

employment in any Government, public, or parochial service, or to attendance at, or employment or service in, "any public institution, charity, hospital, or school." Mr. Black's suggestions for legislation are short and silly.

A UNIVERSAL GAZETTE OF MEDICAL LITERATURE.

WE have received from the Claudius-Verlag Amandus M. F. Martens, of Wandsbeck, the preliminary announcement of the *Bibliographische Monatschrift*, an international gazette of universal medical literature, under the editorship of H. Albert-Hellmers, which will appear in 12 parts yearly at an annual price of 30 marks (or 20 marks cash). Each issue will appear about the middle of the month and will contain a list of (a) all newly issued books, and (b) all important articles appearing in the technical journals, indexed by titles and by authors. There is no periodical publication covering the same ground and keeping pace with current literature. The splendid index-catalogue of the Surgeon-General's Library at Washington appears only at long intervals and in book form. It is questionable whether indexing by title is as good as indexing by subject with frequent cross references. For instance, to take a case from the sample pages submitted with the circular:—"Effects, the, upon the heart of soluble digitoxin, an isolated glucoside of the digitalis group," would be of little service when indexed under "E" as "Effects" to one seeking information about the heart or about digitoxin, both of which would easily be found in a subject-index. We note also that out of eight columns of title references only 16 references, or half a column, are to English literature. This is a defect that would have to be remedied if it were desired to attract an English-speaking *clientèle*. There can be no doubt, however, that there is room for a satisfactory periodical publication on these lines. A fairer judgment can be made of the enterprise when the first part is available for inspection.

WE regret to announce the death, on April 12th, at the advanced age of 84, of Dr. William Ogle, who was for 23 years superintendent of statistics in the General Register Office, and made many important contributions to the science of medical statistics. We hope to publish an obituary notice of Dr. Ogle in an early issue.

INTERNATIONAL MORAL EDUCATION CONGRESS.—Under the patronage of the Queen Mother of the Netherlands and with Prince Henry of the Netherlands as Honorary President the Second International Moral Education Congress will be held at the Hague from July 29th to August 3rd. Great Britain, India, the principal countries of Europe, Japan, and the United States will be represented, and according to the preliminary programme the first aim of the Congress will be to cultivate the coöperation of men and women representing different schools of thought in matters of education and the formation of character. Mr. F. Charles, 22, Park-crescent, Church End, Finchley, London, is the honorary secretary for Great Britain.

LITERARY INTELLIGENCE.—Mr. Stephen Paget, the honorary secretary of the Research Defence Association, has written a book summarising in ten chapters the evidence given before the recent Royal Commission on Vivisection, as well as the inspector's report for 1910. The volume contains in a final chapter a brief account of the report of that Commission, and an introduction by Lord Cromer. The book will be published by Mr. H. K. Lewis.—New editions of Hutchison and Rainy's "Clinical Methods" and Mitchell Bruce's "Materia Medica" are announced for publication early in May by Messrs. Cassell and Co. In the revision of "Materia Medica" Dr. Mitchell Bruce has had the collaboration of Dr. Walter J. Dilling, lecturer on pharmacology in the University of Aberdeen.

TREATMENT BY MEANS OF MECHANICAL THERAPEUTICS AT THE EDGAR ALLEN INSTITUTE, SHEFFIELD.

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THE Edgar Allen Institute has been established for the purpose of carrying out, as a charitable institution, various forms of physical treatment, more particularly treatment by means of mechanical therapeutics. The form of mechanical apparatus used is that designed by Dr. Zander, of Stockholm, who is justly regarded as the originator of this method of treatment. In general terms, it may be said that the apparatus is designed to carry out by mechanical means the various movements and manipulations which make up the Swedish system of physical treatment.

The apparatus consists of three groups. In the *first* for *active movements* the patient performs the particular movement against the resistance of a weight and lever; in the *second* for *passive movements* the movement (e.g., flexion and extension or circumduction of a joint) is carried out by a power driven apparatus, without the aid of the patient's muscles; and the *third group* is for mechanical operations, as percussions or vibrations. All the apparatus are exactly graduated, so that the physician can regulate the force and range of the movement, and can prescribe the *dosage* of his treatment, instead of leaving it (as he must do when manual treatment is employed) to the judgment of the masseur. This exact graduation is of especial service in dealing with such conditions as impaired joint mobility or muscular paresis, for it enables the force of the treatment to be increased, step by step, as the patient's condition improves.

