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TABLE OF CONTENTS.

APRIL, 1885.

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NATURE OF INEBRIETY.

BY J. T. SEARCY, M. D., TUSCALOOSA, ALABAMA.

Who is an *inebriate?* and, what is *inebriety?* are two very different questions. What kind of a man is he in society, who by his *external* character, conduct, and behavior ought to be styled an inebriate, is a much easier question answered than what is the real *internal* condition that makes him act in the way he does. Most intelligent and observing men are qualified to answer the first question, Who is an inebriate? The very etymological derivation of the word gives a significant clew to the answer, it being derived from the Latin word *inebriare* (*ebriare* to drink, and, *in*, intensive), so that, an inebriate may be said to be a person *very much* addicted to drink. Of late, the term has technically been limited to that class of persons, who at certain periods, the intervals being longer or shorter, take *irresistibly* to drink, who at times *cannot* control themselves so as to resist the temptation to drink. The *inability* to properly adjust conduct so as to resist the temptation to take alcoholic drinks, is the *differential point* in the diagnosis. Whether the man is so *capacitated* that he *can* control himself according to rules of propriety in this particular, and not resort to such drinks, or whether he is so

incapacitated that he *cannot* do so, is the question to be determined in every case of inebriety. The diagnosis rests on this.

It is not supposed, with the lights before us in modern society, we will find many intelligent men willing to deny the fact that *there are* persons, who are true inebriates in the above sense, who, at certain intervals (continuously in extreme cases), are so incapacitated, that it is impossible for them to adjust their conduct properly — who take to drink irresistibly — without ability to do otherwise. The time was, in the not very distant past, when the question of *incapacity* was never admitted in reference to any person: all men alike, whether sane or insane, were held responsible to the standards of propriety. Irresponsibility, because of incapacity, was *never* admitted. As knowledge has increased, the fact of incapacity has been more and more admitted; much more slowly though in reference to *inebriates* than any other class of insane persons. The reasons for this tardiness, or this conservatism, on the part of society in reference to the inebriate, I think I can show as we progess. But very few will be found nowadays, who will deny this condition in pronounced cases, though they may deny it in the doubtful ones.

In Inebriety, as in other forms of insanity, the marked cases are easily distinguished — the degree of their incapacity is plain to anyone. But, in these, as in all other cases of such incapacity, there are cases so near the border line between capacity and incapacity, that the question of their responsibility is hard to settle, and what makes the case of the inebriate a peculiar one, is that it is impossible to tell whether his incapacity *after* he has begun his drinking is due, *even in part*, to original incapacity, or is the incapacity produced *by the drug*. The question of incapacity, in determining inebriety, ought, I think, to be incapacity *before* the use of the drug is begun. This point will appear more distinctly as we proceed. Limiting our definition of inebriety to include only those incapacitated before any of the drug had been taken, and their peculiar form of incapacity to lie in the direction of

inability to resist the temptation to drink, we will still have a considerable number to include in the list; there are a much larger number of cases, however, who will fall on the incapacity side of the line as soon as even a small quantity of alcohol has been taken, when there is superimposed the effect of the drug to their original defectiveness in this particular.

With the above exposition of the meaning of the terms, our answer will hold good to the first question: That an inebriate is a person so incapacitated that he cannot adjust his conduct properly in reference to the use of alcoholic drinks, or rather, he *cannot resist* the temptation to take such drinks. Like in other forms of insanity this incapacity usually occurs at certain periods, after longer or shorter intervals of sufficient capacity.

In answering the second question, What is inebriety? that is, what is the matter with the man? what is the condition of the man? what is at fault in him, that makes him to be so incapacitated? there is much more involved. In the light of modern physiology, I think we can approach a correct answer with much more distinctness and definiteness than ever before, and as an attempt at this solution this paper is principally written.

Modern physiology declares the brain to be the organ which *adjusts* the man's external actions — those which go to make up his behavior, his conduct, his character — so that they will conform to the rules of right conduct, which he is expected by society to have capacity to receive, to know, and to observe.

The brain, an immense nerve center, at the summit of the nervous system, excessively complex in structure and in function, is the organ physiologically that feels and thinks — that receives and adjusts. A typical nerve center — any nerve center — can be shown to *adjust action; to adjust*, being a technical term of modern invention, embracing in the breadth of its signification the extremes of nerve-center functions in the nervous system, reaching and including the

simplest "*reflex*" function of a distant, least complex center, as well as the vastly complex intellectual functions of the high brain. *All* nerve centers *adjust* the actions *emitted* from and by them, along their efferent outgoing fibrils, to those *received* by them from their afferent, incoming fibrils.

The lower, simpler, less important portion of the nervous system is engaged in adjusting the *internal* actions of the man's body — adjusting the actions of the several organs to their limited surroundings — to each other; but by far the larger, the higher, the more complex portion is engaged in adjusting the man to his ever changing *externals* — his environment. The centralization of *external* adjusting power or function is concentrated in the proportionally immense and excessively complex high brain. It *receives* action (information) through the various afferent channels, through the sense organs, from the external world, and *emits* action (that goes to sum up the man's motions, deportment, conduct, and character), it also by an exceedingly complex line of conscious action (reasoning), at times deliberate, at times prompt, *adjusts* the emitted to the received actions.

In this aspect, *the receptive actions* of the high brain are the *sensations*, the emitted actions are the *volitions*, and between these two extremes lie all the varieties of cerebrations, called *thoughts or thinking*. The *broad sense* of all this circuit of action is *consciousness*—or rather, all this circuit of action occurs in a conscious organ—*the sensorium*.

We have not time to follow this line of thought any further, but the physiology of this portion of the nervous system is very essential to the proper consideration of our subject, so that I have, succinctly as possible, introduced it here.

The fact that the brain is the organ of all this high order of action—receptive, adjusting, and emissive thought—makes the maintenance of its integrity and its capacity for proper action, to be one of the most important and vital questions for the consideration of men. It is reasonable to suppose that when there is either original, inherited defect, or subsequent injury, it impairs this organ's capacity for functional work—

this supposition all experiment and pathological experience confirms as a fact, we only know of the receptive and adjusting capacities of another man's brain by his emitted actions, and when they are defective there is every reason to infer defect in its structure that occasions it. Defective conduct or character in the individual at once, in modern physiology, means impaired capacity in the high brain to perform its functions.

