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THE USE OF COCAINE AND ACCIDENTS RESULTING FROM IT—PHYSIOLOGICAL ACTION.*

BY DOCTOR E. DELBOSE.

Cocaine has been regarded as a general anæsthetic, but this view cannot be maintained from more intimate knowledge of its physiological qualities. It can be likened to no other medicament, except, perhaps, morphine.

Local Action.—When a solution of cocaine is applied to the naked skin, to the mucous surfaces, or is injected subcutaneously into the cellular tissues, the tegument in contact with the liquid becomes pale, assumes a livid tint, and becomes soon insensible to pricks. Three minutes are sufficient to obtain this result, and all parts impregnated with the solution may be cut or torn without the subject experiencing any pain. The sense of *touch*, however, is preserved, that of pain only suppressed. In one word, it is a simple analgesia.

This partial insensibility was at first regarded as a secondary phenomenon. The first effect of cocaine was to provoke a contraction of the coats of the blood vessels, and

* Translated from La Clinique.

the sensory nerve cells, insufficiently nourished, lost their physiological functions.

Arloing has proved that these two phenomena are absolutely independent.

He attributes the anæmia, the paleness of the tissues, to an excitation of the vaso-constrictor fibres of the grand sympathetic. It is enough to cocainize the eye of a rabbit and then to cut the cervical sympathetic, to see an enormous vascularization of the conjunctiva follow the anæmia of this membrane. And, nevertheless, the eye remains *insensible*. Hence the *analgesia* cannot be attributed to the constriction of the vessels.

Arloing believes in a direct action of cocaine on the terminal sensory fibres. And this opinion is not a simple hypothesis; it is based on the following experiments:

A fragment of the sciatic nerve of a frog is immersed in a strong solution of cocaine. The nerve becomes yellowish brown, and on microscopic examination the whole contents of the nerve fibres are found to be coagulated. Another piece of nerve immersed for the same time in distilled water shows no coagulation, save in the neighborhood of the sheath of Schwann. It must, then, be admitted that cocaine acts by disintegrating the protoplasm of the nerve elements.

Besides this, it is to be noticed that, in a mixed nerve, the sensory fibres are the first to be attacked; the motor fibres are so only secondarily. *Feinberg* has shown that cocaine applied to an exposed nerve produces a local anæsthesia which is propagated to the periphery, while the central end of the nerve and its motility remain intact.

Sometimes, after a local application of cocaine, a general analgesia of the whole surface is obtained. *Laborde*, who first noticed this phenomenon, offers no explanation of it; he is content to observe that the nervous system is not influenced, "for the excitability of the nerve trunk is preserved and even increased." *Brown-Sequard* thinks that this phenomenon must be allied to that case cited by *Richet*

in 1846, where a simple cauterization by red-hot iron produced an analgesia, not only of the point touched, but of the entire body.

To sum up, and without troubling ourselves with this inexplicable and very rare phenomenon, we may say that cocaine, applied to a mucous surface or injected into the subcutaneous cellular tissue, suspends the physiological functions of the sensory cells with which it comes in contact. A weak solution of the alkaloid is sufficient to produce the result. Thus a centigram of the salt in solution, injected into the derma, will give a perfect analgesia of all that portion of the derma bathed by the liquid.

General Action.— Besides these purely local effects, cocaine, under certain circumstances, may give rise to general phenomena which are often very remarkable.

The evolution of these phenomena is subject to diverse causes.

The quantity of active substance has naturally a preponderating influence. A certain dose will produce a simple excitation, while a little larger dose will provoke convulsions.

The method of administration is important. Thus, taken by the stomach, an animal will be able to absorb with impunity a quantity of cocaine that, injected into its cellular tissue and, above all, into its peritoneum, would produce alarming general symptoms; and this same dose, injected into a vein, would surely cause death. The quantity of active substance is then relative; all depends on the rapidity of the absorption.

The kind of animal experimented on is also of great importance. A fish, for example, does not react in the same manner as a dog. The former, having regard to the proportions, resists a dose of cocaine that would infallibly kill the latter. We shall endeavor to explain these differences, for in them we believe lies the interesting point of this general action.

In 1879, *Aurip* studied the physiological effects of co-

caine, and he was the first to point out the action of this substance on the nervous centers. He had seen that cocaine increased at first the excitability of the subject. This first action is manifest in a warm-blooded animal, and appears to be absent in cold-blooded ones.

On injecting under the skin of a frog a solution of cocaine, we see for two or three minutes the animal become agitated and jump about with no apparent reason. But this excitement is fugitive, for it soon ceases and we only see a sort of flaccid paralysis. There still remains, however, an exaggeration of the reflexes, indicative of excitability of the spinal cord. But this excitability may be rapidly exhausted; it is true that it is regained almost as easily. In fact, the animal reacts less in proportion as one multiplies the excitation, but if we let it be an instant it responds with as much energy as ever to new excitations.

On a warm-blooded animal this primary action of cocaine is most manifest. A rabbit, for example, will commence to run of its own accord; if it stops, it is enough to touch it gently to see it start out again. When the dose of cocaine is too strong, the excitability increases rapidly and convulsions ensue. From this moment we obtain truly toxic effects. We might, perhaps, term a "physiological dose" the dose of the alkaloid capable of simply heightening the physiological functions of the animal without disturbing them; that is to say, without giving rise to convulsions.

But at the same time other phenomena are produced which have all the same origin.

Thus *Vulpian* has noticed in the dog a protuberance of the eyeballs, mydriasis and swelling of the eyelids, results absolutely the same as those we get by electrifying the superior end of the cervical sympathetic when cut. *Vulpian* believed that cocaine excited first of all the cervical origins of the sympathetic. This excitation had, as a consequence, a constriction of the blood vessels, which allowed him to understand the elevation of blood pressure. This elevation followed the primary lowering of blood pressure due to a direct effect of cocaine on the walls of the heart.

Laborde believes also in an excitation of the vaso-constrictor fibres of the grand sympathetic, for he has always observed in the rabbit anæmia of the auricular vessels.

The excessive frequency of the heart beats may be explained in the same manner. Thus all these phenomena, joined to the reflex hyper-excitability, are indubitable proofs of the action of cocaine on the spinal cord.

But the other parts of the cerebro-spinal axis are equally influenced. We naturally think of the medulla oblongata to explain the modifications in the respiratory rhythm, and of the cerebrum to explain the irresistible motor impulse which animates a cocainized animal.

It is well to remark that this action on the brain is much more manifest in man, whose psychic faculties are notably increased and often disturbed.

From all these facts we may conclude that cocaine in its physiological dose is an excitant of the cerebro-spinal axis with predominance perhaps of the medulla.

When we pass this physiological dose which we shall farther on endeavor to determine, we see convulsions ensue, which, tonic at first, becomes rapidly clonic. The animal does not always succumb. Recovery depends on the quantity of the alkaloid; hence the possibility of administering a convulsive dose which shall not be a *mortal* one.

But why convulsions?

Laborde believed that they were due to excitation of the spinal cord. A very simple experiment of *Danini* has destroyed this hypothesis. In a cocainised animal in a convulsive attack, to cut the cord will stop the convulsions. The starting point of these epileptiform attacks is not then in the cord, but in the part of the axis above the section, that is to say, in the superior center. *Richert* thinks that they are due to an excitation of the motor zone of the encephalon.

Certain substances may modify these convulsions. *Skinner* has shown that atropine arrests them, chloral has a like effect, as also chloroform. Morphine, on the contrary, is a synergic of cocaine as far as convulsions are concerned.

Prudal noticed that a dose of cocaine incapable of causing convulsions produced immediately an epileptiform crisis if an equal dose of morphine was added. Nevertheless, habitués of morphine can take a great quantity of cocaine without danger. *Chouppe* explains this by saying that the cerebral cells have their excitability so depressed by the continued action of the former alkaloid that they can no more respond to the action of the latter.

Finally, temperature has a manifest influence on the convulsions.

Grasset and *Jeannel* have denied this influence, but *Richet* and *Langlois* have proved that cocaine does not differ from other convulsive poisons. Numerous experiments have permitted them to establish this fact "that the convulsive dose of cocaine varies with the organic temperature of the animal. It is weaker when the temperature is raised, and the reverse." These experimenters believe that a chemical combination takes place between the living cell and the poisonous substance. This chemical combination, the determining cause of convulsion, takes place only at a certain temperature and is more or less complete according to the temperature.

From this it seems easy to explain the absence of convulsions in cold-blooded animals. *A priori*, according to *Richet* and *Langlois*, we might suppose that the temperature is too low to permit of convulsive phenomena; but frogs heated to 30° do not exhibit convulsions; and, on the other hand, dogs cooled to 28° have very slight convulsions, it is true, but still characteristic ones.

Consequently, temperature can explain but one part of the phenomena; another factor must intervene. *Richet* believes in the preponderance of the cerebral system, which, more or less developed, becomes impregnated with a greater or smaller quantity of toxic substance and reacts in proportion. In one word, there is a direct relation between the convulsive dose and the cerebral mass.

A few experiments made with the advice and under the

direction of M. Richet have enabled us to establish this relation.

In our researches we have found that cocaine does not act convulsively on cold-blooded animals. However, *Kobert* obtained convulsions with frogs. *Richet* in his numerous experiments encountered nothing of this nature. I have myself injected very variable doses into frogs; a number of them died, but I had not a single convulsion. The only explanation I can offer is that German cocaine is not as pure as the French, although chemists, wrongly, decry the purity of the latter. In fact an absolutely pure product introduced into the subcutaneous tissue of the frog will never give rise to convulsive movements.

The same result occurred with all the other cold-blooded animals operated on.

Very different are the warm-blooded ones: with them convulsions are the rule, a moderate dose will produce them. This dose varies with the size of the animal. To get results that can be compared we have chosen an arbitrary point, an invariable unity. We have used as a standard the kilo weight of the animals. Consequently, when we inject 5 w., 15 centigr. of active substance this figure independent of the total weight of the subject will always be subordinate to the unity chosen by us.

In the course of our experiments, one fact has struck us. With two animals of the same kind, but of different weight, the one weighing the least was always more sensible to the action of the drug; although the dose was proportionately the same.

The reason, we believe, is that the relation between the total weight of the body and the weight of the brain is to the advantage of the smaller subject. This relation is very important; and this importance we shall show by the comparative study of doses of cocaine necessary to produce convulsions according to the kind of animals. Here are the results found in standard writers combined with our own experiments. We give a résumé of them in the form of a table.

216 *Use of Cocaine and Accidents Resulting from it.*

Cobaye: Injected into the cellular tissue or peritoneum.

	Dose of Cocaine.	
Compain, Paris '86,	0.02	slight excitation.
Personal observation,	0.03	excitation.
“	0.06	lively excitation.
“	0.07	convulsions, recovery.
“	0.08	convulsions, death.
“	0.08	“ “
Laborde.	0.08	“ “
<i>Convulsive dose,</i>	0.07	

Rabbit: Injection of Peritoneum.

Personal observations,	Dose.	
	0.05	nothing.
	0.10	excitation.
	0.12	“
	0.15	lively excitation.
	0.15	convulsions, recovery.
	0.18	lively excitation.
	0.18	convulsions, recovery.
	0.20	“ “
	0.20	“ death.
	0.20	“ “
	0.22	“ “
<i>Convulsive dose.</i>	0.18	

If we compare these two results we see that the rabbit is much more refractory to cocaine. It is true that the other possesses a more considerable cerebral mass. This is perfectly in accordance with our law.

If we take as unity the kilo weight of the animal the rabbit will have a brain of 4 gr. and the other one of 7. (It is, of course, understood that these figures represent only an average.)

Let us continue our study with birds. Here is the result of our experiments on pigeons :

Pigeons: Injected into the large pectoral muscle.

Personal observations.	Dose of Cocaine.	
	0.02	excitation.
	0.05	loss of equilibrium.
	0.06	convulsions, recovery.
	0.07	“ death.
	0.08	“ “

Thus the convulsive dose for pigeons is 0.06. Our figures, and those of the authorities, permit us to fix the average weight of the brain in its relation to the weight of the animals at 8 gr.

For dogs, Richet and Langlois have proved that the convulsive dose is 0.02. We have contented ourselves with finding the weight of the brain, and, bringing it down to our unity, we have obtained a weight of 9 grammes.

Now, if we group the results obtained we shall see that hypothesis of M. Richet is verified. The following table is significant in this respect:

Weight of the brain brought down to kilo of the animal.

		Convulsive dose.
Rabbit,	4	0.18
Cobaye,	7	0.07
Pigeon,	8	0.06
Dog,	9	0.02
Ape,	18	0.012

On examining this table we find that the dose necessary to produce convulsions is smaller in proportion as the brain is larger.

This given, can we not determine approximately the dose in man?

According to Cuvier the average relation between the cerebral mass of man and the total weight of the body is $1/28$. This gives the figure 35 if we bring this proportion to our standard. Now, by consulting the above table we see that the difference in the cerebral mass is less between the dog and the ape than between the ape and the man; consequently the difference in the convulsive dose between the ape and the man must be greater than between the ape and the dog. It will then be less than 0.005. We shall then fix it, in a somewhat arbitrary way, at 0.002 or 0.003.

When we employ a quantity of cocaine superior to that which is capable of provoking epileptiform movements, the animal is often killed. We need only refer to our table to

see that the mortal dose follows the convulsive dose. The same law governs the evolution of these two phenomena; and to kill an animal a less quantity of cocaine is necessary in proportion as the brain is more developed.

The proof of this has been given in our experiments on warm-blooded animals. We have been pleased to see that the results obtained by ourselves on cold-blooded animals confirmed the law of *Richet*. Thus the frog and the tench, whose cerebral mass brought to our standard is practically the same, have nearly the same mortal dose, 0.08 to 0.10 cent. On the other hand, the tortoise, whose cerebral mass is less, is killed by 0.20 of cocaine.

In the course of our experiments we at one time thought our law at fault. Great was our surprise to see that a dose superior to the mortal dose did not kill a rabbit. *Richet*, to whom we submitted this result, told us that he had observed the same result with strychnine. It is the same with chloroform. We know that this anæsthetic often produces toxic phenomena, characterized by vomiting, and that the best way to arrest the vomiting is to continue to give chloroform. All these substances are their own antidotes.

We shall no longer follow our physiological study of animals. What we have learned will enable us to understand the action of cocaine on man, and to take up afterwards the critical study of the poisonings which have been made public up to this day.

Action of Cocaine on Man.

Cocaine produces on man local effects identical to those we have obtained on animals. The mechanism of the analgesia is absolutely the same. A local chemical action always takes place which suspends the physiological functions of the sensory cells.

The general effects are equally easy to understand. We must notice, however, that they are exceedingly variable in their evolution. To-day we may obtain one phenomenon; to-morrow, one directly opposite. It appears that cocaine, in its general action, is not to be compared with itself.

Thus, poisoning by this substance may present itself under a thousand different forms.

In a general way, however, the intoxication manifests itself by an extreme paleness of face, acceleration of the heart-beats, frequent and superficial respiration, precordial anguish, incomplete loss of consciousness, with a feeling of the end being near; in one word, collapse, bordering on coma.

Many of these phenomena may be observed on animals when we do not exceed what we have termed the physiological dose. Hence, at first sight, a similarity in the action, and this similarity continues when we employ a stronger dose of cocaine, *i. e.*, when we reach the convulsive dose. Then, as in the animal, we obtain, almost without premonitory symptoms, jerks which become, or which are closely allied to, convulsive movements.

This convulsive dose cannot be determined in an absolutely precise manner. We have fixed it (see above) at 0.002 or 0.003 to the kilo, which gives for an adult the figure of 0.20; and, in fact, the published observations, on the whole, seem to prove that this quantity, subcutaneously injected, is likely to produce convulsive movements.

If now we take, one by one, these phenomena, we shall see that all may be explained by the action of cocaine on the nervous system, and especially by the excitation of the cerebro-spinal axis, and this excitation, varying with the dose of the alkaloid, will give rise to phenomena equally variable in their evolution, *i. e.*, more or less grave.

In the lighter form of intoxication the spinal cord will be the first and often the only part attacked. Hence the paleness of the face and ligaments; for in the spinal cord are principally found the origins of the grand sympathetic, and we know, from the works of Dastre, that the phenomena of the circulation are under the influence of the sympathetic system. We can thus conceive that the excitation of the spinal cord, due to cocaine, manifests itself, thanks to the vaso-constrictor fibres, by a notable diminution in the caliber

of the vessels. In fact, the paleness of the teguments is sometimes extreme.

We understand that under the same influence the circulation of the brain is modified. Schilling has given a direct proof of this; in a case of poisoning he examined the eye with an ophthalmoscope, and found the vessels of the retina to be hardly visible.

The fact of cerebral anemia is to be remembered, for there, we believe, is the true cause of certain accidents which will not fail to break forth if a circumstance, insignificant in itself, should favor their explosion. Should the subject operated on remain standing; should he be in a state of profound anemia, or should he be under the influence of an emotional state whose effect is to lessen the circulation of the brain, anemiated already by cocaine, we may easily comprehend that we shall find ourselves in the neighborhood of accidents of vertigo, of tendency to syncope, and even to syncope itself.

These symptoms, due to a simple cerebral anemia, are more scaring than dangerous. It will often suffice to make the patient inhale two or three drops of nitrite of amyl to bring back to its normal state the cerebral circulation, and to cause, at the same time, the phenomena of syncope to disappear.

It is also to the predominant influence of cocaine on the medullary axis that are due the trouble of the circulation. For the excitation of the cervico-dorsal marrow, in which the sympathetic takes its cardiac fibres, produces a precipitation of the heart-beats, which raises them to 150 and 160 a minute. We understand that the blood pressure rises in the first moments to lower soon after, for the heart-beats, although numerous, are very weak, losing in force what they gain in speed. (Marey's law.)

This excitation of the grand sympathetic may also explain many of the phenomena. Under its influence all the organs with unstriated muscles may contract; and this action will manifest itself particularly in the pupil, which

will dilate; in the stomach, whose contractions will often be increased to the point of producing vomiting; in the intestine, whose peristalsis may produce purging.

At other times the medullary phenomena will pass unnoticed, or even will not exist. The effects of the cocaine will be localized in the medulla. We shall then see the respiration increase in frequency, thanks to the direct excitation of the origins of the pneumogastric. At first the frequency of the diaphragmatic contraction becomes extreme, the movements are hurried, weak, superficial, then slow, by degrees, through nervous exhaustion.

If, on the other hand, the cocaine acts on the encephalon, we see a series of psychical phenomena break forth. The patient may have sudden attacks of tenderness; then, without transition, an access of fury. Sometimes the intellectual faculties will be excited to the highest degree; he will suddenly remember facts which occurred 20 or 30 years ago, and which he had entirely forgotten.

Lastly, if the dose is too strong, we shall see the gravest symptoms,—convulsions. The movements, at first tonic and then clonic, become more violent as the fatal end is approached. During the convulsive period we see the face become cyanotic, the respiration embarrassed, the heart-beats less and less perceptible, and the patient dies. However, all who exhibit convulsions are far from succumbing. Their number is even very limited, as we shall see. But in the cases made public death has always been preceded by convulsions; and if we remark that warm-blooded animals give us precisely similar results, we may conclude, not without a show of reason, that these two phenomena, convulsions and death, are intimately allied. As the convulsions are due to an excitation, by the cocaine, of the higher nervous centers, we must believe that death is the result of a toxic action on these centers.

A last problem merits solution. Why does cocaine offer such varying results with different individuals? Why does it localize its action, sometimes in one part of the cerebro-

spinal axis and sometimes in another? The size of the dose certainly influences the evolution of these phenomena. Perhaps we must take into consideration idiosyncracies, individual susceptibilities. This is a point we cannot decide. We must content ourselves with indicating it.

