetings of interested international non-governmental organizations have also been held, at the second of which decisions were made leading to the creation of the now active Conference of World Organizations Interested in the Handicapped. The World Council for the Welfare of the Blind, established in 1951, held meetings of its General Assembly in that year and in 1954, attended by delegates from all parts of the world. In 1952, the International Conference of Educators of Blind Youth met in the Netherlands, with representatives present from some thirty-two countries located in every continent; no geographical restrictions were imposed—all countries being encouraged to participate regardless of economic, cultural or social conditions in their regions. In 1954, the International Conference on Braille Music met in Paris and once more one of the special aspects of work for the blind was considered on an international basis.

Trend towards regional action

The World Braille Council (which, like the International Conference of Educators of Blind Youth, now serves as a Consultative Committee to the World Council for the Welfare of the Blind) held international meetings in Paris in 1950 and 1951, and later arranged regional meetings in Beirut and Montevideo so that detailed consideration could be given to the specific needs, problems, viewpoints, and resources of the Perso-Arabic and the Portuguese-Spanish linguistic areas respectively.

This action of the World Braille Council in initiating regional conferences represented the first real attempt in the post-war period to introduce a stage for international collaboration and joint action midway between national schemes and the rapidly expanding international programmes already described. The successful outcome of the two regional conferences of the World Braille Council and the encouraging progress recorded in Cairo by the United Nations Demonstration Centre for the Blind, which started to function as a service to the Arabic world in 1953, demonstrated the usefulness of such regional activity. In past years some attempts have been made to provide limited opportunities for regional discussion by conducting sectional meetings (several of which might run concurrently) during ses-

* This article is based on material prepared by the World Council for the Welfare of the Blind, an international non-governmental organization having consultative status with the Economic and Social Council of the United Nations, and also on the official records of the Far East Conference on Work for the Blind, held at Tokyo, Japan, from 20-26 October 1955. These records may be obtained from Mr. Hiroji Jitsumoto, chief, Rehabilitation Section, Social Affairs Bureau, Ministry of Health and Welfare, Tokyo, Japan.

sions of conferences that were fully international in character. Although this is a useful device, it does not always provide sufficient time or opportunity for full examination of entirely regional matters. There is therefore a growing conviction that greater opportunity should be provided for regional discussion of regional problems, while at the same time ensuring that the operation of fully international programmes should not be weakened by too much emphasis upon decentralization.

The Pan-American Conference on the Welfare of the Blind and the Prevention of Blindness, the first important regional conference to study, discuss, and plan for the development of services specially designed to meet the needs of the blind in a particular region, was held in São Paulo, Brazil, in June 1954. Twelve countries of the Pan-American region sent delegates; other countries were represented by qualified official observers. Some of the activities for the welfare of the blind that have been started in the Pan-American region during recent months are directly attributable to the work and decisions of this Conference.

Conference in the Far East

Immediately after the São Paulo Conference, negotiations were started for the convening of a regional conference at which consideration would be given by qualified representatives of countries in the Far East, South and South East Asia, to the crucial needs of the sightless citizens of those lands. Although some 80 per cent of the world's blind people live in Asia, the scope and extent of existing services to the blind in that region scarcely reach one blind person in every thousand. Moreover, many programmes introduced originally under missionary or other charitable auspices were created as virtual facsimiles of schools and workshops existing in the advanced Western countries, and therefore not entirely suited to conditions in Eastern countries. Thus, a conference of Far Eastern countries seemed to promise a most useful opportunity for the fruitful exploration of conditions and the planning of future activities.

With the enthusiastic support of government and voluntary organizations in Japan, a fully representative regional Conference was convened in Tokyo from 20 to 26 October 1955. Under the chairmanship of Dr. Hiroshi Shimomura, Director of the Tofu Association for the Welfare of Lepers, the Conference brought together delegates from Burma, Ceylon, the Republic of China, Hong Kong, India, Japan, the Republic of Korea, Malaya, the Philippines, Thailand and South Viet-Nam. Official representatives of the United Nations, the World Health Organization, the International Labour Organisation, the World Council for the Welfare of the Blind, the International Conference of Educators of Blind Youth, and other prominent agencies serving the blind were also present.

Results of the Conference

The major result of the conference was the adoption of a series of resolutions outlining specific steps to be taken by the Governments and national and international agencies to improve conditions for the blind.

The Conference adopted the definition of blindness recently put forward by the World Council for the Welfare of the Blind. The definition says that "total absence of sight, or visual acuity not exceeding 3/60 or 10/200 (Snellen) in the better eye with correcting lenses, or serious limitation in the field of vision generally not greater than 20 degrees, is considered blindness (in all instances). The Council's definition recognizes that many persons with sight in the better eye, after correction, equal to 20/200 (or 6/60 in the metric system) are seriously handicapped visually and urges that the definition of blindness be expanded to include all those with this degree of visual loss."

Resolutions were passed recommending government and voluntary action to provide education for blind children and training for teachers of the blind; the provision of vocational training for the blind; the establishment of services for the prevention, cure and control of blindness; the removal from the statute book, in the countries concerned, of any legislation likely to hinder the employment of blind persons, and, conversely, the enactment of legislation to promote the employment of the blind; the provision of Braille literature and special equipment for the blind; and, finally, the conference urged the United Nations, including the Technical Assistance Board, and the specialized agencies, to clarify their policies for providing assistance to the physically handicapped as a part of the programme of economic development.

The Conference also called upon the World Council for the Welfare of the Blind to establish a special committee composed of one representative from every country and territory in the region to consider all matters pertaining to the region and to make recommendations to the World Council's Executive Committee and General Assembly. By this means, it was hoped, future co-operation on matters affecting the blind would be ensured among the countries of the Far East.¹

Special features of work for the blind in the Far East

In preparation for the Conference, a survey of work for the blind throughout the region was conducted by the organizing committee, for the information of the delegates. A pre-conference questionnaire was circulated to leading government and non-governmental organizations maintaining programmes for the welfare of the blind throughout the Far East, and the replies to this questionnaire provided the delegates with valuable data upon which to base their discussions, and

¹ These resolutions are reproduced in full in the official record: *Far Eastern Conference on Work for the Blind*, Tokyo, Japan, 1955.

assisted the Conference to select those topics which appeared to merit detailed consideration.²

An examination of this data discloses certain unsatisfactory features of service to the blind in the region that require investigation and correction. In the first place, many countries have almost no statistical data at all concerning the causes of blindness or the condition of the blind; nor are there any services—government or otherwise—that may be utilized to improve the lot of blind persons. For example, comparatively few blind persons in Asian countries, except Japan, have been able to find remunerative occupations. At the same time, the economic provisions made for the blind are extremely limited; most countries have no special measures to counteract the indigency that almost always results from lack of training facilities and employment services. Even where the replies to the questionnaire showed that a substantial number of blind persons were engaged in some form of occupation, it is revealed that massage, moxa-cautery,³ acupuncture,⁴ and fortune-telling absorb the greatest proportion. While these occupations (with the possible exception of fortune-telling) may be considered as acceptable forms of employment, since they are traditionally practised and accepted in oriental countries, the wisdom of concentrating so great a proportion of the employed blind population in so small a group of associated professions is doubtful.

As regards education, Japan is the only country that maintains a system of compulsory instruction for blind children of school age, and the many schools established under national, prefectural and voluntary auspices provide special teaching for a large number of sightless children. While it may be premature to expect all countries to make such instruction compulsory, it would appear that greater consideration should be given to the educational needs of blind children with a view, at least, to providing educational services for the blind in the same proportion as for the sighted. Obviously, however, the introduction and maintenance of programmes for the education, rehabilitation, training, employment and general welfare of the blind cannot adequately be assured unless special books, school appliances, materials, tools and other aids can be provided in sufficient quantity. With very few exceptions, little or no provision is made at present in the Far East for the publication of Braille textbooks and literature in quantity, nor for the manufacture or procurement of

adequate supplies of other equipment. Careful consideration must be given to this matter in order to determine satisfactory ways and means of overcoming the existing grave shortage.

Although proper provision should be made for the rehabilitation of the incurably blind, long-term planning requires that government and non-governmental bodies should take responsibility for initiating programmes designed to reduce the present incidence of blindness in succeeding generations. It is generally recognized that much of the world's blindness is preventable and this is particularly true in certain Far Eastern countries. For instance, a survey conducted by competent ophthalmologists in Hong Kong led them to estimate that approximately 85 per cent of the blindness in the colony could have been avoided if adequate programmes of instruction, preventive medicine and eye treatment had been available to all. Yet, replies to the questionnaire reveal that well planned and co-ordinated programmes of prevention are non-existent in most countries, and that services for the treatment of persons with eye conditions are generally limited. It is not surprising, therefore, that several countries listed "lack of medical service" as a major cause of blindness.

Conference viewpoints

Most of the papers submitted to the Far East Conference on Work for the Blind were prepared and presented by highly qualified workers responsible for administering existing programmes for the blind in various countries of the region and thus qualified to report on present conditions and services and to recommend appropriate action designed to harmonize with economic, social and cultural patterns in the Far East.

One paper discussed various definitions of blindness that had been used for different purposes in Japan. These included "total", "partial", "occupational" and "social" blindness. This paper also stated that considerable study and research encouraged the belief that for occupational purposes the definition of blindness should be 0.2 or less in both eyes. It was evident, moreover, that abnormality of vision had a great effect on occupational ability. The Japanese Act for the Welfare of the Physically Handicapped provided that any person was eligible for the services prescribed under the Act when the field of vision in both eyes was so concentrically contracted that the widest diameter subtended an angle of 10 degrees or less, and when more than half the visual field in both eyes was lost. As regards causes of blindness and preventive and remedial action, the paper went on to suggest that information on the value of nutrition should be made increasingly available to the public in order to protect infants and pre-school children against keratomalacia.⁵ For the prevention of gonococcal conjunctivitis, provision must

² This information is given in detail in the official record, *op. cit.*

³ Moxa [Japanese: *moe cusa*, burning herb]: a combustible material applied to the skin and ignited for the purpose of producing a counter-irritant. It is made with the down of dried leaves of several species of *Artemisia*; artificial moxa is made from cotton saturated with nitre.

Cautery [from Greek: a branding iron]: a metal instrument heated by electric current or in a flame, used to destroy tissue or for producing counter-irritation.

⁴ i.e., puncture of the skin or tissue by one or more needles for the relief of pain.

⁵ A softening of the cornea.

be made for adequate treatment at the incipient stage of the disease. Blindness caused by trachoma could be prevented by providing for early diagnosis and complete medical treatment. Exhaustive medical treatment at the first stage of infection was essential for the prevention of syphilitic eye-disease. Many traumatic injuries of the eye were sustained in sport and children's games, in addition to those suffered in occupational activities. Furthermore, many burns among children under school age could be avoided if adults took the necessary precautions to safeguard their children against such hazards.

The most serious problem was blindness dominated by congenital and hereditary factors, and its major groups were manifested as structural abnormalities of eye-ball and sclera, and retinitis pigmentosa.⁶ The latest statistical data showed a tendency for blindness of congenital and hereditary origin to increase. Many blind persons had near relatives who were blind, and 16 to 20 per cent of all who had inter-married had blind children.

It should be noted that the primary causes of blindness in Japan as described in this paper do not necessarily hold true in other countries.

The special problems of Asian teachers of blind pupils were discussed in another paper, which pointed out that most of the countries of the Far East had no statistics of blind children, because such children were so often kept hidden. Schools and educational authorities could not plan facilities in countries where such traditional ideas and customs existed. The blind child must be provided with as many and as varied experiences as possible so that his impressions of life would not be stilted and narrow, and he must be given the best education available. Each country should establish one or more centres for the training of teachers of the blind, and summer workshops should be set up for present and future teachers of blind children. Such training was all the more necessary in view of the incidence of blindness among the newly born. Better qualified candidates must be recruited for teaching blind children, and academic courses in educational programmes for blind children should be the same as those for the sighted in each country. Consultative committees should also be set up in all countries to advise Governments on matters concerning the education of blind children. Braille printing houses and centres should be established without delay in each country for printing textbooks and for manufacturing supplies, equipment and appliances for the blind. Classrooms and buildings equal to those provided for sighted children and designed to meet the physical needs of blind children should be provided.

A third Conference paper, on the vocational train-

⁶ An affection involving all the layers of the retina, and consisting in a slowly-progressing connective-tissue and pigment-cell proliferation of the entire membrane, with wasting of its nerve-elements.

ing and employment of the blind, stated that in many Far Eastern countries there were no opportunities for employment in occupations generally recognized as being suitable for blind persons. Possibilities of employment must be explored before training is given in a particular occupation.

In countries of the Far East, people did not always realize the dignity of labour, so that both the sighted and the blind desired "white-collar jobs". Sometimes the blind devoted a great deal of time to study, and thus became unemployable by reason of their scholastic attainment. Even in Western countries, for every blind person in a white-collar job, there were hundreds of basket-makers, brush-makers and factory workers.

There were five forms of employment for the blind; employment in sheltered workshops; employment as home workers; independent employment; employment in clerical service, and employment in open industry. The first two raised no serious problems because the employed were attached to organizations, and independent employment was the choice of the worker, so there was no problem there; those who failed, however, went back to sheltered workshops. Employment in open industry and in clerical service had its dangers and difficulties arising from the attitude of society toward the blind, and from the attitude of the blind themselves.

Society generally showed a natural sympathy and charity towards the blind, but the absence of institutions and organizations for the blind compelled them to beg; this seemed to make them feel contented but undermined their self-respect. Some people considered blindness a curse or a punishment for evil done in a past life, and there were other superstitious beliefs against the blind that hindered employment. Other people would like the blind to be educated and trained and would welcome their advancement, but disliked to see them at work. Some employers were willing to employ the blind for cheap labour, but sighted workers, fearing replacement by the blind, were often unco-operative. Others might wish to employ the blind, but not if it were likely to result in financial loss. In such cases the State must protect both employer and employee.

The second and more important difficulty was due to the blind themselves. Many blind people forgot their limitations and thought too highly of their ability. They often attempted and expected to obtain jobs for which they were not fitted and when they failed, blindness was blamed. The blind who had been used to special concessions and conveniences in institutional life found things different on taking up employment. They expected their deficiencies to be overlooked and their defects excused. They forgot good manners, courtesy and respect for authority; yet if the employer dismissed them, they blamed their blindness for their dismissal. Welfare officers and placement officers were therefore necessary and every organization for the welfare of the blind should employ them.

Special Appliances for the Blind and Partially Sighted

(The information in this article was supplied by the Technical Sub-Committee of the World Council for the Welfare of the Blind, the Chairman of which is Mr. John C. Colligan, Secretary-General of the Royal National Institute for the Blind, London. Mr. Colligan mentions that he has been "greatly assisted by data kindly prepared by Mr. Charles G. Ritter, Consultant in Special Aids and Appliances, of the American Foundation for the Blind, and by Professor Carl Strehl, Director of the Marburg-Lahn Institute for the Blind, Germany.")

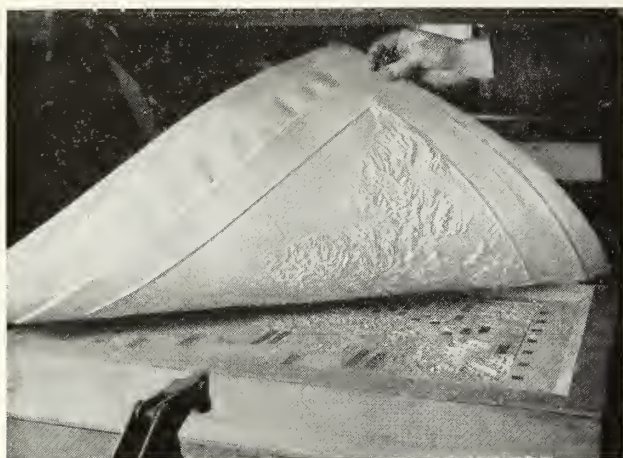
When we contemplate the lot of the blind person at the end of the last century, we can but be profoundly thankful for the scientific and technological age in which we live, for the miracles of invention which we have witnessed in the past fifty years have radically changed the whole concept of blind welfare and showered countless benefits on the whole blind population throughout the world. No longer is the blind man an object of pity, begging for alms. He is handicapped, but his handicap is a challenge to all with sight to use whatever powers they possess to find the means to help him to become a normal self-supporting citizen. The production of technical aids is but a means to this end. It can do much to make up for the loss of sight, but it cannot take the place of sight without the determined, steadfast will to succeed of the blind man himself.

Braille

The generally accepted method of producing Braille books or magazines is that of embossing a folded zinc sheet on a power driven embossing machine and printing from that sheet on a platen printing press editions of books or magazines up to 100 copies. Larger editions of periodicals are usually printed on a high speed rotary press running at about 4,000 revolutions an hour. By either of these processes Braille may be embossed either interpointed or interlined. Where only

single copies of books are required, manually operated machines are satisfactory, but in recent years British technologists have been seeking an answer to the various disadvantages of this method, and a new process has been devised whereby plastic ink is applied simultaneously to both sides of a roll of paper to which it adheres in the required Braille dot formation. The machine is called the Solid Dot Braille machine and this method, which is being used for the printing of magazines and periodicals, has the advantage of using a very much cheaper paper which, though thinner, is tougher than ordinary manila paper. The Braille dots are incompressible and at the same time of equal shape and height, and the resulting Braille literature is very much less bulky. The equipment is designed to run at over 100 feet per minute but it is hoped to increase this speed further. The machine is approximately 20-22 feet long, 4 feet wide and 8 feet high. The approximate weight is 4 tons. The plant required is costly but the saving in production costs will, it is anticipated, be enormous. An increase in speed of production up to three times that of existing machines is expected, and also a reduction in the size of Braille books to as little as one-third their present thickness.

