resolution, namely, Dr. Dawson, Dr. Woods, Dr. Graham of Belfast, Dr. Conolly Norman, and Dr. Finegan, and that they be given power to co-opt further members in case of vacancies occurring, or to add to their number." This resolution was adopted unanimously.

The Therapeutics of Insanity. By HARRINGTON SAINSBURY, M.D.

THIS subject is of such magnitude and it presents so many aspects that it would not be possible to develop it at all satisfactorily within reasonable limits, if one were to attempt to deal with it comprehensively. I shall therefore be excused if I pass very cursorily over certain systems of treatment which do not, and dwell more upon certain others which do fall within my competence. The selection will by no means represent the order of importance.

That which may be called the sociological treatment of the unsound of mind depends upon the recognition of the rights of citizenship as still belonging to the imbecile and the lunatic, however much these rights may be limited or qualified; the question to be answered in each individual case is "How much freedom? how much restraint?" On this subject Emminghaus (*Virchow's Jahresberichte*, Jahr xxxiii, sect. "Psychiatrie") refers to Böttiger's views on *the treatment of the insane in colonies* (*Ueber die coloniale Behandlung von Geisteskranken*). Böttiger maintains that this system of treatment gives the best results because of the beneficial effects of occupation upon the mental state, and because also of the wide range of liberty which the system places at our disposal.

In the carrying out of the treatment the colonies may stand either as independent foci, or they may be in more or less close connection with the asylum as a centre.

According to Böttiger at least one half of all the inmates of the asylum are capable of treatment in the "colony." He advises that where the asylum, as parent institution, has affiliated daughter colonies, these should be situated near the asylum, and that whilst the latter should retain the hospital character the colonies should partake of the nature of groups of dwelling-houses.

He sums up the advantages which the "colony" system

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offers as follows:—(1) Favourable sanitary conditions; (2) greater facilities for apportioning to each case the required measure of freedom; (3) greater opportunities for varied occupation; (4) lessened cost of establishment and maintenance.

Böttiger insists that all *forms of psychosis* are suitable for this treatment during longer or shorter periods.

To the important subject of the *industrial training of imbeciles* Dr. Shuttleworth contributes a paper in the July number of the *Journal of Mental Science*. Shuttleworth draws attention to the great value of schools in the development of imbeciles, the object in view being always the choice of an occupation for the individual.

On account of the limitations of mental development the acquisition of manual dexterity is most important, and accordingly instruction in the handicrafts should constitute an essential feature of the training. The development of the muscles by suitable gymnastic exercises will be of value to the same end.

For male imbeciles out-of-door occupation in the fields, gardens, etc., is desirable, and for female imbeciles light field work is likewise to be encouraged.

Those imbeciles unsuited to agricultural work should be busied with domestic work or occupation in workshops, *not in factories*. Suitable occupations are bootmaking and mending, tailoring, mat weaving, brushmaking, etc.

In any case individualism is all-important. Dr. Shuttleworth is in favour of a system of small rewards in institutions for imbeciles as a means of arousing zeal.

At times a considerable amount of taste is to be found among the feeble-minded, and the cultivation of powers of drawing, painting, etc., in particular among the better classes, will be then called for.

Passing from the general to the special, we may first consider the subject of *suggestion in the treatment of psychoses*. In the *Centralblatt f. Nervenheilkunde und Psychiatrie*, April, 1899, Prof. Bechterew, of Petersburg, writes on the "Treatment of Chronic Alcoholism by the Simultaneous Use of Hypnotic Suggestion and other means." His experience on the value of suggestion in this disease will be probably in accord with that of most other workers in this field; but the point to be accentuated here is the combining of this treatment with other remedies de-

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signed to meet the damaged state of the bodily health. Thus he prescribes, in addition, the use of baths and rubbings, the sedative employment of bromides with codeia, of heart tonics, such as digitalis and adonis vernalis, of general tonics, in particular strychnine. As he insists, chronic alcoholism involves not only a psychosis, but also a number of morbid bodily states, and hence he urges that it is most reasonable to apply remedies to these latter when we are attacking the disease as a whole. The ultra-scientist may exclaim against composite treatment, but the practical man will not be deterred.