(Continued in October Number.)

NEW TREATMENT FOR CONSUMPTION.

Dr. Paquin of St. Louis has been most successfully experimenting with anti-Tubercle Serum in the treatment of consumption. He introduces into healthy horses tubercle toxines, and from this produces a serum which is anti-tubercle. This has been found of great value in arresting, and in some instances curing cases of tuberculosis. The theory is that an anti-tubercle toxines are formed which arrest the growth of the tubercle germ, and in certain cases stops it altogether. This in practical experience proves to be true. The use of this serum is increasing and every case where it is used proves its great value. We urge our readers to write Dr. Paquin for some particulars of this new discovery, at St. Louis, Mo.

Inebriate asylums may not be the sum of perfection, and doubtless some of them are controlled by quacks, the class that owe their lives to the gallows, and ought to pay the bill at once, but, when rightly managed, we believe these institutions are a decided benefit. They are conducted on the theory that drunkenness is a disease and curable, and we believe this doctrine will be universal in the near future. So far building up and deprivation of alcohol are the principal remedies in these asylums, but they are, strictly speaking, psychical and natural remedies. In the application of such things as these new and more valuable agents may be discovered. These and similar institutions are schools for the study of alcoholism and we recognize them as important auxiliaries in temperance work.—*Dr. Flint.*

ALCOHOLIC INEBRIETY.

BY C. SPENCER KINNEY, M.D.,

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To those who delight in the employment of statistics to emphasize the importance of the points under consideration and prove the truth of their deductions, the study of alcoholic inebriety is not very satisfactory.

The statistics are too confusing. They are modified by ignorance and indifference; they are distorted by prejudice and cunning, and suppressed by the pride and conceit of those whose duty it is to give information on the reception of the patient for medical treatment.

It appears about impossible to view the alcoholic inebriate from anything but a sentimental standpoint. Some reformer whose philanthropic eyes have never seen the sun except when at the zenith, starts the story that eighty per cent. of crime and insanity has its origin in the use of distilled liquor, and every printing-press in the country is at once engaged to educate the masses on this interesting point.

That intemperance in the use of alcoholic liquors entails misery to the living and the unborn, no one can deny. As no two human beings are constructed on precisely the same lines, we cannot expect that they will endure the same strain with equal degrees of resistance. When a man is suddenly subjected to any great physical or mental depression he must thank his heredity for the consequent result; whether he acts on the impulse of the moment and blows out his brains, or drowns his grief in the fabled oblivion found from drink, or whether he bends and not breaks, and quietly resumes his proper relationship in life.

An inherited predisposition that is shown by a peculiar

neurotic temperament, coupled with unfortunate early companionship, leads many into the well-worn path trod by the alcoholic inebriate.

Emotional overstrains, like worry and grief, may lead some to inebriety; while physical disease, or injury to the head, may induce others to fall.

That eminent English authority on inebriety, Dr. Norman Kerr, claims that eighty-seven per cent. of his cases have been of a nervous temperament. I think that this is not far from the proportion that we find in the United States.

Regarding the nativity of cases of alcoholic inebriety, we find that they are usually in the following order of frequency:

- (1) United States.
- (2) Ireland.
- (3) England.
- (4) Germany.

The proportion varies, of course, according to the nationality of the district supplying the patients.

The ingenuity of many writers has developed singular facts from the causes leading to alcoholic inebriety. Perhaps some of these simply illustrate the meeting of the extremes in nearly all conditions of life.

Alcoholic inebriety claims most of its wrecks from the believers in the Christian religion, Protestant as well as Romanist, educated as well as unlearned. The Jewish race in England as well as in the United States, is singularly exempt from the vices of drink, while the followers of Buddha and Mohammed put us to shame by their immunity from this induced disease.

Dr. Kerr, in speaking of this condition, says: "As a whole, Anglo-Saxons seem to be more prone to this disease than any other race; but the Russians, the Swedes, the Belgians, the Germans, the Swiss, the French, and the Austrians seem to be steadily coming up to the English and the Americans. In this statement I am not referring to acts of

drunkenness, but to the overpowering impulse to intoxication, the disease of inebriety or narcomania. It is interesting to note that as Jews carry their sobriety into every country (some parts of Russia excepted), so do the Anglo-Saxons carry their insobriety all over the world. We British are the finest colonist extant, but to our shame be it recorded, our triumphant march over the inhabitable globe has been marked by a disgraceful and damning trail of alcoholic drunkenness, destruction, and death. Our demoralization and decimation of native races by the drinking habits which we have taught them, are a hideous blot on the escutcheon of our fame, a reproach to us as a people, a dishonor to us as a civilized nation." (Page 132.)

Alcoholic inebriety is a constitutional disease of the higher nervous system, caused by continued indulgence in alcoholic liquors.

At different vantage-grounds of observation, an alcoholic inebriate presents a view of diverse proportions. To the moralist, a self-constituted and self-perpetuating sinner stands out silhouetted against the light of his "might have beens." According to the moralist all that is required is a change of habit—a dropping of old associations and methods of living; not alone a change of heart, but a complete revolution of the individual's mental and moral life. In theory these views are good, and cover the case with nebulous possibilities. To be sure, these views are entertained to a greater or less degree by all who have considered this subject. They represent themselves boldly when we state causes, and they insist on recognition in the management and treatment of the disease.

To the judicial mind the alcoholic inebriate represents vice. He is a self-seeking despoiler of his own prospects, and of his family's happiness, and stands in need of the law's disciplinary, "Ten dollars, or ten days."

To the physician, who watches the changes taking place in the one who is gradually yielding to habitual inebriety, there is but one conclusion to be satisfactorily reached when

viewed in the light of cause and effect, and that is — that it is a disease. As proof, he may state his post-mortem findings in the congested stomach, the nutmeg liver, the degenerated kidneys, the fatty, flabby, and weak heart and atrophied brain, shrunken membranes, hypertrophied neuroglia, atheromatous and tortuous vessels, with shrunken and distorted brain-cells, as shown by microscopic examination.

The action of alcohol on nervous tissue is able and does produce as great degenerative change in the physical and moral strength of the drinker, and results in as much of a disease as is found in terminal dementia or chronic dyspepsia.

If the physician should be in doubt whether the disease has progressed far enough to be called insanity, let him stand the inebriate up alongside of this definition of insanity, and see if it fits: "Insanity is the prolonged departure from the state of feeling and methods of thinking usual to the individual when in health, as a result of disease of the brain." Through the possession of a neurotic taint there are some predisposed to the drink habit, with whom bad company and bad advice are in the train of first steps, and an occasional indulgence degenerates into a habit. It does not stop there, but goes beyond that stage, and, taking deeper pathological hold, becomes a disease over which the patient has only a limited control, owing to the toxical enfeeblement of his mental faculties.

The full and free public consideration which this subject has had through the newspaper and magazine press during the past five years has been productive of benefit in educating the masses to a more intelligent comprehension of this disease.

What the alcoholic inebriate needs is proper medical treatment, and until he has had this we cannot feel at all sure what practical use to himself or to society it is possible to make of him. When a man's system becomes saturated with liquor from continued drinking, he is in a peculiar physical and mental condition. Physically, he offers to labor

and to disease less than his healthy degree of resistance ; for he tires with the one and succumbs easily to the other. Mentally, his condition is not only peculiar, but lamentable. From the capable, attentive, pleasant, generous, yet positive man of business, endowed with clear ideas of his social obligations, you see, traduced by drink, through various degrees of transformation, the incapable, inattentive, irritable, yet vascillating spendthrift, whose ideas are indefinite, and who often becomes possessed of no more originality than an echo. His moral sense becomes obtuse, the corners knocked off to such a degree that his conscience is seldom pricked, and there is scarcely a day in which he does not attribute blame to others for a condition in which he has industriously labored to place himself. This state leads to thoughts of suspicion of those about him and depression of spirit, until judgment is seriously impaired. All these symptoms and more exist, not when the individual is drunk, but when he is free from the immediate effects of drink. There is a change in his normal mental condition, and while he may not be considered insane by those who seek for delusions, yet his mental strength is enfeebled and he may be properly called an alcoholic dement. There remains in him no apparent mental elasticity. This condition is as others see him, not as he views it ; and to others who know what his symptoms denote, they point to disease. He is willing to admit that his habit is an unfortunate one, but claims he need go no further ; and if he is recovering from a more than usually free indulgence, may promise to stop, may give his word as a man that he will drink no more, and may sign a pledge with such forms of solemnity as seem most fitting to himself or friends ; but the instances are few when these vows are not traced in sand, and the first returning tide of desire finds the resolve effaced. His reason for relapsing would seem nonsensical, were we to consider his situation a result of habit, and not that of an enfeebling mental disease. Two illustrations will suffice : After several days of drunkenness a gentleman who was a man of long business experience and

superior education, was pressed for a reason for breaking a long-continued period of sobriety, at last reluctantly admitted that it was owing to having received a letter from his mother, whom he dearly loved. Another of the same grade of intelligence said it was owing to a desire to see his mother. He began drinking when he first felt this desire, and traveled to the city where his mother lived, avoided the house, and finished drinking in Boston — over two hundred miles away from home. Neither perceived the foolishness of his excuse, but clung to it as if it were wholly sufficient for his conduct. Coupled with this obtuseness of judgment is a conceit of their mental and moral strength, to which they look for future freedom from the relapses that have been in the past steadily working to wreck their lives. This tendency is shown after a few days of treatment, when the patient imagines he has the whisky out of him, recalls the possibilities of the past, with the degrading necessity for present treatment, and looks forward to the future and its kaleidoscopic possibilities, with no apparent thought that his downfalls are ever to be repeated, and that his pathognomonic story has been told by travelers on his route from all time.

It is with pleasure that I quote Dr. Isaac Ray regarding the state of mind held by the patient: "The restoration of the bodily condition to something like its customary strength and firmness, with all the pleasing sensations which follow such a change, excite no distrust of their power to resist temptation. On the contrary they are always hopeful, confident, sanguine, and impatient of delay. They say they feel perfectly well, have not the slightest desire for drink, and therefore their further seclusion would be not only unnecessary, but prejudicial to their mental and bodily health. The amazing confidence such persons invariably express in their future security is one of the curious traits of this condition. A great many have come under my observation, but I have never known one, not even of those who had repeatedly fallen and had most deplored their infirmity, to express any

apprehension of falling again. On the contrary, from the moment when they begin to resume their proper consciousness until they leave the hospital, the burden of their story is that they are safe forever after; that not the slightest danger exists of their again disregarding the terrible lesson of experience. Instead of returning into the world with fear and trembling, as one would naturally expect to see them, and seizing upon any excuse for postponing the day of trial, they go out eager and jubilant, as if bound on a festive excursion.

“Thus beguiled by a morbid confidence in themselves, they determine to resume their liberty in spite of entreaty and argument, and the institution has no power to prevent it. Neither the hospital for the insane nor any asylum for inebriates can hold persons in confinement against their consent, for any other cause than insanity; and though our account of this class of persons does not indicate in them a very healthy condition of mind, yet inasmuch as they are apparently rational after the first day or two, both in conduct and conversation, they cannot be called insane in the ordinary acceptation of the term. While in the paroxysm, or suffering under its immediate effects, they may very properly be called insane, and so long they may, unquestionably, be deprived of their liberty for the purposes of custody or cure. But when this condition shall have passed away, forcible detention in any institution, whatever it may be called, would be clearly a violation of constitutional rights, and would not be sanctioned by the legal tribunals.

“A notion prevails, I am sure, that the inebriate asylum is to be unprovided with bolts, bars, and guards, and no means of detention allowed more forcible than the offices of kindness, good will, and love. Respecting this notion it need only be said that it indicates but a schoolboy's knowledge of human nature, and a still deeper ignorance of that special phase of it which results from long-continued irresistible inebriety.”

The inebriate has no reason to complain that efforts have

not been made from time to time to bring about a reform in his style of living. Probably no treatment for drunkenness has ever been recommended that has not been of some benefit to some one. He has been prayed with and sworn at; he has been treated with loving tenderness, and he has been abused; he has been thrown on the support of his word as a man, and he has bowed his head to the decrees from the bench; he has taken long voyages on water and land, and he has been kept at home; he has been kept from liquors by trusty nurses and relatives, and he has been fed with liquor in every manner that a cunning ingenuity could suggest. What to do with him has puzzled many. When we consider that he is suffering from a disease, we are on the threshold of learning what can be done for him. About everything that enters into and is a part of him in life and associations becomes a matter of interest when treatment is contemplated.

His ancestry, early training, habits, moral and physical caliber, must be considered in order to determine what kind of material you have on which to begin.

A man who possesses a weak will, but little moral sense of responsibility, and a love of low associates can be sobered up; but the length of time he will remain sober depends upon time, place, and circumstances. The chances are that no treatment known will be of permanent benefit to this class of patients. From sobriety to drunkenness they relapse with disheartening regularity, becoming more enfeebled mentally and physically, until they finally represent the driftwood of a community. If the individual has become demented through the effects of long-continued liquor drinking it is useless to expect that his mental integrity will be wholly restored, only that portion of the brain that is uninjured by alcohol is going to act in a fairly healthy condition after the most satisfactory of treatments.

Every community has a number of men and some women who are rapidly becoming nothing more or less than shiftless, habitual drunkards. They are useless to themselves and to

everybody else, and it is simply a question of time before they become public charges. If they do not become so themselves, their children stand a good chance of being wards of the state in one capacity or another, and this should not be forgotten.

These points are too often overlooked when patients are completing a course of drug treatment for inebriety. Some expect a complete change to occur in the character of the individual—a change making it impossible ever to drink liquor again. Now this is nonsense, born of ignorance of the subject. No treatment is going to benefit permanently one who has no wish to stop drinking, and who prefers to associate with those who do drink. An exasperating condition of affairs awaits the physician who treats these patients. He cannot judge, to begin with, just what the outcome of the treatment may be. The case that appears favorable in the beginning may relapse quickly, while the one surrounded by doubt may make a good recovery and return to usefulness after years of spasmodic effort to keep sober have made his friends weary and disgusted. This simply illustrates that the effects of liquor may conceal more will-power, self-control, and judgment than we may be aware of. In favorable cases you may expect one of three results—an improvement, a reformation, or, in a number of instances, nothing more or less than a regeneration.

I believe that it is safe to say that about ten per cent. of the patients who are now under treatment in our state hospitals have become insane by the use of distilled liquor. Many of these will go out recovered, and some will never relapse. The majority is likely to break down if circumstances are moderately favorable. Uncomplicated cases of alcoholic inebriety that have reached the stage of insanity will not number in this population of our hospitals more than two (2) per cent. of this number.

The importance of intelligent medical treatment cannot be too strongly urged, and the less they associate with their kind during this time of treatment, the better is their chance

of recovery. Otherwise they while away their time during treatment by recounting to each other their past experiences, with a certain amount of fool pride that is little calculated to establish a sound moral tone, or to allow them to use what self-control has not been destroyed by reckless indulgence.

The instability and unreasonableness of the recovering inebriate is similar to that of most of the insane at the same stage. In the inebriate it means, however, a returning craving for drink. When the period is reached in which the immediate effects of liquor have passed away and the mind has cleared up, the necessity of at once attending to business becomes the one serious wish of his life. It is at this point in his treatment that the foundation is frequently laid for relapse from the liberty allowed him by his medical attendant. In some instances the doctor is led to believe that ruin of the mind, person, and estate, with a *habeas corpus* attached, is going to be the result of prolonged custody.

A number of years ago Dr. Portugaloff, a celebrated Russian physician, used with marked success a solution of one grain of strychnine to 200 of water, injecting five drops every twenty-four hours. So confident was he of the good results likely to follow that he recommended the establishment of dispensaries under public control, for the purpose of giving his treatment to those who needed it. This is believed to be a practical and good idea by those who have given the subject of drug-treatment a thorough trial.

The single remedies that have been used with success for the treatment of inebriety are: Nux, belladonna, cinchona, capsicum, macrotin, stramonium, and veratrum viride, generally in low potencies. It has not been my fortune to see the results that have been said to follow the use of high potencies for the treatment of inebriety, recommended by the celebrated Dr. Gallavardin.

In addition to medicine regularly administered, hot milk at frequent intervals, say every two or three hours, as the condition of the patient demands, should be given, care be-

ing taken not to overload the stomach, yet giving it something to do. Hot milk is not only one of the best of foods, but it is a tonic in its effects.

It is well to tell the patient the need of time and care, and the importance of treatment. Tell him it will not perform miracles. No one should be permitted to take treatment who does not honestly wish to be relieved of the drink thralldom. The taking of medicine will not render it impossible for a person ever to take liquor; nor will it restrain him from associating with those who habitually use liquor. It will not change the natural disposition of any individual, and it will be useless to expect such a change. Should a man be demented by much drinking, there will be nothing certain about the results of treatment. The chances are against any help for him. Prolonged treatment will, however, generally do these things :

It will remove the desire for liquor, rendering it unnecessary for the patient to drink again. It will also improve the patient's general physical condition, and enable him to entertain for himself some degree of self-respect.

It will bring out the better qualities of the patient that have been lying dormant under the influence of this drink habit. This fact must be seen to be understood. Should the patient attempt to recultivate the habit of drinking, there is no earthly reason why he should not do it. Liquor will have the same effect upon him that it has always had. Recollect that treatment will enable a man to remain sober if he so desires, and resolutely cultivates his regained self-control.

To talk of alcohol as the sole specific cause of inebriety is a mistake, that reflects on the powers of observation of a medical man. In almost any circle of life facts to the contrary can be found. Inebriety is a disease of degeneration involving and depending on many and most complex causes, and not alone on one drug like alcohol.

SOME REMARKS ON THE MORPHINE HABIT.*

BY HENRY FREEMAN WALKER, M.D., NEW YORK.

No one denies the evil effect of the habitual use of morphia, and all admit, I think, that its employment hypodermically is peculiarly seductive. I have seen the craving established, so that it was clearly manifest, after the third daily repetition of the dose. Opium in no other form, and by no other method of administration, will so speedily produce this untoward result. In a measure this would seem due to the fact that the relationship of cause to effect is so clearly established. In a moment one passes from intense suffering to complete relief; and at the same time experiences such sensations that he realizes the process; which, in other methods of exhibiting the drug, is obscure or wholly occult.

Opium itself, its tinctures, extracts, or elixirs, may be given for weeks in oft-repeated dose, and their withholding may be followed by only slight depression and little craving for the definite thing. But this cannot be affirmed of the surest and speediest method of relieving suffering. The depression is greater and the consequent craving is stronger.

I feel the more strongly with reference to the use of morphia by the hypodermic needle, because it is a vice for which the physician is peculiarly responsible. Opium smoking or eating may be first begun in curiosity, and the habit continued for the pleasure induced. But the first in the long series of hypodermic injections is always given by the physician. Unpleasant consequences, in the way of nausea or active sickness are no safeguard to the patient, though these may deceive him. Often I have heard patients

* Read before the Practitioners' Society of New York, November 1, 1895.

say, "There is no fear that I shall take morphine, for its effects are so unpleasant." Their very self-confidence betrays them. They soon discover that the repetition of the dose affords relief to the unpleasant feeling, and that in one respect the bane is its own antidote.

Opium taken by the mouth habitually hardly seems to shorten life, except through the accident of an overdose, sleepily taken. But the hypodermic needle surely undermines the health, as care in asepsis is always after a time neglected. But I do not think we compass the evil of the habit when we view it alone or chiefly in its physical effects.