Another development in the production of Braille is the use of a vacuum-forming moulding machine which permits highly detailed relief images to be produced on plastic sheeting rather than paper. In addition to its use for the production of Braille, this machine has many other purposes in the manufacture of relief models and other similar equipment used by the blind. Definition is excellent and the height of relief which can be obtained is as much as 7½ inches. The material will stand a great deal of handling. It is washable and re-usable, if required; it is no more inflammable than ordinary paper, is not affected by temperatures lower than boiling point, and can easily and simply be bound into volumes. Forming four sheets of standard size Braille paper at one operation, the output of the machine is as much as 400 sheets per hour. This method of printing can be used for limited editions in Braille and Moon, and for the production of relief maps, diagrams and similar devices and is of particular advantage in the production of Braille or Moon literature, as re-



The vacuum-forming machine produces embossed images on plastic sheets. Photo shows an embossed map being removed from the mould.

productions can be made from existing paper sheets and all that is required is a Braille paper master which can be either specially hand-written for the purpose or taken from some existing book or periodical.

The vacuum-forming machine is a commercial product and may be purchased with comparatively little delay at a cost of between £350 and £400 sterling. The material which is being used in Great Britain for printing Braille and Moon is a cellastine plastic sheet 3/1000-inch thick. For maps and diagrams a thicker material up to a thickness of 20/1000-inch is being used depending on the area of the subject matter and the depth of its relief. The machine is capable of dealing satisfactorily with plastic sheets up to a thickness of 3/16-inch. The plastic sheeting used in this method is more expensive in Great Britain than the manila paper used for Braille production, but the saving effected on transcription is enormous and in the case of maps an even greater saving can be effected, as cheap plaster casts can be used.

Several processes for the production of Braille calculated to give a more effective and economic result are at the present time being experimented with in the United States of America, notably the International Business Machine Corporation's invention in the form of punched tape which is claimed to save one third in space of that of ordinary Braille printing and it is hoped to reduce the bulk still further. A separate machine is required for reading the tape, which is visible through a window ten inches in length. As the tape moves through the window, metal plungers push up the required dots, which remain in position until they have passed the window. The speed of the tape through the window is controlled by a knob which also starts and stops the machine. The maximum speed attained by the prototype model is 150 words a minute, which is admitted to be on the slow side for many readers. In this method of reading Braille the hands are held stationary while the Braille passes beneath them. Another process for duplicating short runs of Braille books, called the

"Uformite method," has been evolved in the United States. Here the metal plate is dispensed with and a sheet of Braille paper with the embossed dots filled with "Uformite", a plastic resin, and sealed with shellac, is substituted. Copies are taken off on ordinary paper, on one side only, by means of a rotary proof press.

Talking Books

Since the first Talking Book machine was produced in 1934 many years of research and experimentation have been spent in Great Britain, the United States of America, and other countries in order to find the perfect medium, but even now different views are held regarding the respective merits of the tape-recording method and long-playing gramophone discs. On the Continent much experimental work is being undertaken with the magneto dictaphone which appears to have found more favour than the long-playing disc machine, while in Great Britain and the United States of America the view is held that the advantages of tape-recording, as far as production is concerned, are outweighed by the disadvantages, the most important being its high cost, which precludes its adoption, at any rate in its present form, as a medium within the reach of every blind person. Nevertheless, magnetic tape equipment has been produced in these countries and is being subjected to field tests, the results of which will be carefully studied, and the possibility of overcoming the difficulties now experienced is being constantly borne in mind. Meanwhile many technical improvements have been made in the production of machines and long-playing discs, so that at the present day a compact gramophone type of machine is available to the blind reader at reasonable cost and with extremely satisfactory results.

Reading Machine

Whereas Braille books and the Talking Book machine produce for the blind reader a considerable amount of reading matter, it must always be recognized that such matter is governed by the choice of the selector and limited in quantity by the natural boundaries of production. The blind reader cannot have the entire letterpress world at his finger-tips until a simple, inexpensive reading machine is devised into which he can place any reading matter in letterpress and at a touch from him listen to the printed matter being read to him. Such a machine could revolutionize the whole way of life of the blind person and one may look hopefully to the advance of electronic science to solve this problem. Meantime an interesting experiment is being carried out by Dr. Walter Blum, a German electro-physicist, who has developed a machine, which is now being tested, for the translation of printed letters into Braille or into satisfactory intelligible speech. This machine would appear to be a great advance on Fournier D'Albe's Optophone, which was demonstrated as long ago as 1912, and also on the Visagraph which was

mainly developed by Robert Naumberg round about 1930. At the moment Dr. Blum prefers the translation into Braille method, but it is to be hoped that eventually a machine will be produced which will make every blind person independent of outside help on normal reading matter. Much work has still to be undertaken and the Committees on Sensory Devices which have been set up in various countries have this most interesting problem constantly under review.

Optical Aids

For some considerable time a number of scientific experiments have been carried out in many countries to explore means to improve sight by specially designed magnifiers, telescopic and microscopic lenses, high-strength spectacles, and projectors of the episcopes category. In the United States of America a National Advisory Committee has been formed, composed of ophthalmologists, optometrists and other specialized authorities, which will keep constantly in mind the improvement of existing apparatus and develop any new ideas which may be formulated. In Great Britain a similar Committee has spent many years in research work on this problem and has issued a valuable report on the various types of equipment which they have tested. It must be remembered that the visual defects of individuals are so varied that an aid which will suit one person will not necessarily suit another.

Apparatus

(a) For study

Today the blind student has a multitude of tools specially devised and constructed to enable him to study at school and also when he takes his training to fit him for employment. At school an instructional device teaches him the Braille system; a special clock will show him how to tell the time. The pen and pencil of the sighted student is replaced by hand frames and writing frames on which Braille is produced. Special apparatus is available for working out mathematical calculations of the most intricate kind. The vacuum-forming process described above is now producing relief maps at low cost, and will be used for designs and diagrams and in many other ways to assist the study of the sciences.

(b) For work

The specialized tools which the blind student uses during his training for employment are to a large extent carried with him into his work, and constant technical research ensures that the blind worker has the most effective apparatus at his disposal to help him compete with his sighted colleagues in the professional and industrial worlds. The blind shorthand-typist today has an almost noiseless machine on which he can take shorthand dictation at a speed of 140 words and more a minute. The typewriter he uses is an ordinary standard machine, except that it has a Braille scale in place

of the sighted scale. Many devices are available for measuring liquids, temperatures, blood pressures, voltages, currents, resistance, capacity, decibels and audio frequency power. In Great Britain the production of apparatus devised to record erythematous reaction of the skin enables blind physiotherapists to give ultra violet light treatment in perfect safety.

Other tools produced especially for blind workers are piano tuner's tools, shoe mender's tools, and carpenter's tools. To enable blind persons to undertake light engineering work, adaptations to existing tools and methods can be arranged with advantage at times, but the need for these is rather the exception than the rule. A complete range of precision instruments is available for use by the blind, all of which can be read within the limits stated by touch alone. As the price of the complete set in Great Britain is over £100, arrangements are made to loan part or whole sets to any firm which employs blind or partially sighted people. Blind telephonists are able to use the ordinary telephone switchboard, only slightly adapted. For those telephonists who cannot read Braille and cannot, therefore, record their calls or numbers, the switchboard can be wired up so that all sound passes through the operator's microphone and headphones, and is recorded. The recording machine starts and stops by means of a foot pedal. Special technical aids are also available to help in training blind telephone operators. For instance, training boards can be wired up together so that the instructor uses one and the trainee the other.



This blind telephone-switchboard operator is using a foot-operated Emidicta machine to record details of incoming and outgoing calls.



The teletouch communicator is an invention especially designed for the use of the deaf-blind.



A special device has also been produced so that telephony students can practise dialling apart from the practice they get on the telephone switchboard. The apparatus consists of a standard telephone dial and shorthand machine which are coupled electrically so that the shorthand machine records the number which is dialled.

(c) *For daily living*

In this age of science and technology it is natural that a vast amount of time and money should be spent on major projects which will benefit the blind. The blind person, however, requires a great many aids of a minor character to assist him in his daily life, and constant attention is being given to improving existing aids and providing new ones so that a blind person may achieve as far as possible the utmost independence. Space will not permit the full enumeration of the many ways in which technical devices have been developed. They include Brailled clocks and watches, Brailled dials for cooking stoves, measures for food, self-threading needles, bread cutting boxes, barometers, thermometers, syringes, guides for pension book signatures, special postage labels and cases, plastic adhesive labels which can be marked in Braille or other signs for identifying tins and packages. Many new technical gadgets which have found favour in the homes of sighted people have also helped to simplify the lives of the blind without any further adaptation, and no doubt as more and more labour saving appliances are put on the market, the blind will also reap the benefit.

(d) *For recreation*

A number of standard recreational games have been adapted for the blind, and a continuous watch is kept on the issue of new games with a view to their adaptation if it seems practicable. In addition, any game devised especially for the blind is given every consideration and arrangements made to put it on the market

if its worth is proved. Among the standard games especially adapted for the blind are chess, draughts, dominoes, puzzles and playing cards. In Great Britain, a rubber audible ball has been produced, suitable for hand ball games. Dart boards are adapted for use by blind players by the addition of a bell behind the board which indicates the centre of the board. In addition there are many aids for handicrafts such as peg frames, chair-caning instruction frames and knitting clocks.

Special aids for the additionally handicapped blind

Much effort has been spent in recent years in an endeavour to secure for the multiple handicapped blind as great a measure of independence as possible both at home and at work. In the industrial field this has been achieved by the adaptation of certain machines for the use of blind persons with injuries to arms or hands or who have had a limb amputated. It has been found that with the assistance of technical aids quite complicated machinery can be operated by such persons. In the home, aids such as repeater watches, special typewriters, feeding appliances, the fitting of door handles operated by a lever rather than a knob, special water taps, nail brushes fixed to the wash basins with suckers, loofahs and sponges which can be drawn over the stump like a glove, and provision of shoes with elastic shoe-laces, and of shirts which are fastened by means of a zip-fastener at the top of which the neck-tie is already attached, are of enormous value to these additionally handicapped people. There is even a box containing cigarettes, from which, by pressing a knob, a blind handless man may withdraw his cigarettes already lighted.

For the deaf-blind, experiments are always proceeding to obtain an adequate method of communication with the outside world. This may be secured through one of the normally accepted manual alphabets, or through the use of some simple communicating device such as the Talking Disc produced in Great Britain.

In the United States a conversation device called the Tellatouch has been developed, which produces Braille symbols by means of a keyboard similar to that of a typewriter. Analogous devices have likewise been produced in Germany and Great Britain. Experiments are also progressing with electronic devices for speech recognition by the deaf-blind.

Guidance devices

In the education of the blind, and in the rehabilitation of the newly blinded, the emphasis is on teaching mobility and independence, and nowadays there is a vast increase in the number of blind persons who can get about fearlessly by themselves with the help of some mechanical aid or with a guide dog. The white walking-stick has become the blind man's emblem and many varieties are now on the market—ordinary, reflectorised, plastic-covered, sectional, and collapsible. For the deaf-blind the crook handle of the stick is painted black.

Here again, notably in the U.S.A., the world of electronics is being explored to ascertain whether a suitable device can be made which will detect obstacles and give a warning to the traveller. Much research work has still to be carried out on this interesting project and at this stage it is not even known whether a dependable instrument will be produced. In Great Britain the College of Teachers of the Blind is investigating the problem from a different angle—that of finding methods by which blind children could be taught to get about effectively. Their aim is to investigate the role of sound in avoiding obstacles, and exploratory experiments are being carried out with a view to devising further more rigorous tests of the actual nature of the ability to perceive obstacles.

The work of the Technical Sub-Committee of the World Council for the Welfare of the Blind

The Technical Sub-Committee of the World Council for the Welfare of the Blind first met in 1952 to discuss the production of special apparatus for the blind. Since that date a number of technical matters of international interest have been under discussion, notably the international exchange of Talking Books and the standardization of apparatus and appliances. The various experiments now being conducted in many countries to find the most effective Talking Book medium, and the differing views regarding the respective merits of magnetic tape or disc recording, have made it necessary to defer for the present an arrangement for the international exchange of Talking Books. On the question of standardizing apparatus, it has been agreed that it would not be practicable to develop the proposal that there should be one source of supply for essential apparatus for the blind, owing to the grave risk that export might at times cease in a national or international emergency. It has, however, been agreed to set up at the headquarters in Paris of the World Council for the Welfare of the Blind a permanent exhibition of apparatus and appliances for the blind already produced in various countries throughout the world. The exhibition has now been established and it is hoped that it will be kept up to date with new material and information regarding experiments in progress. With the help of an illustrated loose-leaf catalogue of exhibits which it is proposed to produce in various languages, it is hoped that the exhibition will be of immense value in keeping all countries informed of technical developments and thus avoid the waste of time and effort on experiments and research on the same piece of apparatus.

Notes on Technical Assistance Activities in Rehabilitation during 1955-56

Demonstration and training projects

Brazil: Following recommendations made by a United Nations expert who visited Brazil in 1955, the Government requested technical assistance for the development of rehabilitation services. Three experts (a general adviser, a physical therapist, and a prosthetics technician) were sent out by the United Nations towards the end of 1956 for a period of two years. Their main responsibility is to train personnel in connexion with a demonstration centre established in São Paulo. Fellowships have been awarded to a social worker and an occupational therapist who will work at the centre on their return to Brazil from their study tour in Canada and the United States.

Burma: On the basis of a programme planned by a United Nations expert in 1955, the Government requested technical assistance for the establishment of a rehabilitation centre in Rangoon. Arrangements were made with the World Veterans Federation for a joint project to be carried out during 1956-58. As a first step, a general rehabilitation adviser was sent to Burma by the World Veterans Federation at the end of 1956 to assist in the development of the centre. Two fellowships were awarded by the United Nations in 1956 and it was agreed that a prosthetics expert would be made available by the United Nations early in 1957 to start a limb-fitting programme at the centre and to train personnel.

In 1956 five trainees from Burma (a physician, a physical therapist, a social worker, a nurse and a prosthetics technician) began their studies at the Institute for Physical Medicine and Rehabilitation in New York under arrangements made between the Government, the Institute and a private foundation. This group will work at the centre in Rangoon on their return to Burma. The Government has also sent two students to the Occupational Therapy School in Bombay, India.

Egypt: A nine-months' training course for workers in the field of welfare of the blind (administrators of rehabilitation centres, teachers and vocational rehabilitation personnel) was held at the regional demonstration centre for the blind in Cairo, established with extensive technical assistance from the United Nations and the International Labour Organisation. Thirteen

students from Egypt, Iraq, Jordan, Libya and Syria attended this course, which was the second sponsored by the United Nations in connexion with the Cairo centre. A third regional course is scheduled for 1957.

Guatemala: Two physical therapists made available by the United Nations, in consultation with the World Health Organization, continued their training activities at the School for Physical Therapy established in 1955 by the Government. The experts also work at various rehabilitation centres in the Guatemala City area. A vocational rehabilitation specialist from the International Labour Organisation joined them in 1956.

Equipment for physical therapy and the production and fitting of artificial limbs was provided by the United Nations.

India: A team of four technical assistance experts (an administrator, a physical therapist, an occupational therapist and a prosthetics technician) provided by the United Nations and the World Veterans Federation is assisting the Government in the development of a de-



A physiotherapist from Finland, sent to Guatemala under the United Nations Technical Assistance programme, watches a patient in a hospital in Guatemala City work at exercises designed to help him recover the use of his hands.

monstration and training centre in Bombay. This project was started in 1955 and is based on co-operation among five hospitals in the city.

The United Nations Children's Fund (UNICEF) has made an allocation for equipment for a prosthetics workshop to be established as part of this project.

Indonesia: In 1955 the United Nations and the World Veterans Federation co-operated to provide three experts (an orthopaedic surgeon, a physical therapist, and an orthopaedic nurse) to help develop the Solo Rehabilitation Centre and to train technical personnel. These experts worked at the Centre throughout 1956. In September 1956 the International Labour Organisation provided a vocational rehabilitation specialist to assist in strengthening the vocational side of the Centre's programme.

The United Nations granted the Director of the Centre a fellowship for studies in England, Finland and the United States.

Venezuela: A group of two physical therapists and one occupational therapist continued to work at a demonstration centre established at La Guayra by the Venezuelan Institute for Social Security. This project was started in 1954 following a visit by a United Nations expert.

Uganda: The United Nations joined the Uganda Government and the Uganda Foundation for the Blind in sponsoring a research and demonstration centre for the training and employment of the blind in rural areas. The purpose of this project is to study new methods and

techniques aimed at achieving satisfactory employment and resettlement in rural life of the blind in under-developed countries and to train personnel for this work.