The faculty the high brain has of carrying on a deal of its abstract work independently of other actions of the body, has led to the belief that it is extra somatic or metaphysical; and too, this fact of *independent* work accounts for the fact that its functions can be *at times* suspended, or impaired, without apparent hurt to the functions of the lower organs.

The above physiology is very important to the proper study and appreciation of inebriety. In it, like in all insane incapacities, the defect is a brain defect or injury—functional capacity to properly act is impaired.

It may be styled a necessity of the times, in view of these modern physiological views of psychology, that it is no more nor less than *brain* defect and incapacity, that makes all insanity, the insanity of inebriety included.

The receptive faculties of the man's brain are not limited alone to his own sensations, his own experiences, but, particularly and principally by means of written and spoken language, there can be a transfer of the conceptions of experiences from one brain to another. The faculty of receiving in this way the sensations, the experiences, the imaginings, the reasonings, the generalizations, etc., of another brain or other brains, builds the receptive faculty of the man up high and higher, and also the adjusting faculty (reasoning, etc.) goes higher with the receptive, and so also does the emissive faculty. This makes man's peculiar excellence; and the difference in different men's brain capacities to do the different kinds of actions, makes the varieties of men, individuals and races. The capacity of the one man's brain to *perform* certain acts measures his capacity to receive and

appropriate the transferred acts of other brains. The rudimentary brain of an infant cannot be expected to perform the complicated brain acts of an adult. So that childish incapacity does not mean insanity, unless it occur in adults. The incapacity, therefore, that constitutes insanity must be a *loss* of capacity. The previous life and conduct must always be considered.

Although the localization of functions in the nervous system and brain has but very recently begun to be investigated or determined, still I think enough has been discovered, to warrant the assertion that the receptive channels, all the way up, lie *posteriorly*, and the *emissive* channels lie anteriorly. The afferent, centripetal (sensory), fibres of the cord and medulla lie posteriorly, the thalami are in function, and by position in the receptive channel and posterior to the corpora striata that are in the efferent emissive channels, and in the cortices, the visual, the auditory, the olfactory, the sensory tracts lie posterior to the motor tracts and to the speech centers, and descending, the corpora striata are anterior to the thalami, and the motor fibres in the medulla, and the cord are anterior. So that we are authorized, I believe, in saying that the (sensating, voluntary) hemispheres receive *posteriorly*, and emit *anteriorly;* while the whole cortices seem to be engaged in the adjusting reasoning actions. The two hemispheres, also, are in such intimate commissural connection, the one with the other, that any action in one is made the common property of both—they work, thereby, harmoniously and simultaneously, the one with the other. The anatomy seems so far to confirm the physiology and psychology —much is yet to be learned, however; we are but in the beginning of this work.

My object in the foregoing physiological exposition is to show more positively than is usually done, that *the brain* is the grand adjusting organ that adjusts the man to his ever changing environment, and that its integrity and capacity are essential for full, proper, and normal functional action; and when we witness defective, faulty, unusual, unexpected, emit-

ted actions in the man,—in his conduct, character, deportment, and behavior—we have every assurance that the incapacity that produces them lies *in his brain*—it is a defective and faulty organ to the extent of its witnessed and adjudged incapacity, and is perfect and efficient to the extent of its witnessed and adjudged capacity.

To return to the study of inebriety. A few words as to the physiological action of alcohol will be in place just here. The drinking man readily asserts, on being interrogated, that he takes his alcoholic drinks for their "effect on his feelings." From the above physiology we know that this is brain effect. The sensating organ is the brain.

Abated, dulled, diminished sensation is a pleasant condition—and this is an effect of the administration of alcohol. It, like the other anaesthetics, begins upon the delicate structures of the high brain cells, and impairing their functions first, the lower orders of nerve centers and lower organs are not affected by the quantity that is diluted in the circulation, but the high brain is. No doubt there is often sufficient strength of solution in the stomach to act as an anaesthetic *locally* in that organ, which, I suppose in states of stomach discomfort, from excess of food or indigestion, is often one object in its use as a beverage, but its principal and most desired effect is upon the high brain, lessening capacity of its receptive, adjusting, and emissive functions. The object the man has in taking alcohol is its effect on his receptive faculties, making his brain less sensitive, but we witness also all three stages of brain action impaired; not only is the brain less sensitive, but the adjusting (reasoning), emissive (voluntary) actions become defective and faulty also. For instance. 1st. It is almost impossible to *teach* a drinking man, while he is under the effect of the alcohol. His receptive faculties are impaired so that high thought, or new ideas, or complicated abstract conceptions cannot be conveyed to him. Even while he is under the effect of a "*moderate*" dose his best acuteness of reception is impaired. Under a full dose he is entirely oblivious to all afferent action

from his sense organs—is anaesthetized. His receptive faculties are evidently blunted, dulled, or entirely suspended according to the quantity in contact and chemical union with his delicate brain cells. The *receptive* faculty of man's brain is impaired by alcohol. 2d. His adjusting (reasoning) faculties are also incapacited, evidenced by his faulty judgment in every particular, under the influence of small doses; in the most delicate, most complex adjustments this is the case, but when the quantity is increased, like the receptive, the adjusting faculties are more and more incapacitated, until, in the extreme, they are entirely suspended.

Finally, faulty, emissive faculties are shown in defective utterance and speech, in faulty, voluntary actions and motions, the faultiness varying in proportion to the amount of the one in the circulation. Evidently, the man, with alcohol in his circulation and in chemical contact and union with his brain cells, for which it has a "special *affinity*," is more or less *incapacitated*, in brain functions, while the alcohol is in the circulation; but, what is the result when the alcohol is thrown off, and gotten rid off? We then find his brain *over* sensitive, hyperaesthesic, he is still not capable of the nicest adjustment and most acute reasoning, and his emissions are tremulous and faulty. Evidently some (more or less) incapacity *follows* its use.

The sequel to a single acute "attack" of "alcoholism" on an injured, impaired brain, can be recovered from by the ordinary reparative processes in sufficient time. The length of time usually depends upon the general *tone* of cellular reparative power of the man's system, and upon the degree of the injury done. It is notorious, though, that as soon as sufficient time has elapsed to suppose all the alcohol to be removed from the circulation, or from union with the brain cells, the man *wants more*. Why? He will tell you he "feels bad," and must have more to relieve his "bad feelings;" a very correct answer.