To me the greatest evil of the morphine habit is the perversion of the moral sense. It obliterates in the victim's mind the distinction between truth and falsehood, right and wrong. And here the evil may not be limited to the patient himself, but this may entail hardship and suffering on all those about him.

The first effect of opium, in all its forms, is stimulant; and opium, of all the narcotics, except, perhaps, cannabis indica, particularly stimulates mental activity. Imagination replaces observation, and the judgment is in abeyance. We see this often in cases of illness where the drug has been exhibited, in which there is no delirium except that induced by the drug. The patient will describe confidently his hallucinations as facts, which are as definite as the images of alcoholic delirium. I have often been told by patients of the ill-treatment received at the hands of nurse or some member of the family, which statements I am morally sure were false. The only explanation is that vivid impressions on an excited imagination have fixed themselves like facts, and that the perversion of judgment is due to morphia alone.

In the description of symptoms, you cannot rely on the morphine taker's statement. Anticipated pain is so clear to the patient's mind that the future is present, and he declares himself a sufferer before pain has begun; nor, if in actual

pain, can you trust his statement as to the real amount of present distress. Nor can you trust his statement in regard to the actual occurrences of his daily history. Imagination supplies the place of fact, and he dreams in a world of ideas.

And this brings me to the chief point that I wish to make—a medico-legal one. As you cannot, without other reason than his own statement, believe the habitual morphine-taker with regard to himself, nor as a narrator of events occurring in his daily life, so his testimony on oath is worthy of discredit in legal matters. Alcohol, when it fevers the brain, excites the imagination but little, and it benumbs the memory so that the devotee to alcohol may make a poor witness by stupid forgetfulness. But the morphine-taker clearly remembers his so-called facts and mingles equally the truth and fiction of his narrative. I would not believe a man addicted to the use of morphine on oath, were there any reason to doubt his statement. It might be truthful and it might, equally, be false. I do not know if this has ever been made a point in taking legal testimony, but it might, and should be, in a criminal trial. A man's character or his life may be sworn away by a witness rendered incompetent, by the use of morphine, to discriminate between truth and falsehood.

In any important matter under trial, I believe that the habitual use of morphine by a witness should be a proper subject for investigation, and that the character of a witness, as a witness, is deserving of impeachment if the morphine habit is found to have made him its slave. It would not be so if the effect of opium were only to make a man oblivious or forgetful. Forgetfulness is a venial fault and the stupid man is merely a poor witness, not needfully a dangerous one. But the mind of the man who uses the hypodermic syringe and gives himself morphine is clear, often preternaturally clear. It works logically, and granting impressions to be facts, his conclusions, drawn from given premises, would be correct. For this reason he is the more dangerous witness. Cross-examination would not shake him: he

believes his impressions correct, and his reasoning is logical. His statement would be overthrown, if at all, by direct denial.

There is nothing in behavior or general appearance often to reveal the habit. Alcohol confesses itself, and one is on guard against the drunkard. As a witness the man who has been tipsy with drink will be stupid or forgetful, but not malicious in perverted remembrance. The morphine-taker will, on the other hand, go about his business, irascible perhaps and moody, and able to state a case or conduct an argument, yet unable to hold the clear distinction between fact and fiction. If these propositions are true, I believe that the challenging of the testimony of the user of morphine should be a thing which the court could sustain.

During the past few months I have been much interested in the cases of two of my patients, both victims to the morphine habit and the use of the hypodermic syringe. The first was a young man of great intelligence, unusual business capacity, and with great business responsibilities. As an occasion of additional nervous strain, he had a wife to whom he was devotedly attached, but who was a victim of ill-health and a complication of nervous troubles. There could not be a case where the temptation to resort to means that should produce sleep and forgetfulness could be greater. The introduction to the use of the syringe had been an in ercurrent illness of his own, at a time when his wife was a great sufferer. He felt the need of overcoming the habit, and determined to do so, and came to me for such help as I could give him. I found him changed from my former acquaintance, neat and almost dapper in appearance, to a man unshaven, almost unwholesome in looks, and with the air of one who did not get home at all, all night. I urged him to surrender himself, to close guardianship, give up all business except that of cure. He quite insisted that, if I would trust him, he could, with intelligent sympathy, work out a cure. He knew my faithfulness in the word of a morphine-user, for it had been repeated to him as a part of a

(supposedly) confidential conversation I had had with his parents in reference to his case. In answer to his inquiry, I had to admit the fact of having expressed such opinions; but I added that if he would always give me his full confidence, his failure as well as his success, I would believe him. The result was a complete personal history of his case. He went out of town to be occupied, and sent me daily and voluminous bulletins of his success or failure. I allowed him codeia, bromide of potassium, and trional only as his need should seem to himself extreme. He within four weeks conquered his habit, and has since lived, not in full confidence that the desire is gone forever, but with the determination to resist its most insidious approach.

This case in its bare outline interests me as one of those exceptional ones where a man of power, mentally, has been able to dominate his appetite, when he seemed lost. There is nothing new claimed in the narrative, only the increased courage derived by the exceptional proof of self-control makes me look more hopefully on others.

My second case was that of a physician, a friend. He had been under my care for various illnesses, including last, a year before, an attack of rheumatic gout which disabled him for months and was a threat to his life. Before this, during it, and up to the time when he consulted me, in March last, he had taken regularly hypodermic injections of morphine of half-a-grain strength at four o'clock in the morning, and sometimes at other periods during the day. He was anxious to be broken of the habit, but dreaded the suffering of the immediate stopping, or the protracted discomfort of gradually diminished dosage. He had read accounts from Paris of the employment of hypnotism in such cases, and treatment by hypnotic suggestion. He came to me and begged that I would hypnotize him for this purpose, saying that he believed I was the only man in New York who could hypnotize him, and that I certainly was the only one whom he would allow to do so.

I had always felt a consciousness of certain power in that

direction, but had always resisted it, and was wholly without practical knowledge of the method. His appeal was such a personal one, however, that I told him that, if I could get sufficient instruction from my friend, Dr. Starr, I would attempt the treatment. I had no difficulty. He became hypnotized the first time in five minutes, at the subsequent sittings in three. The first time I used a bright coin, and in the others the eyes only. From the first three trances I wakened my friend; in the two next he was sleeping quietly as I left his house. He wakened in about half an hour. During the seances I talked to him, rather iterating and reiterating the phrase, "Do not be the slave of the drug," than bringing up new thoughts to his mind.

After the first three treatments he took his morphine as usual, after the next two he did not take it, and had no craving or sense of loss, and slept quietly and refreshingly through the night. Since that time he has been practically well of his habit. I write on June 16th.

In this case I had in treatment the earnest co-operation of my friend, the patient. He was eager to be free of the drug, was desirous of being hypnotized, and was sure that it would be helpful to him. So far it can hardly be considered an ordinary example of such method of treatment. The point which most interested me in the case was the cessation of craving, which ceased suddenly and completely.

My previous notes were written in June. I saw my friend a few days ago. During the summer past he has had administered, for pain too great to bear, two or three doses of morphia, but these have been isolated, and the craving has not followed its exhibition.

SOME REMARKS ON DR. WALKER'S PAPER.

Dr. George L. Peabody, referring to Dr. Walker's first case, wished to know whether the patient had had a strong enough will, on going to the country, to entirely refrain from morphine.

Dr. Walker replied that he had, but at the beginning he took a little codeia.

Dr. Peabody thought the patient had shown unusual power of will. Regarding codeia, while it was recommended as a means of weaning patients from morphine, he believed that in the form in which it usually came it was equivalent to morphine, and giving it to these patients was practically allowing them to taper off from the morphine habit. So far as he had been able to learn, the weight of evidence was in favor of rather rapid withdrawal of morphine in the treatment of those addicted to its use. He would suppose that, as with alcoholism, gradual withdrawal of the drug would not be successful.

In the second case, it seemed an unusual train of circumstances had favored the success of the treatment adopted. The patient was a doctor, he wished to be hypnotized, had faith in it, and desired to be rid of his habit. Dr. Peabody doubted the general applicability of hypnotism to the morphine habit.

Dr. Robert Abbe had been impressed with the fact emphasized by Dr. Walker—absence of moral force on the part of the morphine habitués. He thought the loss of will-power was equally striking. The few whom he had seen who wished to break themselves of the habit had followed the physician's directions to a certain point, but when it came to cutting the drug down below a certain amount their resolution always failed. He had seen two or three very earnest people try it, but after reaching a relatively small dose they seemed absolutely unable to go farther. Morphine habitués suffered from certain sensations or cravings which they called pain, but which probably were only allied to the pain sense, and these prevented them from giving the drug up entirely, although only a small dose might prove sufficient to allay these sensations. He believed there was a mental deterioration in the chronic cases which possibly might be overcome by hypnotism, but he had had no experience with it. The loss of the moral sense seemed to him a grave phase of the question. Personally he would not trust all the statements of morphine habitués.

Dr. Hermann M. Biggs asked an opinion, based on two cases of the morphine habit seen by him. A woman, fifty-three years of age, had begun to take morphine seven or eight years ago, for the relief of pelvic pain, and during the last three or four years had taken the drug continuously. She was taking eight grains a day when he first saw her. Within four or five days the amount was reduced considerably, and it was then that he had occasion to examine the urine carefully and found that it contained sugar. On inquiring into her previous history, it proved very suggestive of glycosuria, from which she had not entirely recovered. There had been frequent micturition, great irritation, thirst, etc. He reduced the quantity of morphine from seven or eight grains to half a grain in the course of a week, and the sugar in the urine increased considerably, until it was about four per cent. She had used in the interval some trional and bromide. She became somnolent, with muttering delirium, and her condition became so serious that he did not dare withdraw more morphine, nor did he think it desirable in view of the glycosuria. Indeed, he gradually increased the quantity to a grain a day. The patient improved slowly, and at the end of two weeks was in her normal condition, taking a grain of morphine a day. The diet was then restricted, and the glycosuria disappeared, but if a quantity of starch were eaten the sugar immediately reappeared in the urine. She had been under observation over two years, the quantity of morphine taken had remained at one grain a day, being administered by her daughter or son, and it seemed she had made no attempt to obtain morphine outside. She had, however, a craving for stimulants, and it was necessary to keep these out of her reach. Her health was very fair.

The second patient was a woman, aged about fifty, who had been addicted to the use of morphine twenty-five years. She had begun taking the drug occasionally when she was twenty-five years old for the relief of pain during the menstrual period, and for fifteen years had taken it continuously, in any form she could get it. When, a year before he saw

her the opium was cut off, she had been taking ten ounces of McMunn's elixir a day. For seven months before he saw her she had received no opium, but during that time she was in poor health and had had several attacks of serious illness. During these attacks she was given alcoholic stimulants, and later during an attack of hay fever was given cocaine in spray, and she immediately contracted the cocaine habit. She had always had a craving for stimulants, and when Dr. Biggs first saw her she was taking a large quantity of cocaine (about twelve grains a day) and as much alcohol as she could get. On withdrawing the cocaine she passed into a condition resembling acute alcoholism — delirium, sleeplessness, hallucinations, illusions, delusions.

The question arose whether in such a case it was possible or desirable to entirely withdraw the opium and attempt to keep the patient free from narcotics. He supposed it was a sort of heresy, but he had had the feeling that where a patient had been so long addicted to the habit, had lost the power of moral and physical resistance to its influence, and yet who was in good health, as this patient was, the entire withdrawal of the drug would require constant surveillance, and would be followed by enfeeblement of health; and it had also seemed to him that if any narcotic were allowed, opium by the mouth, in restricted amount, would prove the least harmful. He asked for an expression of opinion upon that point.

Dr. A. Alexander Smith said he felt more hopeful after hearing the histories of Dr. Walker's cases than he had felt before, for he had always doubted the ultimate result in any case of confirmed opium-taking. Many years ago Dr. Sands had remarked to him, on observing a morphine habitué in the street, that he did not believe any woman who had become confirmed in the use of the drug could stop it. Dr. Smith was then inclined to doubt this statement, but many years' observation had since convinced him that it was exceedingly rare for patients to become entirely cured of this habit.

Dr. A. A. Smith said further, that he had been interested in the medico-legal aspect of these cases. "Some years ago I was asked by a friend to go to a neighboring state and testify in a suit which he had brought against his father-in-law for keeping his wife and children from him. 'What is the matter with your wife?' 'She is an opium-eater.' 'You had better let the case stand, then. If she is an opium-eater, it seems to me your father-in-law has relieved you of a very great responsibility.' 'I accept that, but I want the children.' And then he asked me what view I took with regard to the reliability of the testimony of any opium-taker, and I said I thought it was absolutely unreliable. I felt that an habitual opium-taker was an habitual liar, and when I took the witness stand and made that statement I was berated by the opposing counsel, and was asked what I regarded as an habitual opium-taker. The judge seemed very much interested in the question of the reliability of the opium-taker, and he turned to me and said: 'Are you not making a very strong statement?' 'I hope so, for that is exactly what I intended to make, having been impressed with the utter unreliability of these people. It is not because of a vicious purpose, but rather a want of capacity to tell the truth.' I should like to ask Dr. Walker what he considers the smallest quantity of morphine which will make one a confirmed opium-taker, and render his testimony unreliable?" Dr. Walker having replied that he thought it would depend upon the case, and the effect upon the patient, Dr. Smith went on to say that his reply upon that occasion was, two grains at least, and from that amount up. That it would differ according to the individual and the circumstances. On that statement his testimony was very much damaged, for in the case in court it was shown that the woman tolerated large quantities of morphine because of severe pain.

Dr. F. P. Kinnicutt thought it would be a very important fact if further experience should corroborate Dr. Walker's as to the value of hypnotism in the treatment of opium

habitue's. He had also seen some striking examples of the perversion of the moral sense in the particular direction of inability to distinguish between truth and falsehood. The word of the opium-taker was not to be relied upon; absolutely not. Regarding the semiology, one point had been impressed upon his mind many years ago which now was probably well known to all. He was asked to see a case with an eminent physician, to determine the cause of an irregular fever from which the patient seemed to be suffering. They were baffled, but later he read of observations made in Europe on temperature of irregular type observed in opium-takers, which at once explained the case.

As to treatment: For the past ten years he had employed only one method, that of sudden withdrawal of all opium, not even permitting the patient to use codeia. While the suffering was great, yet patients who had used both methods had told him that they preferred sudden withdrawal to the prolonged suffering of gradual withdrawal. In some cases the symptoms had appeared alarming, but no untoward result had ensued. He allowed the patients alcohol in any form, in any quantity, and also trional, sulphonal, or bromide, during the treatment. Regarding the ultimate prognosis he must say that he had not very great hope. Out of a considerable number of patients treated by him, only one had left off the drug for a long period. In the one case there had been freedom for ten years. Of course he was speaking of the habit of months' and years' duration.

Dr. Beverley Robinson said he agreed in the main with the previous speakers, but he did not think it wise to suddenly withdraw all opium from one who had long been in the habit of taking a large quantity. It caused unnecessary distress. Nor did he think other stimulants would take its place satisfactorily. Regarding the question of prescribing opium, he thought that sometimes it could not be avoided. That day he had used morphine in a case of headache in a woman who had consulted many prominent practitioners in the city without obtaining relief. There were certain men-

tal troubles calling for it, and a neurologist had given it occasionally to one of his patients suffering from melancholia. Druggists sometimes prescribed the drug, or repeated prescriptions containing it, without instruction from the doctor. He thought our prescriptions for opium should be allowed to go only to druggists whom we knew to be too conscientious to repeat them unless so directed.

Dr. Peabody said, in relation to giving morphine subcutaneously for the relief of headache, that about five years ago he was asked by a woman to see her husband, a doctor, who had been in receipt of a very large income from his practice, but who had suddenly gone abroad for many months and had only recently returned. The doctor patient quieted his suspicions by immediately telling him that morphine was the cause of all his trouble. He asked Dr. Peabody if he remembered who had given him his first dose of morphine, and stated that it was Dr. Peabody himself, who, seventeen years before, had administered a hypodermic injection for the relief of headache. The patient had continued its use ever since, although there had been intervals.

Dr. Peabody thought we ought not to administer morphine to people troubled with headache.

Dr. Kinnicutt said he fully agreed with Dr. Peabody. Women came to us with sick headache, and it did sometimes seem that morphine was the only drug which would give them relief, but he was positively of the opinion that it should not be used in those cases. A migraine was likely to last a number of years, and if morphine were once used it would likely be continued.

Dr. Peabody added that his patient died a most miserable death as a result of a combination of morphine and cocaine habit. Neurotic people, suffering from chronic neuralgia, were the very ones to whom morphine should not be given.

Dr. Robinson said it must be assumed that those physicians who sometimes gave morphine exercised some precaution and solicitude. They did not put the drug into the

patient's hands and walk away. There were some cases which could not be afforded relief in any other way, so that all one could do was either to administer morphine or walk out of the room and leave the patients to suffer for hours with extreme headache. He was not talking to the general practitioner, but to members of the Practitioners' Society.

The president, Dr. Andrew H. Smith, could see no reason why opium should tend any more toward destruction of the moral sense than alcohol. The only difference was, he thought, that the person taking alcohol usually found no necessity for concealing it, while one taking opium always did so stealthily. At first he lied only with regard to this habit, but by degrees he became accustomed to prevaricate. He thought it was wrong to try to corner such patients and convict them of their habit against their statement, for it only precipitated the habit of untruthfulness.

Regarding gradual withdrawal of opium, the usual method was to reduce the quantity by, say, one drop a dose. This meant a reduction perhaps of one-tenth the first day, one-ninth the next, one-eighth the next, and so on, the increase becoming rapid and distressful to the patient. The president had found a better method to consist in filling up the bottle, if a liquid preparation were taken, by adding water or alcohol after each use. By this method the reduction was by a smaller percentage each subsequent dose, but the amount of opium taken finally became infinitesimal. He found in practice two classes of opium habitues. The first class took the drug for the relief of pain or some form of suffering, and for that reason had not the fortitude to lay it aside. The second class, much less numerous, could lay it aside, but continued to take it because of the mental excitement which it caused. The latter were the most intractable. He had known such persons to drop opium for a long time, until all necessity for it must have been lost, and then, when the favorable opportunity came, they deliberately returned to its pleasant sensations.

The president said he had not been able to detect opium

in the urine unless it were taken in considerable quantity. He asked for the experience of others in that direction. He supposed all knew that a single dose might send the temperature up, but he did not know whether, after continued use of the drug, the system ceased to respond in this way.

As to depriving the patient of the drug suddenly and entirely, he recalled the case of a physician, an intelligent man, who had been under the care of many doctors at different times. At one time his life seemed to be a complete wreck. Finally it was found that by allowing him a certain amount of morphine every day it would not incapacitate him, and he could attend to a large consultation practice. There was no reason why this moderate amount of morphine, which was essential to him as his daily food, should be cut off. He knew one woman who had become a wretched creature through the use of morphine, mentally, morally, and physically. Under some influence she gave up the drug, regained her health and beauty, and happiness was restored to her family. After a number of years, within the last year or two, she had gone back to opium, and was again becoming a wreck. It was difficult to understand why a person, after such an experience, and after so long a respite, should fall a victim to the drug again.

Regarding habitual headaches, they were difficult to meet at times, and often it seemed cruel to withhold a single injection of morphine which was capable of giving relief. He could hardly bring himself to say that it was wrong to use the drug in such cases when the intervals were long and the danger of establishing the morphine habit was not so great. In one case the woman had suffered about once a month for years, and he was in the habit of giving her relief with a single hypodermic injection of morphine. Finally, he induced her to consent to an operation for very slight strabismus, and from that time the headaches had ceased, and she had received no more morphine.—*Medical Record.*

HABITUAL DRUNKARDS IN AUSTRIA, AND
THE CURATEL PROCEDURE.

