

is heightened in many cases by eccentric clothing and untrimmed hair, just as the theatre insists on straws as the recognised head-gear for Ophelia. These photographic representations are of comparatively little use, while no standard of size is fixed. It is important, too, that there should be a full-face and profile representation for each case.

La Cause Première d'Après les Données Expérimentales. Par EMILE FERRIÈRE. Paris: Alcan, 1897. Pp. 462. Price 3fr. 50.

This volume is mainly a somewhat dry and bald account of the "plan of creation" in the vegetable and animal kingdoms, set in a metaphysical frame. The author has mostly gone for his facts to evolutionary authors of authority, and has sought inspiration in Claude Bernard's *Introduction à la Médecine Expérimentale*, "the real gospel of contemporary science." The parade of metaphysical phraseology in the early and concluding chapters of the book is probably due to the fact that the book is largely intended for the instruction of "professional philosophers" who, it appears, are helpless and intimidated by the authority of science, and are seeking for light, which, the author seems to assume, they will gladly recognise in this second-hand summary. The exact value and usefulness of the book may thus be left to the "professional philosophers" themselves to determine.

PART III.—PSYCHOLOGICAL RETROSPECT.

THERAPEUTIC RETROSPECT.

By Harrington Sainsbury, M.D.

Naturally the animal extracts are at the present moment very prominent in the domain of therapeutics, and as naturally the thyroid extract, the powers of which have been so amply demonstrated in myxœdema and cretinism, comes in for special consideration. To the readers of this Journal the subject must have considerable interest, not only because the affections just mentioned have an interesting psychological aspect, but also because the thyroid extract has been employed in various mental affections, with, it is claimed, encouraging results.

Admitting the activity of thyroid préparations, the next step has been to determine if possible the nature of the active principles contained in the gland, and upon this subject several investigators are at the present moment at work.

E. Baumann, in 1895, discovered the presence of iodine in the thyroid gland (see Merck's Annual Report, 1897). The iodine is in organic combination, and Baumann has been able to separate an organic iodine compound, to which he has given the name of

iodothyrene. It exists, he says, in the normal thyroid. Iodothyrene is capable, according to the same observer, of doing duty for the gland in cases where this latter has been removed or has been destroyed by disease—it is, in fact, the active principle. Iodothyrene has received a good deal of attention from physiologists (see Merck, *op. cit.*), and it has also been tried therapeutically in the same group of affections in which thyroid preparations have proved efficacious, *e.g.*, myxœdema, skin affections, obesity, etc. In cases of myxœdema it is recommended that the dosage should commence at 5 to 8 grains, *pro die*, and be gradually increased up to 16 to 48 grains, the total daily dose. In skin affections and obesity the dosage daily is for adults 16 to 48 grains, for children 5 to 16 grains, and in these and other affections there does not seem to be the same need for the cautious beginnings which myxœdema requires.

More recently S. Fraenkel (*Therapeutische Monatshefte*, July, 1896) disputes with Baumann the nature of the active principle. He denies the virtue of the proteid iodine compound which Baumann was able to precipitate by means of acetic acid and heat, and asserts that the active principle, named by him thyreo-antitoxin, is of the nature of a base, and is probably allied to guanidine. It is, he says, identical with the base which Drechsel was able to separate by phospho-tungstic acid. The question must be decided clinically as to which of these two substances really represents the activities of the gland. It is interesting to note that R. Hutchinson in this country has extracted a colloid body from the thyroid, which contains iodine and acts like the gland itself. We may draw special attention to the presence of iodine in the thyroid. This is noteworthy, seeing the powerful *alterative* action of this gland, such action being characteristic of iodine and iodides.

Dr. J. P. Busch, of the German Hospital, London, reports on the use of thyroid tabloids on a large scale, and the infrequent arising of symptoms of intolerance (thyroidismus). Of 68 cases, in which altogether over 10,000 tabloids were administered, symptoms of overdose arose in only four. The other 64 patients (women) took from 3-10 tabloids daily, during periods extending often over two or more months without any bad symptoms. Dr. Busch holds accordingly that the usual dosage may be considerably raised without mishap. From the report in the *Therapeutische Monatshefte*, October, 1896, we do not gather the general nature of the cases treated, though they were evidently not confined to one class of disease, and included cases of Graves's disease and of eczema and psoriasis; it is especially in myxœdema that susceptibility and intolerance are so marked. Nor do we gather the strength of the tabloids, which some firms supply in at least two strengths.