The chemical injury of the drug upon these high sensating structures is to render them *more sensitive*, and adjusting

capacity being injured at the same time, he yields,—his emitted conduct is in accordance with this *incapacity*.

The course of the man from a single spell of acute alcoholism into a chronic and severer one, is by the very nature of the case made more and more easy. The *facilis descensus* runs with increasing momentum. The facts in the case in this malady are peculiar; when there is injury to other organs in the body, the *adjusting organ* is usually intact, and capable to shape conduct, to avert or thwart the harm done, but here, it is the adjusting organ *itself*, that is impaired, and its incapacity favors its own extinction.

The grand sequel to a continued spell of alcoholism is usually and very naturally acute mania. It is a little singular to note the symptoms of *mania a potu*. They are due to the *injury* done to the high brain, and are not the primary effects of the alcohol.

While the man was under the anaesthetic effect of the drug in the first of his spree, his delusions were all of a grandiloquent, good-feeling sort, he was oblivious to discomfort or worry, mock courage and hilarious exultation characterized him—but, now that the *injury* of the drug is producing the symptoms, his delusions are of the very opposite kind, over sensitiveness takes the place of dulled sensations, and cringing terrorism, of his mock courage. The delusions of the one condition are the opposite of the other.

It is not necessary, I judge, for me to proceed further in proof of the fact, that the action of alcohol produces brain incapacity. The primary effects of the drug, while it is in the circulation, are of this character, and the symptoms that follow its use, show that this organ has been injured in direct proportion to the quantity of the drug taken, and the length of time its use has been continued.

The man, though, can pass through a debauch of considerable length, his incompetency during the use of the drug being due to its direct chemical effect on his sensating, consciously-acting high brain cells, and the symptoms of incompetency immediately following its use be due to the

injury done these high structures, but after a longer or shorter time he will recover and will not fill the requirements of the definition laid down in the first of this paper of *inebriety*. I stipulated then that the incompetency be not the immediate result of the alcohol on his brain, but that after intervals of sufficient time for recovery, or *ab initio*, the man will become incompetent to resist the drink habit; *before* he has taken any alcohol, he is incompetent.

I stated that I did not think it necessary to enter into the proof that there are such persons in society, at times incompetent in this particular, and their incompetency not due to the immediate effect of the drug. Brain capacity or competency in its adjusting functions, means the man's brain capacity to receive and use his own experiences, or to receive and use the formulated experiences of others, in the adjustment of his conduct. The modicum of this capacity varies with different persons, all are not alike. This *capacity* is largely inherited, transmitted through a line of ancestry practiced in it, and it is strengthened or weakened by the practice or non-practice of it in the life of the individual. So that for the question of insanity to be admitted in the incompetency of the individual, it is necessary that there be a sudden or unusual exhibition of failure of the expected or the customary degree of competency that belongs to him. In insanity the adjusting organ holds up to its ordinary work, running a longer or shorter period when there occurs a loss of its usual capacity, and the person does unusual things, below the ordinary standard that is expected of him. Such kind of conduct characterizes the inebriate. At intervals he fails in his capacity to adjust according to his former good resolutions, or rules of propriety, and the intervals usually grow shorter and shorter of his sanity, and his periods of incompetency last longer and longer. That under our stringent definition of the inebriate, we rule out a great many, and limit the number to a few, is a fact—but just as soon as we allow, in this particular, that the alcohol itself makes incompetency, we find very many more who enter the list as

soon as they take *any* of the drug, and the more they take the more incompetent they become, and the longer the period of incompetency from the injury lasts. Those persons, who are strictly *inebriates*, take the drink because, like all other insane, they have intervals of sanity, and periods of insanity, but their peculiarity is just as soon as the agent is in the circulation, and produces its effect on the brain cells; at once there is superimposed the *additional incompetency* due to the drug.

Whether the use of the drug during one period, it may be the first one, will injure the brain so that it will not entirely recover, but be more liable again and repeatedly to fall into its periods of incompetency—this exposition of the action of the drug would lead us to expect—and all experience confirms this expectation.

The next step in this discussion is to consider the causes that conspire to produce a state of incapacity, to injure the functional action of this high, adjusting organ—before there is any direct effect of the drug, so that after an interval of competency the incompetency sets in. I might say that they are the same causes in the complexity of brain actions that produce the returns to periods of incompetency in other forms of insanity after intervals of sanity. When a brain has a special weakness or defect, inherited or acquired, that is overcome or corrected during intervals of the best sanitation or sanation, when the tone of cellular action runs best; when the functional disintegration accompanying functional action is followed by prompt functional reintegration (nutrition good) the symptoms of defect or weakness are not exhibited, but let there occur anything to lower this healthy condition, then the symptoms of defect show themselves.

So that during the healthy interval in brain action the deficiency is not shown. This defect may be, as I say, inherited or acquired. It is very reasonable to suppose that the injury to a *parent's brain* from the continued effect of alcohol will be repeated in the brain of his offspring, and the child's brain be specially deficient in the very way or line of

the parent's injury. So that a temporarily injured brain in the parent can descend as a permanently injured one in the child. Experience confirms this proposition also. Many varieties of incompetency, or insanity, are legacies in the brains of descendants from alcoholism in the parent, but particularly, and very reasonably, the special line of weakness in the parent will descend, and the insanity in the child take the shape of incompetency in the use of alcoholics.

Brain tire or straightforward brain overwork, when the functional disintegration is more than the functional reintegrating capacity, will bring out or produce a special defect, or make incompetency. Excessive action of any kind, excitement, grief, worry, anger, an outside blow, or an internal injury to the head, may precipitate such a condition, especially, as I say, if at the time there is original inherited defect, or the result of a former injury. Let any such person take at such a time a dose or two of an alcoholic, the pleasure it gives, due to its hardening, coagulating, dulling, benumbing effect, cutting off all brain sense of discomfort or fatigue, is very apt to lead him to its continued use. The injury of the drug is then superimposed on that of the original injured condition, and increased incompetency ensues. If the original defect is a serious one, so as to have already transferred the brain condition across the border line between competency and incompetency, the action of the drug heightens it.