Under the 1956 programme, the United Nations provided equipment (vehicles, office and training equipment) for the project. The services of the Director of the Centre were provided by the Uganda Foundation for the Blind.

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Advisory missions

In 1956 United Nations advisory missions of experts visited Italy, Japan, the Philippines and Spain for the purpose of assisting the Government and voluntary organizations in the planning of rehabilitation services. Some of these countries have requested further technical assistance to implement the recommendations made by the experts. Allocations for rehabilitation equipment to Japan and Spain have been made by UNICEF.

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Fellowships and scholarships

In 1956 some twenty fellowships and scholarships were awarded to rehabilitation personnel from the following countries: Austria, Bolivia, Brazil, Burma, Denmark, the Federal Republic of Germany, India, Indonesia, Israel, Japan, Lebanon, Philippines, Sweden, Turkey, Union of South Africa, Uruguay and Yugoslavia.

Meetings, Seminars, Conferences

Regional seminar on rehabilitation

A regional seminar on the rehabilitation of the handicapped will be held for participants from Asia and the Far East at the Rehabilitation Centre in Solo, Indonesia, from 26 August to 7 September 1957. It will be organized by the United Nations (under its regular technical assistance programme), in co-operation with the World Health Organization, the International Labour Organisation, and two of the leading international non-governmental organizations concerned with rehabilitation—the World Veterans Federation and the International Society for the Welfare of Cripples.

Some forty persons are expected to attend the seminar, twenty-five of them with the aid of fellowships provided by the co-operating organizations. The Government of Indonesia has agreed to act as host.

As most of the participants are not likely to have had special training in rehabilitation work, the seminar will not deal with specific techniques but is designed rather to impart a general understanding of modern rehabilitation in theory and practice. It aims also at promoting the development of services for the handicapped as part of national programmes of health and welfare in Asia and the Far East.

In view of the unique position of the Solo Centre as the only complete and modern rehabilitation centre in the region, the programme has been planned so as to make full use of its facilities for practical demonstration. The co-operating organizations are providing experts to give lectures and lead discussions at this seminar.

The recovery abroad of maintenance

At a conference convened by the Secretary-General of the United Nations in June 1956, plenipotentiaries from thirty-two countries unanimously adopted and opened for signature the Convention on the Recovery Abroad of Maintenance. The purpose of this Convention is to establish legal means whereby abandoned dependants—mostly women and children without adequate means of subsistence—can secure maintenance from those responsible for their support who have moved to another country. This constitutes an important step towards the solution of an urgent social and humanitarian problem of great interest and concern to social agencies throughout the world.

At the closing date for signature, 31 December 1956, the Governments of twenty-five countries had signed the Convention, which will enter into force when three countries have ratified it.

Migration

The sixth session of the Conference of Non-Governmental Organizations Interested in Migration will meet in Geneva from 5 to 9 August 1957. As on previous occasions, the Conference will be sponsored by the Secretary-General of the United Nations and the Director-General of the International Labour Office and will receive the usual technical facilities afforded by the United Nations.

The general theme of the Conference will be the effective preparation and successful integration of migrants, and its agenda is scheduled to include items on the preparation of migrants in countries of present residence; the training of and co-operation between social workers in emigration and immigration countries; the integration of migrants into the life of countries of resettlement; problems of migrants in professional categories; socio-legal assistance to migrants; the implementation of general principles concerning the protection of migrants; the re-immigration and return of migrants to the country of origin; emigration problems of tuberculous and medically disabled persons; child protection during migration; problems of non-European migrants.

Some sixty-five international and national voluntary, non-political organizations concerned with migration are expected to be represented at the Conference, the declared objectives of which are:

- To study and recommend the best methods of assisting migrants;
- To exchange information regarding the results of practical experience;
- To provide guidance out of the experience of the non-governmental organizations for the United Nations, the International Labour Organisation and other inter-governmental organizations in their migration concerns;
- To further the dissemination and implementation of such principles concerning migrants as may be developed by the Conference;

To facilitate co-operation among non-governmental organizations interested in migration so as to obtain maximum efficiency.

The Conference was convened for the first time in 1950, in Geneva; since then it has held further sessions in Geneva (1951 and 1953) and New York (1952 and 1955).

The maintenance of family levels of living

Pursuant to a resolution of the Economic and Social Council, an expert working group on the Maintenance of Family Levels of Living met at Geneva from 10 to 28 September 1956 to confer on technical problems involved in the formulation of "a co-ordinated policy regarding family levels of living, particularly in the application of broad programmes of social security, social assistance and related social services for family and child welfare."¹

The Group of Experts was convened under the joint sponsorship of the United Nations and the International Labour Office, acting in co-operation with the World Health Organization, the Food and Agriculture Organization of the United Nations, and the United Nations Educational, Scientific and Cultural Organization. The Group was composed of seven experts with wide experience in social policy who were also, in keeping with the terms of the resolution, "representative of countries at varying stages of economic development and with varying social structure." The members of the Group were Mr. George F. Davidson (Canada), who was elected Chairman, Mr. Muslih Fer (Turkey), Mr. Pierre Laroque (France), Mrs. N. A. Muravyova (USSR), Mr. Hla Myint (Burma), Mr. Jean Paleologos (Greece) and Dr. Hernan Romera (Chile).

According to its terms of reference, the Group was invited to discuss methods and guiding principles for the establishment of a concerted national programme aimed at the maintenance and improvement of family levels of living, with special reference to under-developed countries, and more particularly:

To review the essential social and economic elements and factors which should be known and critically analysed as a basis and general background for a national programme;

To analyse the various needs and contingencies endangering the normal family income or levels of living in order to define the essential objectives of the programme and to ascertain priorities for immediate and future action;

To make an assessment of the inter-dependence among the various social measures to be taken into consideration in determining the successive stages of development of the programme;

To develop criteria and methods for the establishment of a concerted and co-ordinated national programme and its administration;

To develop criteria and methods for the implementation of social programmes, taking into account the economic and social conditions in specific countries in order to ascertain the proper balance and harmony of the economic and social activities of the countries.

In a preliminary chapter of their report, the experts suggest a definition of this somewhat new concept of "family level of living," enumerate the various elements of a policy on family levels of living and consider the demographic, economic, social and administrative factors which affect the family level of living and thus the relevant policy. It is stressed that the problem of protecting the security of the family level of living in the under-developed countries is inextricably bound up with the process of rapid economic and social change which these countries are experiencing and that it is necessary to avoid any arbitrary departmentalism which would tend to assume that social problems can be solved only by social measures and economic problems only by economic measures.

The following chapter discusses, in the light of some guiding principles, ways of establishing priorities for a balanced development of a policy for maintaining and improving family levels of living. According to these principles, preference should be given to preventive measures, to social measures which promote economic development, to action directed to large masses of population, to measures and methods which associate individuals and families in the efforts made to raise their level of living. Furthermore, efforts should focus on the family and have constant concern for strengthening family unity.

The last chapter deals with the implementation of a co-ordinated policy on family levels of living through an adequate machinery for planning—whose most important feature should be flexibility—and through administrative arrangements achieving co-ordination in organization, financing and the use of qualified personnel. Special emphasis is given to various means of gaining popular support and participation in the development of the programme.

The Group's report, together with the observations of the Secretary-General and of the specialized agencies associated with the study, will be submitted to the Social Commission in May 1957 and to the Economic and Social Council in July 1957. The report will appear later on in printed form, with a mention of the action taken by the Council.

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In addition to its main terms of reference, the Group of Experts was also requested to consider the matter of "special allowances for the severely handicapped," which had been previously submitted to the Social Com-

¹ Resolution 585 F (XX).

mission. The Group was invited to discuss in particular the following questions: Would it be an improvement if existing legal systems defined a special category of "severely handicapped," which might include the blind, persons suffering from severe orthopaedic disabilities and others who, because of mental or physical defects, have permanent limitations in some or all of the many activities of daily life? What should be the characteristics of the special benefits to be provided for this category of handicapped persons—especially with regard to the conditions relating to income and the possible exclusion of any means test? What general policy should be followed for severely-handicapped persons in regard to social insurance, public service or social assistance schemes? The conclusions reached by the Group on these various points are summarized below.

The provision of special allowances without means test for the severely handicapped not already covered by existing legislation should receive low priority in a concerted programme of social security and social services, particularly in an under-developed country; preference should be given rather to the prevention of disability and to the organization of rehabilitation services and measures. Special or supplementary allowances based on need may be provided for some severely-handicapped persons, such as those who constantly need the assistance of another person; they should be integrated into the whole social security system of the country. The provision of allowances for the severely handicapped should be made conditional upon proper use of the rehabilitation services. Finally, no adequate definition of the term "severely handicapped" can be suggested which would apply equally well to all disabling conditions or to all countries, since much depends on the state of rehabilitation services in each country.

Meeting of experts on social work training

In view of the opportunity afforded by the Eighth International Conference of Social Work and the meeting of the International Association of Schools of Social Work in Munich, Germany, in August 1956, the United Nations convened a group of experts in education for social work to consult on the "basic essentials of social work training." This meeting was held in Munich from 28 July to 1 August, and was the first of a series of such meetings planned as one step to implement the Economic and Social Council resolution 585 D (XX) requesting the Secretary-General "to promote regional seminars and conferences for development of the con-

tent and techniques of training of social workers at all levels."

Nineteen experts from different countries in Asia and the Far East, Europe, Latin America, the Middle East and North America were invited to participate. They were selected on the basis of their background and experience in education for social work and with a view to drawing upon a wide range of expert knowledge in developing organized training programmes in this field.

As circumstances limited the time available for this meeting, the experts focused their discussions primarily upon the following items:

1. Objectives of social work training—including consideration of the functions performed by professional social workers and auxiliaries, and the relationship of training to personnel requirements;
2. Basic content of social work training programmes designed for general and specialized workers and in-service training for employed social workers at different administrative levels;
3. Relationship of social work training to training programmes for professional and auxiliary workers in allied fields and particularly to training for community development.

After consideration of the prevailing objectives of training in the countries or regions from which the participants had come, the group classified the basic content of social work training programmes into three major areas of study, involving knowledge of man, knowledge of society, and professional knowledge and skills. It was not possible to discuss, as thoroughly as the group considered necessary, the training of auxiliaries nor the relationship of social work training to training in allied fields. It was therefore suggested that these important aspects of social work training should be given particular attention in the three regional seminars to be held during 1957-58 in Latin America, the Far East and the Middle East. The regional seminars on social work training will give further consideration to the matters discussed at the Munich meeting and other aspects of training with particular reference to circumstances prevailing in the various countries. The first of these seminars is being held in Latin America and will be convened in July 1957 in Montevideo, Uruguay. The second, for Asia and the Far East, will be held towards the end of 1957; and the seminar for the Middle East will be planned for 1958.

Bibliography on the Rehabilitation of the Handicapped

Note. This selected bibliography on the rehabilitation of the handicapped is divided into two main parts. Part I, containing the general bibliography, consists of (1) an international bibliography and (2) national bibliographies, compiled on the basis of data supplied by the Governments of the respective countries and on other sources available to the United Nations. Part II comprises bibliographical references specially prepared in connexion with the two articles on the deaf and hard of hearing, pages 28 and 35 in this issue.

Readers are also referred to a previously published annotated bibliography on problems of the physically handicapped in *Rehabilitation of the Handicapped*.¹

PART I. GENERAL BIBLIOGRAPHY

1. INTERNATIONAL

1. Boy Scouts International Bureau. Scouting with the handicapped boy. London, The Bureau, (n.d.). 11 p. Illus.
2. Congrès sur la Réadaptation Professionnelle, Rome, 1954. Rieducazione professionale; atti del Convegno Internazionale tenutosi a Roma il 20 marzo 1954 a Palazzo Barberini. [Vocational rehabilitation; proceedings of the International Congress held in Rome on 20 March 1954 at the Palazzo Barberini]. [Rome, 1955]. 219 p.
3. Convention of the Latin American Congress of Physical Medicine and Pan-American Academy of General Practice, 6th, Lima, Peru, 1955. Report of the 6th convention . . . [New York, Latin American Congress of Physical Medicine, 1955]. 14 p. Illus.
4. European Association Against Poliomyelitis. Premier symposium européen de la poliomyélite, Copenhague, avril 1953. Revue bibliographique européenne de la poliomyélite, année 1953.—Brussels, published in co-operation with Archives belges de médecine sociale, hygiène, médecine du travail et médecine légale, 1954. 114 p. illus., graphs.
5. European Rheumatology Congress, 3rd, Scheveningen, Netherlands, 1955. Résumés des rapports et des communications . . . I. Summaries of reports and communications. [The Hague, 1955] 267 p.
6. International Association of Industrial Accident Boards and Commissions. Workmen's compensation problems, 1954. Proceedings, 40th annual convention . . . October 3-7, 1954. Washington, D. C., U.S. Bureau of Labor Standards [1955] 238 p. (Bulletin 180).
7. International Children's Centre. Réadaptation des enfants atteints d'infirmité motrice; cours . . . Paris-Londres, 15 octobre-15 décembre 1951. Paris, 1952. 435 p. Illus.
8. International Congress of Orthopaedagogics, 3rd, Vienna, 1954. Bericht des dritten Internationalen Kongresses für Heilpädagogik/Rapport du troisième Congrès International pour l'Education de l'Enfance Déficiente, Wien, 8-12 Juni 1954. Unter d. Red. v. Hans Asperger, Johann Heeger, Hans Radl. Vienna, Jugend und Volk [1955]. 474 p.
9. International Council for Exceptional Children. The education of handicapped and gifted pupils in the secondary schools. *Bulletin of the National Association of Secondary-School Principals* (Washington, D. C.) 39: 1-162, January 1955.
10. International Labour Office. Vocational rehabilitation of the handicapped. Geneva, 1954. 38 p. (International Labour Conference, 38th sess., 1955, 4th item on the agenda. Report IV (1)).
11. —. Vocational rehabilitation of the disabled. Geneva, 1955. 89p. (International Labour Conference, 38th sess., Geneva, 1955, 4th item on the agenda. Report IV (2)).
12. International Poliomyelitis Congress. Poliomyelitis; papers and discussions presented at the Third International Conference. Philadelphia, Pa., Lippincott, 1955. 567 p.
13. International Society for the Welfare of Cripples. Changing attitudes towards the disabled. Proceedings of the Sixth World Congress . . . held at The Hague, September 13-17, 1954. New York, 1955. 287 p. illus.
14. —. The International Film Library of the International Society for the Welfare of Cripples. New York, The Society, 1956. 29 p.
15. United Nations. Department of Social Affairs. Services for the physically handicapped. New York, 1954. 31 p. Illus. (Sales No. : 1954.IV.10).
16. United Nations European Seminar for the Rehabilitation of the Adult Disabled. *Belgrade*, 1955. Organized by the European Office of the United Nations Technical Assistance Administration in co-operation with the Federal Executive Council of the Federal People's Republic of Yugoslavia. Belgrade, 1955. 300 p. Illus.

¹ *Social Welfare Information Series. Special Issue. ST/SOA/Ser.F/11:2.*

1. INTERNATIONAL (cont'd)

17. World Confederation of Occupational Therapists. Proceedings of the First International Congress of the World Confederation of Occupational Therapists. Edinburgh, The Confederation, 1954. 112 p.
18. World Confederation for Physical Therapy. Proceedings; first congress, London, September 7-12, 1953. London, Chartered Society of Physiotherapy [1954]. 91 p. Illus.
19. World Health Organization. Amputees and prostheses; report of a Conference on Prosthetics, Copenhagen, 23-28 August 1954. Geneva, 1955. 52 p. (Technical report 100).
20. —. Joint Expert Committee on the Mentally Subnormal Child. The mentally subnormal child. Report of a Joint Expert Committee convened by the World Health Organization, with the participation of United Nations, ILO and UNESCO. Geneva, WHO, 1954. 46 p. (WHO Technical report 75).
21. —. The prevalence of blindness and deaf-mutism in various countries. *Epidemiological and Vital Statistics Report* (Geneva) 6:1-32, 1953.
22. World Veterans Federation. Rehabilitation Department. Comparative report on the legislation affecting disabled veterans and other war victims. Paris, 1953. Processed. 104 p. Tables. (Information Service. WVF-DOC 537).
23. —. *The World Veteran* (Paris) vol. 9, January 1956. (Special Rehabilitation Issue).

2. NATIONAL BIBLIOGRAPHIES

ARGENTINA

24. Instituto Cuyano de Rehabilitación del Inválido y Lucha contra la Parálisis Infantil. Memoria y balance general. Primer ejercicio, 16 de noviembre de 1952-30 de septiembre de 1954. Mendoza [1954] [22] p. Illus.