Economic considerations constitute one of the advantages of mechanical treatment; for after the initial expenditure for apparatus mechanical treatment can be carried out much more cheaply than similar treatment performed by hand, especially when large numbers of patients are dealt with.

Although the apparatus can do much, in certain of the manœuvres of massage proper, nothing can replace the human hand. At the Sheffield Institute the treatment is supplemented in certain cases by massage given by trained Swedish masseurs. The number of patients treated at present is about 100 a day.

Injuries.—Owing to the industrial nature of the population the results of fractures, dislocations, and other severe injuries of the limbs form a large proportion of the cases. Such cases do not usually come under treatment until a period measured in months has elapsed after the time of accident. Much of the residual disability depends on adhesions about joints or tendons and on muscular paresis. In such conditions the Zander treatment has been found an effective method of restoring the patient's working capacity. Considerable improvement has even been obtained in cases in which the disability has lasted for several years. Adhesions are treated by passive movements of the affected joint, the range of movement being gradually advanced as the condition improves. In treating painful joints mechanical treatment possesses the following advantage: when such a joint is being moved *by hand* the manipulator, actuated by a desire for the patient's good, is tempted occasionally to summon up a vicarious heroism, and make a sudden increase in the excursion of the movement. The patient is always on the watch for acts of benevolence of this nature, and keeps his muscles in a state of contraction in order to frustrate them. Thus the manœuvre is rendered less effective and more painful. On the other hand, when the movement is performed by a *machine*, the patient knows that the range of movement is definite; he therefore confides himself to the apparatus and relaxes his muscles, and the movement is often performed with remarkably little pain.

For weakened muscles, active movements are used against the resistance provided by a weight and lever. An ingenious use is made of the principles of the lever in the Zander apparatus. At the beginning of a movement, when the muscle is fully elongated and therefore weak, the lever is inclined *downwards* from the horizontal, so that the resistance is small; half way through the movement, when the muscle is half contracted, and therefore strongest, the lever

risers to the horizontal, and the resistance is thus at a maximum; towards the end of the movement, when the muscle is fully contracted and therefore weak again, the lever rises nearly to the vertical, and the resistance is therefore again small. This correspondence between the power of the muscle and the magnitude of the resistance throughout the movement is an essential feature of the Zander apparatus, and explains its success in the treatment of muscular paresis. It requires great skill to preserve this proportion when resistance movements are given by hand. It is unquestionable that the best way to restore the power of weakened muscles is to exercise them. Massage, so often prescribed for this purpose, is comparatively of little value.

Many of the cases of injury are sent for treatment by the surgeons concerned in the administration of the Workmen's Compensation Act. An institution of this nature provides a means of giving the necessary treatment under supervision; and cases the genuineness of whose symptoms is doubtful can be kept under observation. In Germany many Zander institutes are supported by funds provided by the public bodies administering the Insurance against Accident Act of that country.

Chronic joint affections.—Many cases of rheumatoid arthritis and osteo-arthritis are treated, with good results in suitable cases. The most favourable cases are those in which the acute phase of the disease is past. The treatment is directed to the correction of deformities, the increase of mobility in the joints, and the restoration of wasted muscles. Passive movements are chiefly used. The range of tolerable movement in the affected joint is ascertained, and this, at intervals, is very gradually increased. Painful and violent movements are apt to bring about a local recrudescence. In certain cases vibrations are useful. This last method of treatment has stood the test of time in Sweden, and is of real value, notwithstanding the discredit cast upon it by the absurd pretensions of quacks. Cases of chronic articular gout have also been treated with success.

Affections of the nervous system.—In *hemiplegia* considerable increase in muscular power may often be obtained by means of graduated active movements. Passive movements are used for the correction of contractures. In *neurasthenia* the treatment has been found of much value. Ordinated daily exercise results in improved appetite and sleep; special movements are given (when indicated) for improving deficient respiratory power or remedying constipation. Vibrations often relieve the distressing cranial or abdominal subjective symptoms. In *neuritis* the mechanical treatment has proved of less value than manual treatment.

Scoliosis.—Good results have been obtained by combining the Zander treatment with the movements of the usual Swedish medical gymnastics.

Cardiac disease.—Treatment by movements is not much used in England for this condition, but the few cases treated have done well. The scope of the treatment cannot be discussed here. In outline it resembles the "mountain-climbing cure." Mechanical therapeutics possess the advantage of being easily available, and of being susceptible of exact dosage.