In all this discussion, of course, I am not meaning to imply that there is not a place among our remedial agents for alcohol. It ought to be classed among the other anodynes and anæsthetics, that are usually given and taken for their specific effect of dulling or suspending the brain faculty of sensation, and are excellent in their places, given with *expert* judgment. There are other secondary effects seen in its administration, but its brain effect is the one dwelt upon and insisted upon in this paper.

Heaviness in the heart of man maketh it stoop: but a good word maketh it glad.

THE TREATMENT OF OPIUM ADDICTION.

BY DR. J. B. MATTISON, BROOKLYN, N. Y.*

Another bromide symptom refers to a peculiar form of aphasia, as shown by using one word for another: Brown for Jones, cake for comb, etc. This may persist for several days. Dr. Clarke refers to such instances, and says: "they are hints of a distinct organ of language, and suggest the notion that, inasmuch as the drug we are considering paralyzes reflex before it does general sensibility, language may be the expression or correlation of a peculiar reflex power."

Another symptom is an odd effect on the memory—the loss of a word or a sentence, and entire inability to regain them at the time, so that the train of thought is abruptly ended. These are sometimes quite annoying to the patient, but possess no other importance and soon pass away.

We must again insist upon the fact that all cases of opium addiction do not require the bromide alike. This is a point of prime importance, and failure to put it in practice, is, doubtless, often the main secret of ill-success or unpleasant results in its use. The patient, as well as his disease, must be treated, and he who uses the bromide, as Fothergill asserts Opie mixed his colors—"with brains"—will accomplish far more than the tyro who sets himself up in the treatment of this or any other disorder and fails to be guided by good judgment. To follow a mere routine giving of the bromide, or any other remedy, unvaried by individual condition, is a sorry showing of professional incapacity. We have lately learned of a case of this kind, presenting a lamentable lack of discretion. The patient, a medical man, addicted to

* Read before the American Association for the Cure of Inebriates, October 22, 1884. Continued from p. 8, January Number.

morphia, having decided upon self-treatment, began a plan of operations with the bromide, taking it himself for several days, and then its hypnotic effect asserting itself, he gave orders that it should be given him some days longer, and this senseless advice being blindly followed by his attendant, he sank into a stupor which persisted for more than a fortnight. This illustrates anew, in another sense, the truth of that trite legal proverb as to the mental status of the individual who is both lawyer and client. Let it be distinctly understood that some cases of opium addiction are ineligible for the bromide treatment. Those complicated with serious lesion of the heart or lungs should be excluded, and those in which there is marked general debility should always be accorded a previous tonic course. Lastly, as before asserted, *in each and every case where it is given, the extent of its continuance is to be governed entirely by individual peculiarities as indicated both before and during treatment.*

Another point, which our experience has convinced us is of value, refers to the treatment just after the habitual hypodermic or other opiate is abandoned. Supposing a case where at the end of five to seven days, as individual peculiarity may determine, the desired sedation is secured, and the usual opiate reduced to a minimum—say one-sixth to one-half grain each dose—instead of an entire discontinuance, we change the order of affairs and make a break in upon the routine taking, by giving one full dose, per mouth, in the evening. This ensures a sound night's sleep from which the patient awakes greatly refreshed, and often surprised at his good condition, which usually persists during the day. The next evening at about the same hour, the maximum bromide dose and two-thirds of the previous opiate are given. The third evening the same amount of bromide and one-third the first evening's opiate. This ends both opiate and bromide. Exceptionally, the full single dose of opium and sodium is given only one or two evenings. During the following day, if the patient is quiet, nothing is given. Should there be minor discomfort, one-half ounce doses of fluid ex-

tract coca, every second hour, have a good effect. Cases, occasionally, require nothing else. If, however, the characteristic restlessness sets in, we give full doses of fluid extract cannabis indica, and repeat it every hour, second hour, or less often, as may be required. When the disquiet is not marked, this will control. If more decided measures be called for, we use hot baths, temperature 105 to 112, of ten to twenty minutes duration, and repeated as required. A short shower or douche of cold water often adds to their value. Nothing equals them for this purpose. Warm baths are worthless. The water must be *hot* as one can bear. We have repeatedly known a patient to fall asleep while in the bath.

As to "full doses" of hemp, the dose of the books is useless. As before stated, addiction to opium begets a peculiar tolerance of other nervines, and they must be more robustly given. We give sixty minims Squibbs' fluid extract, repeated as mentioned, and have never noticed unpleasant results. Small doses are stimulant and exciting, large ones sedative and quieting, hence the latter are seldom followed by the peculiar haschish intoxication. Lest some timid reader should regard this as reckless dosing, we may say that the toxic power of hemp is feeble, and that these doses are the result of an experience of the drug in many cases, in which smaller ones have failed of the desired effect.

At this writing, two lady convalescents, still insomniac, are nightly taking these full doses with good effect in securing sleep. One recent lady patient, who did not lose a single night's slumber during treatment, and whose need for a soporific ended in eight days, took no other hypnotic whatever. We have used it of late more largely than ever, and with growing confidence in its sleep-giving power, taking, in this regard, almost exclusively, the place of chloral.

Regarding this insomnia, Levinstein and other German writers assert that it will "resist every treatment the first three or four days." This may be true of them, considering their method, and is, of itself, added proof that they are lamentably lacking in the therapeutics of this disease. Under

the plan we pursue, no such sleepless state is noted, and in ordinary uncomplicated cases, patients can usually be promised recovery without the loss of a single entire night's slumber.

Chloral, during the first four or five nights of opium abstinence, fails as a soporific, often causing a peculiar excitement or intoxication—patients talking, getting out of bed, and wandering about the room—followed, it may be, after several hours, by partial sleep. Later, in full doses of forty-five grains at once, rather than three fifteen-grain doses—alone or with a bromide—it can be relied on as a hypnotic; but we have thought that in some cases where it secured sleep, patients, the next morning, felt a certain languor, of which it was largely the cause. Some who use the hemp mention a feeling of fullness about the head and eyes, with occasional confusion of thought, but seldom complain of pain.

The bromide, baths, hemp, and coca, with or without capsicum, are therefore the main remedies for the restlessness and insomnia, which, with sneezing, are invariable sequelae of opium withdrawal, and, wanting, the patient is surely deceiving his physician.