BY PROFESSOR SCHLANGENHAUSEN.

Drunkennes, whether in the form of delirium or of chronic alcoholism, or as the origin of divers mental disorders, lays claim in Austria—at all events according to statistics—about as frequently as in other countries, to a number of victims in about equal proportions amongst the lower, middle, and upper classes of the population.

Undoubtedly statistics of different provinces show different results; but the fact remains that, taking all the patients in the different asylums for the insane, the number of habitual drunkards varies from ten per cent. to forty per cent. of the entire patients in each asylum. Thus, for instance, the asylums for insane persons in Lower Austria are, according to the reports of the Provincial Committee, overcrowded, owing to the fact that forty per cent. of the patients annually admitted are habitual drunkards. The procedure actually in force affecting habitual drunkards who, owing to their unconscious condition, or to their state of excitement, or as the result of crimes committed by them, or of attempts at suicide—have in some way or another come into collision with the police, is precisely the same as that which is applicable to the rest of the insane patients. Drunkards, as a rule, are first handed over to the charge of a "Psychiatrische Klinik" or to the charge of a hospital for examination and subsequent observation, and are thence transferred after a certain interval to a Provincial asylum for the insane. It is there where, in their case, as in the case of other mental sufferers, the Curatel Procedure first comes into operation; for the law says: "persons who require Curatorship are

those who are incompetent to manage their own affairs, themselves, and to guard their own rights themselves;" and these psychologically degenerated drunkards are just the persons who are the least able to do this. (The manner in which the Curatel Procedure is carried out has already been explained by the author of this paper in his *Austrian procedure re-Curatel.*) Drunkards then remain months, even years, in asylums; and, in complete accordance with the views expressed by Dr. Kesteven at the meeting of the Society for the Study of Inebriety, their detention in such asylums has proved itself to be in the highest degree conducive to recovery and in fact has frequently led to that result. Intoxication gradually vanishes from the organism, the power of resistance becomes strengthened, the sufferers become morally stronger, the manager of the asylum, where they are confined, feels that he can conscientiously discharge them, the curatel which has been put in force is annulled, and the patients enter again into full possession of their civil rights.

But after a shorter or longer interval spent in the outer world, owing to the patient associating with former companions, the power to resist alcohol diminishes; and it frequently happens that after months, and occasionally after weeks, the whole procedure—that is to say the reception into the asylum and the application of the curatel—must be gone through over again, so that drunkards have been known to have been placed under curatel and to have had their curatel annulled from ten to twenty times until finally their complete psychological degeneracy renders them only fit to be permanent inmates of an asylum or death puts an end to these recurring scenes.

Inasmuch as a large number of habitual drunkards are not brought to the asylums by the police and consequently do not share the protection afforded by the application of the curatel, and whereas it is precisely the drunkards in the asylums who harm the other poor suffering inmates; and whereas the former enjoy the free treatment now in use in

the asylums and are well able to abuse the advantages of the said free treatment; and whereas the said drunkards also manage to provide the other patients with alcoholic liquors supplied within the asylum or smuggled inside the asylum: and whereas being generally morally depraved individuals they exercise the worst possible influence upon all around them; and whereas finally these said drunkards cannot always be suitably treated and looked after, the Austrian government purpose constructing special asylums for drunkards to be placed under state control and to be similar to those which, built principally by private individuals, already exist in Switzerland, in the United States, in Germany, in Sweden and Norway, and in some of the English colonies.

Into these asylums persons are received whom the ordinary measures provided by the legislature have failed to keep from drink; such persons, in fact, who, by reason of their shattered and failing constitutions and in consequence of their ever increasing mental and moral decay and degeneracy, and owing to the danger to others arising from their irritability and tendency to violence, and finally on account of the baneful influence which they exercise in all family and household matters — have made existence in the outer world impossible for themselves.

Briefly, the above grounds induced the Austrian government to bring forward last year in the XI Session of the Chamber of Deputies a Bill to authorize the construction of Public Asylums for drunkards.

In accordance with paragraph 10 of this bill, habitual drunkards could be brought to one of these public asylums for inebriates on the order of a judge at the instance of nearest relatives or of guardians, or on the application of the manager of an asylum for insane persons, or at the request of a magistrate based on the written reports of experts in lunacy; and the final decision respecting the removal of the patient to such asylum rests with the Supreme Court. (Paragraph 11.)

In the event of an habitual drunkard possessing property, a curator must be appointed for such a person, the procedure being the same as that in force in the case of an insane person. The period of detention is limited by the bill to two years; and in the event of a relapse on the part of the drunkard, a further detention may be enforced for a like period of two years. So much for the procedure at present contemplated by the Austrian government respecting the future detention of habitual drunkards in public asylums specially constructed for them.

In conclusion, attention must be again called to the fact that up to the present time in Austria habitual drunkards, in common with other persons suffering from mental disorders, have for their own welfare and for the welfare of those around them been confined and treated in asylums for insane persons; and the application of the curatel has been found to act beneficially in such cases and to promote the cure of the patient.

On the summit of Lookout Mountain at Chattanooga, Tenn., over half a mile above the sea level, is a hotel of great beauty and comfort for invalids and persons needing rest. The panoramic scenery, which includes places of great historic interest, is unsurpassed by any other place in this country. The hotel, its management, and surroundings are without question the most pleasing and attractive of any mountain resort in America.

The second Pan-American congress will be held in Mexico, November 16th, and continue four days. Dr. Reed of Cincinnati is *ex officio* secretary, and a most cordial invitation is extended to all physicians to attend. The occasion and place and unusual facilities offered will make it one of the most attractive journeys of a lifetime. Send to Dr. A. L. Reed of Cincinnati for particulars.

Abstracts and Reviews.

ON THE EXCEPTIONAL EFFECTS OF BROMIDES.

BY S. WEIR MITCHELL, M.D., LL.D., PHILADELPHIA.

The ordinary or excessive use of bromides sometimes occasions symptoms which are familiar in their milder expressions, but which, I am sure, are rarely seen in their more interesting and aggravated forms; or, if so seen, are not always suspected to be due to the use of these salts.

In certain people these rare and extreme results are not due alone to the bromides. The prodromes, or the consequences, of an epileptic fit may, because of the bromides, be intensified even in those whose attacks are being lessened in number. This, I am sure I have seen, and I have several times had remarked by the nurse, or the patient's relatives, that the irritability so often seen before or after a fit was the worse for bromides.

Menstruation admits of the same comment. The curve of irritability or melancholy being sometimes higher at this time in epileptics under free use of bromides.

Trauma affecting the brain, as from fractures or internally called lesions, may give us to see excessive displays of bromic influences causing bad temper, suicidal or homicidal tendencies, temporary delusions. Cases of necrotic changes, from emboli or thrombi, may be thus responsible for unusual bromic effects; but it is to be remembered that of all the mental symptoms evolved by bromides irritability alone is common, and the rest exceptionally rare.

Most people take the usual doses of bromides without other ill effects than acne, roughened skin, and excess of urine, especially if it be the lithia salt which is used.

Dr. Da Costa calls my attention to the fact that, although ordinarily these salts do not disturb the circulation, they may do so when certain functional failure of heart-force exists. He says, "I have been struck with the fact of the depressing, and even serious, effects in those who have weak hearts, and especially the form of cardiac weakness designated as chronic cardiac asthenia. The action of the heart becomes distinctly feebler under the continued, decided use of bromides, and sweats are apt to break out; all of which symptoms disappear when their employ is discontinued."

In a few patients even moderate doses occasion the parietic symptoms always seen soon or late in such as are using immoderate amounts of these agents.

One of the earlier physical effects, as Dr. Rudisch, of New York, has pointed out to me, is a tendency to ptosis; the lids fall more than is common, the eye space is narrowed. Next comes increasing paresis of all the limbs, even to inability to walk, and this feebleness may be so much more notable on one side as to look like a hemiplegic condition. As the weakness increases, the spinal muscles are affected, and, for a time, the spinal curves are altered and to sit erect is difficult. The pupils are moderately dilated. On the side of the mind, there is failing memory, difficulty as to fixation of attention, hebetude, and so, at last, a general condition like that of some partial imbeciles.

With paresis there may be indifference as to body habits, or the sphincters may be so relaxed that the feces or urine cannot be retained. This extreme state of things we rarely see, but now and then accident or reckless lay use of the drug in question gives an opportunity of the utmost interest.

I saw, in 1887, a child of 15 years, long subject to Jacksonian epilepsy ending in general convulsions. The father, an apothecary, determined to suppress the disease by the use of bromides. "If," he said, "a drachm a day holds the fits in check, two or more should put an end to them." On this theory he increased the doses to 150 grains a day. After ten days of this treatment I saw the child. She was unable

to stand, and when seated, her head dropped forward, and she remained, as the mother said, "all of a heap." The eyes were a third open, the pupils large, the sphincters relaxed, and the saliva flowed from the fallen jaw. As to her mind, she was quite imbecile, hard to arouse, and stupidly indifferent. The general convulsions had ceased, but the lesser fits were quadrupled in number,—a not rare incident. A few days without bromides restored her to normal conditions of body and mind, and the state of partial idiocy was exchanged for normal condition of rather unusual intelligence.

I saw, many years ago, and at nearly the same time, in my wards at the Infirmary for Nervous Diseases, two children, each of whom took daily, owing to a mistake of the nurse, nearly 100 grains a day of lithium bromide. I had just introduced this bromide into medicine, and was giving it to all the cases to which previously potassium bromide had been given. These two children were between 10 and 13 years of age, and were both cases of mild epilepsy. In a few days both were brought into a condition of extraordinary feebleness of mind and body. Memory was impaired in both, so that one forgot the letters of the alphabet, and, of course, could no longer read; the other had some curious confusion as to the time of events,—misdating them. My visit, she declared to the nurse, was made the day before, although I had just left her bedside. Her dinner, she said, had been taken early that day, and yet the tray was still before her. Her memory of events was, if not sharp, at least such as to enable her recall all things of recent occurrence, but she never succeeded in relating them correctly to the time of week or day.

This interesting state of altered memory was naturally of brief duration, passing away within two days after the bromides were withdrawn. In both of these cases the weakness was very great; both could stand, swaying somewhat, but neither could walk. When this was attempted they both fell to the left, the left leg being manifestly worse

than the right, as is often the case in drunkards, some of whom are often more drunk on the left side than on the right.

There are a few cases in which bromides (sixty grains daily) occasion at first a mere depression of spirits, as we say, which, save in rare cases, is not lasting. Now and then we find people who do not bear any effective dose of bromides, and who are in a state of moderate melancholia so long as we give the drug. In a still smaller number the effect of each dose is felt in a deepening of the sadness.

In exceptional cases this influence may rise to the grade of danger and occasion suicidal impulses. Of this I saw, a few years ago, a strange example. A lady, the wife of a physician, consulted me as to long-continued sciatica. She had had, four years before, three severe convulsions while nursing her last child. Ever since she had continued to take sixty grains daily of mixed bromides, being in constant dread of another attack. The medicine did not trouble her, nor was there the least sign of acne. She was, at this time, about 47 years old, and was becoming slightly irregular as to the time of menstruation. Within a year she had begun to be intensely depressed at, before, or a few days after the menstrual onset. Of late this recurrent melancholy was such as that for four days at the beginning of the flow she had suicidal impulses. The mid-interval was, she assured me, free from this distress of mind. About this time she reluctantly confessed to the constant use of bromides, which I induced her to abandon. To her surprise, the next period, which came two weeks after disuse of the drug, was nearly free from melancholy, and the next entirely so. These abrupt endings of any type of melancholy are rare, but still clinically possible. However this may be, the melancholia was seen no more for a year. Then, while suffering from temporary loss of sleep, she was given for three or four days ninety grains a day of some bromide. It plunged her into deep melancholy, although she was not at the time menstruating. The drug was abandoned and the symptom went

with it. The dose was larger than that which with the menstrual crisis had before seemed competent to occasion melancholy.

I have seen other examples of grave melancholy from bromides in males, as well as in females, and in one notable case of bromic habit a very intense melancholia with a face so sombre as not easily to be forgotten.

It is far more common to see irritability of temper occasioned by bromides. In old epileptics it is laid to the score of the disease, but that it is not always of this parentage is a matter worth remembering in extreme cases.

I know of several cases of old epilepsy in which the families of the sufferers came to understand that the bromides were the causative factors in giving rise to states of irritability, abruptness of manner, or peevishness in persons by nature gentle and amiable. When the outbreaks of temper were extreme in these cases, it was customary to stop the bromide for a week, and to take the risks of an attack for a time at least.

Last year I saw in my clinic service two young epileptics (both boys) who were what their parents termed "ugly-tempered" while using bromides, apt to break things, short of temper, "sudden-like," was the description given of one them.

This tendency to destructive outbreaks with unrestrained violence of temper does, in a few people, rise to the danger-line.

Ten years ago I was consulted as to an epileptic lad, the son of a physician, who could not take bromides a week without becoming homicidal. I disbelieved the account given me, or rather thought some mistake might have been readily made in an epileptic as to the cause of these outbreaks. I was reluctantly permitted to give forty-five grains a day of potassium bromide. The experiment came near to resulting in a tragedy, and I became amply satisfied.

Another case of like nature, also an epileptic, was seen in a young and sturdy farmer. All use of bromides had to

be laid aside. If he took them he began within a week to be both irritable and depressed; later, the melancholy lessened and the irritability rose to conditions of unrestrained anger, often upon the slightest provocation. If the bromides were still further pushed, this man grew sullen and dangerously homicidal.

I saw a case much like this a few years ago while acting as consultant to the City Hospital Insane Wards. The sufferer was a partial dement from years of epilepsy, but under bromides became violent and dangerous. No doubt the asylums could tell us of other and similar cases.

My friend, Dr. Draper, permits me to relate a case within his experience. A lady in middle life, ill in Paris, was seen by Charcot and Brown-Séquard on account of some disturbance of general health and loss of sleep. Very soon she became excited, and soon after so wildly maniacal as to give rise to the gravest prognostications. Her friends in this country heard by cable of her state. Dr. Draper promptly asked if she were taking bromides. She had been, but they had been laid aside by Charcot's suggestion. In a few days she was well. Dr. Draper's previous experience of the case enabled him to suggest the cause of this sudden mania.

Hitherto I have spoken of these unusual effects of bromides in the healthy, or in those who have no more pronounced lesions than the ordinary types of epilepsy present. Occasionally persons who have had emboli, or destructive necrotic processes about clots, or from thrombosis, or those who have had traumas show extraordinary susceptibility to bromic influences of unusual nature.

The worst case of almost sudden bromic intoxication I saw years ago in consultation. A young man had rheumatism, heart-disease, and multiple emboli, one in the middle cerebral artery on the right side. After a perilous rise of temperature it fell to 100° F. for two weeks, with increasing evidences of destructive irritative changes in the brain. At this time one drachm of potassium bromide used daily for

three days resulted in acute mania. It was laid aside, and only when used anew had I the suspicion that my drug was to blame. A third experiment satisfied me.

I have seen but of late an intelligent and able engineer, who was so injured during a railway accident as to become palsied on the right side and comatose, until relieved by trephining and the removal of depressed bone and a small spicula of bone which penetrated the brain about one-fourth of an inch at the anterior parietal margin.

A skillful operation was followed by swift and entire recovery. Living at a great altitude, and subject always to neuralgic headaches, he now began to sleep badly and to have severe headaches. For this insomnia he took without orders a bottle or two a day of some proprietary stuff known as bromoseltzer. The amount thus taken could not have exceeded eighty grains a day. His very competent physician at this time, learning of the habit, told him to give up the bromoseltzer, and later, under the impression that he had obeyed orders, prescribed the use at bedtime of a small dose of chloral with thirty grains of potassium bromide. Meanwhile, with increasing irritability of temper came lessened capacity to manage affairs. Then at times he became violent and threatening and at last even dangerous. It was thought well that he should live at a lower elevation, and with this in view he was sent hither and put under the care of Dr. John K. Mitchell.

To get a full knowledge of his condition all drugs were laid aside, and we then learned that despite his physician's orders he had continued to take bromides in excess. A week after he ceased to take them he was freed from all the distressing symptoms which we and others naturally put to the credit of the cerebral lesion. He was no longer irritable; he became, as he was before the accident, amiable and merry, and has been able to write long letters and to discuss and decide matters of business. Those who know him best can see little difference between his present condition and that with which they have been familiar in past years.

It should be said that this excitability could be as easily and more quickly awakened by the smallest amount of alcoholic stimulus or any large use of tobacco.

Escheverria was the first, I believe, to call attention to the fact that bromides are competent to give rise to suicidal and homicidal impulses.— *University Medical Magazine*.

ENGLISH EXPERIENCES IN TREATING FEMALE INEBRIATES AT HOME.

The following, as a nurse's experiences in treating women, appeared in the *Temperance Record*:

"The patient was a girl barely sixteen years of age, the only child of a man whose name is something to conjure with in the commercial world.

"I was shown into the library, where the father was waiting to speak to me.

"'Cure my child, and be it money or money's worth, you have only to ask and you shall have it,' were his first words.

"The girl had been sent home from boarding-school in disgrace. The principals of the seminary, anxious to retain their best-paying pupil, had shielded her from time to time. But when, at length, not content with drinking to the verge of intoxication herself, she was found to be leading several of the other pupils in the same direction, there was nothing for it but the sternest of measures.

"I asked how long the girl had been drinking, and the father's face fell. 'It is all my fault,' he acknowledged with tears in his eyes; 'from the time she was a little thing— five or six years old— every time I had a few friends to dinner, she would pretend to go to sleep so as to get the nurse out of the room. Then, when the dining-room was empty, she used to steal down and drink what was left in the glasses on the table. When I found this out I treated it as a joke. But as the years went on, the joke developed into a grim reality, and before she was twelve years of age

my child was a confirmed drunkard. The doctors tell me if anyone can do anything, you can. And you will, won't you?' he concluded.

"I promised to do my best, and I did all I could.

"My patient was not violent, but she would lie for hours on a couch by the window, staring up at the ceiling till I feared her reason would go, although the doctors assured me there was no danger of such a calamity. I had been there about ten days watching her as a cat does a mouse, when all at once she began to brisk up, a state of all but coma being replaced by a condition of positive animation — such, in fact, as occasionally arises from the moderate use of alcohol. But with the watch that was kept over her I ridiculed the idea that she could get hold of any intoxicant. They could not get anything of the kind past me, and during the few hours I was off duty my place was taken by the girl's mother, who would have seen her daughter perish at the stake before she would have given her a drop of alcohol.

"I came on duty at five one afternoon to find my patient not precisely drunk, but pretty far gone in that direction. I questioned the mother. She answered me that no one save herself had been in the room since I had left it in the morning. I asked my patient. As is usual with dipsomaniacs, she gave me her most solemn vow she had never touched a drop of stimulant. It was a mystery, but, like most mysteries, capable of solution, and I had not long to wait for the *eclaircissement*.

"My patient's couch was drawn across one of the windows, which, as the weather was mild, was opened for an hour or two in the afternoon. On the ledge outside the window there was what appeared to be a flower-pot.

"I had noticed it more than once, and wondered why the pot was kept in that particular position when it displayed no signs of vegetation. My charge's mother having some calls to make one afternoon, I came on duty at half-past three instead of five. I was sitting about the middle of the room, and had just picked up a paper, when my attention

was attracted by a sound like the trickling of water. My patient was lying on the couch with her eyes closed as I darted to the window and looked out.