Dr. H. Huchard recommends that the thyroid gland used

medicinally should be always taken from the sheep, on account of the absence of tuberculosis in this animal. (See *American Journ. of Medical Sciences*, August, 1896.)

In the *Glasgow Med. Journal* Dr. R. M. Stewart reports from the *Archives de Neurologie*, Jan., 1896, a case of myxœdematous idiocy treated by thyroid injection. The case was under Dr. Bourneville, and the treatment was effectual in the usual way in the removal of the physical symptoms of the myxœdematous state; in addition the mental record showed fits of temper replacing torpor, also more spontaneity. The hebetude disappeared, and the countenance became more alert and expressive; the aptitude for school work increased.

On the Treatment of Graves's Disease by means of Thymus Gland. By Hector Mackenzie, *American Journal of Med. Sciences*, February, 1897.—Dr. Mackenzie has already done such good work on the value of thyroid feeding in myxœdema that we are glad to have contributions from him on a subject so perplexing as the treatment of Graves's disease. This affection—one of the opprobria medicinæ—has recently been treated by means of the thymus gland, and to 15 cases of such treatment which Dr. Mackenzie has been able to collect he adds 20 cases of his own. Previously to trying thymus gland he states that he had tried the effect of thyroid and several other animal tissues in this disease, and that he had not tried thymus because this gland “is frequently found to be persistent in fatal cases.” Wisely he does not begin with the explanation of why the thymus is, or should be, valuable in Graves's disease, but contents himself with the enquiry—is it of value? After careful examination he arrives at the conclusion that it possesses “no specific action in Graves's disease,” failing in most of his cases to reduce the cardiac hurry, the exophthalmos, and the size of the goitre. He looks upon it as of some value in improving the general condition, and holds that in this way it may assist towards the recovery of the patient; he would place it “in the same class of remedies as cod-liver oil.” Dr. Mackenzie worked with doses of thymus varying from several ounces to ten or fifteen grains *per diem*. The cases treated by the large doses seemed to do neither better nor worse than those treated with small doses. He worked with the thymus both of the calf and the lamb, but cannot say anything definite as to their relative value. He makes the important negative statement:—“In no case did it produce any unfavourable symptoms.” This may be remembered in contrast to the potent, sometimes dangerous effects of thyroid.

Graves's disease is often accompanied by important mental changes, thus extreme restlessness, irritability, failure of memory, and an inability to think consecutively, a “chorea of ideas.” These, according to Dr. Maude (*Journ. of Ment. Science*, January, 1896), are frequent accompaniments, and these, apart from the

essentially nervous character of the symptoms of the disease, justify its therapeutic consideration here.

The Treatment of Syphilis by the Injections of Syphilitic Antitoxine.—In the April number of the *Glasgow Medical Journal*, 1896, a case of syphilis is reported which rapidly improved under the use of injections of serum obtained from another patient, the subject of well-marked syphilis. The former patient, a man aged 22, received, in the 8th week from contagion, $\frac{1}{2}$ c.c. of serum. This dose was increased till 5 c.c. were injected at one dose. The injections were given on an average every second day. In all $35\frac{1}{2}$ c.c. of serum were injected. The case was under the care of Dr. McCall Anderson.

The practice is of course thoroughly logical in that it follows on the lines of the diphtheria and other infectious disease treatment by the use of serum obtained from protected animals. Reference is made to the article by Mr. Cotterell in the *British Journal of Dermatology*, November, 1895.

The treatment of syphilis concerns all departments of medicine. This method, however, must be very cautiously received, in respect of the disease in question, and very conclusive evidence required as to its efficacy. I can find no reference to the subject in Sternberg's treatise *On Immunity and Serum Therapy*.

The Treatment of Tubercle.—This also concerns us all, and it is of interest to note that in the November number of the *Glasgow Medical Journal*, 1896, Dr. Springthorpe, of Melbourne, pleads for a reintroduction of tuberculin, both for diagnostic and for therapeutic purposes. This plea he makes on the results of five years' continuous use of tuberculin. Without discussing Dr. Springthorpe's teaching as to a treatment which has so generally ceased to exist, we may refer to the yet more interesting pronouncement of Koch himself on certain new tuberculin preparations which he has prepared from dried and finely pulverised cultures of tubercle bacilli. Into the technique of the mode of preparation, as also into the theory and practice, dosage, etc., we cannot enter here, but must refer our readers to the article by Prof. Koch in the *Deutsche Medicinische Wochenschrift*, No. 14, 1897. Koch claims for his new preparation, T. R., that it does not cause the febrile reaction which the older tuberculin caused.