AUSTRALIA

25. ANDREW, M. Rehabilitation of the tuberculous. *Accident Prevention Bulletin* (Sydney) May 1952, p. 19.
26. Australia. Department of Social Services. Rehabilitation of the disabled. Melbourne, 1952. 17 p. Illus.
27. Australian Advisory Council for the Physically Handicapped. Proceedings of the Seventh Conference, held in Sydney from May 17th-22nd, 1953. [Sydney, 1953]. 58 p. Processed.
28. BURNISTON, G. G. Rehabilitation and placement of the incapacitated worker. *Medical Journal of Australia* (Sydney) 28 March 1953, p. 440-444.
29. CLEMENTS, F. W. Problems of the deaf child: incidence and institutions. *Medical Journal of Australia* (Sydney) 28 August 1954, p. 328-331.
30. Community rehabilitation scheme. *Social Services* (Sydney) Sept.-Oct. 1953, p. 9-11.
31. CUNNINGHAM DAX, E. Care and treatment of mentally ill patients in Victoria. *Social Services* (Sydney) March-April 1954, p. 2-5.
32. The disabled on the job. *Industrial Victoria* (Melbourne) September 1953, p. 337-339.
33. Employment for the disabled. *Queensland Industry* (Brisbane) September 1953, p. 13-14.
34. Employment of disabled persons. *Manufacturing and Management* (Melbourne) 15 September 1952, p. 94-97. Illus.

35. Employment of physically handicapped persons. *Manufacturing and Management* (Melbourne) December 1954, p. 191-192.
36. Facilities for the care of mental patients in Tasmania. *Social Services* (Sydney) March-April 1954, p. 21.
37. GLESINGER, M. A. Social services and rehabilitation. *A.M.S.S. Review*, August 1953, p. 25-30.
38. LUMSDEN, J. Education of handicapped children as a community responsibility. *Social Services* (Sydney) July-August 1954, p. 2-8.
39. MALLETT, J. A. Eyes for the blind—how guide dogs are trained in Western Australia. *Country Hour Journal*, June 1954, p. 11-12. Illus.
40. MAY, F. A study in focal infection and its relation to rheumatic disease. *Archives of Physical Medicine and Rehabilitation* (Melbourne) 36:751-758, December 1955.
41. Rehabilitation of the physically handicapped. Commonwealth Department's scheme. *Social Services* (Sydney) March-May 1952, p. 56-58.
42. SEATON, M. J. The social worker in New South Wales mental hospitals. *Social Services* (Sydney) March-April 1954, p. 5-9.
43. SIMONDS, T. J. Work for the handicapped. *Personnel Practice Bulletin*, June 1954, p. 42-49.
44. Society for the Care of Crippled Children. Seventeenth annual report, for the year ended 31 March 1955. Launceston, Tasmania. [14]p. Illus.
45. Summary of facilities available for the control of tuberculosis in Australia. *Medical Journal of Australia* (Sydney) 20 June 1953, p. 899-901.
46. TOWNLEY, A. Rehabilitation of the physically handicapped. *Canberra Comments*, September 1952, p. 2.
47. Training and rehabilitating the disabled. *Manufacturing and Management* (Melbourne) 15 June 1953, p. 429-430.
48. Victorian Employers' Federation. Businessmen's Advisory Committee. Employment of the physically handicapped, a survey. Melbourne [1954?]. 37 p. Illus.
49. WING, M. N. Medical rehabilitation. *Medical Journal of Australia* (Sydney) 42:705-710, May 1955.

AUSTRIA

50. AHRER, E. Praktische Diagnostik in der Unfallchirurgie . . . [Practical diagnosis in accident surgery] Vienna, Innsbruck, Urban and Schwarzenberg, 1955.
51. Austria. Laws, Statutes, etc. Invalideneinstellungsgesetz 1953, hrsg. vom Bundeskanzleramt am 5 März 1953 [Law concerning the re-employment of the disabled 1953 . . .] Vienna, Verlag der Österreichischen Staatsdruckerei, 1953. 26 p. (Amtliche Sammlung wiedervertautbarter österreichischer Rechtsvorschriften Jhrg. 1953, 2.)
52. —. Laws, Statutes, etc. Invalideneinstellungsgesetz mit allen hierzu erlassenen Durchführungsvorschriften, eingehenden Erläuterungen und einem Sachregister, hrsg. von Theodor Schöberle. [Law concerning the re-employment of the disabled, with all supplementary decrees, a comprehensive introduction and a subject index, edited by . . .] Vienna, Manz, 1947. 107 p. (Manzsche Einzelausgaben sozialrechtlicher Gesetze, 9.)

AUSTRIA (cont'd)

53. Gemeinsame Tagung der Vereinigung der Orthopäden Österreichs, der Österreichischen Gesellschaft für physikalische Medizin, sowie der Gesellschaft für Unfallkunde [Linz, 27-29 Mai 1954] [Joint Meeting of the Austrian Orthopaedic Association, the Society for physical medicine and the Society for accident research, Linz, 27-29 May 1954] Vienna, Hollinek [1955]. 172 p. Illus. (Forschung und Praxis, 4.)
54. Informationsdienst des österreichischen Blindenwesens. Hrsg. v.d. Interessengemeinschaft blinder Geistesarbeiter im Auftrage des Österreichischen Blindenverbandes. [Information service for the Austrian blind. Edited by the Association for blind intellectuals and issued under the auspices of the Austrian Association for the Blind.] Vienna, Nr. 1, 1953.
55. KINDERMANN, H. 175 Jahre Taubstummen-Institut in Wien, 1779-1954 [175 years of the Vienna Institute for deaf-mutes, 1779-1954.] *Österreichische Lehrerzeitung* (Vienna) 8:62-64, April (?) 1954.
56. Save the Children Fund. Projected Centre for rehabilitation of physically handicapped children- Hermagor-Austria. [Klagenfurt? 1955?][15] p. Photos. Processed. Unpublished report on file at the International Society for the Welfare of Cripples.

BRAZIL

57. Associação de Assistência a Criança Defeituosa. Report of activities, by Dr. Renato Bomfinn, 1950-1954. São Paulo, 1954, 17 p. Diags.
58. BOCCOLINI, F. Importância do trabalho de equipe em reabilitação [Importance of team work in rehabilitation] *Revista Paulista de Medicina* (São Paulo) vol. 42, Maio 1953.
59. Congresso Brasileiro de Medicina Legal, Criminologia e Infortunística, 1953. Problema da recuperação dos incapacitados [por] Dr. Fernando Boccolini. [Problems of the rehabilitation of the handicapped] São Paulo, 1953. 56 p. Bibliography. Processed. Summary in English.
60. Experiência em reabilitação de doentes mentais na enfermaria de psiquiatria do IAPC em colaboração com o serviço social. [Experience in the rehabilitation of mental patients at the Institute of Pensions and Relief for Commercial Employees] *Revista Paulista de Hospitais* (São Paulo) Setembro 1955.
61. NEBIAS, J. O. and ANDRADE, L. D. Novos dados sobre a reabilitação vocacional no hospital São Luiz de Gonzaga-Jacãna. [Current data concerning vocational rehabilitation in the Hospital São Luiz de Gonzaga-Jacãna] *Revista Paulista de Medicina* (São Paulo) Vol. 5, Julho 1954.
62. Report on crippled children, by the Committee for Physically Handicapped Children. Excerpt from the Annals of the third Seminar about Crippled Children, held in São Paulo under the auspices of the Sociedade Pestalozzi de São Paulo in September of 1953. São Paulo, 1955. 14 p.

CANADA

63. American Association of Medical Social Workers. Eastern Canada District. Handbook on services to the physically handicapped: Montreal and region. Montreal, 1952. 36 p.
64. BAKER, F. J. Rehabilitation of the tuberculous patient. *Canadian Journal of Public Health* (Toronto) 44: 281-284, August 1953.

65. BELL, C. A. Prosthetic services. *Canadian Services Medical Journal* (Ottawa) June-July 1947, 3 p.
66. BRINK, C. C. Tuberculosis in Ontario. *Canadian Journal of Public Health* (Toronto) 45: 195-201, May 1954.
67. Canada, Department of Labour. Survey of disabled persons registered with the National Employment Service, Montreal, P.Q. Ottawa, 1953. 47 p. Processed.
68. —. Department of National Health and Welfare. Mental Health Division. Services for the care and training of mentally defective persons in Canada. Ottawa, 1953. 8 p.
69. CHARRON, K. C. and GELBER, S. M. Disability evaluation under the disabled persons allowance programme. *Canadian Services Medical Journal* (Ottawa) April 1955.
70. DELAGE, J. Le problème de la déficience mentale chez l'enfant dans la Province de Québec. *Laval Medical* (Quebec) 19:614-623, mai 1954.
71. Disability allowances. *Canadian Welfare* (Ottawa) 29:41-46, 15 March 1954.
72. DUNLOP, E. The rehabilitation needs of the disabled in Canada. *Canadian Services Medical Journal* (Ottawa) July-August 1950, 8 p.
73. DUNLOP, E. Rehabilitation planning, some principles and problems, *Canadian Welfare* (Ottawa) 29:5-9, 15 December 1953.
74. ELLIOTT, J. M. Rehabilitation in industry. *Occupational Health Review* 5:17-18, March 1954.
75. GINGRAS, G. The rehabilitation centre. Montreal, The Rehabilitation Society for Cripples, 1953. 24 p., charts.
76. HOSSACK, J. R. The relationship of occupational therapy and vocation counselling in rehabilitation. *Canadian Journal of Occupational Therapy* (Toronto) 21:19-23, March 1954.
77. HUNT, T. E. Rehabilitation of the aged. *Canadian Journal of Occupational Therapy* (Toronto) 23:64-69, July 1956.
78. JOUSSE, A. T. and WEIR, E. A. Prosthetic devices for the upper extremities of quadriplegic patients. *Canadian Services Medical Journal* (Ottawa) October 1952. 11 p.
79. KINGSMILL, E. Music as therapy. *Canadian Journal of Occupational Therapy* (Toronto) 22:111-115, September 1955.
80. LANDRY, P. Tuberculosis in industry. *Occupational Health Review* 5:13-16, March 1954.
81. LANGLEY, M. Application of the principles of occupational therapy to homes for the aged. *Canadian Journal of Occupational Therapy* (Toronto) 22:105-110, September 1955.
82. LEMIEUX, S. Comprendre le cardiaque. *The Social Worker* (Ottawa) 22:24-28, octobre 1953.
83. McKONE, B. A post-sanatorium institution for rehabilitation in tuberculosis. *The Canadian Medical Association Journal* (Montreal) 69:395-402, October 1953.
84. MEILLEUR, R. N. Le rôle du conseiller en orientation et en placement dans un centre de réhabilitation pour handicapés. *Bien-Etre Social Canadien* (Ottawa) 5:6-7, décembre 1953.
85. SHEPPARD, J. Occupational therapy in a rehabilitation center. *Canadian Journal of Occupational Therapy* (Toronto) 22:9-12, March 1955.

CANADA (cont'd)

86. WARNER, W. P. Notes on medical rehabilitation in Canada. *Canadian Services Medical Journal* (Ottawa) July-August 1950. 5 p.
87. WOOD, H. B. Blind workers have a place in industry. *Canadian Business* (Montreal) 26:44-45, 132-135, September 1953.
88. WOODS, W. S. Rehabilitation (a combined operation), being a history of the development and carrying out of a plan for the re-establishment of a million young veterans of World War II by the Department of Veterans Affairs and its predecessor, the Department of Pensions and National Health. Ottawa, 1953. 518 p.

CEYLON

89. Ceylon Council for the Welfare of Cripples. Constitution (adopted at a meeting held on 9-3-55 . . .) [Colombo, 1955] 2 p.
90. MULLER, G. M. Orthopaedically handicapped children in Ceylon. *The Indian Journal of Child Health* (Bombay) 1:608-612, November 1952.

CHILE

91. LOWMAN, E. W. Report of a Rehabilitation Mission to Chile, August 6-26, 1955. New York, Occupational Therapy Department, Institute of Physical Medicine and Rehabilitation [1955]. 29 p. Processed.

CUBA

92. TARAF, J. I. El problema del lisiado en Cuba. Habana, 1953. [6] p.

DENMARK

93. ARNSØE, E. On infantile paralysis. Copenhagen, Danish National Association for Infantile Paralysis, 1954. 36 p.
94. BRANDT, S. Om behandling og revalidering af spastiske børn i Danmark inden for Samfundet og Hjemmet for Vanføre. [Treatment and rehabilitation of cerebral palsied children in Denmark] Copenhagen, 1955. 14 p. Reprint from *Maanedsskrift for Praktisk Laegegerning og Social Medicin* (Copenhagen).
95. LOU, I. Ortopaediske problemer i almenpraksis. [Orthopaedic problems in general practice] Copenhagen, 1955. 22 p. Reprint from *Maanedsskrift for Praktisk Laegegerning og Social Medicin* (Copenhagen) Februar 1955.
96. NELSON, G. R., ed. Freedom and welfare; social patterns in the northern countries of Europe. Sponsored by the Ministries of Social Affairs of Denmark, Finland, Iceland, Norway, Sweden. [Copenhagen] 1953. 539 p. Illus.
97. —. Social Welfare in Scandinavia. Copenhagen, Danish Ministry of Labour and Social Affairs [1953] 70 p.
98. Nordiske Konference om Cerebral Parese, København, August 1953. Foredrag ved 1. Nordiske Konference om Cerebral Parese, København, 28. og 29. August 1953. [Proceedings of the first Scandinavian Conference on Cerebral Palsy, 28 and 29 August 1953] Copenhagen, Foreningen for Spastisk Lammede Børn, 1954. Summary in English.
99. ROSENDAL, T. The development of the calcaneal foot deformity after poliomyelitis. Copenhagen, Danish

National Association for Infantile Paralysis, 1955. 24 p. Reprint from *Acta Orthopaedica Scandinavica*.

100. Society and Home for Cripples. Copenhagen, The Society, 1955. 20 p. Illus., chart.
101. Society and Home for Cripples. Proteselaegens og protesebyggerens ønsker. [Essential features of limb fitting] Copenhagen, 1954. 24 p.

EGYPT*

102. HAMZA, M. [The psychology of the handicapped.] Cairo, Vocational Rehabilitation Center, 1956. 192 p.
103. MORSI, S. [Job analysis and its use in vocational rehabilitation of the handicapped.] Cairo, Vocational Rehabilitation Center, 1956. 128 p. English summary.
104. SHARAF, I. The ILO Conference recommendations on vocational rehabilitation of the handicapped. Cairo, Vocational Rehabilitation Center, 1956. 32 p. In Arabic and English.
105. —. International recommendations on vocational rehabilitation. Cairo, Vocational Rehabilitation Center, 1954. 72 p. In Arabic and English.
106. —. [Principles of vocational rehabilitation.] Cairo, Vocational Rehabilitation Center, 1956. 65 p.
107. —. [The Story of vocational rehabilitation.] Cairo, Vocational Rehabilitation Center, 1956. 32 p. Illus.
108. —. [Vocational rehabilitation of the handicapped.] Cairo, Ministry of Social Affairs, 1953. 16 p. Illus.
109. United Nations. Technical Assistance Administration. Demonstration centre for the rehabilitation and training of the blind. Prepared for the Government of Egypt by Arthur N. Magill, expert appointed by the TAA of the UN. Document ST/TAA/K/Egypt/1, July 1955. 45 p.

FINLAND

110. Association fraternelle des invalides de guerre de Finlande. The Disabled Ex-Service Men's Association in Finland. Verband der finnischen Krieginvaliden. 1940-1955. [Helsinki, Printed by Suomalaisen Kirjallisuuden Kirjapainon Oy Seuran, 1955] [17] p. Illus.
111. HAGELSTAM, L. Katsaus Invaliidisäätiön ortopedisen sairaalan toimintaan. [Review of activities, orthopaedic hospital of the foundation for the Care of the Disabled], *Suomen Lääkärilehti—Finlands Läkartidning* no. 21, 1953, 8 p.
112. JANSSON, K. Rehabilitation of Finland's Disabled. *Journal of Rehabilitation* (Washington, D.C.) Sept.-Oct. 1951, p. 10-14.
113. LANGENSKIÖLD, F. Millaisia laitoksia tarvitaan polion vastustamiseksi? [What kind of institutions are needed for fighting polio?] *Suomen Lääkärilehti—Finlands Läkartidning* no. 18, 1955, no paging.
114. LINDQUIST, C. Ortopedisia näkökohtia tuoreitten lapsihalvauspotilaiden hoidossa invaliidisäätiön huoltolaitoksessa ja euoran sairaalassa. [Orthopaedic aspects of treatment of fresh cases of poliomyelitis.] *Suomen Lääkärilehti—Finlands Läkartidning* no. 22, 1954, no paging.

*Titles in brackets are translated from the original Arabic titles.

FINLAND (cont'd)

115. NIEMI, V. Invaliidihuoltolain suomat mahdollisuudet potilaiden jälkihuollossa ja kuntouttamisesaa [After-care and rehabilitation in the Care and Disabled Persons Act.] *Suomen Lääkärilehti—Finlands Läkartidning* no. 15, 1955, no paging.
116. —. Kuntouttamisesta ja siihen liittyvästä lainsäädännöstämme [About rehabilitation and our legislation concerning it.] *Suomen Lääkärilehti—Finlands Läkartidning* no. 23, 1954, no paging.
117. —. Return to work. Vocational rehabilitation of the physically handicapped in Finland. Helsinki, 1953. 43 p. Published in English.
117. NYBERG, L. O. Invaliidien kuntouttamisesta [The rehabilitation of the disabled]. *Työväenvaluutus*, no. 4-5, 1953, no paging.
119. SOLO, Y. Invaliidihuolto laajenee? [Is the care of the disabled expanding?] *Huoltaja* (Oulunkyää) no. 15-16, 1953, no paging.
120. TAMMINEN, A. Kuntouttamiseen liittyvästä ammattiisovelluvuuden tutkimisesta. [Examination of occupational fitness connected with rehabilitation.] *Suomen Lääkärilehti—Finlands Läkartidning*, no. 23, 1954, no paging.