Von Bechterew contributes to the February number, 1899, of the same journal, an article on the "*Treatment by Suggestion of Sexual Inversion and of Masturbation.*" His first article, which certainly gives the impression that this is a new therapeutic departure, brings down upon him the heavy hand of Dr. v. Schrenck-Notzing, of Munich, who shows clearly that as far back as 1889, v. Krafft-Ebing, Ladame, and he himself had published reports of treatment of these conditions by suggestion; a bibliography which he adds enforces his case.

Admitting this correction, v. Bechterew's cases do not lose in their value as additions to our knowledge of a department of pathology in which any and every means of alleviation or cure is welcome.

In these cases, also, v. Bechterew counsels the employment of other means, baths, bromides, etc., besides suggestion.

Among the most satisfactory of all the methods of treatment of mental cases are the hydropathic, when they are effective; in the treatment of insomnia this holds notably. Dr. Ernst Beyer therefore earns our thanks for his paper on "*The Application of the Prolonged Bath to the Cure of Mental Disease*" (*Centralbl. f. Nervenheilk. u. Psychiatrie*, Jan., 1899). He says with truth that in spite of the general recognition of the warm bath, this variety of bath has received but little attention.

The technique of the prolonged bath, though very simple, must be sought in Dr. Beyer's paper. The temperature of the water is maintained at 95° F. The patient divides his life between the bath and the bed; in the morning into the bath, in the evening into the bed, and so on for days and weeks together; the meals are, of course, administered while in the bath.

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The many precautions upon which some insist, the careful examination of pulse and respiration, and of the general powers, etc., all these are as a rule unnecessary. The treatment is to be regarded as adapted for most patients without hesitation and without fuss. Experience of the daily routine of these baths in the Heidelberg Clinique, where constantly half a dozen such are in use, has convinced Dr. Beyer of the simplicity and safety of the practice, and he even goes so far as to regard these many precautions and observations as contra-indicated, because interfering with the quieting influence of the treatment.

Constant supervision is a necessity of the method, and one attendant to every two or three patients will be requisite: to supervise being his sole occupation. An abundant supply of easily accessible baths is also essential, and to each section allotted to noisy and dirty patients there must be one bath-room, in which must be one bath to every two or three patients. Herein may lie the difficulty of adapting the system to large establishments, for *there should not be many baths in the same room* or the sedative influence will be interfered with; indeed, even in smaller number it is advisable to separate the baths from each other by partitions, which, however, need not be complete.

We must pass over other details and proceed to consider the kind of patient suitable for this treatment. All cases with bedsores are indicated, and we are to note that sores of all kinds heal well in the bath. Cases of excitement generally are indicated, and particularly cases which are dirty, or which, if suffering from bedsores, cannot be treated, the patient fouling the wound or pulling off the bandages.

Difficulty in keeping the patient in the bath is experienced much less often than would be thought likely, and mechanical means of restraint are never employed; but a dose of hyoscin may in certain cases be required to start the baths.

The prolonged bath has proved most successful in the excitement of acute mania, less so in that of dementia præcox, though more extended experience has not differentiated so markedly between these conditions as appeared likely from earlier observations. The excitement of paralytics has been little amenable, but that of alcoholics and epileptics has been successfully treated.

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In conclusion the writer considers that the routine use of these baths will prove one of the most important advances in the treatment of the insane.

The feeding of insane patients often requires the most careful and anxious attention. It must be approached from two points of view, viz. (1) the state of the digestive organs; (2) the nature of the food supplied. We are apt not to pay sufficient attention to the former of these, and hence the importance of such contributions as that of Dr. Greenwood on "Lavage in the Refusal of Food by the Insane" (*Journal of Mental Science*). According to Greenwood the refusal to eat often depends upon the presence of an acute gastric catarrh, and he has obtained marked and often surprising success from the use of repeated lavage in such cases; the measure of the success being shown by the return of the appetite for food or the voluntary taking of food, or by an improved digestion (should there still be refusal) as shown by a gain in weight. The common sense of this procedure will not fail to commend it.