"The top of the imitation flower-pot was off, and into the receptacle there was trickling from a gutta-percha tube a stream of—whisky! I looked into the grounds for the propelling power, which I found in the shape of the under-gardener, who was skillfully manipulating a garden engine. This kind of thing had been going on for some time. Had I not come on duty earlier than usual that afternoon, it might have gone on indefinitely, as the lady of the house, though keen of sight, was hard of hearing. The funds for the whisky had been provided by my patient throwing into the grounds an occasional article of jewelry, which her accomplice pawned. I cannot say how they finished up with the under-gardener, but two days later the young lady was removed to a Home for Inebriates, where she still remains. How much did the flower-pot hold? Very nearly a quart. A pretty fair allowance of whisky for a girl not sixteen years of age, was it not?

"There's no doubt but that the taste for drink is hereditary. Sometimes it is the girls who suffer, at others the male branches succumb—only too frequently both sons and daughters fall victims. Now and again the disease skips a generation, only to break out after a lapse of years.

"There is one family I attend with almost clock-work regularity. It consists of three sons and four daughters. The sons never touch intoxicants; the daughters drink, and drink hard. The father is a wealthy man who could give his daughters good portions. They are handsome and accomplished girls, and yet not an eligible suitor dare come forward. The one failing of the young ladies is too well known, and the go-ahead man of the present day is not so blind as to tie himself for life to a woman who will drink, at all hours of the day, anything she can lay her hands on. Strange to say, the father and mother are staunch teetotalers, but both the mother's parents had been heavy drinkers.

“Are no steps taken to cut off the supplies of drink? Most certainly. The allowances of the girls are stopped. They sold the contents of their wardrobes and pawned their jewelry, to get money for drink. When these sources of revenue became exhausted, they went into town, bought new things on credit, only to sell or pawn the articles within half an hour of the purchase. Their father closed their accounts at the shops where they were known. Not to be beaten, they ran up an account for over £50 at a hotel not far from their house. This their father paid, naturally much against his will. Still, his standing in the commercial world would not permit of his being dunned day by day for a publican’s bill.

“What do women drink? Anything; and the stronger it is the better they like it. Spirits of wine will do if they can’t get anything else. Brandy is the first favorite. When they can afford it, champagne and brandy mixed. They take little or no water in their spirits, and the amount they can get through would surprise you. I had one lady patient who, when she was going about, would dispose of a bottle of brandy in less than an hour. And to talk to her you would not think she had touched a drop. That was the danger signal. It showed the drink was being absorbed into the system to presently complete its work by mounting to the brain.

“The woman who has a craving for alcohol will descend to any meanness to obtain drink. The husband of one young married lady I attended cut off her pocket money and her credit at the same time, save in one quarter—a livery stable. He did not think she could get any value she could turn into drink in that quarter. After lunch she used to dress in the most elaborate fashion, send for a hansom, and be driven to a certain public-house. She would sit down in the bar-parlor, take up a newspaper and pretend to read. She had not long to wait before one or other of the customers would ask her to have a drink. The invitation was always accepted. When the male generosity was ex-

hausted, or the male purse gave out, she used to step into her hansom and be driven to another public-house, where a similar programme would be gone through.

"The credit at the livery stable was stopped. The young lady went out just the same every afternoon, only on foot instead of on wheel. Her excuse was that if her husband did not think fit to trust her with money, she was not worth trusting at all. So she went on day after day, until the inevitable result was attained. I was called in to attend; the best possible medical advice was brought from all quarters. But the commonest and most fiery of public-house whisky won the day, and she died in delirium."

DALRYMPLE HOME, RICKMANSWORTH.

EXTRACTS FROM A REPORT OF MEDICAL SUPERINTENDENT,
DR. BRANTHWAITE, FOR THE YEAR ENDING
JANUARY 31, 1896.

Although actual admissions fall short of the number published in my last report, the house has nevertheless been practically full throughout the year. This apparent discrepancy is accounted for by the fact that two patients in the house at the close of last year still remain under treatment; and, furthermore, no less than fourteen of the thirty admitted entered for the full period of twelve months. This, of course, only left limited accommodation for applicants at shorter terms.

Twenty patients remain under treatment. Adding this number to those detailed as discharged, the total of admissions—four hundred and twenty-seven—is obtained, since the opening of the home.

When the inebriates acts became law, there were many who foretold the probability of an entire want of applicants who would be willing to place themselves under its provisions. It is interesting, therefore, to note that, (although the way has always been open for entry under private contract), no

less than forty-eight per cent. of all admissions have been "under the act," and of these thirty-five per cent. have entered for the full possible period of twelve months.

On the question of admission it is greatly to be regretted that statutory powers demand such a formidable barrier as signature before two justices. This has proved a great deterrent to many who would otherwise perfectly willingly have availed themselves of the provisions of the act.

After an intimate contact and constant association with patients for nearly twelve years, I am more than ever convinced that could we but obtain an earlier chance, much more good would result. As it stands at present, the forbidding obstacles placed around admission under the act are such as to prevent many from attempting to surmount them except as a "dernier resort," or until they have lost all hope or care for the future.

Although many, even under these advanced conditions, recover absolutely, still the outlook would be brighter and percentage of good results greater could we but obtain power over patients earlier in their habits. This result will only obtain when admission to a retreat has more of a restorative and less of a judicial aspect.

Just a word on another point. Were it not for the urgency of the question I should apologize for again referring to it, — but year after year the demand forces itself upon my attention, and as often I am impelled to mention it to you, — can nothing be done for our destitute male inebriates and for those of limited means? There is an enormous field here for philanthropic enterprise, and much of the energy and money freely given for external purposes might be applied in this direction at home. The desire for intoxication is as much a diseased condition as any other monomania; but because it is associated with vicious surroundings and productive of vicious results, the whole question is apt to be shelved, by some of even the most earnest philanthropists, as wholly vice, and consequently without the pale of consideration. Much more should vice and crime

be regarded as the direct result of excessive drinking, in a large majority of instances, and excessive drinking as the external evidence of a morbid nervous condition, the victims of which more justly claiming assistance and help than repulsion and neglect.

Returning to our work here, we have completed a quiet and useful year. Many patients who have left us have derived full benefit from their residence, and it may interest you to mention that two patients of whom I had lost touch (one hitherto classed as "not heard from") have turned up to report themselves, after periods, respectively, of four and seven years' total abstinence.

The house and buildings generally have been maintained in good repair, and the heating apparatus, fitted to workshops and concert room, has been of great value in adding to the comfort of the patients.

The general health of the inmates has, throughout the year, been uniformly good, and no case of serious illness has occurred.

CANNABINOMIA.

Thomas Ireland of British Guiana, October, 1893, states that the Coolie immigrants introduced Indian-hemp intoxication into British Guiana, importing the seeds for cultivation. The drug is used by religious fanatics as an excitant to deeds of sacrifice or violence, and was taken by Sepoys, in the Mutiny, to increase their courage.

Comparatively few females have given way to the indulgence. Mohammedans are rarely addicted.

Wise of the Dacca Asylum, in 1873, stated that in Indian asylums, on an average, between 30 and 50 per cent. of admissions were due to abuse of Indian hemp, and that at the Cairo asylum one-third of the admissions were due to this narcotic.

In British Guiana fully 30 per cent. of the Coolie patients in the Barbice asylum had been habitual smokers of cannabis.

Rich and poor Hindoos alike indulge, bhang being the cheapest form.

Water is added to the ground leaves and stalk till a liquid paste is formed, which is strained through a cloth; $\frac{1}{2}$ to 1 drachm (2 to 4 grammes) is mixed with milk and sugar and then drank. The poor add black pepper.

The effects are quiet, pleasant delirium and stupor. Churrus causes excitement and violence.

It is the dried, sticky resin extracted from all parts of the plants, especially from the pith within the stalk. It is mostly imported into India from Persia and Afghanistan. The color is greenish black, the taste bitter, and it is smoked with or without tobacco in a cigarette on a hookah over glowing charcoal, after having been rubbed down fine with the hand. Upla, or cow-dung fire, is preferred to charcoal, on which the pill or bolus is placed, and the smoke forcibly drawn through the pipe and then inhaled. One puff sometimes makes the eyes red, four puffs make a moderate smoke, $\frac{1}{2}$ drachm (2 grammes) being sufficient for two or three men.

Majoon, a dirty, greenish toffee, is another preparation of cannabis, made from the ground leaves mixed with butter, sugar, and milk, and then baked. About an ounce (30 grammes) is eaten at a time, and this sweetmeat is often used by thugs or thieves as a poison in India.

Ganje is made from the dried flower tops rubbed to a fine powder in the hands, and then smoked in a native clay pipe mixed with tobacco.— *Annual of Medical Sciences*.

In accordance with a bill passed by the present Congress, Carroll D. Wright, United States commissioner of labor, has begun the work of investigating the liquor traffic in relation to its moral and scientific effects in the industrial world. His report, which he hopes to present to the fifty-fourth Congress, will be awaited with equal interest by liquorites and prohibitionists.

TETANUS FOLLOWING REPEATED INJECTIONS
OF MORPHINE.

The May number of the *Medical Chronicle* contains the following account, by Dr. D. J. Leech, of two cases of tetanus which came under his observation: The first case was that of a man, thirty-five years old. Two days before the author saw him he complained of pains in the muscles of the neck. Tetanic paroxysms very soon set in, and on the afternoon of the third day they occurred at frequent intervals, and were quite characteristic. He died a few hours afterward.

He had not suffered from any injury, but he had contracted the habit of injecting himself frequently with large quantities of morphine, and after death, marks left by the injection of morphine were found all over the anterior surface of the body. The thighs especially were closely covered with nodules, some of which were dark at the top. The lower part of the abdomen was less closely covered by them. There were no ulcerations, but here and there some cicatricial tissue. Several dirty syringes for the injection of morphine were found, and one or two bottles containing turbid morphine solution. The patient had been in the habit of injecting into himself considerable quantities of morphine, and there was reason to believe, says the author, that he had paid but little attention either to the cleanliness of the syringe or the clearness of the solution he used.

The second patient was under the care of Dr. Elliott of Rochdale, who had given him morphine occasionally for four years, but, finding that the man had begun to purchase morphine for subcutaneous use by himself, had refused to give him any more, and nothing was heard of the patient again until February in this year, when Dr. Elliott's partner, Dr. Brooks, was sent for, and found the man suffering from violent tetanic paroxysms, from which he died in a few hours. The illness dated only from the previous evening.

He had not suffered from a wound or injury of any kind, but the body, arms, and legs were found covered with marks

due to the hypodermic injection of morphine. No ulceration could be found, but in many places there was cicatricial tissue.

Several somewhat similar cases, says Dr. Leech, have been placed on record. In the *British Medical Journal* for November, 1879, there is an account of the death of a woman from tetanus, who had long administered to herself subcutaneously large quantities of morphine. The front part of the body was covered with innumerable scars from the punctures caused by the hypodermic needles.

Osborne (*British Medical Journal*, July, 1892) records the death of a man, aged twenty-four years, from tetanus which was evidently connected with a suppurating sore near the right shoulder, following the hypodermic use of morphine. This man, too, had been in the habit of injecting himself with morphine.

A series of cases, says Dr. Leech, have also been recorded of tetanus occurring after the subcutaneous injection of quinine, and Dr. Anderson, in the *British Medical Journal* for 1892, states that tetanus is by no means uncommon after the use of the hypodermic needle.

It is worthy of note, says Dr. Leech, that in most of the cases in which tetanus has occurred after the injection of morphine the injections were self-administered. Habituation to the use of the drug, he says, seems to engender carelessness as to the condition of the syringe and the solution employed.

In England from 1861 to 1871 the mortality of all males was 11.82 per cent. annually. At 35 years, mortality of all classes was 13.05; laborers, 10.80; blacksmiths, 11.24; railroad servants, 14.97; publicans, 20.44.

Inebriety is always reñritritional and functional in its expression of disorder of the nervous system. It is also a disease of heredity and degenerative changes, which are increased by states of poisoning.

NEURO-RETINAL TOXEMIA FROM EXCESSIVE USE OF ALCOHOL AND TOBACCO.

Amblyopia, partial or complete, associated with various nervous phenomena, simulating cerebral disease, is an affection more often met with than is supposed; it is probably more prevalent with male than with female, not on account of sexual differentiation at all, but because of the fact that these and other similar drugs may find their way into the system by habitual use in men more than in women.

From the fact that not all of the symptoms are referable to the eye, and from the further fact that the amblyopia comes on as a later symptom, sometimes long after the other manifestations have become well marked, we find that these cases are easily mistaken for cerebral affections, and treated as such, thereby allowing much valuable time to be lost before the true nature of the affection is discovered.

The deterioration of vision from the abuse of tobacco has long been known as a clinical fact, although it was not well understood, and no very clear explanation, based on anatomical and physiological ground, have been given. The action of tobacco, for instance, in different individuals is so various and uncertain, some persons apparently becoming immune, as it were, to its toxic effects by long usage, while others give earlier evidence of its ill effects in nervous tremors, cardiac, and other disturbances, that we have no certain landmarks to guide us in our relations as physicians to those whom we know to be more or less given to its use. Moreover, amblyopia from alcohol, as a rule, is not so prevalent in those individuals who are classed as inebriates; in such persons we find that periodical excesses are followed by intervals of freedom from its use, during which the process of elimination goes on quite readily, and nature comes to the relief of the patient so completely as to leave behind but very little traces of its effects. It is, however, in the habitual, though not excessive, drinker that we find the evil effects of alcohol on the eye. In Europe, on the continent, where the laboring classes are accustomed to rise early and

seek their employment with a very light breakfast, sometimes not eating for an hour or two after they rise, they are in the habit of taking the early morning draft of "liquor" or "schnapps" upon going to work, and at nine or ten o'clock stopping for a half hour or so for breakfast. In this country also, while we find no such habits of life among the laboring classes, yet there are many individuals who do take spirits early in the morning before they eat their breakfast, and follow this practice for years. They are not classed as drunkards; on the other hand, bear the opposite reputation; but with all that will be found on close examination to be steady drinkers.

Concerning the treatment, but little need to be said beyond the first and most important point, viz., the establishing of a clear, rational, and unerring diagnosis; the rest follows "*Ex necessaria sequitur.*" Total separation from the toxic agent in question once and for all; in the case of lead this will be easy enough in most instances, but with tobacco and alcohol not so easy. Resolutions and promises made in good faith will frequently be broken. Alteratives among the drugs will avail something, among which we hale iodide of sodium, strychnia nitrate, by hypodermic injection will accomplish much, and electricity and the Turkish bath will avail. The insomnia which so frequently accompanies these cases should be controlled, but this will usually give way to refreshing sleep as the improvement from the other remedial measures progresses. The prognosis is in many cases good, but much time may be consumed, and great patience be required, both on the part of the patient and the doctor, before a final recovery occurs.

Kirchhoff says: We know nothing of the anatomical basis of epilepsy. Its most frequent cause is heredity, then follow alcoholic excesses. Next come cerebral diseases in early childhood. Concussion and physical and psychical traumas are also causes.

ACTION OF TEA ON THE DIGESTIVE ORGANS.

An interesting account is given in the *Dublin Medical Journal* for October of Dr. Peter M'Kechnie's experiments on the action of tea on the organs of digestion. The experiments were carried out partly in test tubes, partly in the stomach of a monkey, access to which was formed by a fistula.

The aliments experimented with consisted of egg-albumen and beef-fibre. Weighed quantities of each were used, and were mixed with glycerol extract of pepsin and hydrochloric acid. To these mixtures a measured quantity of infusion of tea was added. The infusion of the tea occupied periods varying from five to twenty minutes. Six test tubes were used, a seventh being employed to test the action of the tea on meat-fibre alone. That process lasted 110 minutes before the meat-fibre was dissolved. Experiments with the tea infusion showed that the digestion of the mixture occupied 118.5 minutes. The time was not affected by difference of strength of the infusions of tea. Tea from which its tannic acid had been precipitated by means of gelatine was not more readily digested than ordinary tea.

In the case of the monkey it was found that when the ingesta were altogether introduced through the mouth, digestion occupied five minutes longer than when the ingesta, except the tea, were introduced through the mouth and the tea by the fistulous opening into the stomach. From this it is to be inferred that the tea exerted an inhibitory influence on the salivary glands. The author is of opinion that it is not the tannic acid, but some of the more soluble constituents of tea, which retard digestion.

The comparative values of different kinds of teas were investigated. The Indian and Ceylon teas yielded the greater proportions of extract, *i. e.*, made stronger infusions than the Chinese teas. Digestion took place more rapidly when the stronger infusions were used. The author believes that the larger proportion of caffeine in the Ceylon and Indian teas as compared with the Chinese teas is the cause of the

more easy digestion of the former, the caffeine acting as a stimulant to the motor nerves, and increasing the flow of bile, and stimulating peristaltic action.

Dr. M'Kechnie does not share the somewhat general belief that, on the whole, tea is not a wholesome beverage. I agree with this opinion. Since the general use of tea has been adopted in these countries the state of public health has not deteriorated, but, on the contrary, has improved. Dr. E. Smith, in his work on "Health and Disease, Etc." (London: Walton & Maberly, 1861), says of tea, that "it has both lessened the supply of nutriment and made better use of that which is supplied, and hence it has contributed most powerfully to the prevention of accumulations within the system, and the most perfect discharge of effete matter."

Dr. M'Kechnie deprecates the practice of infusing tea for more than five minutes, and states that by twenty minutes infusion the tea yields a much less wholesome beverage than if it were infused for a moderate time. As the tannin of tea, being very soluble, soon goes into solution, it would be interesting to determine the nature of the body or bodies which are dissolved out by long-continued digestion, and which have a bitter flavor. — *Times and Register.*

AN ISLAND INEBRIATE HOME.

Medical Island is the name which has been given by a syndicate of physicians from New York, Paris, London, and Berlin to a tropical island of volcanic origin eleven days' sail from San Francisco. Here is to be elaborated a model sanitarium for the cure of the drink and opium habits.

There will be no hotels or boarding-houses, but in their stead there will be three handsome club-houses without bars. Patients must consent to remain away from the continent for one year and pay all expenses for that time in advance.

The island is under the jurisdiction of Great Britain, from whom the syndicate will secure its needed concession.

HYGIENIC TREATMENT OF DIPSOMANIA.

BY DR. H. M. WYMAN.

Neurologists as yet have failed to find any special medicine for the cure of dipsomania.

Total abstinence with enforced confinement for an indefinite period is effectual while the confinement lasts, and has in well-authenticated instances proven a permanent cure, when the patient on his release has been environed by conditions conducive to his material prosperity and happiness. Just what treatment should be enjoined aside from the old line outlined, together with suitable and congenial employment (the latter of paramount importance) during the long period of seclusion, is a matter not a little perplexing when looking forward to a permanent cure. With its long time commitments, the Massachusetts Hospital for Dipsomaniacs and Inebriates at Foxboro has exceptionally good advantages for the employment of methods of treatment hitherto untried, the nature of which is indicated by the caption of this article.

It was the privilege of the writer to witness the initial introduction of calisthenic exercises and the accompanying needle bath as a feature experimental in the treatment of dipsomania at the above institution some eight months since, and judging from up-to-date results, the enthusiasm is pardonable, if premature.

From the heterogeneous gathering of humanity to be found in an institution of this character, with the concomitant infirmaries arising from the excesses that resulted in their presence here, it was not an easy task for Prof. Boos, of Boston, to select a considerable number eligible to take the exercises. However, excluding those whose mental and physical conditions unfitted them entirely, a class of some sixty were enrolled to take the calisthenics daily.