For relief of neuralgic pains, which sometimes occur, varied measures suffice. At the head of the list are electricity and the local application of ether. As to the value of the galvanic current in neuralgic headache—so common in opium habitues—and the manner of using it, the reader is referred to a paper on "The Prevention of Opium Addiction," in the Louisville *Medical News*, February 13, 1884. The same agent is effective in relieving limb and lumbar pains, though a much stronger current is required than can be used with safety about the head. Sometimes a strong faradic acts well, and where one fails trial should always be made of the other. Local hot baths—sitz or pediluvium—are of great service for this purpose. Chloroform, locally, relieves, also massage.

Regarding the ether, those who have never employed it will be surprised at its pain-easing power. It matters not how it be applied—spray, drop, or lavement—it is potent for good.

These three—electricity, ether, hot water—are our main anodynes, and one special point in their favor is entire freedom from unpleasant gastric or other results.

For relief of minor neuralgic pains other remedies at times suffice. Croton chloral, in five grain doses every hour, is sometimes quite effective in tri-facial disorder. Tonga, in one drachm doses of fluid extract every hour, is often a reliable anodyne. Its value in some cases seems increased by combining it with the salicylates.

Externally, menthol, in solution, two drachms to the ounce of alcohol, used with a brush, as a spray, or the menthol cone, is sometimes of service; also the well known camphor and chloral combination.

Under this plan of treatment disorder of the stomach or bowels is rare. Our rule is to give an active mercurial or other cathartic in the outset, if there be evidence of alvine disorder, and then secure regular action by such laxative as is found most agreeable. If the latter be found so relaxed as to require restraint, thirty minim doses of fluid extract coto, or sixty grain doses of sub-nitrate bismuth, every two or four hours often serve a good purpose. They are best given in capsule. If, however, the diarrhœa persists more than twenty-four hours, the most effective measure is to give a full opiate, tincture opium, per mouth or rectum, preferred at bed time. This promptly controls, gives a full night's sleep, and the trouble seldom returns. Fear of an untoward effect on convalescence is unfounded. With our experience the assertion of one writer that, "it is impossible to cure the 'opium habit,' and bridge the patient over the crisis, without having the bowels freely relaxed," seems quite absurd. We have again and again seen patients recover who had only two, three, or four movements daily. One such, lately dismissed, was a hypodermic taker of twenty grains morphia daily, and had been addicted for several years. Others have required a laxative enema in less than a week after opiate withdrawal.

Formerly, an exclusive milk and lime-water diet during the first two or three days of opium abstinence was deemed

advisable. This regime is not now imposed, as some patients are able to do dietic duty, and the rule is to make no restrictions unless the exceptionally occurring stomach or bowel trouble seems to require. More than one patient, habitues for years, did not vomit once. The excessive vomiting mentioned by Levinstein and Obersteiner—they practice abrupt disuse—we have never noted. The former thinks the collapse—which we have never seen—observed in several of his cases, was due to the vomiting and purging. Probably the largest factor in causing it was the exhausting general mental and physical suffering which his monstrous method entails.

If the stomach rebels, entire rest, abstinence from solid food, or all food, for a time, milk and lime-water, kumyss or Murdoch's food, in small amount, often does well. If more active measures be required, sinapisms, ether, faradism externally, and, internally, bismuth, chloroform, menth. pip., ice, are of value. If all fail, a full opiate, hypodermic, will promptly suffice.

Having thus crossed the opiate rubicon, treatment relates largely to the debility and insomnia. For the former, of internal tonic-stimulants, coca leads the list. But our experience does not warrant Morse's assertion—"coca cures the 'opium habit.'" That is a mistake. While it is of great value in relieving the varied symptoms of lessened nerve tone, it is *not a specific*. Patients, long used to opium, cannot abandon it and trust to coca alone to carry them over the crisis. This, save in mild cases, it will not do, but, conjoined with other measures, it is strong for good. Of a reliable fluid extract, we give it, sometimes before, and always after the acute restlessness, in four to eight drachm doses, every two hours, or less often, as required, and continue in these full doses, at increasing intervals, for several days. As need for it lessens, we decrease the dose to one or two drachms, and this amount, *ter die*, combined with other tonics, may sometimes be continued with advantage for weeks. As a rule, however, its use is quite abandoned within a fortnight.

Its effect, while noted in from three to twenty minutes, seldom persists more than two or three hours, so that, when the demand for it is active, it is best given at this interval. To remove the mental and physical depression, the minor neuralgiae, and the occasionally occurring desire for stimulants observed in these cases, nothing equals it—being, in this regard, more nearly a specific than any drug at command; and capsicum, in doses of one-half to one drachm of tincture, with the coca often adds to its value. For details of this drug and its uses, see "A Case of Coca Addiction," reprint of which can be had of the writer.

Another agent of much service is general faradization, twenty-six minute seances, daily, the feet on a plate to which the negative pole is attached, while the other electrode, encased in a large sponge well wet with warm water, is applied to the entire surface, with a current strong enough to be thoroughly felt, but not painful. This imparts a grateful sense of exhilarating comfort, and is the most effective tonic at command. Thus applied or with anode to cervical spine it may be used daily so long as indicated, taking care not to overdo, for a current too strong or prolonged works mischief, overstimulating and exhausting to the extent, it may be, of several days discomfort, which nothing but time will remove. Very exceptionally, faradism disagrees and has to be abandoned.

Alternating with or following we may use the galvanic current. This is a general tonic of special value in these cases. Our method is: positive pole to nape of neck, and negative to epigastrium for five minutes; then the former behind the angle of each jaw for one or two minutes, making the entire seance of seven to nine minutes.

Next to the electric tonic ranks the cold shower bath. It certainly is a great invigorator, and many a patient who dreads it at first, soon comes to appreciate it most highly. If agreeing it should always be taken. With some it acts as a hypnotic. We recall one instance, in particular, of a medical gentleman, who, still somewhat insomniac, after sleeping two or three hours, and awaking with no prospect of further

sleep, would take a shower, followed by vigorous rubbing, and soon fall into a refreshing slumber lasting until morning.