Chronic pulmonary affections.—In certain cases the treatment is of value in maintaining the elasticity of the thorax or in restoring its shape (e.g., after pleural effusion). Movements designed to improve the inspiratory or expiratory power may be given as indicated.

General Policy and Method of Conduct of the Institute.

The conditions mentioned above show that mechanical therapeutics possess a considerable field of utility. It has been realised that the usefulness of the institution depends on the coöperation of the practitioners of the neighbourhood. No cases whatever are received for treatment except through the introduction of a medical man. Both free and paying patients are treated, special hours being reserved for the latter. Patients of limited means are treated at reduced fees, upon the recommendation of the medical men sending them for treatment. Hitherto, this plan has worked well. The sums received in fees are to be devoted to the general purposes of the Institute. In addition to the patients sent by practitioners, cases are sent for treatment from the out-patient department of the Sheffield Royal Hospital and the Royal Infirmary. The Institute is to be controlled by an influential committee, upon which the medical profession is adequately represented.

The staff consists of a medical director and three trained Swedish masseurs (one male and two female), who act as

instructors in addition to performing massage. There are also two untrained attendants. Such a staff is capable of dealing with about 120 patients a day. The number of staff required obviously depends largely on the nature of the cases. In Sheffield the cases treated are mostly of a severe nature. The grave affections of an industrial and mining population require (though they do not always obtain) more attention than the minor ailments of the members of the leisured classes who frequent such institutes at Continental spas.

The structure of the Institute and the apparatus have been presented to the city of Sheffield by Mr. Wm. Edgar Allen of that city, who has undertaken to defray the cost for a period of three years. After that time, hopes are entertained that the Institute will be self-supporting by means of public subscriptions and the fees obtained from paying patients. However that may be, the three years will enable the profession of Sheffield to form an opinion upon the value of a method of treatment which has hitherto perhaps not aroused sufficient interest in this country.

THE METROPOLITAN HOSPITAL SUNDAY FUND AND ST. GEORGE'S HOSPITAL.

WE have had given to us for publication the following report made by Sir Thomas Crosby, M.D., Lord Mayor of London, to the Metropolitan Hospital Sunday Fund, of which he is President, with regard to the methods of expenditure at St. George's Hospital. On receipt of this report the committee of the Fund made an award to the hospital. The situation is commented on in a leading article this week.

SIR THOMAS CROSBY'S REPORT.

The committee of the King's Hospital Fund have withheld their grant to St. George's Hospital on the ground that the amount expended upon the bacteriological and pathological departments is excessive and much larger than the proportion spent thereon at other hospitals.

In order to carry out my undertaking at the last meeting of the Metropolitan Hospital Sunday Fund I visited the hospital on Feb. 12th, when I was met by the treasurer and some of the house committee, who placed before me an account of the work done in those departments, the cost of their maintenance, and the amount represented by that cost per occupied bed. Statistics obtained from other hospitals showing this proportion were also produced for comparison. It was pointed out that the work of these departments is essential for the proper diagnosis and treatment of the patients of the hospital; that it is necessarily undertaken by skilled experts; and that in St. George's Hospital all reports on clinical material are furnished personally by the bacteriologist and pathologist to the hospital, and not by students, or even by house physicians or house surgeons. The work includes examinations of blood, excretions, sputum, &c., post-mortem examinations, and the examination of various growths and tissues; the preparation of vaccines, &c., besides the care of the museum, which is the property of the hospital; also a variety of chemical examinations.

A careful investigation of the whole matter convinced me that the bacteriological and pathological departments of St. George's Hospital are doing work which is recognised at all efficient hospitals as essential to the scientific diagnosis and treatment of disease; that the amount expended upon it is in no way excessive, and does not represent a larger cost per occupied bed than is the case at many other London hospitals, although, as the accounts of these departments are not kept in a corresponding manner at different hospitals (various items being excluded, or included), it is difficult to show this in exact figures. The work of these departments is as necessary to the welfare of the patients as that of the electrical department, the X ray investigations, or the preparation of drugs; and it involves most laborious processes, which can only be efficiently carried out by skilled and highly trained officers, with appropriate salaries.

I am of opinion, after an investigation of all the facts, that the proportionate amount paid by the hospital and school for the upkeep of the laboratories is a fair and proper one, and that the sums expended upon these departments by the hospital are properly taken from the general funds, being for the direct treatment of the patients.