With a fairly well equipped gymnasium and campus for outdoor games, the patients, after some hesitancy and coercion, soon began to manifest an interest unlooked for, until

now, fully aware of the benefit derived, they are loath to neglect the exercises.

Statistical evidence from actual measurements as to increase in muscular development is, up to date, very gratifying, and as time goes apace the results in this direction are obvious.

The all-important change for the better is apparent in the feelings and appearance of the patients. The calisthenics, with the necessary apparatus, have, with their variety of movements, brought into action separate sets of muscles, that from inaction have impeded the functions of others, and have become practically useless themselves. The shambling and faltering step, the stooping shoulders, the bleary-eyed, expressionless-faced victims of former excesses have given place to the certain step and supple movements — perfect control of movements governs the body — while the eye has luster, and the mobile face, with erect bearing, denotes interest in life and hope in the future. Without going into the pathology here of inebriety, it is sufficient for practical purposes to know the physiological needs of the unfortunates: that the inebriate is very apt to have organic or functional lesions of visceral parts of varying degrees of gravity is to be expected and judiciously prescribed for, but that the brain and nervous system are the chief deciderati, especially when anticipating a permanent cure. Calisthenic exercises, as scientifically supplemented by wholesome food and regular hours of rest, are accomplishing wonders. The daily exercises are systematized, and as the varying movements with Indian clubs, dumb bells, chest weights, parallel and horizontal bars, together with bag punching, boxing, running, jumping, balancing, marching, and outdoor ball games go on, *blood and tissue metamorphosis is taking place*, and the excrementitious products of the body are being *eliminated*, while nervous co-ordination and reflexes are improved, and the former neurasthenic condition is succeeded by a feeling of strength and security that better enables the unfortunate to resist the *enemy*.

The carefully temperatured needle bath—consisting of hose and spray attachment—following the exercise, cleanses the body of its transudations, reawakens nervous energy from periphery to center, heightens capillary circulation, and, the body gradually cooling, a feeling of buoyancy and strength pervades the entire system that is not followed by a stage of depression. Thus tissue change takes place from scientific exercise; the waste materials are eliminated, and followed by wholesome food and rest, the morbid condition gives way to health and happiness. The intricacies or complication incident to the various exercises is a school for the mind as well as the body. The full term of commitment at the institution is for two years, but discretionary with the Board of Trustees as to a patient's fitness for leave of absence in a much less time, the usual time being six months. Having taken the exercises is a prime requisite to an applicant obtaining a leave of absence at the expiration of his first six months.

To Prof. H. D. Boos of Boston is due great credit in awakening apathy of inmates, and for his patient efforts in bringing such tangible evidence to the Board of Trustees of the beneficent results to be obtained from calisthenics in the treatment of dipsomania.—*Journal of Hygiene*.

SOME CAUSES OF MENTAL IMPAIRMENT IN CHILDREN.

Dr. J. M. Taylor of Philadelphia, in a very valuable paper on this subject, concludes as follows:

In order, then, to prevent mental enfeeblement in the young we must first defend them from degenerating influences of a kind competent to leave a permanent impairment upon the individual or the offspring. Next, if this be done, opportunity must be afforded for the development of both body and mind, which are absolutely interdependent. Again, protection must be afforded against accidental injury by trauma or poisons.

Of the degenerating influences, alcohol stands at the head, and admittedly accounts for nearly one-half the cases of insanity, imbecility, and crime; but if one considers fairly that the other causes, usually acknowledged, are themselves attributable to this agency, these must then be added to the other, and the blighting influences of alcohol are thus multiplied till they may be said, without exaggeration, to overtop all other factors many times. The use of alcohol causes degeneration of mind and body in the individual, and is pre-eminent in transmitting its influence to the next generation. Alcohol produces not only disorders of intellectation, but of morals, hence it becomes the basis of criminality. Moreover, alcohol admittedly decreases the power to resist evil and disease, and this increasingly from one to another generation. Lack of resistance to evil produces the criminal, the enemy of civilization, both in a moral and physical sense. Loss of resistance to disease opens up the way for other morbid influences, as tubercle and the various infectious processes which are themselves direct and contributory causes for degenerations and for mental defects.

This is, however, rarely true of an entirely sound cellular entity. The feebly resisting nervous system needs relatively little help from disease, trauma, or the various excitations to dethrone equilibrium. A sound, wholesome organism, on the contrary, may be predicted to pass unscathed through many and diverse perils, certainly so far as the competence of its nervous mechanism is concerned.

The so-called reflex causes of mental disease, including psychical and moral shock, etc., may be reduced to small power for harm upon robust natures, of stable cellular integrity and reasonable development.

Once the seeds of mental derangement are recognized as evidencing growth, the only hope for adequate repair lies in instant precautions, ample safeguards, and years, rather than months, of rest, and the enjoyment of responsibilities as little as possible.

THE NON-HEREDITY OF INEBRIETY. BY LESLIE E. KEELEY, M.D., LL.D. C. C. Griggs & Co., Publishers, Chicago, Ill., 1896.

Sudden prominence achieved through pretension and mystery often brings with it a fatal egotism, which forces the person out into the light where his knowledge and attainments can be seen and estimated. In politics many a local celebrity has been destroyed by placing him in office, where his real capacity and power can be studied above the glamor of pretense.

The Keeley Gold Cure scheme and its author were secure as long as its claims depended on the statements of circulars, newspapers reports, and the assertions of the founder and his friends. But when he writes a book he steps out into the light, where his knowledge and theories can be properly estimated. In this Keeley has committed the same old blunder, writing himself down, and putting himself into the hands of his enemies. If he had limited his writing to a general statement and defense of some rational theory of inebriety, and its non-heredity, his work might have had a place in the literature of the day. But to attempt to dogmatically decide great questions of ethics, biology, physiology, psychology, and history, is a fatal egotism that is literally a "hari-kari" for the writer.

It seems useless to examine the theory which this work pretends to defend, because many of the statements urged are notoriously false and untrue, and the suggestion that it is due to the ignorance or duplicity of the writer, leaves an unpleasant impression on the mind of the reader.

Statements like the following are common. "Before the discoveries of Dr. Koch no one could explain what caused disease, or what determined its phenomena, duration, and termination." p. 35.

"The human mind has fathomed the universe scientifically, and determined its own limits of understanding and comprehension." p. 91.

"Until within a few years no treatment except mind cure has ever been tried for inebriety." p. 97.

"Alcohol causes inebriety; there is no other cause of alcoholic inebriety." p. 183.

"No heredity or other disease can cause or is inebriety. Any disease may lead a person to begin drinking, but no agent except alcohol can cause inebriety, nor will the cure of any other disease associated with it, or caused by alcohol, necessarily exert any influence whatever either for or against the craving for drink." p. 167.

"The cure of inebriety cures the inebriate's stomach." p. 173.

"I consider myself a pioneer in the department of pathology and therapeutics. I think the medical profession will give me the credit of studying this subject from the standpoint of pathology. When I began I was the only man in the world who was treating drunkenness as a disease, exclusively, from the standpoint of medicine." p. 305.

The central theory seems to be that inebriety is a germ disease which cannot be transmitted, but is positively cured by the specific which the author possesses, and believes he should conceal from others as his private property. Whether this work is written for the laity or the medical profession it is remarkable in that it marks the death and obsequies of its author and his schemes for the cure of inebriety. There is no necessity now of making known his formula of specifics given for the cure of ninety-five per cent. or more of all cases of inebriety. He has given the theory in this work together with his views of science and ethics, and other general topics, and all the mystery and pretense has vanished. Leslie E. Keeley and his specific for the cure of inebriety have passed into history as one of the great credulities of the closing century. The egotism which supposed he was the creator will die away, and the student of the future will study the psychological conditions which gave transient prominence to a wild delirious empiricism. All unconsciously Keeley has been an instrument to arouse

up a new interest in the physical treatment of inebriety, not by his specifics but by educating the public to accept the idea of help along lines of physical means and appliances. Now all unconsciously in this book he writes his own epitaph, and pronounces the last word at the close of the Gold Cure specifics for the cure of inebriety. The curtain falls on Keeley as a teacher, writer, and physician. The Gold Cure is dead, and a period of mourning and frantic assertions that life still exists will follow for some time to come.

The Second Book in *Physiology and Hygiene*, by Dr. J. H. Kellogg of Battle Creek, Michigan, is an excellent grouping of well-known facts, with special reference to the hygienic application. The action of alcohol on the tissue is very clear and well-stated.

The *Dixon* Graphite pencils are superior to any on the market. All grades of hard and soft pencils are made.

Dr. Kellogg's work, "The Stomach, its Disorders and How to Cure Them," has become an authority at once. The critics call it one of the great works of the year.

The *Popular Science News*, formerly Boston Journal of Chemistry and Hall's Journal of Health, has succeeded in combining the best features of these and other journals, and giving a résumé of the most practical facts from all fields of science. For short, popular facts, it is one of the best journals published. The price is one dollar a year. Address 19 Liberty street, New York city.

The Thirty-eighth Annual Report of the *Washingtonian Home*, Boston, Mass., indicates a prosperous year, two hundred and forty-five patients being admitted. A very significant fact is that in this large number of cases only fifteen were delirious or suffering from delirium tremens,—a clear hint of a change of the type of cases. The superintendent,

Dr. Ellsworth, in speaking of the effects of alcohol, makes the following significant statements:—

“Drink lends excess of coloring to some ideas, and imparts dullness to others. Alcohol renders the brain more and more incompetent as a thinking and reasoning medium. Inebriates always become more or less demented. They may degenerate so slowly, both physically and mentally, as not to exhibit grades or degrees of decline from day to day, yet after a time a marked change for the worse occurs in all cases. . . .

“The moderate drinker may escape a precipitous fall, yet he too, in the course of years, will be conscious of physical and mental degeneration that cannot be logically ascribed to other causes of decline. . . .

“Just according to the extent that the brain and nerves are paralyzed, is the drinker incapable of judging correctly of anything, and, least of all, of giving a proper estimate of the paralyzing agent.”

This excellent asylum is doing grand work, fully sustaining its old-time reputation.

The *Homiletic Review*, published by Funk & Wagnalls, grows more valuable with each issue. Its terse and suggestive papers are unexcelled, and should be read by all scholars of the new philosophy and thought of the age.

Appleton's Popular Science Monthly, among the many excellent papers published, gives great prominence to medical and psychological questions. The papers by Prof. Newbold are the most suggestive and valuable to medical men. No other journal excels this in practical interest and real value to every thinking man.

Editorial.

INEBRIETY AND HOMICIDE.

Dr. Andrew White finds that there were over ten thousand homicides in the United States in 1895,—two and a half per cent. more than in 1890, and constantly increasing. He is convinced that the leading cause is a lax public sentiment and failure of the law to punish criminals for this crime. Judge Parker of the United States Court has taken up this subject and reaches the same conclusion, only he is more emphatic in his conviction that the law's delays and uncertainties, with mock sentiment for the criminals, encourage murder. Other causes are noticed as contributing, but of minor interest, such as the degeneracy and low criminal emigrants from Europe who commit murder from slight provocations.

Both of these studies assume that the treatment of the crime of murder is correct, and all first causes and means of prevention insignificant.

The statistics of the failure of capital punishment to prevent murder, so positively urged by earnest, capable men, are ignored as if unworthy of notice. An appeal to facts of cases of homicide reveals a different view of this subject. In ten homicides in and near Boston, eight were committed while under the influence of alcohol. Three were clearly insane and sent to prison for life. Of the seven, two were hung, one was liberated after a year's confinement, and four are now in prison. Five of these cases were notoriously dangerous and maniacal when drinking. Of the others a history of degeneracy and continuous drinking for years was clear.

In six homicide cases in Connecticut, five were committed while intoxicated, and one was hung — the others are

in prison. In twelve cases in New York, nine were prominently intoxicated at or before the homicide. These facts represent in a general way the condition of a very large percentage of the ten thousand murderers of 1895. The statement that from sixty to eighty per cent. of all murders in this country are the work of inebriates and persons under the influence of spirits, has been confirmed in many ways beyond question. Here are causes that these authors have not noticed.

The punishment of inebriates by death for crime has been repeatedly proven worthless. Increased vigor and severity of punishment has never stopped inebriety or checked crime by inebriates, because it failed to reach the first causes. These causes are the freedom allowed inebriates to go about freely, using spirits at all times and places without control, and the open licensed saloon encouraging and making attractive the indiscriminate use of spirits. The first causes, heredity, anæmia, exhaustion, mental defect, and degeneracy, are intensified and exploded by the saloon. Like the powder and lighted match, the degenerate finds relief in the narcotism of alcohol, and although the dissolution goes on under a mask, it is certain and inevitable.

Homicides of necessity will increase yearly, uninfluenced by the administration of law or sympathy for the offender, because the causes are unrecognized. If murders are most frequently caused by inebriety, and inebriety intensified and developed by the open saloon, the remedy is clear. If the degeneracy of inebriety predispose to crime, the inebriate is dangerous and should come under legal control before crime is committed. In many cases of homicides by inebriates the crime was clearly foreshadowed and was certain to occur, in favorable circumstances.

Rational preventive medicine will lock up the inebriate and shut up the saloon, and thus prevent the crime. A new study of this subject is essential before causes and remedies can be mentioned authoritatively. Who are these ten thousand murderers of 1895? What were the conditions of the crime?

A study of these facts will reveal the means of prevention and the proper remedies. All theories and speculations on other lines are farcical and absurd.

TWO THEORIES, WHICH ONE IS TRUE?

A noted man was arrested for incendiarism and found guilty. No reasonable motive was apparent; the property burned was that of a stranger to him, and he appeared at the fire, giving all possible assistance to extinguish the flames.

This man had been a moderate, and at times an excessive, user of spirits. Occupying a very prominent office for many years, he alternately pleased and disgusted his friends. At times he was able and generous, then reckless and wild in his conduct, associating with fast men and women, spending money lavishly and involving his friends. Finally, he resigned on the plea of ill health, and became a low politician. His drinking increased and he was intoxicated most of the time. Later, he was detected putting fire to a building, and although the evidence was not clear, yet the suspicion of other similar acts was very strong. He was examined for lunacy, and decided perfectly sane by two medical men. His friends applied to a state asylum for admission, but were refused. A few months later he was found to be insane and sent to an asylum. The interval had been spent in severe drinking. The theory that this case was simply one of voluntary drunkenness, in which bad company and political excitement, with reckless neglect, were the only causes, was accepted by his friends and the public generally. Before entering upon political life he had been a quiet church member and steady, reputable man, with a large circle of friends who respected him greatly. The medical certificate of his insanity was laughed at as a political scheme to provide for him in the asylum, and the medical men as kind, accommodating friends.

The other side of this case presents a different theory

of his condition. His grandfather died insane after a lifetime of excessive drinking. His father kept a roadside tavern and drank freely at times. His son sold spirits at the bar, and drank freely in early life. On the death of his father the business was given up, and he abstained. Marrying at this time, he settled down to a quiet, steady business life. At forty-four he was elected to a prominent office by accident. A few years later he was re-elected, and became a prominent politician. From this time he began to have secret drink paroxysms of several days' duration, and was noted as a fast politician.

Resigning from office, he returned and spent his time in political circles as a man-of-all-work, "rounding up the voters," and arranging campaigns for others. His use of spirits was excessive at times and was followed by melancholy. On two different occasions he suffered from alcoholic mania for periods of a week, then recovered, but never totally abstaining. His only son became a confirmed inebriate and his wife an invalid; this, with poverty, increased his mental disturbances.

The first medical commission could not find any mental disease, and the asylum superintendent concurred in this, although it was proven that he had delusions of sudden death at night in sleep, and this, with insomnia, caused him to walk the streets at night, seeking company of any one who would talk to him. In the morning he would go home and sleep.

The second commission, two months later, recognized delusions and melancholy, and he was committed to an asylum.

The inebriety in this case was clearly an inheritance, which appeared in early life, then subsided and broke out again under the favorable conditions of political life. The pyromania which appeared was a marked sign, and a closer examination would have revealed other defects. He was suffering from the disease of inebriety, which had become a pronounced insanity, and was not in any way a voluntary

condition within his control. Given the heredity and conditions of early life, and inebriety was almost certain to follow. Manias of any form were likely to develop as the degeneration increased. His political life was favorable in its surroundings for the growth of inebriety. There were no accidents, or chances, or moral conditions in his case. No moral theories can account or explain the progress of the case. There ought not to be any question as to the causes and nature of such cases.

THE TREATMENT OF RELATIVES OF INEBRIATES.

The paranoic and degenerate inebriate is regarded by his relatives generally as a very bright, capable person, who voluntarily gives way to the morbid impulses of the moment, and one who could always do better with more will power. He is considered sane at all times when not drunk, and able to judge of his condition as clearly as any one. The drink impulse, like a garment, can be put on and off almost at the will of the victim and surroundings. The honesty of the patient is unquestioned when not drinking. On admission to an asylum severe measures are demanded by the relatives, or great leniency. Punishment, fear, and alarm must be roused in the mind of the victim; or great tenderness, love, confidence, and trust. The friends assume to be able to judge from intimate acquaintance what is best in treatment, especially in matters of restraint and general care. The inebriate soon learns the conceptions of his relatives regarding his case, and where they are in accord with his own views of perfect freedom and trust, and power to decide on what is best for his case, are fostered industriously. But where they are opposed to his views, he resorts to intrigue and cunning to neutralize them.

The rules of the asylum are always in conflict with either the patient or his friends. The patient is controlled, but the friends at a distance are difficult and uncertain.

Almost endless correspondence and explanations are

required constantly. Often the patient joins to complicate and increase the difficulty. He will write of his great temptation and power of resistance and the free use of spirits in the asylum by every one. The explanation by the managers are doubted, and the patient's statement is considered true in part or entire.

The mercenary motives of managers are always prominent in advice to stay longer. Consent to do this or that is supposed to have some similar object or purpose. Fears that the management may acquire undue influence over the patient, and keep him away from his family, or if he has property influence him in some way to his future injury. If a patient relapse the management are condemned as criminally negligent, or wanton; if the patient has manias of slander and intrigue, and complicates matter about him seriously, the management has failed. If after a few months stay, during which the patient has done well, his cure is not confidently predicted, the management is at fault. Should the patient have proved incurable and received but little help it is equally a fault of the management. Thus the managers of asylums often have a more difficult task to educate, teach, and treat the relatives of inebriates, than to care for the patient. Most relatives of patients seldom realize the unstable defective brains of inebriates. The degeneration of the higher centers, the depressed and disordered sense, with enfeebled powers of reasoning, are concealed by the assumptious egotism of the patient. The idea of brain disease other than temporary functional disturbance is put aside as not true.

Happily, these views are passing away, and relatives of patients understand in some way, that inebriety is insanity, and the inebriate is diseased, and irresponsible on all matters pertaining to his own case.

The managers of asylums look forward to the time when the treatment of relatives will pass away, and patients placed under care can be effectually treated, controlled, and guided, without counsel and interference from those who now assume to know what should be done.

NEWSPAPER TREATMENT OF INEBRIETY.