Suprarenal Capsules, Extracts of.—A considerable body of work has been done both in the way of morbid anatomy and of physiology in respect of the functions, normal and perverted, of these glands. The more recent work of Oliver and Schäfer with extracts of suprarenal tissue indicate that the medulla of the gland is the part which contains the active principles; that these latter are of the nature of a true secretion intended for absorption, and essential to the economy; that suprarenal extract has an action upon the vascular system which is almost the opposite of the action of thyroid extract, for whereas this latter is a marked vasoular

depressant, the former produces a great rise in blood pressure, the result of arterial constriction.

As is well known, there is in the functional inadequacy of the capsules present in Addison's disease a profound prostration general and vascular, a true and specific "neurasthenia," and the most natural immediate application of the above knowledge has been the administration of suprarenal extracts in this disease. The treatment is strictly isopathic, and, on the face of it, is quite as reasonable as the use of thyroid extract in myxœdema; but thus far, though tried by several observers, it has not yielded very positive results. An amelioration in the condition of the patient has been recorded by Oliver, Sansom, Lloyd Jones, Rolleston, and others, but the results have been temporary, and in the hands of some other observers the extract has failed. Doubtless success or failure will depend very much upon dosage, and this cannot be said to have been determined yet. Rolleston advises that the dose should be not less than the equivalent of 45 grains of gland in the 24 hours, or rather, he says, this dose "is certainly not too much" (*Goulstonian Lectures*, 1895). Drs. Ringer and Phear in their case (*Clinical Soc. Transactions*, 1896) began with this dose and advanced it up to the equivalent of a quarter of an ounce of gland tissue, pro die, in divided doses. Improvement followed in the general strength and appearance, and the pigmentation lessened, but there was no increased vascular tone, and after some four weeks or so the patient relapsed. During the whole period of increased physical and mental vigour the weight fell steadily. The patient succumbed ultimately.

Further investigations are needed in this affection, and also as to the value of suprarenal extract in other conditions dependent upon the loss of vaso-motor tone, *e.g.*, at the menopause, in neurasthenia, Graves's disease, etc., as suggested by Dr. Oliver. (See also Merck's Reports, 1896, 1897).

Use of Ovarian Extract or of the Dried and Powdered Gland.—If we take into consideration the important part which affections of the generative organs play in psychological disturbances in women we shall be ready to admit the possible sphere of usefulness which serum therapy may afford. Acting upon the principle of isopathy it has accordingly been proposed in cases of amenorrhœa, natural or the result of operative procedure, to administer preparations of ovarian gland. Merck prepares such in the form of a dried powder, which may be given either in pill or tabloid form. Each tabloid or pill contains two grains of dried gland, and two or three such doses may be administered thrice daily. In this country tabloids containing five grains each may be obtained from the leading firms (their own preparation), or Merck's preparations may be obtained through them. In the *Therap. Monatshefte* for August, 1896, Dr. Richard Mond records nine cases of natural amenorrhœa, and two of operative amenorrhœa (total extirpation

of the uterus; removal of the uterus and the appendages), in all of which ovarin (Merck's) was administered, one tabloid four or five times daily. The troubles present, viz., flushings and perspirations, occipital sense of pressure or other forms of headache, insomnia, depression of spirits, palpitation, etc., these all were decidedly relieved.

Of by-effects attributable to the ovarin there were only an occasional oppression at the epigastrium, and sometimes frequent eructations. These occurred at the commencement of the treatment.

According to Merck (Report for 1897) Mond's observations have been confirmed by Chrobak, Graf, Mainzer, and others. Merck says, *loc. cit.*, by this means "it was possible to repress for a longer or shorter period, in many cases even permanently, all the symptoms of sympathetic neurosis." The drug, then, is indicated, stated generally, in the climacteric moolimina. Chlorosis, so often associated with menstrual disorders, has been successfully treated with ovarian extract according to Fedeli, and Spillmann and Etienne (see Merck).

