

Editorial Notes.

The Clinical Test.

The final test of any biological phenomenon so far as it relates to man must be conducted in man himself. This is no reason, however, to emulate the anti-vivisectionist and decry all animal experimentation. Indeed, it is only by animal experiments that the groundwork for our theories and progress can be laid, and it is hardly possible to conceive what the state of our knowledge of physiology and pathology would be if such work had never been carried out. But because a certain result follows on a particular set of circumstances in the rat, or the rabbit, or the cat, or the duck, it does not necessarily mean that the same result will happen in man. We have purposely selected the above examples as in each case we know that in consequence of a certain variety of stimulation the effects in man and in each of the above mentioned species of the lower orders are very different.

In the rat, for example, rickets is only induced when there is an absence of vitamin X or D *and* a disturbance of the lime-phosphorus ratio in the diet, whereas in man the disease arises in spite of a normal proportion and adequate amount of these minerals in the food. The rabbit, like all herbivora, is little susceptible to belladonna, and the cat reacts to morphia, not by lethargy, but by delirium and extreme excitability. And finally, while pituitary extract causes a raising of the blood pressure in man, in the duck, on the other hand, its administration causes a fall. This list of biological anomalies could be further increased if we entered the field of bacteriology, for many of the organisms most virulent for man are apparently innocuous in the case of the lower animals. Of this the bacillus typhosus is a good example, and the difficulty of infecting the animal with the spirochaeta pallida is another. We know, of course, that the number of instances is almost legion in which the reactions in man and in the lower animals are similar, but it is our purpose at the moment to draw attention to differences in the type of reaction and to justify our thesis that the ultimate test, so far as human medicine is concerned, must be in man. This is what we mean by the clinical test. We refrain from using the word experiment, though in truth it is such, because the latter term, when dealing with the human subject, conveys to the popular mind an unfortunate bias.

If then the clinical test is of such importance, it is essential that it be carried out under conditions which will permit of reliable conclusions. This, we have no hesitation in saying, is anything but the rule and most of our readers on reflection no doubt will agree. Indeed, in very many instances the conditions permitted by the clinician in the trial of a therapeutic remedy, and on the strength of which he often speaks with the utmost assurance, would not be tolerated for an instant by the scientific experimentalist.

The first desideratum in any clinical test is to provide a control series in which all conditions are as far as possible similar except the administration of the remedy or the application of the particular measure to be tried. How often is this precaution omitted so that reliable conclusions concerning the one point upon which we require a decision are absolutely impossible! How often, too, are the numbers investigated so small that the element of chance cannot be eliminated! Of course, in the case of a disease which is invariably fatal, if there be such an one, a single cure for example would have considerable significance, but in most of the maladies studied the final result is so variable that the frequency of the happening is the matter of paramount importance. It might also be contended that the previous

behaviour of the disease could be taken as our standard, but it must be remembered that most diseases tend to vary in severity from time to time. This is particularly true of epidemic disease, not only in so far as different epidemics are concerned, but also during different epochs of the same epidemic. This very variability is such a marked feature of pneumonia that in the past it has made comparisons of different therapeutic measures specially difficult in that disease. There are also to be considered the age of the patient, the sex, and the stage at which the disease comes under observation. Clinical material stands in sharp contrast to all experimental work in that the amount, type and stage of the pathological process cannot be controlled but must be taken as Providence sends it. It is these very features, indeed, which make clinical research so difficult. Another factor which must be taken into account is the geographical situation. Some diseases, *e.g.*, tuberculosis, seem less virulent in certain parts of the world than in others.

The only way in which a reliable clinical test can be carried out is to treat two sets of cases of the same sex and age, at the same time, in the same locality, and under the same conditions so far as housing, nursing and diet are concerned, except that one lot receives in addition the remedy to be investigated. In short, we should attempt to exercise in the ward the same critical spirit and exactness that characterise the work of the laboratory, and it is because this attitude of mind cannot be developed so well in any other sphere that we should recommend all physicians and surgeons to spend a considerable portion of their early years prosecuting experimental research in the laboratory.