Internal tonics, of course, have a place in the roborant regime, varied as the case may demand. In some cases we employ them from the outset, and the use of Tinct. Ferr. Mur. in large doses, fifteen to twenty minutes thrice daily, has seemed in virtue of its tonic-astringent effect to serve a doubly good purpose in lessening the tendency to alvine relaxation. After the opiate disuse, an excellent combination is Fld. Ext. Coca with Syr. Hypophosphites Iron. Strichnine and quinine, two drachms of each, after meals. Another, Fowler's solution or Tinct. Nux Vomica with dilute phosphoric acid or acid phosphate. If anemic, ferric tincture or Blanchard's pills. Digitalis is often useful. In many cases, cod-oil is of value, and may be continued for months. We make choice, as required, of emulsion with pepsin and quinine. Emulsion with phosphates or plain oil.

Some degree of anorexia is always present, yet may not prevent the regular meal, and need never occasion anxiety, for, probably, it will soon give place to a well-marked reverse condition, which may be encouraged to fullest feeding short of digestive disaster. The appetite often becomes enormous, and sometimes restraint and digestive aid are demanded. If it be slow in returning, rousing measures will suggest themselves. In such cases it has seemed a good plan to stir up the alvine system, once or twice a week, for a time, with a mild cathartic at bed-time, or a full morning dose of hunyadi.

One result of the opiate quitting, and the regime noted, is, often, a greatly improved nutrition as shown by a notable increase in weight. One physician, not long ago since dismissed, gained a pound a day, and another convalescent has been lately been adding to his avoirdupois at the rate of twelve pounds a fortnight.

Rev. Dr. Pieper of Mayland, Prussia, has published a work On American Inebriate Asylums, that will be of great interest to all our readers.

INFLUENCE OF INEBRIETY ON THE VOICE.

BY LENNOX BROWNE, F. R. C. S., SURGEON TO THE ROYAL SOCIETY OF MUSICIANS, ETC., ETC.

After giving an abstract of the very scant literature that already existed on the subject, he pointed out that the habitual misuse or abuse of alcohol was one of the primary causes which combined to generate several forms of throat disease, especially a chronic form of inflammation of both the pharynx and larynx. It was no argument to say, with Cohen, that "the free use of alcohol is not an essential factor in exciting these complaints, because they are encountered in a marked degree in individuals altogether unaccustomed to the use of stimulants." But it was certainly true that where alcoholism existed, such cases would in the early stages recover with but little medication, either constitutional or topical, provided abstinence were enforced. On the other hand, without such restriction, recovery was incomplete or chronicity much more firmly established. That there was a special form of consumption, affecting both the throat and lungs, dependent upon inebriety, was clearly shown as early as 1835 by Forbes, Tweedy, and Conolly, and later by Edward Smith and Richardson. But in addition to these grave disorders, those who have to use their voice in the exercise of their profession, especially as actors and singers, are very liable to functional disorder if they indulge in the use of stimulants to an extent that would be considered by most people quite moderate in relation to ordinary life. Such persons are not only very sensitive to any change of atmosphere and other circumstances influencing the voice, but they are liable to uncertainty of intonation, the tendency being to sing flat, and to a want of precision in both verbal and vocal utterance. A chronic dryness of the throat,

especially when called upon for functional exercise, is frequently complained of; and this symptom, although the cause of a bad habit, is often urged as an excuse for its continuance. The lecturer warned voice-users that the "taking a hair of the dog that bit them" is an especially fatal practice in their case.

He illustrated by a valuable series of statistics, based on the replies of 380 professional male vocalists, some new facts on this subject. Of this number of professionals it was found that 254, exactly two-thirds, acknowledged to the habit of taking alcoholic stimulants, and 126, one-third, to rarely or ever so indulging. Of this last number, 26.58 per cent. claimed to be total abstainers, and amongst them were some of the most eminent singers in our cathedrals and chapels royal.

Of the non-abstainers, one-third took ale or stout, and three-fourths took malt liquors in combination with either spirits or wine. Regarding the time of taking stimulants, of the 279 non-abstainers, 23.25 per cent. took them at meals only, and the same number at the end of the day; 9.3 per cent. at supper only; 16.8 per cent. at meals and end of the day. The remaining 22.9 per cent. acknowledged to taking stimulants at all times, according to pleasure and opportunity.

Regarding the important question as to taking stimulants either immediately before or during use of the voice as an aid to its exercise, replies from the whole 380 showed that 75 per cent. never did so, 20 per cent. more or less habitually, the remaining five per cent. reporting that they only took stimulants either before voice-use, or at an interval in long periods of vocal exercise. The evidence of many eminent singers as to the advantages and disadvantages of the practice was quoted at length.

The nature of the stimulant taken as an aid to voice-use was not stated by 95 who employed it, but of the 70 who specified its nature over one-third were believers in the value of stout, and nearly one-fourth in that of port wine. Predilection for the latter was accounted for by the fact that

more than half of the port wine drinkers held positions in cathedral and collegiate choirs, in the precincts of whose venerable walls the value of port may be considered almost an article of faith. The author suggested that the large amount of confidence bestowed on stout might be due to the tradition that this was the cause of vocal excellence in the highly-gifted but very short-lived Malibran, and also the habitual drink of Titiens and other celebrated artists. He had the honor several times to treat Madame Titiens for throat affection, and the idea that she took malt liquor to benefit her voice or for any other purpose was quite unfounded. He had never seen her drink porter between the acts of an opera. He had frequently been in her society, and if ever she took anything it was weak claret-and-water.

Malibran was born in Paris or Turin in 1808, and died at Manchester on September 23, 1836. There was little doubt as to her indulgence in drink. She constantly burnt the candle at both ends, and her premature decease was undoubtedly due to the unhygienic condition in which she lived. She died at the age of twenty-eight. He would only give one anecdote with respect to her porter-drinking habits, as related by Mr. Alfred Bunn. The painful details of her life and death were relieved by the author by an allusion to her thrilling and never-to-be-forgotten rendering of the *finale* in the "Maid of Artois." He had had occasion during the rehearsal of this opera to express himself strongly as to her having kept the whole of the rehearsal waiting while she was away earning £25 at a morning concert, when he was paying her five times as much for singing at his theater, and the whole success of the opera was placed in jeopardy. "She had been borne along the first two acts on the first night of performance in such a flood of triumph, as if she were bent by some almost superhuman effort to maintain its glory to the final fall of the curtain. I went into her dressing-room previous to the commencement of the third act to ask how she felt, and she replied, 'Very tired, but—' and here her eye of fire suddenly lighted up, 'you angry devil, if

you will contrive to get me a pint of porter in the desert scene you shall have an encore to your *finale.*' Had I been dealing with any other performer I should have hesitated in complying with a request that might have been dangerous in itself in its application at the moment, but to check her powers was to annihilate them, and I therefore arranged that behind the pile of drifting sand on which she falls in a state of exhaustion towards the close of the desert scene, a small aperture should be made in the stage; and it is a fact that from underneath the stage, through the aperture, a pint of porter in pewter was conveyed to the parched lips of this rare child of song, which so revived her after the terrible exertion the scene led to that she electrified the audience, and had to repeat the charm of the *finale* to the 'Maid of Artois.' The novelty of that circumstance so tickled her fancy, and the draught itself was so extremely refreshing, that it was arranged during the subsequent run of the opera for the negro slave at the head of the governor's procession to have in the gourd suspended round his neck the same quantity of the same beverage, to be applied to her lips on his first beholding the apparently dying Isolene."