FRANCE

121. Centre national d'information pour la réadaptation. *Réadaptation* (Paris) No. 26, janvier 1956. (The entire issue is devoted to the subject of special education for the handicapped.)
122. NÉRET, J. Les enfants et les adolescents inadaptés. Formation professionnelle, placement, éducation, guide pratique, débilés intellectuels, défectifs, infirmes, caractériels, retardés scolaires. New ed. Paris, Editions sociales françaises, 1954.
123. OLÉRON, P. Les sourds-muets. Paris, Presses universitaires de France, 1950. 126 p. Illus. ("Que sais-je"? Le point des connaissances actuelles 444).
124. SMIRNOFF, V. N. Retentissement affectif et psychothérapie au cours des infirmités motrices. *Revue de neuropsychiatrie infantile et d'hygiène mentale de l'enfance* (Paris) janvier-février 1955. 28 p. (Reprint).
125. La surdit  et sa correction. Paris, Maloine, 1953. 560 p.
126. VERBIZIER, J. de. La crise de r adaptation sociale. Bordeaux, Drouillard, 1954.
127. Les victimes de la guerre. Paris, Editions sociales fran aises [1948]. 43 p.

GERMANY

128. ALBERT, W. L sung des Schwerbesch digtenproblems durch Arbeit [Solution through work of problems of the severely handicapped]. Berlin, Duncker & Humblet, 1956. 239 p.
129. Deutsche Vereinigung zur Bek mpfung des Kr ppeltums, e.V. Jahrbuch der F rsorge f r K rperbehinderte, 1955 [Year book on the welfare of the handicapped] Heidelberg. 250 p.
130. HOSKE, H. Wiederherstellung der Lebenst chtigkeit gesch digter Menschen; Rehabilitation in inl ndischer und ausl ndischer Sicht [Rehabilitation of the handicapped, considered from the domestic and foreign point of view]. Stuttgart, Thieme, 1955. 217 p.

131. Josefs-Gesellschaft f r Kr ppelf rsorge. 50 Jahre Josefs-Gesellschaft f r Kr ppelf rsorge, 1904-1954. [Fifty years of the Josef Association for the welfare of the handicapped, 1904-1954]. Bigge-Ruhr. 148 p. Illus.
132. —. Jahrbuch 1954. [Yearbook 1954]. Bigge-Ruhr. 64 p.
133. LORENZEN, H. Leibes bungen mit K rperbesch digten. Ein Lehr- und Arbeitsbuch f r K rperbehinderte und ihre Betreuer [Gymnastics with the physically handicapped. A textbook for the physically handicapped and their wardens]. Stuttgart, Thieme, 1951-53. 2 vols. Illus. (Arbeit und Gesundheit; sozialmedizinische Schriftenreihe aus dem Gebiete des Bundesministeriums f r Arbeit . . . N.F., Heft 45, 51).
134. MALLWITZ, A., ed. Arzt und Versehrtensport. Mitt Zustimmung des Bundesarbeitsministeriums und im Auftrage der Arbeitsgemeinschaft Deutscher Versehrtensport . . . [The physician and sport for the physically handicapped. Commissioned, with the approval of the Federal Ministry of Labour, for the Working Group on sport for the physically handicapped in Germany]. Stuttgart, F. Enke, 1954. 120 p. Illus.
135. Orthop dische Heil-Lehr und Pflegeanstalten Volmarstein (Ruhr). Einundf nfziger Jahresbericht der Orthop dischen Heil-Lehr- und Pflegeanstalten Volmarstein (Ruhr) f r das Jahr 1954 (Kr ppelanstalten "Johanna-Helenen Heim") gleichzeitig dreiundsiebzigster Jahresbericht des Altersheims Bethanien f r das Jahr 1954. [51st annual report of the orthopaedic home at Volmarstein (Ruhr) for 1954 (Johanna-Helene Home for the physically handicapped) together with the 73rd annual report of the Bethanian Home for the aged, for the year 1954.] Volmarstein (Ruhr). 7 p. Illus.
136. SWEDE, I. Die Wiedereingliederung klinisch geheilter Tuberkul ser in das Erwerbleben [The re-integration into a gainful life of clinically healed tuberculous persons]. Berlin, Duncker & Humblet, 1956. 111 p.
137. ZIEM, H. Der Besch digte und K rperbehinderte im Daseinkampf einst und jetzt [The struggle for existence of the disabled and physically handicapped, past and present]. Berlin, Duncker & Humblet, 1956. 99 p.

GREECE

138. Hellenic Society for Crippled Children. Cinq ans de poliomy lite en Gr ce. Rapport soumis au troisi me Congr s International de Poliomy lite organis    Rome [septembre 1954] Athens, 1954. 5 p. Processed.
139. —. The contribution of the Hellenic Society for Crippled Children towards the protection of the child in general and especially towards the international effort to better the status of the crippled child in the community. Paper submitted to the World Congress for Child Protection held in Zagreb, Yugoslavia [Aug.-Sept. 1954]. Athens, 1954. 3 p. Processed.
140. —. Education of physically handicapped children in Greece. Paper submitted to the Sixth World Congress of the International Society for the Welfare of Cripples held at The Hague [September 1954]. Athens, 1954. 4 p. Processed.

GUATEMALA

141. AGUILERA P REZ, M. A. Rehabilitaci n de amputados del miembro superior. *Revista del Colegio M dico de Guatemala* (Guatemala City) 5: 241-248, diciembre 1954.

GUATEMALA (*cont'd.*)

142. Guatemala. Instituto Guatemalteco de Seguridad Social. La rehabilitación del parapléjico. Trabajo presentado al Congreso Médico Nacional de 1953, por el Dr. Miguel Angel Aguilera Pérez, Director del Centro de Rehabilitación del IGSS. [Guatemala City] 1953. 10 p. Illus. Processed.

HAITI

143. COMPTON, G. C. Victory in Haiti; how a crippling disease was wiped out. [Washington, D.C., 1955?] [4] p. Reprinted from *Americas* (Washington, D.C.) September 1955.

INDIA

144. ANDYAL, A. A. Role of physiotherapy and occupational therapy in the treatment of children. *The Indian Journal of Occupational Therapy* (Bombay) 1:16-18, April 1955.
145. BANERJEE, G. R. Care of the mentally retarded. *Indian Journal of Social Work* (Bombay) 16:75-82, September 1955.
146. BANERJI, S. N. The problem of the deaf in India. *The Indian Journal of Child Health* (Bombay) 1:637-638, November 1952.
147. India. Central Advisory Board of Health and Central Advisory Board of Education. Report on blindness in India, by the Joint Committee appointed by the Central Advisory Board of Health and the Central Advisory Board of Education, 1944. Delhi, 1945. 111 p. Bibliography.
148. —. Ministry of Education. Fifty years of work for the blind in India. Issued in commemoration of the centenary of the death of Louis Braille. New Delhi, 1952. 35 p. Illus.
149. *The Indian Journal of Occupational Therapy* (Bombay) vol. I, no. 1, January 1955—Quarterly. Edited by the All Indian Occupational Therapists' Association.
150. ISMAIL, F. (Mrs.) The education and welfare of crippled children. Bombay, Society for Rehabilitation of Crippled Children, 1951. 16 p. Illus. (An address delivered at the Conference of Experts on Handicapped Children convened by UNESCO and the Government of India at Jamshepur, India, December 1950.)
151. JUSSAWALA, K. N. K. Blind children and their rehabilitation. *The Indian Journal of Social Work* (Bombay) 13: 1-13, March 1953.
152. SANT, M. V. Problem of handicapped children in India (except the blind, deaf and mute). *The Indian Journal of Child Health* (Bombay) 1: 597-607, November 1952.
153. Seminar on the Education of the Blind, *Mussoorie*, 18-23 April 1954. Resolutions adopted by the Seminar . . . [s.l., 1954] 15 p. Held under the auspices of the Government of India.
154. Seminar on the Education of the Deaf, *Mussoorie*, 19-24 September 1955. Resolutions adopted by the Seminar . . . (s.l., 1955) 22 p. Held under the auspices of the Government of India.
155. SENGUPTA, N. The blind child in India. *The Indian Journal of Child Health* (Bombay) 1: 630-636, November 1952.

156. WADIA, A. R., *ed.* The handicapped child. Bombay, Tata Institute of Social Sciences [1954]. 171 p.

INDONESIA

157. The rehabilitation story in Indonesia. *International Society for the Welfare of Cripples Bulletin* (New York) 6: [1-2] October 1955, suppl.
158. SOEHARSO, R. Services in rehabilitation of the physically handicapped at Solo, Indonesia. [Solo], The Counseling Department of the Solo Rehabilitation Centre, 1955. 22 p. Processed.

ISRAEL*

159. AXER, A. [Rehabilitation after poliomyelitis.] *Harefuah* (Jerusalem) 15 September 1952, p. 90-91. Journal of the Medical Association of Israel.
160. FEITELSON-SHUR, D. [Teaching retarded children in a special class.] *Megamot* (Jerusalem) April 1952, p. 212-237. Quarterly of the Henrietta Szold Foundation for Child and Youth Welfare.
161. ISRAEL. Ministry of Labour. [Helping the handicapped.] *Monthly Review of Labour* (Jerusalem) November 1952.
162. KORINE, E. Survey of the hearing of pupils at the Tel Aviv and Jerusalem schools for the deaf-mute. *Harefuah* (Jerusalem) July 1953.
163. LICHTENSTEIN, H. [Medical and social aspects of tuberculosis.] Tel Aviv, General Federation of Jewish Labor in Israel; Gupat Holim, Workers' Sick Fund, 1951. 16 p. Processed.
164. Malben Institution for the Care of Handicapped Immigrants. Guide to "Malben" Institutions. Tel Aviv, 1953. Processed.
165. —. Medical Dept. Review of medical and social problems. Tel Aviv, 1953. 61 pp.
166. MEIBOOM, A. [Industrial deafness.] *Monthly Review of Labour* (Jerusalem) August 1952, p. 8.
167. Organization of Invalids of the War of Liberation. The rehabilitation of war invalids in Israel. *The Discharged Soldier* (Tel Aviv) no. 3, March 1953.
168. PALMON, A. War disabled legislation. *The Discharged Soldier* (Tel Aviv) no. 1, January 1953.
169. PLISKIN, B. Physical, mental, social and economic rehabilitation of disabled immigrants. Jerusalem, Malben (Institution for the care of handicapped immigrants), 1952. 4 p.
170. RASHKES, M. The organization of Invalids of the War of Liberation, its activities and problems. Tel Aviv, 1953.
171. SADEH, N. [The problem of the hard of hearing in Israel.] *Harefuah* (Jerusalem) 1 January 1952, p. 12.
172. SHANAN, Y. [Teaching maladjusted children.] *Megamot* (Jerusalem) January 1952, p. 111-136. Quarterly of the Henrietta Szold Foundation for Child and Youth Welfare.
173. Zionist Organization. Youth and Hehalutz Department. Office of Professional Workers (PATWA). Physiotherapy and occupational therapy in Israel. Jerusalem, 1952. 14 p. (PATWA Occupational Outlook 1). In English and French.

* Titles in brackets are translated from the original Hebrew titles. Translation of names of periodicals submitted by the Government of Israel.

ITALY

174. FRANCOCCI, G. L'attività estetica negli anormali sensoriali [Aesthetic activities of the congenitally handicapped.] Milan, Giuseppe, 1952. 42 p.
175. Italian National Conference on the Rehabilitation of Handicapped Children and Youth, Rome, May 1955. [Paper. Geneva] United Nations European Office of the Technical Assistance Administration [1955]. 8 pts. Processed.
176. SACCARDO, M. Il villaggio dei mutilati del lavoro e il centre di protesi ortopedica. Venezia-Marghera [The village for victims of industrial accidents and the orthopaedic centre Venezia-Marghera.] Venice, Emiliana, 1950. 25 p.
177. TERRUZZI, G. La parola ai sordomuti; note e appunti di articolazione [Speaking to deaf-mutes; notes and examples of how to articulate.] Milan, Pio Istituto Sordomuti Poveri, 1951. 177 p. Plates.

JAPAN*

178. IMAMURA, Y. [The law for the welfare of the disabled.] *Shakaijigyo* (Tokyo) May 1950.
179. Japan Church World Service. Rehabilitation work for the physically handicapped in Japan. Tokyo, The Service, 1955. 14 p.
180. MIZUNO, S. [Theory and practice of the protection of physically handicapped.] *Shakaijigyo* (Tokyo) January-February 1949.
181. NAKAHARA, T. [Explanations of the law for the welfare of the disabled.] Tokyo, the Mainichi Newspaper, 1950.
182. OBA, I. [Character guidance of feeble-minded children.] *Jidoshinri* (Tokyo) July 1949.
183. Osaka City. Lighthouse Institution. Yearly report of the Lighthouse Institution's work. Osaka City [n.d.]
184. SANO, T. [The social life of the handicapped.] *Ai no Tomo* (Tokyo) November 1949.
185. TAMURA, I. [Forgotten children—feeble-minded children.] Tokyo, Osaka-Kyoiku-tosho Publishing Co., 1950. 300 p.
186. TSUKAMOTO, S. [The study of tuberculosis in school children.] *Rôdokagaku* (Tokyo) March 1950.

KOREA

187. American Korean Foundation. Report of the Rusk Mission to Korea, March 11-18, 1953. New York [1953] 14 p. Processed.
188. —. Report of the Second Mission to Korea, August 20-27, 1953. New York [1953] 25 p. Processed.

MEXICO

189. México. Secretaría de Salubridad y Asistencia. Rehabilitación de los ciegos, por F. Acosta y otros. Mexico, D.F., 1951. 44 p. (Publicaciones de la Dirección de Asistencia Social en el D.F.) Processed.
190. TAYLOR, I. W. Ajusted psicológicos de incapacitados físicamente. New York, International Society for the Welfare of Cripples [1954?] [8] p. Reimpresión de *Revista Mexicana de Seguridad Social* (Mexico, D.F.) vol. 2, nr. 7, abril 1954.

191. Universidad Nacional Antónona de México. Curso de terapia física y rehabilitación en cooperación con la Escuela de Medicina Física "Adele Ann Yglesias" del Hospital Americano Británico Cowdry. Mexico, D.F. [1955] various paging.

NETHERLANDS

192. BAESJOU, J. F. J. Meer geluk en meer welvaart door een betere zorg voor onze minder-validen. [Greater happiness and well-being through better care of our handicapped.] The Hague, A.V.O. Nederlandse Vereniging Sociale Zorg voor Minder-validen, 1951. 37 p. Bibliography.
193. MIZUNO, S. Rehabilitation of the handicapped. The Hague, het Ministerie van Sociale Zaken, 1941. 41 p.
194. PAAUW, G. W. Centrale Commissie voor Advies bij Arbeidsbemiddeling en Maatschappelijk Werk. Rapport inzake de sociale welstand, de voorzieningen en de noden van slechthorenden, uitgebracht aan het bestuur van de Vereniging tot Bevordering der Belangen van Slechthorenden. [Report concerning the welfare and needs of and services for the hard of hearing, prepared by the Central Advisory Committee on Employment and Social Work, and presented to the Board of Directors of the Association for the Advancement of the Interests of the Hard of Hearing]. The Hague, 1951. 18 p.
195. Studiecommissie (De Loor) in Zake Werkplaatsen voor Linder-valide Arbeidskrachten. Rapport. [Report of the (De Loor) Committee of inquiry into workshops for handicapped workers]. Leeuwarden, de Stichting Friesland voor maatschappelijk werk, 1951. 17 p.

NEW ZEALAND

196. ANYON, M. Intellectually handicapped children's parents' association. *New Zealand Child Welfare Worker's Bulletin* (Lower Hutt) 1:1-7, October 1951 (issued 1952).
197. ARCHIBALD, J. M. Education of the handicapped child. *National Education* (Wellington) 36:349, November 1954.
198. AXFORD, M. Rehabilitation of the injured workman. *New Zealand Medical Journal* (Wellington) 53:28-34, February 1954. Also in *New Zealand Bulletin of Psychology* (Auckland) 1:90-112, August 1954.
199. New Zealand. Consultative Committee on Intellectually Handicapped Children. Report of the consultative Committee set up . . . in August 1951. Wellington, Department of Education, 1953. 42 p.
200. PICKERILL, H. P. Speech training for cleft palate patients. Christchurch, Whitcombe and Tombs, 1954. 36 p.
201. SEABROOK, J. A. The relationship between emotional disturbance and speech disorder. *New Zealand Speech Therapists Journal* (Christchurch) 10:6-19, May 1955.

NORWAY

202. ANDERSON, P. Forsorgen for de döve. [Care of the deaf]. *Sosialt Arbeid* (Oslo) No. 3, 1952.
203. ELIASSEN, R. De utviklingshemmete barna. [The retarded child]. *Kvinnen og Tiden* (Oslo) No. 1, 1953.
204. Foreningen til bekjempelse av cerebralt barneparese. Barna i skyggen. En oversikt over problemene i forbindelse med cerebralt barneparese. [Children in the shadows. A survey of problems connected with cerebral palsy in children]. Oslo, 1950. 36 p. Illus.