In a small section of the New England States four murders occurred within a month. In each instance the murderer was an inebriate, and the crime was committed in the delirium of intoxication. The newspapers of that section claiming to represent public sentiment were violent in their denunciation of inebriates and the lax laws which failed to punish severely all persons who drank to intoxication. Speedy and most summary capital punishment was demanded. One paper suggested lynch-law as a means of intimidating other offenders. One case of a farmer who had been placed in an asylum two years before, and was taken out on a writ, as unjustly confined, had been the subject of much comment and condemnation of laws which permitted any one to be confined on small pretense. The papers said his drinking was not insanity, and he was fully sane, and it was great injustice to confine such men in asylums. Now that murder had followed nothing could be too severe in punishment. The second case had been repeatedly sent to jail for ten days for assaults when intoxicated. He was considered sane and responsible, and should not be locked up long. The third case was a periodic, who at intervals drank to excess, and had been sent to jail for disturbance. The fourth was a cider-drinker of notoriously bad temper, and very unreasonable and dangerous man at times. Two of these cases were clearly insane, and of defective brain control, when not using spirits. The other two cases were delirious when drinking, and without control of themselves, or conscious of the surroundings and their relation to it. All of them were unfit to be at large, and almost certain any time to develop acute mania from the slightest exciting causes. The certainty of crime in each one of these cases was beyond question. It was simply a matter of circumstances and conditions which were sure to occur sooner or later. The folly of permitting men of this character to go about unrestrained, and when crime follows demand pun-

ishment, should come to an end. The time is near when crime of this class will be prevented by placing such men under restraint and demanding sobriety as the price of liberty and freedom. Public indignation, after the commission of the crime, is childishness. The public should demand the removal of all conditions favoring crime in advance. No man should be permitted to poison himself, and become insane at any time and place. The removal of the causes of crime should be the treatment urged by the papers. This is the way to effectually "stamp out" and lessen crime of all descriptions. Shut up the inebriate and drinking man who persists in using spirits of his own free will, and all times. Punishing these four murderers, before the commission of the crimes by short sentences, and hanging them after, is monumental stupidity in this day of civilization. The newspaper treatment of inebriety reflects the sentiment and theories of an age of ignorance, which fortunately is fast passing away.

PRECOCITY IN CHILDHOOD, FOLLOWED BY INEBRIETY.

Many of the most degenerate inebriates have a history of precocity in early life. This occurs often in families in which the father is a moderate or periodic drinker, and the mother a nervous, highly sensitive woman, whose intelligence has roused a fear of heredity. Both parents may watch with anxiety the early developments of the mind of the child, and any form of precocity is encouraged as evidence that inheritance of any weakness will not appear in this case. In a single instance an intelligent physician who was a moderate drinker, and whose wife was a neurotic, had a son who prepared for college at ten, and who was a prodigy in memory and intellect. He was a poet and mathematician of fair physical development. He graduated at sixteen with the highest honors, and at twenty entered the medical profession with great promise. The death of his father brought him a large professional business, which he seemed

incompetent to conduct. He became despondent and melancholy, and suddenly drank spirits and used morphine, and died two years later from excesses. In early life he was encouraged by his parents, who believed intellectual training and early development would overcome any inherited weakness which might have been transmitted from them.

The frequent wrecks of prize and honor men of colleges and universities suggest precocity and bad inheritance. The sentiment prevalent in many colleges that wine gives intellectual power and mental clearness, is fatal to many precocious students, who in the stress of later life turn to spirits for help only to become wrecks. Precocity and extreme mental or physical development in the children of drinking ancestry are frequently signs of early failure and physical disaster. A noted surgeon and moderate drinker sneered at the doctrine of heredity, and pointed to his precocious and highly developed son as evidence that the father's conduct had no influence in his organization. Two years later he died of delirium tremens.

It may be stated, as a general fact, that the phenomenal young men and women who astonish and delight their parents and friends with extraordinary attainments are doomed to any early death, and inebriety, hysteria, and various forms of insanity associated with exhaustion are almost sure to precede death. Inebriety seems most common, particularly of narcotic drugs, and especially where any inherited neurotic tendencies exist. Children showing this unusual development should have unusual care and restraint to check the mental growth by building up the physical, and the danger of inebriety should never be overlooked.

It is a curious fact of history, so often repeated and yet seldom recognized, that the disbeliefs and denials of great men concerning new facts are often radically wrong, particularly when opposed to the observations of men of lesser note and equal honesty. A denial of the facts by scientific

or educated men on *a priori* grounds of absurdity or impossibility is, as a rule, worthless. The opinions of learned specialists in nervous or mental diseases that inebriety has no basis to be called a disease, are still echoed in some circles as authoritative facts. The investigations of many persons who are admittedly honest and sane, and whose conclusions have been examined and reaffirmed in many ways, are more reliable than opinions of learned men who have not studied the subject clinically.

The true scientific spirit is to ask for evidence and examine the statements of new facts, not deny and contradict them. This is the position this JOURNAL has taken in regard to all the new schemes and theories of the cure of inebriety. Years ago the moral theories of the vice origin of inebriety were studied by examination of cases, and found to be unsupported and untrue. During the last three years a number of new methods of cure of inebriety by special specific remedies have been presented for our opinion. In each case up to the present time the particular value of the remedy has been found to be in the credulity and faith of its reception. The mental effect of these remedies are of equal value to their therapeutic action. All we have examined are found to be combinations of well-known narcotics, and concealed drugs of the same nature as those used in the addiction. Notwithstanding this experience, this JOURNAL is pleased to examine any new facts and theories which may be offered. Each one will be treated fairly and scientifically.

The American Association for the Study and Cure of Inebriety was organized November 29, 1870, in the parlors of the Young Men's Christian Association of New York city. In December, 1876, the first number of THE JOURNAL OF INEBRIETY was issued. Both of these events were great starting points for the scientific study of inebriety. It is proposed to hold a memorial service in the same hall, to celebrate these events and place on record some historic facts

which may be lost in the future. Any reader who may know of any efforts to establish asylums in different parts of the country, or laws passed relating to inebriates, will confer a great favor by writing Dr. Crothers, the secretary. An effort will be made to record all the early means used to rouse public interest in the scientific study of inebriety, particularly in the sixties and seventies. The time has come to gather the facts of these pioneer efforts, and leave some permanent record for the historian of the next century.

TEACHING THE DANGER OF THE USE OF ALCOHOL IN PUBLIC SCHOOLS.

It is difficult to explain why persons of intelligence not engaged in the traffic of spirits should oppose all efforts to combine instruction relative to alcohol with the teaching of physiology in the public schools. To sneer at the term, "scientific temperance," and to object to faults of expression and words that are used loosely in text-books, is not scientific, to say the least. To admit that such instruction is needed and useful, and object to the way and means of doing it, is an assumption of superiority that calls for a demonstration in something more than words. If the term "scientific temperance" is meaningless and faulty, a more accurate term should be given. If the expressions in the school-books are weak, dogmatic, and imply more than the facts sustain, a correction should be suggested.

In the large number of books which are published to meet the demand for school instruction of the use of alcohol as a beverage, it may be said that, with hardly an exception, the facts they present are true. In the effort to popularize and make clear these facts much difference exists, mostly of words and expressions. There is no doubt great improvement possible, and the same books, after future revisions, will be materially changed.

If the facts they teach are true, objections of any form

will merely reflect the mind of the objector. Like the question of the disease of inebriety, the more violent the denials the more rapidly the truth grew and was accepted. Opposition and criticism may obscure and retard the acceptance of a truth for a time, but this only brings to it more power and greater value in the future.

The danger of alcohol which should be taught in public schools to children is not a matter of theory or sentiment; it is a necessity which is called for, and cannot be ignored by whims and personal prejudice. It is a reality that has come to be a part of the realism of to-day. It has passed beyond cavil and question, and is accepted as an advance movement of the age. Its opponents and critics must fall back and content themselves with discussion far in the rear. Their frantic shouts of what should be done will never be heard on the front lines.

WEIR'S INDEX TO THE MEDICAL PRESS.

An index of all the current articles and every book from every American medical writer, published in a form convenient and within the financial reach of every physician (monthly, \$3.00 per annum) is something long desired by the doctors of America. The JOURNAL therefore welcomes the new publication into the medical field, with a sincere wish for its prosperity, and a confident hope that the publishers, Frank Weir & Co. of New York city, will make a great success of this most practical work. Send for a prospectus.

Clinical Notes and Comments.

INEBRIETY AND SOBRIETY IN ROYAL CIRCLES.

While statisticians are at variance as to whether the amount of crime and insanity due to the abuse of stimulants shows any serious signs of decline, yet they are perfectly agreed upon one significant and gratifying fact, namely, that inebriety is each year becoming more and more restricted to the ignorant and poverty-stricken masses, occupying the lowest degrees of the social and intellectual scale. While this is manifestly attributable, in the main, to the extraordinary progress and rapid extension of popular education since the last three or four decades, it is likewise due, in no small measure, to the example set by those who, as sovereigns and princes of the blood, may be justly regarded as leading the fashions, influencing the manners, and acting as arbiters of society in monarchical countries.

Inebriety is no longer fashionable, as it was in the times of their fathers and grandfathers, when a man who went to bed sober was regarded with distrust as a moral anomaly, and the diner who could not put away at least his three bottles of port at a sitting as unworthy of the title of gentleman. To-day drunkenness is condemned as bad form, and society, instead of viewing it with favor, or even with good-natured indulgence, frowns upon it with every manifestation of disgust and even anger. For this radical transformation of an old-time custom and fashion Europe is indebted to those who act as its leaders in such matters, namely, the Anointed of the Lord.

Abstemiousness constitutes to-day the predominant note at every one of the royal and imperial courts of the Old World, and the rulers who now occupy the thrones of Europe are as distinguished for their temperance alike in

drinking and eating as their predecessors were the reverse. Thus King Humbert restricts himself to wine diluted with water, whereas his father, King Victor Emmanuel, the "Re Galant 'uomo," was wont to indulge in drunken carouses with his morganatic wife, the gamekeeper's daughter, Rosina, whom he created Countess of Mirafiore, and who used, when inebriated, to respond to his blows by hurling the crockery at his head.

The favorite beverage of the Emperor Francis Joseph is Pilsner beer, which is served to him even at the grandest of state banquets, at the court of Vienna. He drinks but little wine, although the imperial cellars are the most celebrated in the world. Indeed, it is to his abstemiousness that he is chiefly indebted for the remarkable preservation of his elasticity, of his physical as well as mental vigor, and of his health; this, too, in spite of a far heavier succession of misfortunes, national as well as domestic, than fall to the share of most men. His predecessor on the throne, the semi-imbecile Emperor Ferdinand, was renowned for his drunken habits, and it is no secret that the appalling fits of epilepsy which wrecked his mind and rendered his abdication imperative were, in the most cases, the result of excessive indulgence in what are described as "the pleasures of the table."

The insanity that made necessary the removal of the late King Louis from the Bavarian throne, and that resulted in his tragic death, was, according to the official diagnosis of the medical authorities, superinduced by alcoholism, and under the circumstances those who were his subjects may rejoice that they are now governed by a regent who, in spite of his deriving a large proportion of his revenue, official as well as private, from the brewing and sale of beer, is not only temperate himself, but has also inculcated this particular virtue on his sons and grandchildren.

In Wurtemberg a young and brilliant cavalry officer who, even when serving with his hussar regiment, was noted for his reluctance to participate in the drinking bouts of his fellow officers at mess, has taken the place of the gross, sensual,

and semi-demented King Charles, who would have been deposed over and over again by his disgusted lieges had it not been for the care of his clever Russian wife, who practically governed the country after he had become mentally unbalanced through inebriety.

The Grand Duke of Baden succeeded to a brother who was deposed for lunacy due to the same causes, while the closing scenes of the long life of old King John of Saxony were saddened for his relatives and friends by the perpetration of a number of astounding freaks that could only be attributed to an excessive indulgence in stimulants.

Those who have had the opportunity of glancing over the illustrated and comic papers of the fifties may possibly recall to mind the cartoons and caricatures which were published, especially by *Punch*, at the time of the international congress held at Paris at the close of the Crimean War. To Prussia was allowed no share or representation in the proceedings on the ground that she was not entitled to rank as one of the Great Powers of Europe, and the cartoons represent the Prussian king, Frederick William IV, clamoring in vain for admission to the congress, in a state of manifest inebriety, with his crown cocked on one side of his head, several champagne bottles under arm, his face inflamed and his uniform unbuttoned, while the doorkeeper is urging him to "go home" on the ground that he had been dining, "not wisely, but too well." Sad to relate, this was no overdrawn picture in so far as the habits of the Prussian sovereign of that day were concerned. His excesses at the table were such that the most extraordinary scenes and incidents would ensue during the receptions and balls that followed the court dinners, the king being subject to all sorts of drunken hallucinations, some of which were ludicrous and others of exceedingly painful character.

Of Denmark it is merely necessary to repeat what has so often been said, namely, that its court is a pattern for the remainder of Europe in matters of temperance as well as in every other respect, and it is impossible to overestimate the

good achieved by the influence of the aged queen and king, the latter presenting an agreeable contrast to his predecessor, whose court was such as to cause it to be subjected throughout the latter part of his reign to something akin to ostracism by the other crowned heads of Europe.

The late King Charles of Sweden was famous as a *bon vivant*, and while not a drunkard, could by no means be regarded as a temperate man, whereas the views of his successor, King Oscar, are best shown by the significant fact that he has permitted his queen to join the Salvation Army, and his favorite son and namesake, Prince Oscar, to assume the presidency of the temperance movement of Sweden and Norway.

The young Czarina of Russia, with her strong, high-principled mind, added to her cleverness and beauty, may be relied upon to counteract any disposition that her husband may have inherited from his ancestors in connection with a taste for stimulants. During his sojourn of several months in England prior to his marriage, however, he surprised those with whom he was brought into contact by his very un-Slavonic abstemiousness, Russians being noted for their hard-drinking propensities.

King Charles of Roumania, like King Leopold of Belgium, is temperate in the extreme, being far too cautious a man ever to permit his brain to become clouded by stimulants.

The King of Portugal, although he delights in conviviality and enjoys the reputation of being a good fellow in every sense of the word, has never been known as a heavy drinker.

The King of Spain, from his earliest infancy, has displayed a pronounced aversion to the bottle, and has objected to being brought up "by hand," as the saying is. It is to be hoped that this ill-will toward the bottle may continue throughout his life. Much apprehension need not be entertained on the subject, since the Bourbons have always been more noted for their excesses in eating than in drinking.

But the sovereign to whose influence the growth of temperance is due more than to any one else is assuredly Queen Victoria, the *doyenné* of all the monarchs of the world. Her father and her uncles, particularly those who immediately preceded her on the throne, namely, King George IV and King William IV, were typical "six-bottle men," and seldom if ever went to bed sober, Carlton House, the residence of King George, being the scene of some of the most infamous drunken orgies of the present century. At the same time, the British court was renowned for the many scandals by which its atmosphere was tainted. No gentleman arose sober from table, and no gentleman uttered a single phrase without garnishing it with the most frightful and blood-curdling oaths. Queen Victoria was but a young girl of barely eighteen when she succeeded to the crown; yet, in spite of this and of the influences by which she had been environed since her childhood, she quickly succeeded not only in purifying the court, but also in inaugurating an entirely different tone in society, the coarseness and drunkenness which had flourished until then giving way to refinement and abstemiousness. She was aided in her task by her blameless husband, the late Prince Consort, and since his death his good work in this particular has been carried on by his son, the Prince of Wales, to whom those interested in the cause of temperance owe a far greater debt of gratitude than most people would be willing to believe. For no one is more intolerant of inebriety and of the vulgarity which it invariably engenders than England's future king.—
Life and Health.

SOME PERSONAL EXPERIENCES.

In an experience of nearly a quarter of a century in the association, cure, and treatment of inebriates many strange events have passed under my observation. Years ago the views of disease which I urged were sharply ridiculed and condemned. Clergymen and reformers were especially severe in their criticisms. A clergyman of much promi-

nence, and a most excellent man, thought it his duty to warn his people of the danger of believing that inebriety was a disease and the bad influence of my preaching in this direction. Some years later this clergyman came a long distance to consult me regarding the inebriety of his son.

A reformer and lecturer, who was for many years a severe critic of my work and writings, became an inebriate and begged to be placed under my care. He recovered, but died from drink excess a year later. An increasing part of my daily work is consultation regarding the capacity and incapacity of inebriates and moderate users of spirits. Many years ago a lady consulted me respecting the marriage of her daughter to a young man of wealth, from a good family, who drank to excess. He had promised to abstain after marriage, and craved the privilege of using wine at the wedding, after which he would become a total abstainer. I advised against this marriage on these terms, and gave the mother a gloomy prediction of the future in such a case. A short time after the father of the young man consulted me in this same case, thinking that his son would recover by marriage. My advice against this was taken, and within a year this young man married into another family. He continued drinking, and died two years later in great wretchedness. His wife was left a comfortable fortune. The girl he wished to marry at first, whose mother had consulted me, married a clergyman, and a few years later was left a widow in destitute circumstances, with two children. Both families are severe in personal denunciations of my judgment, and believe that had the first marriage taken place this man would have become an abstainer, and at least his wife would at his death have been left comfortable,—the same old story of what would have happened, that rises up to distress many good persons.

In reality the best judgment of the time and place is all that should be expected, and in the larger number of cases this is the best wisdom and is followed by the best results. A W. C. T. U. society had gathered a sum of

money to build a hall and reading-room, and a private banker, who was a drinking man, held the money on deposit. Some members objected to this and appealed to my judgment. I could only urge on general principles that this was perilous. When the society was ready to build it was found that this banker could only pay a small part of the money, as his property was involved. Severe recriminations have followed, but the mistake was the failure to act on sound common-sense principles.

In all these questions associated with inebriety there is a common-sense view that must be the basis of all judgment. A man who has pursued a line of conduct for years and proposes to stop or change at once by the mere act of will power, and then urges that you have full confidence in his ability to do what he says he will, demands that which is opposed to common sense. The restoration of inebriates is a gospel of works; the reforms and revolutions we are all so anxious to help on are also a matter of works. The faith and confidence we expect others to have in our labors must be based on realities and works that will bear the tests of time. The theory that inebriety is a disease and curable, if it had been a mere opinion or guess work, would long ago have been put aside. Reformatory efforts to build up a correct public sentiment regarding the evils of the use of spirits and other social perils, will never succeed unless founded on great principles and supported by laws of growth and evolution.

Two devoted women organized a W. C. T. U. in a New England village in opposition to the best and leading society. They gathered a few factory girls and began, conscious of their final triumph and the reality of their work. The criticisms and sneers and social ostracism of the first two years only paved the way for great popularity, which came at last by works and solid realities that rose above all theory.

To the scientific man criticism and doubts, even to persecution, have no perils or discouragements. If the facts he urges are true they will only grow the stronger by

opposition, and if they are not true, he will be the first to discover their error and put them aside. There can be no fears of true work, real facts, and common-sense opinions. Criticisms and denials of the reality of any facts or work are very common and very cheap in the market. Anybody can indulge in them, but the men or women who can recognize the truth, and have the courage to urge and defend it, are the real workers of the ages. The many great questions concerning the drink problem and its associate evils are unknown in the general world, and hence a wide difference of personal opinion must exist. Men and women who have made much study and observation of these topics, are the least assertive, and most tolerant and quick to welcome any new facts based on study and experience, while those who know least are the most dogmatic and positive. The theorist who describes inebriety and its causes with startling minuteness, and points out the exact remedies, and announces that specifics have been found, and is able to explain their action, is always the most ignorant, and literally has no real knowledge of what he is talking about. The person who knows all about these confusing questions is always the one to be avoided, while the real student, who possesses real knowledge, is so conscious of how little he knows compared with the unknown, that he states his facts modestly and as views that may change from a larger and more complete knowledge.

Every year's experience brings into greater prominence the necessity of accurate, sociological, and scientific study of all these problems, and the means of prevention and cure. If the W. C. T. U. should through its large membership gather facts on the various disputed points, and put them in available form, it would be a recognized and valuable advance. If the burning reformers who are so anxious to help on the march of the race will become fact-gleaners everywhere, they can do permanent work, the influence of which will be felt far down the coming years. This age wants *facts*, not opinions or theories.—*Extract from a lecture by Dr. Crothers.*

SOME STATISTICS OF TOBACCO, TEA, AND
CHAMPAGNE IN ENGLAND.