The food suitable for insane patients who are ill nourished is a subject the importance of which need not be emphasised. We would here draw attention to the numerous forms of artificial foods, such as somatose, sanose, nutrose, eucasein, tropon, etc. These are employed as nutrient adjuvants; they are preparations of casein or of animal and vegetable albumens, and are generally administered in doses of one drachm to half an ounce two or three times a day, according to age. They are for the most part without or with very slight taste, and hence can be admixed with milk, cocoa, coffee, beer, wine, soups, or other foods. Some of them are soluble in water or emulsify in the same. Important papers on these preparations have appeared in several journals, note in particular that of Strauss on "Tropon" (*Therapeutische Monatssch.*, May, 1898), and of Biesenthal on "Sanose" (*Therap. Monatssch.*, April and May, 1899). One important advantage of tropon over other like preparations is its relative cheapness, a very solid advantage. Tropon, like its congeners, is readily digested and assimilated, for though it is insoluble in water it peptonises readily, the whole of its 90 per cent. of albumen passing into soluble peptone (see also *Merck's Report*, published March, 1899).

The advantages which this class of food offers may be

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summed up as—(1) high nutritive value; (2) ready assimilability; (3) ease of administration because of tastelessness.

In certain mental states profound depression of the vital powers develops with rapidity. In these states much as food may be needed it may cease to be assimilated, though presented in the most digestible form. Here the one indication for the performance of any function, digestive or other, is to whip up the flagging powers, and, as a novel means of so doing, we may refer to the *treatment of the typhoid state by the hypodermic injection of salines* of which mention was made in the last number of the *Journal of Mental Science*. It will be noted there that to stimulate the vital powers generally, small injections of some three or four ounces are given and repeated; whilst much larger injections, up to a pint or even more, are indicated when the vital failure is mainly in the circulation. Of the marvellous recuperative power of saline injections in collapse from shock or other cause, we have abundant evidence in ordinary medical practice.

Binswanger (*Virchow's Jahresbericht f.* 1898, art. "Psychiatrie," Emminghaus) recommends as a treatment *for psychoses with exhaustion, hypodermic injections* of an entirely different kind, viz. *of bouillon cultures of the bacterium coli*. The cultures are first killed by means of a 1 per cent. formalin solution, then in the dose of 0·5 to 10 c.c. they are injected with due antiseptic precautions. The injections are continued until the production of fever, but on this attaining 39° C. (102° F.) the treatment is intermitted till the temperature has fallen again. During two years fifteen cases were thus treated, with result four cures, two alleviations, and in nine cases no change.

The volume of these injections, 0·5—10 c.c., is quite too small to make it probable that mere bulk plays any part in the effect, as in the previously mentioned saline injections is probably the case.

Passing to the medicinal treatment of insanity we come to a region of exceptional and confounding activity—the past tense would perhaps describe this more fitly. In three directions we may observe this activity, first in the extension of the long list of hypnotics, secondly in the development of new opium derivatives, and thirdly in the production of new bromine compounds: these all concern the alienist directly.

Of new hypnotics, Dr. Ernst Schultze, of Andernach, writes

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in the *Neurologisches Centralblatt* (March, 1900) concerning *dormiol*, a product of the combination of chloral with amylene hydrate. Despite the numerous introductions by the chemist, the older hypnotics—chloral hydrate, sulphonal, trional, paraldehyde, amylene hydrate—maintain their superiority, and among these for certainty and readiness of action chloral hydrate comes first. On the other hand, chloral hydrate is regarded by many as poisonous even in moderate dose, and the idea of combining chloral with amylene hydrate was to keep, if possible, the chloral effect without its drawbacks.

Dormiol is a colourless limpid liquid with a pungent menthol-like odour and burning taste. It mixes in all proportions with alcohol, ether, chloroform, benzol, fats, and the ethereal oils. It shows a peculiar behaviour to water, but can be made to dissolve in it in all proportions if certain precautions are observed ; to obviate difficulty, however, a 10 per cent. solution of dormiol in water can be obtained commercially. The taste is no serious drawback, and only two out of sixty patients refused it for this reason ; moreover, if need be, it may be administered in gelatine capsules. Sleep followed the dose within the hour in the majority of cases, very often within thirty minutes ; it lasted five, seven, eight hours. Dormiol was effective in about 75 per cent. of the cases. In the event of refusal to take the drug it may be administered *per rectum* admixed with some two or three drachms of mucilage of gum acacia ; thus given it in no case caused irritation.

The cases most suited to dormiol were of melancholia, of depression, and of hypochrondriasis. In the excitement of mania and of general paralysis, and even in that of epilepsy, it failed for the most part. The dose given was in general about 20 grs., but in some few cases it had to be raised to 45 grs. ; if this dose failed the drug was not indicated. In other cases 12—15 grs. would suffice.