It is admitted without question that conditions in the clinical field are much more difficult than they are in the laboratory, for not only, as already noted, are the type and stage of the disease outwith our control but there enters also the important factor of the sacredness of human life. It is this latter consideration which is so apt to distort our better judgment so that we tend to omit no measure which might appear to have the slightest chance of helping our patient, and thus practise that most demoralising system of therapeutics—polypharmacy. The psychological effect of a disease attacking a member of the family of the medical attendant, himself a master experimentalist, is dramatically revealed by Sinclair Lewis in his hero Martin Arrowsmith. It may be, again, public opinion which forces us to apply a remedy in which we have little or no faith. We would be the last to recommend the withholding of any means which might reasonably save, or even prolong, life but in the case of an untried remedy surely it is wise, and certainly it is only practical politics, to obtain definite knowledge before administering it indiscriminately, for so multifarious are the vaunted remedies for almost every disease that, without selection, our care of the sick would be impossible and in the end we should probably kill more than we cure.

The particular question which has tempted us to discuss this problem of the clinical test is the therapeutic value of convalescent poliomyelitis serum raised by Dr. Signy in this month's issue (p. 311). As Dr. Signy shows, the only reliable series of cases in which this remedy has been tried, that of Dr. Park of New York, reveals absolutely no influence on the course of the disease, except when given for prophylactic purposes. Though this result may be disappointing it does provide a measure of comfort in that one can rest assured that its omission has not diminished in any way our patient's chance of recovery. And further, when one considers the trouble entailed in its collection and preparation and the repinings which the inability to procure it may cause to distracted parents and relatives, the matter ceases to be one of purely academic interest and becomes one of the utmost practical and humane importance.

General Post-Graduate News.

It should be noted that Courses arranged by the Fellowship of Medicine are open only to Members and Associates unless otherwise stated. A copy of each detailed syllabus is sent to every Member and Associate.

To ensure admission or to avoid cancellation of the Courses application must be made by the date given on each syllabus.

ADVANCED COURSES.

M.R.C.P. (Chest Diseases): Sept. 10 to Oct. 5. Brompton Hospital. Mondays, Tuesdays and Fridays, 5.0 to 6.30 p.m. Fee £3. 3s.

Diseases of the Chest: Sept. 24 to 29. Brompton Hospital. All day. Fee £3. 3s.

Proctology: Sept. 24 to 29. Gordon Hospital. All day. Fee £2. 2s.

F.R.C.S. (Final) Evening Courses: September 25 to October 30, and September 27 to November 1. National Temperance Hospital. 8 p.m. Two Separate Courses, on Tuesdays and Thursdays. Clinical and Pathological. Six evenings each. (Maximum of 25 in each Course). Fee £7. 7s. each Course.

Cardiology: October 8 to 20. National Hospital for Diseases of the Heart. All day. Fee £7. 7s. (Maximum of 20).

OTHER COURSES.

Medicine, Surgery and the Specialities: September 17 to 29. Westminster Hospital. All day. Fee £5. 5s.

Diseases of Children: October 1 to 13. Queen's Hospital. All day. Fee £3. 3s.

Dermatology: October 1 to 27. St. John's Hospital. Afternoons. Fee £1. 1s. (Practical Pathology arranged; fee £4. 4s.).

Physical Medicine (Evening Course): October 1 to 27. Three evenings a week. Fee £2. 2s.

Medicine, Surgery and the Specialities: October 8 to 21. Metropolitan Hospital. All day. Fee £5. 5s.

ADDITIONAL COURSES.

Diseases of the Heart and Lungs (Week-end Course): October 13 and 14. Royal Chest Hospital. Saturday and Sunday. All day. Fee £1. 1s.

SPECIAL ANNOUNCEMENTS.