*Titles in brackets are translated from the original Japanese titles.

NORWAY (cont'd)

205. HAAGENRUD, A. Om tuberkulosen in Nord-Norge. [Tuberculosis in Northern Norway]. *Nasjonalforeningen mot Tuberkulosen* (Oslo) No. 5, 1952.
206. HARLEM, G. Hva er attføring? [What is rehabilitation?]. *Vi Vet* (Oslo) No. 18, 1952.
207. HENRIKSEN, G. Omsorgen for epileptikere i Norge. [Care of epileptics in Norway]. *Sosialt Arbeid* (Oslo) No. 1, 1952.
208. LEEGAARD, I. Døve barn. [Deaf children.] *Småbarnspedagogen* (Oslo) No. 4, 1952.
209. LEPSØE, E. Barnehage for døve. [Kindergarten for deaf children]. *Småbarnspedagogen* (Oslo), No. 2, 1951.
210. LOHNE KNUDSEN, C. Hva gjør vi for de sinnslidende? [What are we doing for the mentally ill?]. *Nasjonalforeningen mot Tuberkulosen* (Oslo) No. 2, 1952.
211. MELLBYE, F. Behandling av vanføre sett fra et medisinsk og sosialt synspunkt. [Medical and social aspects of the treatment of the physically handicapped]. *Sosialt Arbeid* (Oslo) No. 2, 1953.
212. Norway. Kommunal-og Arbeidsdepartementet. Om Registreringssentralen for Omskoling av delvis Arbeidsføre [The centre for the retraining of partially disabled workers.] Oslo, 1950 (Parliament Report No. 33/1950).
213. —. Sosialdepartementet. Landesplanes for andssvakeomsorgen. [National plan for the care of the mentally defective]. *Nasjonalforeningen mot Tuberkulosen* (Oslo) No. 2, 1953. Summary of the plan submitted by the Ministry on 25 April 1952.
214. —. Om landsplan for andssvakeomsorgen. [National scheme for the care of the mentally defective]. Oslo, 1952. 17 p. (Parliament Report No. 71/1952).
215. USTVEDT, H. J. Tuberkulose og levestandard. [Tuberculosis and the standard of living]. Oslo, Handverkstrykk, 1952. [13] p. Illus.
216. Yrkesoppleringen for døve gutter. [Vocational training for deaf boys]. *Norsk Spesialskeleblad* (Bastøy, Prov. Horten) No. 3, 1953.

POLAND

217. HULEK, A. Usprawnienie inwalidów. Materiały do bibliografii. [Improving the productivity of handicapped persons. Bibliographical data.] Warsaw, 1951. Reprint from *Przegląd Zagadnień Socjalnych* (Warsaw) 15 p.
218. —. Współpraca lekarzy przyfabrycznych ośrodków zdrowia z instruktorami inwalidzkimi. [Co-operation between physicians attached to factory health centres and instructors of the handicapped]. *Medycyna Pracy* (Warsaw) 3:229-234, 1954.
219. LANCMAŃSKI, Z. Stan spraw inwalidzkich w Polsce. [The situation of the physically handicapped in Poland.] Warsaw, Lekarski Instytut Naukowo-Wydawniczy, 1949. Reprint from *Polski Tygodnik Lekarski* (Warsaw) Vol. 4, No. 24 and 25, 1949.
220. NAUMAN, A. Możliwości zatrudnienia osób dotkniętych gruźlicą płuc. [Employment opportunities for persons suffering from tuberculosis of the lungs.] Warsaw, Ministerstwo Pracy i Opieki Społecznej, 1951. 56 p.
221. —. Zagadnienia pracy chorych na gruźlicę płuc (Rehabilitacja chorych.) [Work problems of persons suffering from tuberculosis of the lungs (Rehabilitation of the sick)]. Warsaw, Państwowy Zakład Wydawnictw Lekarskich, 1950. 121 p.

222. Polski Związek Niewidomych. Niewidomi w Polsce Ludowej. [Polish Association for the Blind. The blind in Poland.] Warsaw, 1955. 31 p. Illus.
223. SZMYT, J. Szkolenie niewidomych. [The Training of the blind]. Warsaw, Lekarski Instytut Naukowo-Wydawniczy, 1948. 7 p. Reprint from *Polski Tygodnik Lekarski* (Warsaw).

PORTUGAL

224. SANTOS, J. D. Rééducation physique des troubles neurophysiques. [Bordeaux, 1953] 12 p. By physician of the Psychiatric Hospital of Julio-de-Matos in Lisbon.

SWEDEN

225. ÅKERBLAD, B. Statens arbetsklirik i Stockholm. [State Work Clinic in Stockholm] [Stockholm 1953] 3 p. Plan. Sartryck ur *Socialmedicinsk Tidskrift* nr. 4, 1953.
226. —. Synpunkter på rehabiliteringens innehåll och organisation. [Views on the contents and organization of rehabilitation]. Stockholm, Social - Medicine - Journal, 1955. 8 p.
227. BERFENSTAM, R. Accidents in childhood; some points of view on the frequency in Sweden compared with some other countries, and on safety campaigns in Sweden. *Courrier* (Sweden) 4:419-426, September 1954.
228. BERGH, A. Rehabilitering och arbetsvård [Rehabilitation and resettlement] Stockholm, Royal Labour Market Board, 1955. 3 p.
229. BUTLER, P. Arbetsvårdens medicinska problem [The medical problems of vocational rehabilitation] Stockholm, Social-Medicine-Journal, 1955. 4 p.
230. ECKERBERG, P. Rehabiliteringsverksamhetens sociala och ekonomiska bakgrund. [The social and economic background of rehabilitation]. Stockholm, Union of Swedish County Councils, 1955. 4 p.
231. ENGSTRÖM, K. W. Exempel på aktiv arbetsvård. [Examples of active resettlement]. Stockholm, Social-Medicine-Journal, Januari 1955. 4 p.
232. Mobilt arbetsfysiologiskt laboratorium. [Mobile laboratory for work physiology]. Särtryck ur *Flyg-och Navalmedicinska nämnden* (Stockholm) nr. 4, 8 p. Illus.
233. MONTAN, K. Tekniken kan lämna stöd i rehabiliteringsverksamheten. [Technique can support rehabilitation work]. Stockholm, Union of Swedish County Councils, 1955. 3 p.
234. OSTERDAHL, F. Tekniska hjälpmedel för invaliden. [Technical aids for the disabled]. Stockholm, Social-Medicine-Journal, 1955. 3 p.
235. Svenska Vanförevårdens Central Kommitte. Cerebral Palsy Conference, held by Swedish Central Committee for the Care of Cripples (Svenska Vanförevårdens Central Kommitte) September 17, 1951. Stockholm [1951?] 34 p. Processed. In the files of the International Society for the Welfare of Cripples.
236. —. Tekniska hjälpmedel för rörelseterapi. [Technical aids for rehabilitation]. Norrtälje, 1956. 49 p. Illus. (No. 5 of the SVCK series).
237. Sweden. Royal Pension Board. Om återställande av arbetsförmåga och återinpassning i arbete. [Rehabilitation, by Konrad Persson, General Director]. Stockholm, 1955. 20 p.
238. —. Social Department. Plan för arbetsvården i Stockholm. [Plans for vocational rehabilitation in Stockholm]. Stockholm, 1954. 187 p.

SWEDEN (*cont'd*)

239. Vanförestalsterna och Eugeniahemmet. [Institutions for the care of cripples and the "Eugenia" home]. Stockholm, Swedish Government, 1954. 340 p.

SWITZERLAND

240. ABC bei der Begegnung mit Gebrechlichen. [ABC for meeting the handicapped]. *Pro Infirmis* (Zurich) 9:1-24, 1954/55.
241. BRUSSATIS, F. and TAILLARD, W. Die Moderne Paraplegikerbehandlung. [Modern treatment of paraplegics]. *Zeitschrift für Unfallmedizin und Berufskrankheiten* (Zurich) 6:259-267, 1952.
242. BURKHARDT, E. Die Frage der eidgenössischen Invalidenhilfe. [The federal insurance programme for handicapped]. *Pro Infirmis* (Zurich) 1:1-17, 18-35. In German and French.
243. Fédération suisse pour l'intégration des handicapés dans la vie économique. L'intégration des handicapés dans la vie professionnelle. [Zurich] 1952. 32 p.
244. FRANCILLON, M. R. Poliomyelitis und Orthopädie. [Polio and orthopaedic surgery]. *Bulletin der Schweizerischen Akademie der Medizinischen Wissenschaften* (Basle) 11:228-240, 1955.
245. FREI, D. and others. Erster Kurs zur Eingliederung Schweregebrechlicher in die Volkswirtschaft, in der Arbeitsgemeinschaft "Milchsuppe" des Bürgerspitals Basel, 1 September-6. November 1954. [First course in rehabilitation by the "Milchsuppe" Rehabilitation Centre, Basle].
246. HESS, R. Instruktionkurse für Mütter mit cerebral geschädigten Kindern. [Courses for mothers of cerebral palsied children]. *Pro Infirmis* (Zurich) 8:221-226, 1954/55.
247. HÖGGER, D. and others. Die Kurse für körperlich Behinderte in Gwatt. [Courses in rehabilitation of the physically handicapped]. *Gesundheit und Wohlfahrt* (Zurich) 4:157-199, April 1954.
248. MEYER, E. M. Die berufliche Eingliederung Invaliden. [Occupational rehabilitation of the handicapped]. *Pro Infirmis* (Zurich) 5:143-151, 1953/54.
249. Pro Infirmis. 35e rapport annuel 1954 de l'Association suisse. Zurich. 32 p.
250. SCHWARZ, F. and others. Sondernummer über Invalide und Motorfahrzeuge. [Special number concerning the handicapped and motor vehicles]. *Pro Infirmis* (Zurich) 5:125-253, 1954/55. In German and French.
251. Schweizerisch Arbeitsgemeinschaft für Invalidenhilfe. Statuten [Statutes] [Zurich, 1950]. 4 p.
252. Schweizerischer Verein für krüppelhafte Kinder und Anstalt Balgrist. Bericht und Rechnung über das Jahr 1953. [Report and account for the year 1953 by the Swiss Association for handicapped children and the Balgrist Home]. [Zurich, 1954]. 41 p. Illus.
253. VANROY, F. L'enfant infirme; son handicap, son drame, sa guérison. Neuchâtel, Delachaux et Niestlé, 1954. 22 p. Tables.

UNION OF SOUTH AFRICA

254. EPSTEIN, B. Cerebral palsy; causes and early diagnosis. *South African Medical Journal* (Pretoria) 30:25-28, January 1956.

255. MEDALIE, M. The sociological problems of cerebral palsy. *South African Medical Journal* (Pretoria) 30:7-9, January 1956.
256. MURRAY, C. H. De C. Basic problems and techniques in the education of children with cerebral palsy. Kimberley, The Author, 1954. 7 p.
257. National Council for the Care of Cripples in South Africa. Report for the year ending 31st March 1955. Johannesburg. 30 p.
258. SILANSKY, M. Speech therapy at the Pretoria school for cerebral palsy. *South African Medical Journal* (Pretoria) 28:1074-1078, 18 December 1954.
259. SMITH, H. W. At what age should the very young mental defective be sent to an institution? *South African Medical Journal* (Maitland) 29:1142-1145, December 1955.
260. Union of South Africa. Department of Social Welfare. National Conference on Handicapped Persons: report of the Continuation Committee. Pretoria, The Government Printer [1952]. 21, 25 p. In English and Afrikaans.
261. —. Verslag van die Nasionale Konferensie voor Belemmerde Persone. [Report of the National Conference on Handicapped Persons]. Pretoria, 1952. 261 p.

UNITED KINGDOM

262. AGASSIZ, C. The spastic child and its problems. *Public Health* (London) 66:90-92, March 1953.
263. BALME, H. Report: group training in modern methods of rehabilitation. *British Journal of Physical Medicine* (London) 16:38-39, February 1953.
264. BOBATH, K. The treatment of cerebral palsy. *Spastics Quarterly* (London) 2:3-6, June 1953.
265. BOSWORTH-SMITH, N. Education for spastics. *Spastics Quarterly* (London) 2:11-13, March 1953.
266. British Council of Rehabilitation. Rehabilitation; a blueprint for the future. London, The Council, 1954. 23 p.
267. British Council for the Welfare of Spastics. Addresses given at a Conference for the Staffs of Special Cerebral Palsy Schools and Units. London, The Council, 1953. 52 p. (second impression 1954).
268. *British Journal of Physical Medicine* (London) Vol. 18, No. 11, November 1955. (The entire issue is devoted to the subject of physical therapy).
269. British Medical Association. The rehabilitation and resettlement of disabled persons. Memorandum of evidence submitted by the Council for the British Medical Association to the Interdepartmental Committee. London, 1954. 80 p.
270. BURVILLE, F. Vocational training and sheltered employment. *Teacher of the Blind* (Manchester) 43:5-10, October 1954.
271. Central Council for the Care of Cripples. Interim report of the Committee on Housing and Accommodation for the Disabled. London, 1955. 12 p.
272. —. Some notes on sheltered workshops and home industries for the seriously disabled in South-East England. London, 1954. 31 p.
273. —. Summary of legislation and directory of organizations for the care of the physically disabled in England. London, Heinemann—Medical Books, 1951. 139 p. (A Supplement was published in 1952.)
274. CHILD, H. Physical disabilities and maladjustment. *Public Health* (London) 66:124-127, May 1953.

275. CLARKE, A. D. B. A rehabilitation programme for certified mental defectives. *Mental Health* (Epsom) 14: 4-10, Autumn 1954.
276. CLAYTON, T. A cerebral palsy unit within a day school for physically handicapped children. *Public Health* (London) 66:92-97, March 1953.
277. COHEN, H. G. Needs of epileptics. *British Medical Journal* (London) 4980:1422-1423, 16 June 1956.
278. —. The role of the orthopaedist in a mental retardation clinic. *British Journal of Physical Medicine* (London) 18:199-202, September 1955.
279. COOKSEY, F. S. Rehabilitation of the disabled housewife. *Occupational Therapy* (London) 17:133-144, November 1954.
280. Disabilities and how to live with them. London, Lancet Ltd., 1952. 243 p.
281. DRAKE, T. The rehabilitation of the newly blind. *British Journal of Physical Medicine* (London) 17:238-241, November 1954.
282. Facilities for patients with heart disease; a report. *Rehabilitation* (London) 10:7-10, Spring 1954.
283. FERGUSON, T. The resettlement of disabled persons in industry. *Medical Press* (London) 229:226-230, 11 March 1953.
284. FITZPATRICK, F. K. Vocational guidance in a mental deficiency hospital. *Occupational Therapy* (London) 18:7-10, February 1955.
285. FLEMING, C. Rehabilitation: the third phase of medicine. *Medical Press* (London) 230:654-657, 30 December 1953.
286. FRY, D. and WHETNALL, E. The auditory approach in the training of deaf children. *Lancet* (London) 6812: 583-587, 20 March 1954.
287. GERMAN, C. J. State provision for the employment of the handicapped. *Rehabilitation* (London) 16:23-26, Winter 1955-56.
288. GOODY, W. Rehabilitation of the epileptic. *Rehabilitation* (London) 7:10-16, January 1953.
289. GRAY, K. Self-help and the disabled citizen. *Social Welfare* (Manchester) 9:55-62, July 1954.
290. GUNZBURG, H. C. Scope and limitations of the Good-enough Drawing Test method in clinical work with mental defectives. *Journal of Clinical Psychology* (London) 11:55-60, January 1955.
291. HANDLEY, R. Colony treatment of the young person with epilepsy. *Almoner* (London) 8:237-242, October 1955.
292. HEAF, F. R. G. Rehabilitation of the tuberculous. *Rehabilitation* (London) 15:7-11, Autumn 1955.
293. HICKS, D. Rehabilitation of the tuberculous. *Social Service* (London) 28:19-24, Summer 1954.
294. HOLMES, A. E. Employing the disabled as a factory unit. *Rehabilitation* (London) 8:13-18, June 1953.
295. JEWRY-HARBERT, J. M. The importance of physiotherapy in the treatment of sick children. London, Staples Press, 1955. 84 p. Illus.
296. KEATS, S. Recent advances in the rehabilitation of the child with cerebral palsy. *British Journal of Physical Medicine* (London) 17:133-135, 144, June 1954.
297. KELHAM, R. The care of the young amputee from the prosthetic standpoint. *Monthly Bulletin of the Ministry of Health* (London) 13:120-125, July 1954.
298. KENNEDY, T. F. Remploi and the disabled worker, *Rehabilitation* (London) 15:15-22, Autumn 1955.
299. KENTON, C. The mentally handicapped. *Social Service* (London) 27:117-121, Winter 1953.
300. KERSHAW, J. Cripples and citizens. *Woman Health Officer* (London) 27:246-249, September 1954.
301. KING, H. British social services: The welfare of the disabled. *Nursing Times* (London) 49:593-595, 13 June 1953.
302. LING, T. M., ed. Mental health and human relations in industry. [London ?], Lewis, 1954. 265 p.
303. LUMSDEN, J. Some thoughts on special education abroad. *Special Schools Journal* (London) 44:22-28, March 1955.
304. MARSHALL, J. Spastic paraplegia of middle age; a clinicopathological study. *Lancet* (London) 268:643-647, March 1955.
305. MARSHALL, B. A counselling service for the parents of mentally defective children of five and under. *Almoner* (London) 6:178-180, July 1953.
306. MCALPINE, D. and others. Multiple sclerosis. Edinburgh, Livingstone, 1955. 304 p. Illus.
307. MCCOY, G. F. Issues in rehabilitation: Does rehabilitation pay? *British Journal of Physical Medicine* (London) 19:159-162, July 1956.
308. MCKENZIE, W. Hearing and occupation. *Silent World* (London) 8:368-370, May 1954; 9:20-22, June 1954.
309. MORLEY, M. E. Cleft palate and speech. 3rd ed. Edinburgh, Livingstone, 1954. 173 p. Illus.
310. —. Delayed speech and developmental aphasia. *British Medical Journal* (London) 4937:463-467, August 1955.
311. MORRIS, G. The prevention of disablement. London, Central Council for the Care of Cripples, 1954. 10 p.
312. National Association for Mental Health. Mentally handicapped children; a handbook for parents. London, The Association, 1956. 88 p.
313. —. Occupation centres for mentally handicapped children, with appendices on home teaching and on provision of training for older defectives. London, The Association, 1956. 16 p. Illus.
314. *Plauning* (London) 26 July 1954, No. 20. Whole issue (devoted to the disabled worker).
315. PARKER, J. The prevention of disability and the care of the handicapped. *Journal of the Royal Sanitary Institute* (London) 74:486-495, July 1954. Symposium on the disabled child.
316. POND, D. A. and BIDWELL, B. Management of behaviour disorders in epileptic children. *British Medical Journal* (London) 4903:1520-1523, 25 December 1954.
317. *The Practitioner* (London) April 1955, No. 194. (The entire issue is devoted to articles on the rehabilitation of children with all types of handicaps.)
318. PRATT, E. The treatment of the cerebral palsy child in a general hospital. *Physiotherapy* (London) 39:32-24, February 1953.
319. Reablement of housewives: a lead from King's College Hospital. *Lancet* (London) 6756:386-388, 21 February 1953.