The great increase in the consumption of tobacco, especially among growing lads, cannot fail to have its due effect on the development of both mind and body. The net revenue yielded last year by the tax on tobacco amounted to fifty-two and a half millions of dollars, this being in excess of the sum yielded from the same source during the preceding year by more than a million and a half. The excess is mainly attributed by the chancellor of the exchequer to the increase in the consumption of cigarettes. Another point revealed by the budget is the increase in the consumption of tea, ten million more pounds having been consumed during the past than in the previous year. That we are not necessarily becoming a more temperate nation is shown by the fact that in 1895 no less than 1,200,000 extra bottles of champagne were drunk. As usual, with returning prosperity the first rush is to the whisky-bottle and the decanter, and the increase in the consumption of the lighter wines and of tea does not redeem the outlook as regards the national health.
—*Therapeutic Gazette.*

TREATMENT OF ALCOHOLIC CIRRHOSIS OF
THE LIVER.

While the line of treatment to be pursued in cases of alcoholic cirrhosis of the liver are pretty much the same whether the viscus is enlarged or diminished in size, the prognosis is much less favorable under the latter than under the former condition. The diet should consist essentially of milk, not less than three quarts being given in the course of the day in divided amounts. Alkaline waters in moderate quantity may be permitted. If the milk is badly digested, to each glassful may be added a tablespoonful of the following solution:

R. Calcium chlorid, 15 grains.
Water, - - - 3 ounces.

Or, with each glass of milk a tablet of the following composition should be taken :

R. Pancreatin,)
 Pepsin,) aa - - 3 grains.
 Sodium bicarbonate,)

When the ascites has disappeared and the digestive functions are improved, in the course of from six weeks to four or five months, the severity of the regimen may be mitigated and white meats, green vegetables, and a small amount of farinaceous food permitted, while alcohol in any form, red meat, fat fish, and condiments are to be withheld. When possible, the milk-cure may be conjoined with the raisin-cure. Medicinally potassium iodid may be given in doses of from $7\frac{1}{2}$ to 30 grains, if necessary, for a period of several months. This drug is especially useful if the liver is fatty. When the disease is advanced iodism is to be guarded against, as this condition is attended with an increased probability of hemorrhage. If the enlarged liver is painful, and congestive exacerbations occur, calomel is to be administered — either gr. 1-6 or gr. 1-3 every morning for several months, or, beginning with gr. 3-4 four times the first day, administering gr. 1-5 four times a day for six days, then intermitting for fifteen days and then resuming as before. Meanwhile, the mouth is to be carefully watched for signs of mercurialism. Local revulsion meets the same indications as calomel. Vesication is to be avoided, as the kidneys are rarely healthy. As a diuretic calomel may be employed in doses of from gr. jss to gr. iij four times a day. A combination of squill, potassium nitrate, and potassium acetate may also be employed, or lithium carbonate with potassium nitrate, or a combination of the powder and the extract of squill. As a purgative gamboge may be employed, or euonymin with extract of hyoscyamus, or a combination of magnesia with flowers of sulphur. When, in spite of diet, diuretics, and purgatives, the ascites does not diminish or occasions dyspnoea, the fluid must be evacuated by puncture, repeated if need be. (*Gaz. Hebd. de Méd. et de Chirurgie*, 1895, No. 28, p. 335.)— *Medical News*.

ALCOHOLIC NEURITIS IN OLD AGE.

In a recent number of *Brain* Dr. Maude publishes a brief account of a most interesting case. The patient, who was a robust country gentleman of sporting habits and used to an out-of-door life, had taken stimulants in considerable excess for at least twenty years. Even eighteen years ago no unusual daily allowance was half a gallon of beer, a bottle of sherry, and eight or ten liqueur glasses of "neat" whisky. His favorite drink was beer, and even in the summer of 1894, although over seventy-five years of age, he would often consume two quarts of beer, a bottle of sherry, and half a bottle of whisky in a day. He had had no serious illness, except broken bones from riding accidents and a fractured humerus at the age of seventy-three from a fall downstairs one evening after dinner. During the year 1894 his great muscular power became much impaired, and toward the end of the year he began to complain of severe darting pains in the left lower limb. A few weeks later the hands and feet began to swell rather suddenly, the skin became thin and glossy, while there were small echymoses over it. A similar condition was present on the insteps of both feet, while the calves and thighs were aedematous and the muscles shrunken. The knee-jerk could not be elicited, and the pupils were small and did not react to light. The heart sounds were somewhat feeble, but they were regular and there was no sign of dilatation. Without any previous marked change in his symptoms he died suddenly after a few minutes' dyspnoea about two months after the onset of the symptoms. Dr. Maude considers the case to have been one of peripheral neuritis, and directs attention to several interesting points, such as the advanced age of the patient, the excess of his alcoholic indulgence, and the absence of mental change; the fact, also, that he was essentially a beer drinker is interesting, with reference especially to the views of the late Dr. James Ross as to the kind of alcoholic beverage most likely to produce neuritis.—*The Lancet*, October 19, 1895.

HOMES FOR INEBRIATES ASSOCIATION.

This association is composed of eminent bishops, members of Parliament, and medical men, for the special purpose of promoting the formation and growth of asylums for inebriates in England. The following extracts of report for 1895 are worth a note:

The experience of another year has proved strongly confirmatory of the presence of a diseased condition in many inebriates, and of the fair prospect of a cure of the disease of inebriety, especially if treated at an early stage of the malady.

The Committee have now had a record of the results of systematic treatment of inebriety, so satisfactory as to justify them in the expression of the hope that efficient legislation may ere long be enacted for the scientific treatment, for purposes of cure, of inebriates of every rank and position in life, and for the compulsory reception of such victims of this disease as are too broken down in will power to apply of their own accord for admission and detention.

The Committee are glad to know that two Government Departmental Committees have been taking evidence on the subject, from experts and others in a position to know the truth, and that they have found a general consensus of opinion in favor of legislation for the compulsory reception and therapeutic detention of habitual drunkards.

INEBRIETY AND MODERATE DRINKING
AMONG ACTIVE WORKING RAILROAD MEN.

The Voice recently made an active canvass of the drink question among railroad men. Twenty-five of the great leading railways in the country answered a series of questions through their managers. These roads employ 180,000 men.

Allowing the usual family of 5 to each employe, it follows that these 25 managers in a measure control the destinies of 900,000 souls. Out of these 25 managers, every one

denounces habitual drinking among employes as making them inefficient for work. Nineteen of these magnates forbid the use of liquor by all employes while on duty; five forbid it to trainmen only while on duty, and one did not reply to the query. Eighteen of these managers require total abstinence on the part of their employes in their train service, and many require it in all branches. Moreover, these 25 men are unanimous in their declaration that they give non-drinking men the preference, both in giving employment and in the matter of promotion. The bogus personal-liberty dogma is not recognized in a service where sober men and clear heads are required.

THE VINO-KOLAFRA.

This preparation of the kola nuts has been used as antidote for the poison of alcohol, and some authorities have called it a specific. Recently, through the kindness of *Johnson & Johnson* of New York, we have made a study of its action in several cases of acute and chronic inebriety. The plan was to discontinue all spirits and give *vino-kolafra* every two or three hours in two-ounce doses. After the third or fourth dose the acute symptoms subsided and the patient became easy, the stomach distress and demand for spirits subsided. In two cases sleep followed, from which the patient awoke rested. In two cases a marked change occurred in the restlessness and excitement, and the effects of alcohol seemed to be neutralized, the mind improved. Its action was that of a diffusible stimulant, with the narcotic tendency to relieve the irritation and psychical suffering of such cases. There are many reasons for believing that its greatest value is in replacing spirits, and lessening the suffering from the withdrawal of the drugs. In these cases this action was marked and almost a specific, and in all probability it can be used with equal advantage in other drug addictions. We shall report again on this drug, and hope our readers will try it in all cases of inebriety for

the first few days after coming under treatment. It certainly promises to be a most valuable remedy in the first stages of the treatment of these drug diseases.

The *Arethusa* spring water has already won a place among the great table and medicinal waters of the present time.

Our attention has been called to *Somatose*, a nutrient in powder form containing albumoses and other meat salts. We have found it exceedingly valuable in anæmia and wasting disease, and in degeneration from alcohol and other drugs. Send to W. H. Schieffelin Co. for a box. *Somatose* combined with cocoa and chocolate in the form of crackers is very palatable.

The *Hyde-Franklin mineral water* of Ballston Springs, N. Y., is a bi-carbonate of soda water, of great value in Bright's disease, rheumatism, and various stomach troubles.

Taka-Diastase was mentioned as a remedy for all forms of dyspepsia by mistake in the last number of the JOURNAL. In reality it is a remedy especially intended for cases where starchy elements of food are not properly converted into sugar. The well-known firm of Parke, Davis & Co., who bring out this new compound, are the pioneer chemists who are revolutionizing practical pharmacy in this country by their new drugs of estimable value.

JNO. C. LEWIS, M.D., West Bridgewater, Pa., says: "I have used *Celerina* in my own case for insomnia. Among all the hypnotic preparations and nerve tonics it stands justly pre-eminent. Several persons are now using it and report that no preparation has given such permanent and prompt relief. In a general practice of more than half a century, this is perhaps the first public testimony I have offered. *Celerina* is the very best nerve tonic now offered to the profession, and cannot be too highly recommended. To those wanting a nerve stimulant it will be just the remedy."

T. H. LINDEMAN, M.D., St. Louis, Mo., writes: "I have used *Nepenthe* (Tilden's) in the treatment of flux, cholera infantum, and diarrhœa of children, and I find it an excellent remedy, and can recommend it to the profession."

We publish in our advertising pages notice of the *Worcester Fire Pail Co.*, and believe it one of the most practical and valuable of all hospital appliances. Send for a circular.

Antikamnia is a very widely known drug, and has stood the test of critical experience. It may be used with great confidence in all neuralgiac, hysteric, and neuræsthenic states. In drug addictions we have found it valuable and free from all danger, and the least depressing of all medicines used to control pain.

"The medical profession of the United States and other English-speaking countries has long held the well-known firm of Reed & Carnrick, manufacturing chemists, in high esteem. Their name has been synonymous with honesty and integrity; the conduct of their great business has been such that no one could take exception to it. They have been most careful to maintain and strengthen the traditional dignity and conservatism of the profession."

Protonuclein and *Peptenzyme* are two new remedies that this firm are presenting to the profession, which are attracting great attention by their practical value in many diseases of digestion. A small pamphlet on this subject prepared by this firm is well worth reading. Send for a copy.

In *Maltine with Hypophosphites* the vehicle ceases to be a mere vehicle. It is a highly concentrated and partially predigested extract of the three cereals, wheat, oats, and barley, and, therefore, a positive and valuable adjunct in the treatment of every condition in which the hypophosphites are indicated.

The *Fellows' Syrup of Hypophosphites* has been on the market for years, and is always found valuable wherever

used. It is one of those remedies which become more popular and attractive as its remedial power becomes known. It is used both by medical men and the laity, and grows in popularity every year.

Horsford Acid Phosphates, like the sentiment in the song, goes on forever. Other drugs may come and go, but this compound continues the same yesterday, to-day, and who will deny that it may go on far down into the future.

Boehringer & Soehne manufacture a superior quality *Cocaine Muriate*, and various standard chemicals, alkaloids, such as atropine, codeine (pure, phosphate, sulphate, etc.), chloral, eserine, resorcin, terpin, hydrate, etc., also quinine sulphate. They are also manufacturers of the famous *Ferratine*, an iron and food tonic, also *Lactophenine*, the new antipyretic.

Arsenauro. The liquor *auri et arsenii bromidii*. This is one of the best tonics we have used in the chronic degenerations following the use of alcohol and opium. In two typical cases the effects were very marked, in the rapid improvement which followed its use. In theory it should be very valuable; in our practice it has more than sustained all expectations. We urge the extended use of this drug in all cases of inebriety, not as a specific, but as an alterative tonic that promises much for the future. We shall give some results of a larger study in the next number.

Wheeler's Tissue Phosphates is a favorite remedy in many cases of exhaustion, and should be given a trial in all such cases.

Listerine is invaluable as an antiseptic on all occasions.

CEREBRAL EXHAUSTION.

Horsford's Acid Phosphate.

It has been shown that the phosphates are found in excess in the urine in cases where the nerve centers (the brain and spinal cord) have been overworked, or subjected to undue labor, and the opinion is confirmed that there is a reciprocal relation between an excess of phosphates in the urine, and intellectual exercise.

This preparation supplies the phosphates and phosphoric acid, is readily assimilated, pleasant to the taste, and aids digestion.

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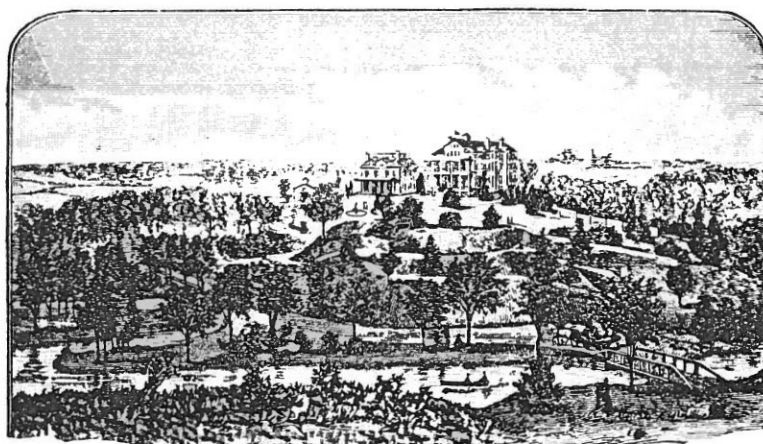
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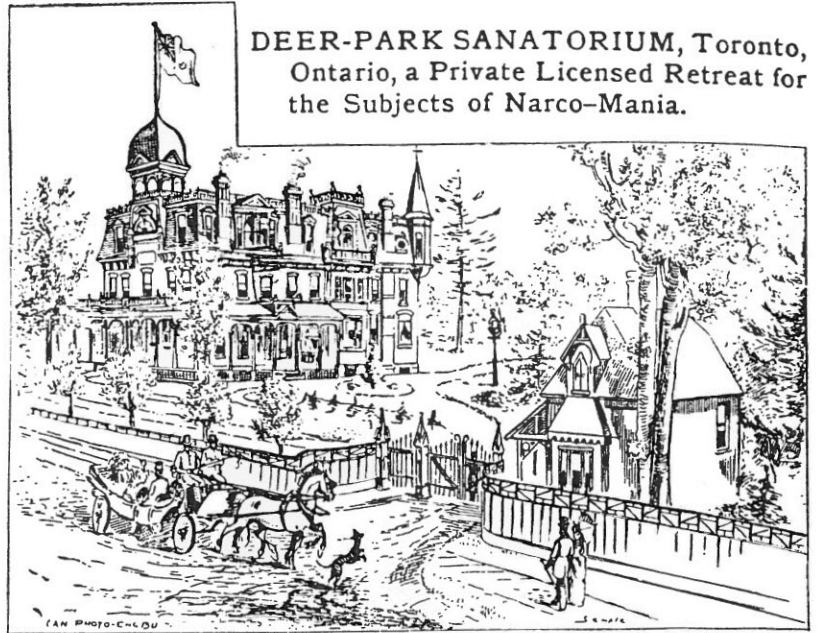
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DISEASES OF INEBRIETY

FROM
ALCOHOL, OPIUM, and other NARCOTIC DRUGS.
Its Etiology, Pathology, Treatment,
AND
MEDICO-LEGAL RELATIONS.

By the American Association for the Study and Cure of Inebriety.

THIS Association, composed of eminent physicians of this country and Europe, has for a quarter of a century studied the scientific side of Inebriety—for 22 years it has held its annual and semi-annual meetings, at which the subject in its general and special phases has been ably discussed. It has of late attracted renewed attention growing out of the empiric assumptions that specific remedies have been found for its cure; as a *sequence*, an increasing demand has appeared for the grouping of the studies of scientific men in this field, and for the legitimate inferences therefrom as to Inebriety itself and the proper treatment thereof.

At the November meeting of the Association, its Secretary T. D. CROTHERS, M.D., was instructed to prepare this volume from the vast fund of material in its possession which demonstrates that Inebriety is a disease and that it is curable as other diseases are.

The following is a Synopsis of its contents comprised in 38 Chapters :

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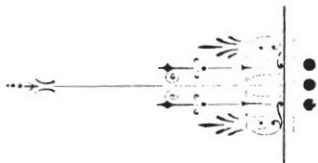
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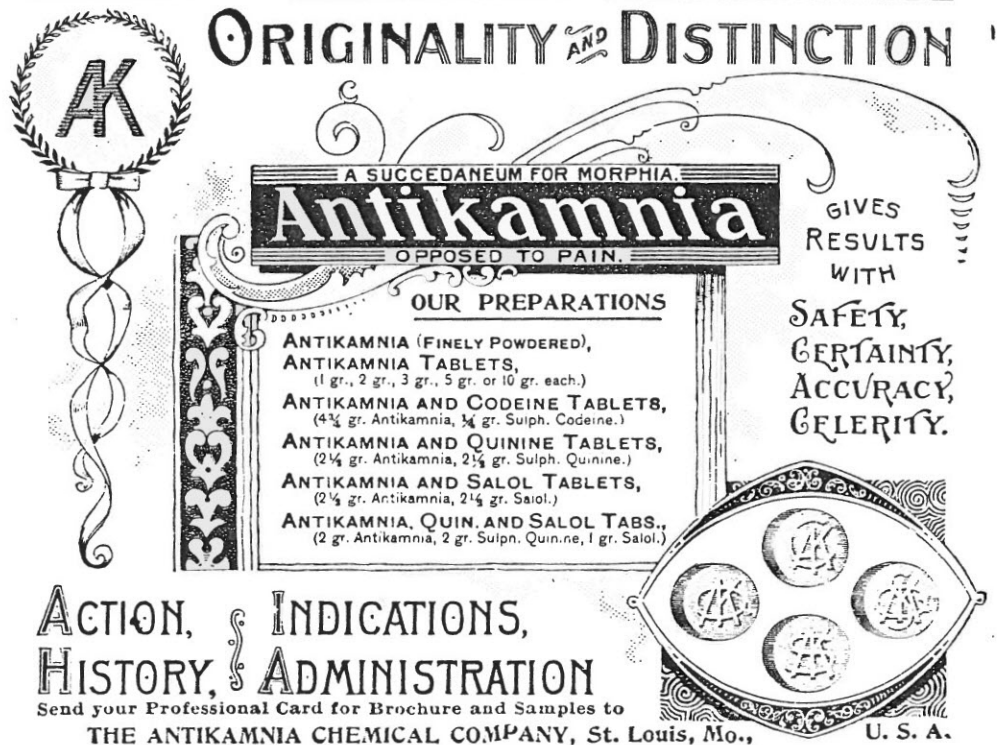
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The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, finds that no two of them are identical, and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnine in solution, and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. Fellows."

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear can then be examined, and the genuineness — or otherwise — of the contents thereby proved.

Medical Letters may be addressed to —

Mr. FELLOWS, 48 Vesey St., New York.

The Inebriate's Home, Fort Hamilton, N. Y.

INCORPORATED 1866.



HOSPITAL for the TREATMENT of ALCOHOLISM and the OPIUM HABIT.

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