Saturday Afternoon Demonstrations: A lecture-demonstration (illustrated by cases) will be given on the *Second* Saturday in September (the 8th) at 3.0 p.m., at the National Temperance Hospital (O.P. Dept.), Hampstead Road, N.W.1, by Mr. H. P. Winsbury-White on Urological Cases. On the *Second* Saturday in October (the 13th), the subject will be Medical Cases, by Dr. A. E. Clark-Kennedy.

Open only to Members and Associates of the Fellowship of Medicine. Fee 5/- per demonstration, payable in advance or at the lecture-room.

Tuesday Afternoon Demonstrations—General Medicine : Lecture-demonstrations will be given every Tuesday afternoon at 2.30 p.m., at the Medical Society of London, 11, Chandos Street, Cavendish Square, by Dr. A. E. Clark-Kennedy. The subjects during September will be as follows :—

September 4 : Pleural Pain.
 „ 11 : Chronic Cough.
 „ 18 : Hemiplegia.
 „ 25 : Paraplegia.

The full October list will be published in the October Journal; the subject for October 2nd is Tremor.

Open only to Members and Associates. Fee 5/- per demonstration, payable in advance, or at the lecture-room.

STANDING ARRANGEMENTS.

Anæsthetics : Practical tuition for a fortnight or a month can be arranged. Limited to two Post-Graduates at a time.

Venereal Disease: (*For Women Post-Graduates only.*) *Royal Free Hospital.* Special Course extending over twelve weeks (not less than 100 hours attendance) entitling the Post-Graduate to a certificate which the Ministry of Health requires for any practitioner who desires to be in charge of a recognized V.D. Centre. Fee £21.

Ante-Natal Clinics: (*For Women Post-Graduates only.*) *East Islington Mothers and Babies Welfare Centre.* Tuesdays 10.30 a.m. to 12.30 p.m. Two Post-Graduates only per clinic. Fee 5s. a time. Arrangements *must* be made in advance with the Fellowship of Medicine.

Clinical Assistantships : *Lambeth Hospital :* Two clinical assistants (men only) per calendar month will be appointed. Daily attendance 10—1 and 2—5. Fee £5 5s. per month.

Hospital for Consumption, Brompton : Tenable for 3 months; eligible for re-appointment. Candidates (men or women) will be attached to an In-Patient Physician and the corresponding Out-Patient Physician, to a Surgeon and/or to a Member of the Staff in charge of any Special Dept. They will be responsible for the performance of their duties to the Members of the Hon. Staff to whom they are attached and may be required to undertake any special work which is considered desirable. Fee £5 5s. per 3 months or portion thereof.

Panel of Teachers : Details of the clinics available every day are given in the Supplement. Fee 5s. per clinic.

A Guide Book, giving details of how to reach the various London Hospitals by tube, tram, or 'bus, can be obtained from the Fellowship. Price 6d. (Members and Associates, 3d.).

psychologist and philosopher as well as a psychotherapist. His ideals of the duty of a psycho-analyst are high. "It is," he says, "the function of a successful analyst to be able to evoke complete sincerity on the part of the patient, and to call out his respect for ultimate values and clear the way for the development of a life that is spiritual at its highest, that has a love for good to the fullest extent possible for the individual."

Dr. Brown succumbs to the fashionable practice of adding in appendices reprints of papers already published. There are five appendices to this book; one describes three cases of war neurosis, one gives a record of a deep mental analysis, and the other three are on mathematical topics, the mathematical and experimental evidence for the existence of a central intellectual factor (g), a test of the theory of two factors, and a comparison of the theory of two factors with the sampling

theory, in relation to the data of Appendix IV. They are all interesting and valuable contributions to either psycho-therapy or statistical psychology; but one wonders why the last three have been included, for, though there is great need in psycho-therapy, as in all forms of therapy, for the application of objective statistical analysis of the data which have given rise to the present welter of theory, the author gives in this book no indication of having applied such analysis to psycho-therapeutic material: perhaps they are included because the word "psychology" appears in the title and these are matters of interest to psychologists. Dr. Brown has made so many notable contributions to statistical science that one would welcome from him an attempt to oust anecdote and rhetoric from the discussion of psychiatric material and to substitute for it the objective methods of statistical science.