In conclusion Dr. Brown advised all to abstain from stimulants. The duties of many actors and singers carried them late into the night hours, and healthy voice-use always resulted in a desire for food, so that it was necessary for them to have late suppers; the bulk of which would, in proportion to their needs, seriously interfere with their sleep.

The question of tobacco was treated with brevity. Of the 380 singers from whom the above statistics had been taken, it was shown that 47.3 per cent. were smokers; sixteen per cent. were non-smokers; 11.6 per cent. indulged in tobacco but rarely; and ten per cent. practiced the habit with "great moderation." Of the 101 abstainers, twenty per cent. were smokers, sixty-six per cent. were non-smokers, and fifteen per cent. acknowledged to occasionally smoking. The excuse for tobacco was thought to be less reasonable even than that for alcohol, and this article was, as a rule, decidedly per-

nicious to the throat and voice. The atmosphere of smoke had been proved to be susceptible of exciting to considerable functional discomfort and physical disorder of the throat, and on this account "smoking concerts," which were always 'drinking concerts," also were to be discouraged.

In the discussion which followed the reading of this paper, Dr. Kerr remarked: From his professional experience, he felt certain that those who drank as an aid to vocalization, simply used it as a stimulant or a sedative when suffering from deep exhaustion of nervous strength. He could assure all such, however, that beef-tea, or coffee, or tea, or cocoa, or other allied agent, would be found as efficacious, and less risky, even in exhaustion. In his acquaintance with musical and dramatic *artistes*, he could definitely state that he had never known strong drink useful in a single instance; while he had known actors and vocalists of great promise ruined in voice and wrecked in reputation by drinking. One celebrated singer whom he had known he had seen die in a work-house from this cause. The disastrous effect of drinking on the vocal organs was seen in the huskiness of the toper. In his observation the members of the dramatic and musical professions were remarkably temperate in their habits, the former especially. He could, as a medical man, conscientiously advise no *artiste* to drink, however moderately. In the past, music by its alliance with drinking had helped to train inebriates, and to bind more closely the chains of inebriety around the victims of alcohol; but the considerable proportion of vocalists who were now abstainers was an augury of a happier future, of a good time coming, when music would fulfill its lofty mission as an efficient auxiliary to the cure of the inebriate.

Prof. Gilbert said that Mario, who was a heavy smoker, lost his voice when he was comparatively young. Very few of the present generation had heard Mario sing as he could sing at one time. Braham rarely took intoxicating drinks, and at eighty-three his voice was good.

Mr. Hogg said his views were much in accordance with

those of Mr. Browne. A great change had been coming over the public mind in regard to the use of alcohol, in which no doubt singers had shared. In his early days he mixed a good deal with operatic people, and then it was the fashion to indulge greatly in drink. He remembered Malibran taking a quart jug of porter before she could go on the stage. Singers had great difficulty in finding a drink that would quench thirst and at the same time be nourishing. The Italian singers, accustomed to the wines of their own country, were not prepared for the fortified wines of this country. He was acquainted with an eminent Italian singer who gave him an interesting account of how he was enabled to get on well and preserve his voice under the varying conditions of our climate by abstaining altogether from alcohol, by taking a steak early in the day, having a sleep afterwards, and then taking strong coffee before he went on the stage. He would repeat the coffee during the performance, and found it such an admirable substitute that he became a changed man. The man who wished to preserve his voice should not be a consumer of alcohol at all. He had met with one or two cases in the profession of alcoholic paralysis both of the throat and of the sight. One man thus suffering said he could take twenty-six glasses of brandy-and-water a day. But he was never drunk.

Dr. Martin said alcohol was often adopted as an aid to calming trepidation. A substitute would be found in coffee, for he thought that beverage gave the most tone and the most self-possession. It had been said that expectoration in smoking was injurious, but those who expectorated got rid of a good deal of the toxical agent. It was not so detrimental as in the case of those who never expectorated.

Mr. Collette said he thought they might take this as established, that the sole excuse for the use of alcohol at the time of performance had nothing whatever to do with any good effects it could have upon the voice itself. It could only be defended on the ground of excessive fatigue. In the case of Madame Malibran—he recollected her performing through two operas in one night, the whole of *Somnambula* and the

whole of *Fidelio*—the fatigue required an extra stimulus, which doubtless would be injurious to the person ultimately, whatever might be the effect at the moment.

Mr. Vezin, the tragedian, was asked to say a few words from the theatrical point of view. He said he was not a teetotaler, nor an indulger in alcoholic drinks. He did not take these drinks as a stimulant whilst acting. He once experienced a most reviving feeling in the middle of a tragedy from a cup of tea, but though he had tried the same beverage since it had never again had the same effect. He had never tried coffee, because it kept him awake all night. After the first night of a piece, and during its run, he never drank anything between the acts. He could therefore give no opinion, but stimulants he fully believed to be quite unnecessary. The late Charles Kean was asked once in his presence whether he ever drank any brandy-and-water when he had a heavy part to take, and he said he liked to have a glass of warm brandy-and-water before the last act of *Sir Giles Overreach*, but when he was forbidden to take stimulants he acted better without it. It was a tradition in the profession that an actor who began by taking stimulants in order to work up fictitious excitement gradually found that the same quantity had not the same effect. Edmund Kean died at the age of forty, and no doubt the last part of his career was ruined by habits of intoxication, although in early life he was very abstemious. The instances of actors given to excess in drink were rare, because their professional life depended upon their sobriety. The moment an actor was not dependable that moment he felt his livelihood going away from him. The discipline of the theater was very strict. If an actor were known to occasionally break out, and to come to the theater incapable, he ceased to be engaged by anybody. Necessarily they were obliged to keep sober—even actors who were inclined to drink; and he was not one of those. He smoked about a dozen cigarettes a day, but had not found it affect his voice. He came here quite expecting to be chidden for his only vice,

and he could but regret that time had not permitted the author to read his observations upon the subject of tobacco.