Unpleasant after-effects were practically absent, and in no instance was there any serious disturbance of respiration or circulation. The appetite was not impaired, or less so than with other hypnotics. Habituation was not observed, nor delay in the appearance of the effect, as may be noted, particularly in the case of sulphonal.

In the administration care was taken not to repeat the dose on two consecutive nights.

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Dormiol may be confidently recommended as an efficient and therefore useful hypnotic.

In the *Annales Médico-psychologiques* Dr. Viallon, of Dijon, discusses the merits of *tribromo-salol as a hypnotic*, and he comes to the conclusion that it is not suited to alienist practice: (1) because of its slight and inconstant hypnotic action; (2) on account of its insolubility; (3) because of its high price.

It may be given "in certain special cases where the patients are docile, and it may advantageously replace bromide of potassium *on occasion*." "It was very inferior to other hypnotics, such as chloral, sulphonal, trional, etc."

To the sedative value of *hyoscin hydrobromide administered sub cute*, Dr. Dörner (*Virchow's Jahresbericht, loc. cit.*, p. 80) testifies. He recommends it (1) in all cases of acute maniacal excitement with destructiveness or violence, with the exception of those cases with vivid hallucinations and delusions; (2) in melancholia agitans; (3) in sleeplessness where other means have failed.

Dörner does not find hyoscin of use in hysteria or in psychoses which demand the continued use of sedatives.

The dose may, with caution, be raised to one or even two milligrammes without danger, and be maintained at this level so long as the heart's action is good and likewise the nutrition of the patient.

New morphia derivatives.—We owe to Merck in particular the synthesis of a number of morphia derivatives, upon the physiological action of which v. Mering reports briefly in *Merck's Report*, published March, 1899. Of such derivatives three in particular have been investigated, viz. *dionin* or hydrochlorate of ethyl morphine, *heroin* or the diacetic ester of morphine, *peronin*, a benzoyl-morphine hydrochloride. The first, *dionin*, as a substitute for morphine, has the advantages of mildness of action and free solubility; it is, indeed, the most soluble of the morphia salts or morphia derivatives. It has been employed in all morbid states in which opium or morphia are indicated, including mental conditions, though the reports of its use in asylums are conflicting. It has been specially recommended in the treatment of morphinism during the withdrawal of the alkaloid, and the particular value which it presents here is that it does not produce euphoria, and so tempt the patient on its own account; further, its free solubility causes it both to

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act rapidly and to be rapidly eliminated from the body. The usual dosage of dionin is gr. $\frac{1}{8}$—$\frac{1}{2}$ repeated two or three times in the day. Hypodermically the average single dose is from $\frac{1}{4}$—$\frac{1}{2}$ gr. In morphinism the dosage is much higher, and as much as 7—10 or even 16 grs. may be injected beneath the skin *during the course of the day* (see *Merck's Report, loc. cit.*). Fromme prefers dionin to codein in morphinism (*Schmidt's Jahrbücher*, 1899, No. 8).

Heroin, combined as the hydrochlorate. Further investigations with this salt have discovered that it is more active than was first thought, being decidedly more poisonous than codein, and exerting a depressant action upon the circulation and respiration. This has led to a lowering of the dose which, formerly prescribed in the amount of 0·005—0·02 grm. ($\frac{1}{12}$—$\frac{1}{3}$ gr.) two or three times daily, is now restricted to gr. $\frac{1}{12}$ as the average upper limit of the repeated dose (see *Münchener med. Wochenschr.*, xlvi, 27, 1899, paper by Erich Harnach).

Peronin is not very soluble, and its usefulness is limited on this account. It has been employed by Meltzer (*Therap. Monatsh.*, 1898, p. 317) as a hypnotic in states of mental excitement. In these states the dosage was $\frac{1}{2}$—2 gr., which quantities were given without any risk (*Merck, ibid.*, 1899).