Miscellaneous.

FAT EMULSION AS A FACTOR IN INFANT FEEDING.

It is quite evident that all the constituents present in an infant food must be of complete utility in the nutrition of the young child and upon the easy and complete digestion of these various constituents will depend their ready assimilation.

The fat constituent must play an important part in the question of diet, not only on account of its high calorific value, but also because it is usually the only source of those Vitamins which concern or regulate growth and provide protection against bacterial infection in the young child by maintaining healthy conditions.

It is necessary, therefore, that in the manufacture of an infant food on a Cows' Milk basis, two conditions should always be fulfilled.

1. The natural colloidal and emulsifying properties of the protein should remain unaltered.

2. The fatty constituent should, on reconstitution with water, be found in the form of a fine and stable oil-in-water emulsion.

It is well-known that the colloidal properties of the protein in milk are very

susceptible to the process of drying. Apart from the adverse effect of high temperature (170° F. or above), the protein is readily *de-natured* by passing through that stage of moisture elimination, at which the water content is reduced to between 8 and 10 per cent. Unless this stage is passed *instantaneously*, de-naturation and loss of colloidal properties occurs, *even if the stage only persists for a few seconds*.

It is quite impossible, when drying at high temperature, to avoid the required time-exposure to this particular moisture content, and hence arise the insolubility and loss of colloidal properties of the protein so characteristic of milks dried by the usual processes at high temperatures.

In Spray Drying, however, the exceedingly fine droplets of the mist of liquid milk so formed, undergo *instantaneous* desiccation, and the danger zone of moisture content is passed so rapidly that *de-naturation* cannot occur. As a consequence, when spray-dried milks are re-constituted with water, the protein again appears in its original colloidal and undamaged state, and with its full stabilising powers for the fat emulsion. At the same time, the action of the Spray is to still further divide the original fat globules, and so improve both the emulsion and its stability.

The Annual Congress of the Chartered Society of Massage and Medical Gymnastics is being held this year at Bedford College for Women, Regent's Park, N.W.1, from September 24th to 28th. Throughout the Congress lectures and demonstrations will be

given by well-known members of the medical profession on various subjects in connection with Massage, Medical Electricity and other forms of physio-therapy. Sir Humphry Rolleston will deliver the Founders' Lecture on "Occupational Diseases of those in attendance on the Sick". Visits to hospitals and clinics will be arranged and there will be various practical classes lasting for one hour each day. There will also be an Exhibition of up-to-date electrical and gymnastic apparatus and professional literature. A cordial welcome to the Congress is extended to all medical practitioners, to whom invitation cards will be forwarded on request.

All members of the C.S.M.M.G. are fully qualified to give treatments in Massage, Medical Gymnastics, Medical Electricity, Light and Electro-therapy; they pledge themselves to work only under the direction of a medical practitioner. There are 37 recognised schools in various

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parts of the country where candidates may train for the Society's examinations. The course of training for the Conjoint examination (Massage and Medical Gymnastics) covers 48 weeks, and may be followed by further training in Medical Electricity, Light and Electro-therapy, and Medical Hydrology. Examinations are held three times a year, and a certificate is awarded to successful candidates on registration as members of the Society. After additional training and experience members may qualify for the Teachers' examinations.

The Society publishes annually a Register of Members qualified to give such treatment, including a list of places where the services of masseuses and masseurs are available. Approximately 9,000 names are included in this Register, a copy of which will be sent free of charge to any medical practitioner on application. Members do not advertise individually and rely on the support and goodwill of the medical profession for their work.

For further particulars regarding the work of the Society, syllabuses of training, and details of the Congress programme, application should be made to the Secretary, C.S.M.M.G., Tavistock House (North), Tavistock Square, W.C.1.

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