UNITED KINGDOM (*continued*)

320. REINHOLD, J. D. L. The child with congenital heart disease. *Medical World* (London) 83:118-122, August 1955.
321. RITCHIE, T. Some observations on the rehabilitation of the amputee. *Medical Press* (London) 231:422-425, 12 May 1954.
322. Royal Society of Medicine. Discussion: the social adjustment of the physically handicapped. *Proceedings of the Royal Society of Medicine* (London) 47:735-742, September 1954.
323. —. The use and abuse of physiotherapy. *Annals of Physical Medicine* (London) 2:294-298, October 1955.
324. RUSK, H. Rehabilitation of the hemiplegic: the treatment of residual defects. *British Journal of Physiotherapy* (London) 6:4-8, August 1954; 6:4-9, September 1954; 6:8-13, October 1954.
325. RUSSEL, W. R. Poliomyelitis. 2nd ed. London, Edward Arnold Publishers, 1956. 147 p.
326. Standing Committee on the Rehabilitation and Resettlement of Disabled Persons. Services for the disabled. London, H. M. Stat. Off., 1955. 88 p. Illus.
327. TATLOW, W. Employment of epileptic patients. *Occupational Therapy* (London) 16:8-26, January 1953.
328. THOMAS, K. and BAKER, D. Problems in the care of the young blind child. *Medical Press* (London) 229:423-426, 6 May 1953.
329. Training and employment of blind persons. *Ministry of Labour Gazette* (London) 62:227, July 1954.
330. U. K. Central Office of Information. Reference Division. Rehabilitation and care of the disabled in Britain. London, 1954. 44 p.
331. —. Ministry of Education. The health of the school child; report of the Chief Medical Officer . . . for the years 1952 and 1953. London, H. M. Stat. Off., 1954. 149 p. Tables.
332. —. —. List of special schools, boarding homes for handicapped pupils, and establishments for further education and training of disabled persons in England and Wales. London, H. M. Stat. Off., 1954. 54 p. (Its List 42).
333. —. —. Special educational treatment for physically handicapped children. London, H. M. Stat. Off., 1956. 9 p.
334. —. —. Training and supply of teachers of handicapped pupils; fourth report of the National Advisory Council on the Training and Supply of Teachers. London, H. M. Stat. Off., 1954. 45 p. Tables.
335. —. Ministry of Labour and National Service. Services for the disabled. London, H. M. Stat. Off., 1955. 88 p.
336. WHETHALL, E. Selection and education of deaf and partially deaf children. *Public Health* (London) 66:109-111, April 1953.
337. WHITE, A. A. Rehabilitation in industry; The Austin Motor Company's workshop. *Almoner* (London) 9:121-126, July 1956.
338. WILSON, J. Blindness in Colonial Africa. *African Affairs* (London) 52:141-147, April 1953.
339. The work of the Ministry of Labour: securing employment for the disabled, with particular reference to paraplegics. *Cord* (Eastbourne) 7:17-20, May 1954.

340. YEOMAN, W. The place of physiotherapy in the treatment of the rheumatic disorders. *British Journal of Physical Medicine* (London) 18:76-81, April 1955.

UNITED STATES OF AMERICA

341. Adelphi College, Graduate Division. Some social factors in job placement and community life of the handicapped as seen in two industrial plants on eastern Long Island; first interim report, June 1956. Garden City, N. Y., The College, 1956. 198 p.
342. ALFORD, A. F. Some of the mental health aspects of mental deficiency. *Mental Hygiene* (New York) 39: 433-441, July 1955.
343. Alpha Chi Omega. Toy book; self-help toys to make for handicapped children. 2d ed. Indianapolis, Ind., 1955. 31 p. Illus.
344. American Foundation for the Blind. Directory of activities for the blind in the United States and Canada, compiled by Helga Lende. 10th ed. New York, 1954. 133 p.
345. —. Films relating to blindness and work with blind persons. New York, The Foundation, 1956. 20 p.
346. —. Resources for teachers of blind with sighted children; compiled by Georgie Lee Abel. New York, 1954. 58 p. (Educational series 9).
347. American Heart Association. Standards for general convalescent homes caring for cardiac children. New York, 1954. 20 p.
348. American Physical Therapy Association. Non-professional personnel in a physical therapy department. New York, 1954. 12 p.
349. Arthritis and Rheumatism Foundation. Manual for arthritis clinics. New York, 1952. 63 p.
350. Association for the Aid of Crippled Children. Mechanisms of congenital malformation; proceedings of the Second Scientific Conference of the Association, 15-16 June 1954. New York, The Association, 1955. 137 p.
351. BAKWIN, H. and BAKWIN, R. Clinical management of behaviour disorder in children. Philadelphia, Pa. Saunders, 1953. 495 p. Illus.
352. BEASLEY, J. Slow to talk; a guide for teachers and parents of children with delayed language development. New York, Columbia University Press, 1956. 109 p.
353. BENDER, L. Psychopathology of children with organic brain disorders. Springfield, Ill., Thomas, 1956. 151 p. Illus.
354. BENNEY, C. The role of the caseworker in rehabilitation. *Social Casework* (New York) 36:118-123, March 1955.
355. BRADLEY, C. Pediatrics, mental retardation and delinquency. *Journal of the American Medical Association* (Chicago, Ill.) 157:101-108, 8 January 1955.
356. BURGEMEISTER, B. and others. Columbia mental maturity scale; age 3-12. Yonkers, N. Y., World Book Co., 1954. Kit of 100 tests cards, with manual (13 p.) individual test. 1 form. Test cards 6:19 inches.
357. California. State Department of Education. Teaching the cerebral palsied child, by Beatrice S. Gore and Jane Stoddard. Sacramento, Calif., 1954. 82 p. Illus. (*Its Bulletin*, November 1954).

358. CAVENESS, W. F. Emotional and psychological factors in epilepsy; general clinical and neurological considerations. *American Journal of Psychiatry* (New York) 112:190-193, September 1955.
359. CLARK, M. After the doctor leaves; a practical guide to approved post-medical care and treatment of chronic diseases for the patient and his family . . . Foreword by Howard A. Rusk. New York, Crown, 1954. 310 p.
360. Connecticut. State Department of Education. Plan for me. Hartford, Conn., 1955. 14 p. (*Its Bulletin* 63).
361. CRUICKSHANK, M. and RAUS, S. M., ed. Cerebral palsy; its individual and community problems. Syracuse, N. Y., Syracuse University Press, 1955. 560 p. Illus.
362. DANIELS, A. S. Adapted physical education; principles and practice of physical education for exceptional students. New York, Harper, 1954. 538 p. Illus.
363. DASCO, M. M. and others. Survey of ninety-five custodial patients in a municipal hospital. New York, Institute of Physical Medicine and Rehabilitation, 1954. 52 p. Illus. (Rehabilitation Monograph 7).
364. DAVIDSON, G. F. Allowances for disabled persons: A year's experience in Canada. *Public Welfare* (Chicago, Ill.) 14:159-161, 174, July 1956.
365. DEEVER, G. S. Cerebral palsy; methods of evaluation and treatment. New York, Institute of Physical Medicine and Rehabilitation, 1955. 57 p. Illus. (Rehabilitation Monograph 9).
366. DOLL, E. A. The measurement of social competence; a manual for the Vineland Social Maturity Scale. Minneapolis, Minn., Educational Test Bureau, 1953. 664 p. Illus., tables.
367. DONAHUE, W., ed. Housing the aging. Ann Arbor, Mich., University of Michigan Press, 1954. 208 p.
368. —. and others, ed. Rehabilitation and the older worker . . . with a foreword by Everett J. Soop. Ann Arbor, Mich., University of Michigan Press, 1953. 200 p.
369. EISENSON, J. Examining for aphasia; a manual for the examination of aphasia and related disturbances. Rev. 1954. New York, Psychological Corporation, 1954.
370. FIELD, M. Patients are people; a medical-social approach to prolonged illness. New York, Columbia University Press, 1953. 244 p.
371. FISK, G. H. McGill University combined degree course in physical and occupational therapy. *Archives of Physical Medicine and Rehabilitation* (Chicago, Ill.) 36:328-330, May 1955.
372. FITTING, E. A. Evaluation of adjustment to blindness. New York, American Foundation for the Blind, 1954. 84 p. Tables. (Research Series 2).
373. Girl Scouts. Working with the handicapped; a leader's guide. New York, 1954. 127 p. Illus.
374. GITMAN, L. Blueprint for a geriatric center. *Geriatrics* (Minneapolis, Minn.) 10:487-490, October 1955.
375. GOLDSTINE, D., ed. Expanding horizons in medical social work. Chicago, Ill., University of Chicago Press, 1955. 288 p.
376. HARMON, W. F. The growth and development of orthopedic appliances. *Orthopedic and Prosthetic Appliance Journal* (Washington, D. C.) 10:43-47, June 1956.
377. HARROWER, M. Medical and psychological teamwork in the care of the chronically ill. Springfield, Ill., Thomas, 1955. 232 p.
378. HARTNETT, M. E. Mental retardation; a special bibliography. Washington, D. C., International Council for Exceptional Children, 1956. 17 p.
379. HATHAWAY, W. Education and health of the partially seeing child. 3rd ed. New York, Columbia University Press, 1954. 227 p. Illus.
380. HAUSER, E. D. Observations on the origin and etiology of the club foot. *Quarterly Bulletin, Northwestern University Medical School* (Chicago, Ill.) 28:274-281, Fall 1954.
381. HECK, A. O. The education of exceptional children; its challenge to teachers, parents, and laymen. 2d ed. New York, McGraw-Hill, 1953. 513 p. Illus.
382. HOPKINS, T. W. and others. Evaluation and education of the cerebral palsied child; New Jersey study with a foreword by Winthrop Morgan Phelps. Washington, D. C., International Council for Exceptional Children, 1954. 114 p. Tables, graphs.
383. HUNT, V. Recreation for the handicapped. New York, Prentice Hall, 1953. 340 p. Illus.
384. Illinois. Commission for Handicapped Children. Architectural blocks in school buildings; the problem and the solution. Chicago, Ill., 1954, no paging. Illus.
385. INGALLS, T. H. Causes and prevention of developmental defects. *Journal of the American Medical Association* (Chicago, Ill.) 161:1047-1051, 14 July 1956.
386. Institute for the Crippled and Disabled. Rehabilitation trends; midcentury to 1956. New York, The Institute, 1956. 96 p.
387. JACOB, W. New hope for the retarded child. New York, Public Affairs Committee, 1954. 28 p. (Public Affairs Pamphlet 210).
388. KAPLAN, M. M. The role of social service in a rehabilitation center. *American Journal of Mental Deficiency* (Willimantic, Conn.) 61:220-223, July 1956.
389. KIERNANDER, B., ed. Physical medicine and rehabilitation . . . with an introduction by Lord Horder. Springfield, Ill., Thomas, 1953. 610 p. Illus.
390. KIRK, S. A. and others. You and your retarded child; a manual for parents of retarded children. New York, Macmillan, 1955. 184 p.
391. KLOPSTEG, P. E. and others. Human limbs and their substitutes. New York, McGraw-Hill, 1954. 844 p. Illus.
392. KUGELMASS, I. N. The management of mental deficiency in children. New York, Grune and Stratton, 1954. 312 p.
393. LARSON, C. B. and GOULD, M. Calderwood's orthopedic nursing. Rev. 3rd ed. St. Louis, Mo., Mosby, 1953. 687 p. Illus.
394. LOEWY, H. Training the backward child. New York, Philosophical Library, 1956. 166 p. Illus.
395. LONGERICH, M. and BORDEAUX, J. Aphasia therapeutics. New York, Macmillan, 1954. 185 p.
396. LOWMAN, E. W. Self-help devices for the arthritic. New York, Institute of Physical Medicine and Rehabilitation, 1954. 123 p. Illus. (Rehabilitation Monograph 6).
397. LOWMAN, C. L. and ROEN, S. G. Therapeutic use of pools and tanks. Philadelphia, Pa., Saunders, 1952. 90 p. Illus.