New bromine preparations.—The prevailing employment of bromides in all departments of medicine, but particularly in mental disease, gives importance to any modifications of these universal remedies. To two of these we would draw attention, viz. *bromalin* and *bromipin*. The former, described in *Merck's* 1895 *Report*, has not been much tested till within the last two or three years. It is an organic compound,—bromethyl formine by name—and the special advantages which are claimed for it are that it conveys the influence of the alkaline bromides whilst avoiding or minimising some of their irritant effects. The eruptions of bromism and the alimentary disturbances are thus avoided. The theory of the salt is that it breaks up, yielding the active bromine and an antiseptic compound—formaldehyde—the action of which corrects the stomach and intestinal disturbances called forth by the alkaline bromides. This treatment is an advance upon that previously proposed by Féré, viz. the *simultaneous* administration of some intestinal disinfectant, *e. g.* β-naphthol or bismuth salicylate, along with the alkaline bromide, but the object is the same.

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Bromalin is easily soluble in water, and may be given either in water with syrup of orange, or in cachets; the dose is 10—30 grs. three or four times daily, *i. e.* about double that of potassium bromide. Rohrmann reports recently upon its favourable action in epilepsy, his experience being gained at the Göttingen Mental Clinique.

Dr. Kothe, of Friedrichroda, discussing the treatment of epilepsy in the *Neurolog. Centralblatt* of March 15th, 1900, speaks very highly of the value of *bromipin*. His own experience is limited to six cases; but these, taken with the reports of Gessler, Dornblüth, Schultze, and Wulff, lead to the conclusion that in *bromipin we possess an agent which has all the powers belonging to the other bromine compounds without their disadvantages.*

Bromipin is a combination of bromine with sesame oil, a 10 per cent. solution being employed. Of this a *daily* dose of from 4—8 or 10 teaspoonfuls (15—40 grms.) is most effective in removing the seizures and in benefiting the mental state. A further advantage lies in the nutritive value of the oil, which is of easy digestion.

When administration by the mouth is objected to the oil may be given as a rectal injection in the same dose (15—40 grms.) and with the same efficacy. When administered in this way Dr. Kothe has always given it as a single dose shortly before bedtime. In no case did any rectal irritation arise. In three of these cases Wintermitz examined the urine and discovered hydrobromic acid in minute quantities, proving the absorption of the drug from the bowel.

Kothe refers to Flechsig's method of treating long-standing cases of epilepsy, refractory to the ordinary bromide cure, by the use of opium and of bromides in sequence, but, as he says, this treatment requires very careful watching, and since his knowledge of bromipin he has abandoned it. Kothe begins with the dose of 15 grms., generally as a rectal injection; this he continues, advancing the dose if need be up to 30 or even 40 grms. during the next six to seven weeks; he maintains the dose at this level for two to three weeks, and then during another six to seven weeks he gradually reverts to the initial dose. This cycle is subsequently repeated more or fewer times according to circumstances. The first course is preceded by some weeks of rest in bed, but not the subsequent courses.

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The successful treatment of epilepsy demands, he insists, a lengthened course in the case of each and every treatment.

Iodine is in such great use in nervous diseases, in the form of the iodides, that we may add to these statements about bromipin that there is a similar preparation of iodine, viz. *iodipin*, also in 10 per cent. solution in sesame oil. This preparation is capable of replacing the iodides (see *Merck's* 1898 *Report*, and those of 1899 and 1900).

A Theory concerning the Physical Conditions of the Nervous System which are Necessary for the Production of States of Melancholia, Mania, etc. By JOHN TURNER, M.B., Essex County Asylum.

VERY perplexing to the student of insanity is the question as to *how* states of exaltation or depression arise. On the physical side to what changes in the nervous system do they correspond? And are these changes localised in different parts of the nervous system in mania and in melancholia; and, if so, what is the site whose disarrangement issues in exaltation or depression?

To such questions as these the following hypothesis has been brought forward as an answer:

Even if, as is very likely, it is only a provisional explanation, it may serve a useful purpose in enabling us to form a conception how states of exaltation and depression may arise and be associated with a nervous system damaged in one or another way.

It is true that Dr. Bevan Lewis (*Text-book of Mental Diseases*, 2nd edition, p. 167) states that melancholia and mania are "serial stages in the same disease," and that the latter is merely a "still lower stage of reduction" to that which we get in the former; while Drs. Batty Tuke and Woodhead (see article "Pathology" in *Dict. of Psychol. Med.*, p. 899) refer the symptoms of mania and melancholia to intensity and rapidity of onset of the exciting cause, in melancholia the intensity being less and the onset gradual, whilst the reverse is the case in mania.

But neither of these assumptions helps us in the least in

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