Dr. Féré, of Paris, reports (*Journal des Connaiss. Med.*, November, 1895) on the treatment of epilepsy by belladonna. He thus revives a practice of the last century. He employs an extract in pill form, commencing his dosage at about $\frac{1}{4}$ grain, and increasing the dose at intervals of every four weeks. In this way he was enabled to raise the dose gradually up to 12 grains even without any bad consequences, though he also found by experience that intolerance might suddenly manifest itself as the result of emotional disturbance. Dr. Féré made these investigations upon patients who had resisted other treatments. His results were in general negative, confirming thus the judgment of those who had abandoned the drug; of 24 patients seven only showed slight improvement. On the other hand the signal success which attended this method in the case of a man who suffered from impulsive outbreaks and paroxysmal attacks of vertigo, indicates that we may give belladonna a trial failing other methods (*Therapeutische Monatsh.*, July, 1896).

Dr. Zabudowski, of Berlin, records (*Therap. Monatsh.*, December, 1896) a case of Friedreich's disease, interesting both because of the youthful age of the patient, a girl of nine years, as also because of the successful treatment of the case by massage. The patient was seen by Prof. Mendel in consultation with Dr. Zabudowski, and the great improvement which a four weeks' course of massage effected was witnessed by both. The child now falls seldom, and takes her course without deviations, nor does she let things fall out of her hands as formerly. In fact the chorea-like movements are now scarcely to be remarked, and sleep is quiet.

Results and Principles of the Treatment of Tabetic Ataxy by Practised Movements. By Dr. Frenkel, in Heiden (Schweiz).—The

author points out that the purpose and object of this treatment has been much misunderstood, for whereas in tabes the muscles are perfectly contractile and neither atrophic nor shortened, it is often worse than useless to order gymnastic exercises, active or passive. The nutrition of the muscle is not at fault, and it is not muscular contractions which are wanted, but co-ordination, *i.e.*, orderly and combined movements. Accordingly the principle of the treatment now in question is the exercise of the will in controlling and ordering of the muscles to effect a given movement, say the seizing of a swinging ball. By the repetition of the attempted, though perhaps unsuccessful first efforts, the movements gain in precision and the ataxy is overcome.

The purposelessness of the gymnastic exercises as usually ordered is not a mere contraindication by negation, but there is involved also a positive danger, for not infrequently the incitement to increased muscular exertion leads to exhaustion, and the danger of this is the greater that the patient is not possessed of the usual sense of fatigue which guides us in health. This, perhaps, holds especially for the resisted movements. In all forms of activity, however, great supervision is needed, and riding and bicycling even in the earliest stages are to be forbidden, and even walking exercise is to be well controlled (*Therap. Monatsh.*, March, 1897).

Is Trional an Efficient Hypnotic, and does it possess advantages over Sulphonal?—In answer to this question Prof. J. von Mering contributes a valuable article to the *Therap. Monatsh.*, August, 1896. From the time when chloral hydrate reigned supreme he traces the further development of hypnotics in the endeavour to discover the ideal soporific which shall have no vice of any kind. Von Mering, by the bye, does not believe in this variety of the philosopher's stone, and we are inclined to agree with him. The first substitute for chloral hydrate was Cervello's paraldehyde, then came amylene hydrate, which V. Mering himself brought forward; these two it may be remarked are still to be reckoned among the most reliable hypnotics, and in particular are most valuable in feeble states of the circulation, because of their slight depressant action upon this system. Their evil taste has stood in the way of their advancement.

The endeavour next followed to do away with the objectionable qualities of chloral by combining it with other bodies, hence came chloralamide, etc. At this stage the discovery of sulphonal interrupted progress along the lines of chloral combinations and monopolised attention. A number of serious symptoms, some fatal results even, having followed the indiscriminate dosage with sulphonal, which was adopted on a very extensive scale, attention was now drawn to some of the drawbacks to sulphonal use, and amongst these, in particular, to the tendency which sulphonal showed to accumulate in the system; also to the slowness with

which the hypnosis would set in, and the occasional manifestation of delayed action.

The closely allied bodies, trional and tetronal, were accordingly investigated to discover if by chance they gave more favourable results, and at this stage we now are.

Trional has received more attention than tetronal, and a large body of evidence has been gained in favour of it. V. Mering quotes a long list of authorities, and to amplify this part of the evidence he has written to a number of nerve specialists and alienists for their experience. A formidable array of names, including V. Noorden, Lilienfeld, Jastrowitz, Fuerstner, Binswanger, Krafft-Ebing, Rabow, and others, follows, and with scarcely an exception all the above named, and unnamed, report of trional that no hypnotic is to be preferred to it, and one authority only regards it as equalled by sulphonal, though even this observer admits that the latter must be used in larger dose.