398. MACGREGOR, F. C. and others. Facial deformities and plastic surgery; a psychological study. Springfield, Ill., Thomas, 1953. 230 p. Illus. (American Lecture Series; publication 174).
399. MARKS, M. and TAYLOR, M. L. Aphasia rehabilitation; manual and workbook. New York, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 1955. 100 p.
400. McBRIDE, E. D. Disability evaluation; principles of treatment of compensable injuries. 5th ed. Philadelphia, Pa., Lippincott, 1953. 715 p. Illus.
401. MCCOY, G. F. and RUSK, H. A. An evaluation of rehabilitation; a study of 476 cases, with a detailed follow-up study of 208 cases discharged from the Physical Medicine and Rehabilitation Services . . . New York, Institute of Physical Medicine and Rehabilitation, 1953. 87 p. Tables. (Rehabilitation Monograph 1).
402. MICHAL-SMITH, H. The mentally retarded patient. Philadelphia, Pa., Lippincott, 1956. 203 p.
403. —. Pediatric problems in clinical practice; special medical and psychological aspects. New York, Grune and Stratton, 1954. 310 p. Illus., tables.
404. Muscular Dystrophy Association of America. Proceedings, 3rd Medical Conference . . . held in New York, October 8-9, 1954. [New York?] 1955. Reprinted from *American Journal of Physical Medicine* (Baltimore), February 1955. 324 p. Illus.
405. National Association for Mental Health. The organization and function of the community psychiatric clinic. New York, 1952. 105 p.
406. National Association for Retarded Children. Sheltered workshops for the mentally retarded; proceedings of Conference on Sheltered Workshops, Tampa, Florida and Workshops on Sheltered Workshops, 5th annual convention . . . Boston, Mass., 1955. 48 p.
407. National Foundation for Infantile Paralysis. Advancing the education of the hospitalized child. New York, The Foundation, 1948, 62 p.
408. National Multiple Sclerosis Society. Psychological factors in the care of patients with multiple sclerosis. For use by physicians, by M. R. Harrower and Rosalind Herrmann. New York, 1953. 32 p.
409. National Society for Crippled Children and Adults. Guide to standards for resident camps for crippled children. Chicago, Ill., 1954. 29 p. Illus.
410. National Tuberculosis Association. Homemaking hints. New York, 1954. 24 p.
411. National Vocational Guidance Association. Bibliography of current occupational literature. Washington, D.C., The Association, 1956. 40 p.
412. NICHOLSON, E. E. Planning new institutional facilities for long-term care. New York, Putnam, 1956. 358 p.
413. Orthopedic Appliance and Limb Manufacture Association. Orthopedic technician; apprenticeship standards for prosthetists and orthotists. Washington, D.C., 1955. 35 p. Reprinted from *Orthopedic and Prosthetic Appliance Journal* (Washington, D.C.) September, December 1954.
414. OZARIN, L. C. The community and rehabilitation of the hospitalized psychiatric patient. *Journal of American Medical Association* (Chicago, Ill.) 161:940-944, 7 July 1956.
415. PALMER, R. and MARTZ, C. D. Recovery of power in leg muscles following poliomyelitis. *Physical Therapy Review* (New York) 36:466-473, July 1956.
416. PEARSE, D. Social information report in the administration of aid to the permanently and totally disabled. Washington, U.S. Govt. Print. Off., 1953, 47 p. (Social Security Administration, Public Assistance Report 24). Processed.
417. Perkins Institution and Massachusetts School for the Blind. Conference of Educators of Deaf-Blind Children, Watertown, Massachusetts, April 13 and 14, 1953. Watertown, Mass., 1954. 102 p. Illus. (Perkins Publication 16).
418. PERLSTEIN, M. A. Expanding horizons in cerebral palsy. *American Journal of Physical Medicine* (Baltimore, Md.) 35:135-143, 1956.
419. PHILLIPS, R. M. Counseling the deaf. *Vocational Guidance Quarterly* (Washington, D.C.) 3:4-8, Autumn 1954.
420. Psycho-Acoustic Laboratory. Bibliography on hearing. Cambridge, Mass., Harvard University Press, 1955. 599 p.
421. RATHBONE, J. L. Corrective physical education. 5th ed. Philadelphia, Pa., Saunders, 1954. 318 p. Illus.
422. REDKEY, H. Rehabilitation centers in the United States; a compilation of information submitted by 40 rehabilitation centers for the First National Conference on Rehabilitation Centers, December 1-3, 1952; under the sponsorship of the National Society for Crippled Children and Adults and the Office of Vocational Rehabilitation, U.S. Department of Health, Education, and Welfare. Chicago, Ill., National Society for Crippled Children and Adults, 1953. 123 p. Illus.
423. REID, J. H. and HAGEN, H. R. Residential treatment of emotionally disturbed children; a descriptive study. New York, Child Welfare League of America, 1952. 313 p. Tables.
424. RUSK, H. A. and others. A manual for training the disabled homemaker. New York. Institute of Physical Medicine and Rehabilitation, 1955. 167 p. Illus. (Rehabilitation Monograph 8).
425. —. and TAYLOR, E. Living with a disability. Garden City, N. Y., Blakiston Co., Inc., 1953. 207 p.
426. RUTHERFORD, B. R. Give them a chance to talk; handbook on speech correction for cerebral palsy. Rev. ed. Minneapolis, Minn., Burgess, 1956. 137 p. Illus.
427. SCHONELL, F. J. and WATTS, B. H. A first survey of the effects of a subnormal child on the family unit. *American Journal of Mental Deficiency* (Willimantic, Conn.) 61:210-219, July 1956.
428. SHEPS, C. G. and TAYLOR, E. E. Needed research in health and medical care; a bio-social approach. Chapel Hill, N. C., University of North Carolina Press, 1954. 216 p.
429. SOMERS, H. M. and SOMERS, A. R. Workmen's compensation; prevention insurance and rehabilitation of occupational disability. New York, Wiley, 1954. 341 p.
430. STRAUSS, A. A. and KEPHART, N. C. Psychopathology and education of the brain-injured child. Volume II: Progress in theory and clinic. New York, Grune and Stratton, 1955. 266 p. Illus.

UNITED STATES OF AMERICA (cont'd)

431. SWITZER, M. E. and RUSK, H. A. Doing something for the disabled. New York, Public Affairs Committee, 1953. 28 p. Illus. (Public Affairs Pamphlet 197).
432. TAYLOR, I. W. Physical therapy education and services in Austria. New York, International Society for the Welfare of Cripples, 1956. 16 p.
433. TAYLOR, M. L. and MARKS, M. Aphasia rehabilitation: manual and work book. New York, Institute of Physical Medicine and Rehabilitation, 1955. 75 p. Illus. Photo-offset.
434. U. S. Civil Service Commission. A guide for the placement of the physically handicapped. Washington, D.C., The Commission, 1952-53. 3 pts. (Pamphlets 14-1, 2, 3). Contents. I. Aircraft positions. 1952. II. Ordonnance and ordonnance store positions. 1953. Shipbuilding positions. 5th ed., 1953.
435. —. Congress House. Committee on Education and Labour. Special Subcommittee on Assistance and Rehabilitation of the Physically Handicapped. Assistance and rehabilitation of the physically handicapped. Hearings, 83rd Congress, 1st session pursuant to H. Res. 115. Washington, U.S. Govt. Print. Off., 1953. 361 p.
436. —. Department of Labor. Interviewing guides for specific disabilities. Washington, D.C., 1954. 7 pts.
437. —. Office of Education. College and university programs for the preparation of teachers of exceptional children, by Romaine P. Mackie and Lloyd M. Dunn. Washington, D.C., Govt. Print. Off., 1954. 91 p. (*Its Bulletin*, 1954, 13).
438. —. State certification requirements for teachers of exceptional children, by Romaine P. Mackie and Lloyd M. Dunn. Washington, D.C., Govt. Print. Off., 1954. 60 p. Illus. (*Its Bulletin* 1954).
439. —. Office of Vocational Rehabilitation. Sixth annual workshop on guidance, training and placement, April 27–May 1, 1953; report of proceedings. Washington, D.C., 1953. 3 parts. (Rehabilitation Service, 236; parts I-III). Processed.
440. —. —. The prevocational unit in a rehabilitation center; an effective tool for evaluating work potential of the handicapped. Washington, D.C., The Office, 1955. 22 p.
441. —. —. Small business enterprises for the severely handicapped; a catalogue of small business experiences of the homebound and severely handicapped in the State-Federal vocational rehabilitation program. Washington, D. C. [1955]. 152 p. (Rehabilitation Service 320).
442. —. —. Study of programs for homebound handicapped individuals; letter from Secretary, Department of Health, Education and Welfare transmitting a report . . . with recommendations, pursuant to Public Law 565, 83rd Congress. Washington, D.C., U.S. Govt. Print. Off., 1955. 123 p. (U.S. Congress. House. Document 98, 84th Congress, 1st sess.).
443. —. Public Health Service. Care of the long-term patient; source book on size and characteristics of the problem, prepared by G. S. J. Perrot [and others]. Washington, D.C., Govt. Print. Off., 1954. 123 p. Tables. (*Its publication* 344).
444. USDANE, W. M. Client employability and the therapeutic community. New York, Institute for the Crippled and Disabled, 1954. 2 p.
445. VAN RIPER, C. Speech correction; principles and methods. 3rd ed. New York, Prentice-Hall, 1954. 582 p.
446. WALLIN, J. E. Education of mentally handicapped children. New York, Harper, 1955. 485 p. Illus.
447. WARREN, S. L. Problems in the placement and follow-up of the mentally retarded. *American Journal of Mental Deficiency* (New York) 59:408-412, January 1955.
448. We, The Handicapped, Detroit. Automobile driving controls for the physically disabled. Detroit, Mich., 1954. No paging. Illus.
449. WEST, J. S. Congenital malformation and birth injuries; a handbook of nursing. New York, Association for the Aid of Crippled Children, 1954. 178 p. Illus.
450. WILLARD, H. S. and SPACKMAN, C.S., ed. Principles of occupational therapy. 2d ed. Philadelphia, Pa., Lippincott, 1954. 376 p. Illus.
451. WISHIK, S. M. How to help your handicapped child. New York, Public Affairs Committee, 1955. (Public Affairs Pamphlet 219).
452. WORDEN, R. E. Civilian hospitals as rehabilitation centers. *Ohio State Medical Journal* (Columbus, Ohio) 50:10:935-937, October 1954.
453. YAHRAES, H. Gains for handicapped children, by Herbert Yahraes in co-operation with the Association for the Aid of Crippled children . . . New York, Public Affairs Committee, 1954. 28 p. Illus. (Public Affairs Pamphlet 212).

YUGOSLAVIA

454. Audiološka analiza pitomaca dvaju zavoda za odgoj gluho-neme dece u Zagrebu. [Audiological analysis of the inmates of two institutions for deaf-mute children in Zagreb, issued by the Academy of Science and Arts]. Zagreb, 1953. 140 p.
455. Društvo Slijepih Hrvatske. Pravila Društva Slijepih Hrvatske. [Rules of the Society of the Blind in Croatia]. Zagreb, 1953. 10 p.
456. Medjunarodni ugovori. 1952. Sporazum izmedju Ujedinjenih nacija i Vlade Feredativne Narodne Republike Jugoslavije o davanju tehničke pomoći za osnivanje eksperimentalnog centra za rehabilitaciju fizički onesposobljenih lica, od 10 aprila 1952. [Agreement between the United Nations and the Federal People's Republic of Yugoslavia on rendering technical assistance in establishment of an experimental centre for rehabilitation of physically handicapped, 10 April 1952]. Belgrade, Služebni list, 1953. 6 p.
457. Savez Gluvih Jugoslavije. Information about the deaf in Yugoslavia. Belgrade, 1953. 16 p. Illus.
458. —. Problems of the deaf in the world. (Informative Review). English translation. Zagreb, 1955. 83 p. Illus.
459. Prva decenija rada Saveza Gluvih Jugoslavije. 1944-54. [The first decade of work of the Yugoslav Federation of the Deaf 1944-54]. Belgrade, Naš glas, 1954. 231 p. Illus.
460. —. Status Saveza Gluvih Jugoslavie. [Statutes of the Yugoslav Federation of the Deaf]. Belgrade, 1955. 26 p.
461. —. Uloga Saveza Gluvih u rehabilitaciji gluvih u FNRI. Referat za III Kongres SGJ. [The role of the Yugoslav Federation of the Deaf in the rehabilitation of the deaf in the Federal People's Republic of Yugoslavia]. Belgrade, 1954. 40 p.

462. Savez Slepih Jugoslavije. Drugi Kongres slepih Jugoslavije. (Kongresni materijal). [Second congress of the blind in Yugoslavia]. Belgrade, 1953. 24 p.
463. Saviz Slijepih Hrvatske. Slijepi N.R. Hrvatske u školi i na radu. [The blind in the People's Republic of Croatia in school and at work]. Zagreb, 1954. 64 p. Illus.
464. ŠKOLA, A. O vaspitanju invalidne dece. [On the upbringing of handicapped children]. Belgrade, Znanje, 1949. 52 p.
465. United Nations. Technical Assistance Administration. Yugoslavia; report on services for the physically handicapped, by Henry H. Kessler. Document ST/TAA/Yugoslavia, June 1951. 105 p.
466. VESTIĆ, B. La protection des invalides de guerre en Yougoslavie. Belgrade, Zmaj, 1955. 37 p.
467. —. Zbirka propisa o ratnim i mirnodopskim vojnim invalidima. Sa objašnjenjima. [Collection of regulations about war and peace-time military invalids] 2nd rev. ed. Belgrade, Nova Administracija, 1953. 180 p.
468. Yugoslav Federation of the Deaf. Problems of the deaf in the world; informative review. Zagreb, The Federation, 1955. 83 p. (Published on the occasion of the Second World Congress of the Deaf, Zagreb, 23 to 27 August 1955.)
469. ZDRAVKO, O. Predškolski gluhi otrok in njegova uzgoja. [Raising the pre-school deaf child] Ljubljana, Državna Založba Slovenije, 1955. 189 p.
470. ZOTOVIĆ, M. R. Poliomiellitis. [Poliomyelitis]. Zagreb, Zaštita zdravlja u Zagrebu, 1954.
471. —. Predlog za organizaciju službe rehabilitacije u FNRJ. [Proposal for the organization of rehabilitation services in the Federal People's Republic of Yugoslavia]. Belgrade, Center za osposobljavanje invalida FNRJ, 1955. 17 p.
7. —. The articulation area and the social adequacy index for hearing. *The Laryngoscope* (St. Louis, Mo.) 58:761-778, August 1948.
8. —, and others. The selection of hearing aids. *The Laryngoscope* (St. Louis, Mo.) 56:85, 135, March-April 1946.
9. —. —. Hearing aids; an experimental study of design objectives. Cambridge, Mass., Harvard University Press, 1947. 197 p.
10. DENES, P. and NAUNTON, R. F. Clinical detection of auditory recruitment. *Journal of Laryngology and Otology* (London) 64:375-398, July 1950.
11. DIX, M. R. and HALLPIKE, C. S. The peep-show; a new technique for puretone audiometry in young children. *British Medical Journal* (London) 2:719-723, November 1947.
12. EWING, I. R. and EWING, A. W. G. The ascertainment of deafness in infancy and early childhood. *Journal of Laryngology and Otology* (London) 59:309-333, September 1944.
13. —. —. Handicap of deafness. London, Longmans, 1938. 327 p.
14. —. —. Opportunity of the deaf child. London, University of London Press, 1951. 264 p.
15. FLETCHER, H. D. Speech and hearing in communication. New York, Van Nostrand, 1953. 461 p.
16. GAMBLIN, R. Modern School Hygiene. 13th ed. London, Nesbitt, 1948. 118 p.
17. HAYCOCK, G. S. The teaching of speech. Washington, D.C., Volta Bureau, 1944. 296 p.
18. HIRSCH, I. The measurement of hearing. New York, McGraw Hill, 1952. 364 p.
19. HUDGINS, C. V. The response of profoundly deaf children to auditory training. *Journal of Speech and Hearing Disorders* (Danville, Ill.) 18:273-288, September 1953.
20. —, and NUMBERS, F. C. Investigation of the intelligibility of the speech of the deaf. *Genetic Psychology Monographs* (Provincetown, Mass.) 25:289-392, 1942.
21. —, and others. The development of recorded auditory tests for measuring hearing loss for speech. *The Laryngoscope* (St. Louis, Mo.) 57:57-89, 1947.
22. KENDALL, D. C. and WATSON, D. M. *The Ascertainment of Defects of Hearing in Early Childhood*, Unpublished report to the Committee of the Medical Research Council on the Educational Treatment of Deafness, London.
23. LASSMAN, G. H. Language for the pre-school deaf child. New York, Grune and Stratton, 1950. 263 p.
24. LEWIS, D. K. Medical progress—deafness—New England. *Journal of Medicine* (Boston) 243:699-707, 2 November 1950.
25. MANDL, M. Hearing aids, their use, care and repair. New York, Macmillan, 1953. 158 p.
26. MYKLEBUST, H. R. Auditory disorders in children: a manual for differential diagnosis. New York, Grune and Stratton, 1954. 367 p.
27. —. Your deaf child; a guide for parents. Springfield, Ill., Thomas, 1950. 132 p.
28. NEWHART, H. and REGER, S. N. Syllabus of audiometric procedures in the administration of a programme for the conservation of hearing in school children. *Transactions of the American Academy of Ophthalmology and Otolaryngology* (Rochester, Minn.) Supplement, April 1945, p. 1-28.

PART II. SPECIAL BIBLIOGRAPHY ON THE DEAF AND HARD OF HEARING

(Prepared in connexion with the two
articles on pp. 28-46 in the present issue)

1. BARKER, R. G. and others. Adjustment to physical handicap and illness; a survey of the social psychology of physique and disability. Rev. ed. New York, Social Science Research Council, 1953. 440 p.
2. BEASLEY, W. C. General problems of deafness in the population. *The Laryngoscope* (St. Louis, Mo.) 50:856-905, September 1940.
3. BERGMAN, M. The audiology clinic; a manual for planning a clinic for the rehabilitation of the acoustically handicapped. *Acta Oto-Laryngologica* (Stockholm) Supplement 89:8-107, 1950.
4. BORDLEY, J. E. and HARDY, W. G. A study in objective audiometry with the use of a psychogalvanometric response. *Annals of Otology, Rhinology and Laryngology* (St. Louis, Mo.) 58:751-760, September 1949.
5. CROWE, J. S. Recognition, treatment and prevention of hearing impairment in children. *The Laryngoscope* (St. Louis, Mo.) 50:658-662, July-August 1940.
6. DAVIS, H. Hearing and deafness. New York, Rinehart Books, Inc. 1951. 496 p.

29. REGER, S. N. and NEWBY, H. A. A Group pure-tone hearing test. *Journal of Speech Disorders* (Columbus, Ohio) 12:61-66, March 1947.
30. STEVENS, S. S. and DAVIS, H. Hearing; its psychology and physiology. New York, John Wiley, 1938. 489 p.
31. THORPE, L. P. Child psychology and development. New York, Ronald Press, 1946. 781 p.
32. United States. Federal Security Agency. Office of Vocational Rehabilitation. Rehabilitation of the deaf and hard of hearing. Washington, D.C., U. S. Govt. Print. Off., 1950. 150 p.
33. WATSON, L. and TOLAN, T. Hearing tests and hearing instruments. Baltimore, Md., Williams and Wilkins, 1949. 597 p.
34. WATTS, A. F. Language and mental development in children; an essay in educational psychology. New York, Heath, 1947. 354 p.
35. WEDENBERG, E. Auditory training of severely hard of hearing pre-school children. *Acta Oto-Laryngologica* (Stockholm) Supplement 110:1-82, 1954.
36. WILKINS, L. T. The prevalence of deafness in England, Scotland and Wales. *Acta Oto-Laryngologica* (Stockholm) Supplement 90:97-115, 1950.

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(or equivalent in other currencies)
7881-April 1957-3000

United Nations publication
Sales No.: 1957.IV.4
ST/SOA/Ser. Q/2