Since the introduction of trional there have been in all some six cases only of poisonous action, a result very satisfactory considering the extensive use of the drug. The harmful effects have much resembled those which are observed in the case of sulphonal poisoning, and they have included hæmatoporphyria, but it would seem that this change in the urine is sometimes witnessed quite independently of drug administration, and there are those who argue that the record of hæmatoporphyria in trional dosage is not necessarily attributable to the drug. The same reasoning would of course apply to the sulphonal cases in which the symptom has been observed.

The conclusions advanced by V. Mering are:—That trional is an excellent soporific, surpassed by none of the hypnotics; that it acts with certainty and promptness in simple agrypnia, also in the sleeplessness of the several forms of neurasthenia, and likewise in the insomnia of the psychoses, even when associated with much restlessness or excitement; that in the sleeplessness of painful states trional may be advantageously combined with a small dose of morphine, *e.g.*, 15·5 grains of trional with $\frac{1}{4}$ grain of morphine (this recommendation of V. Noorden, Krafft-Ebing, and Svetlin is also supported by V. Mering); that trional is without harmful effect upon the alimentary tract, and that the kidneys do not suffer; that cardiac patients have received it without detriment, and that the blood is not appreciably affected.

The dosage of trional is on a lower level than that of sulphonal, and should not exceed, with very rare exceptions, 1·5 grammes (some 23 grains); and in the majority of cases V. Mering recommends 1 gramme (15 grains) as sufficient. This amount, which represents the total daily quantity, should be given in one dose, and should not be continued daily for any length of time, but should, where it is necessary to maintain the hypnotic action, be alternated with other drugs, *e.g.*, amylenehydrate, chloralhydrate, or chloralamide.

V. Mering investigates the proximate causes of the hæmatorporphyrinuria which has obtained in some cases of trional poisoning, but this is outside the scope of our retrospect.

In conclusion, trional has the advantage over sulphonal of smaller dosage, of more rapid action, and more rapid disappearance of the effect, *i.e.*, the organism comes more speedily under the drug, and is more speedily released from it.

AMERICAN RETROSPECT.

By C. Hubert Bond, M.D., B.Sc.

Epilepsy and other Convulsive Diseases: A Study in Neuro-dynamics and Pathogenesis.—Under this title Dr. Langdon, of Cincinnati, reviews (*Journ. Nerv. and Mental Disease*, September, 1896) the present state of our knowledge upon certain facts in the anatomy and physiology of the central nervous system; and puts forward some propositions to serve as a working hypothesis to explain epilepsy and other convulsive disorders in the light of modern histological research. He lays particular stress upon Cajal's demonstration of the *individuality of the neuron* as opposed to the older views. Though anatomically distinct units, neurons are in physiological relation with each other, by means of delicate projections termed gemmules or "contact granules." The neuron-body (or nerve-cell) is to be considered, in his opinion, as mainly trophic in function; while the nervous activities themselves are to be looked for in the neuron processes, and accounted for upon the theory of inter-molecular and inter-atomic motion—this motion being the result of external stimuli acting upon the peripheral arborisations of neurons. In opposition to the many theories that have been advanced in the explanation and location of the epileptic convulsion, it is now almost universally conceded that: (1) the actual origin of the epileptic convulsion is in the cortex cerebri, and (2) that its nature is an "explosive discharge" in "unstable nerve tissue." While the nerve-cell was considered the sole seat of all nervous activity, naturally the cause of convulsive phenomena was principally sought for within this nerve-cell. But Langdon quotes researches which show that the ultimate fibrillæ of the axis-cylinder may be traced *through* the neuron-body to finally ramify in "neuro-plexuses" composed of multitudinous interlacing "end-tufts," with their contact-buds, and it is in this jungle that, in his opinion, any demonstrable lesions of the various convulsive disorders (including chorea, hysteria, and even uræmia) are to be sought. He is further of opinion that the cerebral cortex, instead of being a "centre of action," has for its main function that of *inhibition*, in other words, that it is a centre for preventing, checking, directing and combining various activities which might otherwise occur in different order or intensity. The phenomena observed in the case of Goltz' dog, which lived for eighteen months after having been deprived of its