Dr. Browne, in conclusion, said he certainly saw no good in smoking, and, personally, when he smoked he simply did it because he liked it. To take stimulants to relieve the dryness of the throat was very dangerous. As to the question of the best form of food as a direct voice-aid, he had not gone into that. He considered a raw egg a better form of food, but it should not be taken beaten up, because in the other way it better cleansed the throat. It was quickly absorbed and quickly digested. American singers he found very temperate, and, when ill, exceedingly obedient to the doctor's orders. Many of the Italian singers were grossly ignorant and intemperate, both in eating and drinking. He had himself been surprised to find so many abstainers amongst the musical profession.

Dr. Krücke of Marbach, gives the following description of the pseudo-ataxy of inebriety: The disease, he says, is more apt to appear in people of the upper classes, who are seldom steady drinkers, but rather belong to the impulsive and irregular class of inebriates. The initiatory symptoms are very like those of a true ataxy, even to the similar loss of coördination of the muscular movements. The tendon reflex is also often absent. There is a loss of the sense of weight and of the temperature sense. There is great loss of reaction to the faradic current, only very moderate muscular contractions being excited by it. The ophtholmascopic examination reveals oftentimes a blanched condition of the retina, and the temperature curve shows a great variation at different times of the same day. The treatment, of course, consists mainly in withdrawal of alcohol.—W. H. V.

The consumption of coffee in the United States for 1884 amounted to over twelve pounds per year to every man, woman, and child. There has been a steady, rapid increase of the amount used in this country, far beyond the increase of population.

INEBRIATE ASYLUMS AS THEY RELATE TO QUESTIONS OF SOCIAL AND POLITICAL ECONOMY.

BY ALBERT DAY, M.D., SUPT. WASHINGTONIAN HOME, BOSTON, MASS.

All students of social science agree in the declaration, that the real wealth of society and the state consists in the producing power of the individuals composing it. Therefore it is, and should be, the aim of political economists to eradicate and remove whatever element deteriorates or destroys the productive capacity of the brains and muscles, by whose combined action the sources of social and national prosperity are developed.

It is in this principle that we find an explanation of the historical fact, that while the various means of intoxication have multiplied in number, and increased step by step with the progress of civilization, there have been in all countries, at all epochs of the world's history, advocates of temperance; men denouncing the evil which was producing such pernicious results.

The best elements of our civilization have declared, after due deliberation and ages of intelligent observation, that total and universal abstinence from alcoholic liquors and intoxicating beverages of all sorts would greatly contribute to the wealth, prosperity, and the happiness of the human race.

As long as temperance was supposed to consist in moderate indulgence only — that men could play with fire and not be burned themselves — the friends of temperance, in its now accepted meaning, that is, total abstinence, could not effect much toward the permanent cure of victims to intemperance. When, however, it was perceived that total abstinence was the *only* true temperance platform, and by that, and that alone, could the inebriate be cured and acquire and

retain a mastery of his appetite, then the efforts of philanthropists were directed with increased energy and hope to extend every facility and render all practical assistance to those struggling by total abstinence to throw off the demon who had held them in subjection during long years of wretchedness.

It was with such a beneficent purpose that, in the summer of 1857, a small number of gentlemen in this city, comprehending the extent of the evil, and perceiving the remedy, formed an association, and thus laid the foundation of the Washingtonian Home, which afterwards resulted in the establishment of several inebriate asylums, under various names, in several parts of our country, the results of nearly all of which have been satisfactory to those who have become familiar with them.

One of the earliest results of the establishment of these asylums, after a few years of observation, was that inebriety is *disease* rather than vice, and as this disease began to be pathologically studied, and its symptoms became better understood, the proper remedies were discovered and suitable medicines administered, so that, at the present time, inebriate asylums have become institutions where the exhausted and diseased physical system of the patient is treated medicinally and the appropriate remedies are applied to restore his bodily health.

Not a little confusion obtains in the public mind relating to inebriety as a sin instead of a disease. This is occasioned by failing to distinguish between intemperance in the form of any sensuous excess, and intemperance in the restricted and special sense of a craving for, and addiction to, intoxicating drinks. There are no doubt features of resemblance both in cause and consequence of all sensual indulgences, as there are marks of similarity between all forms of disease; yet, just as to treat all diseases as one in origin and character is the height of charlatanism, so to regard alcoholic intemperance as identical with sensual intemperance in general is an error equally gross and pernicious. The distinction is

profound and essential. Sensual excess is the inordinate gratification of natural appetite,— a perversion by exaggeration of instincts necessary to the existence of the individual or the race; an intemperance, therefore, which must find its correction in the subjection of the animal to the moral nature in man, so that while the physical appetite is gratified, the super-sensuous powers may be developed, and the life of earth be made a fitting prelude to a life of future happiness. But the species of intemperance of which we are now speaking is not the outgrowth or illicit gratification of any natural appetite; it proceeds, on the contrary, from the creation of an artificial appetite; and, therefore, if it is to be cured and prevented — i. e., entirely eradicated from among men — something more and different must be done than is necessary for the subjugation and control of natural desire. An analogy is presented in the distinction between two classes of disease. In the one class, disease arises from non-nutrition, or some defect in the due separation of tissue and the enriching of the blood; in the other class, called zymotic or fermentative, the diseased action is set up by the introduction from without of certain organic germs, which rapidly multiply in the system, more particularly in the blood, and by their effects on the circulation and nervous centers weaken the vital processes, and often their functions at once cease. These latter diseases frequently become epidemical, as in the case of cholera and other plagues or pestilences.

Now, it is of the utmost importance to settle in the mind whether alcoholic intemperance, as a personal and social disease, is produced by a perversion of natural function, or by the infusion of a foreign element into the system. If the former, the remedy must be sought in a readjustment of natural powers, by educational, moral, and religious means, operating within; if the latter, no real remedy can exist which does not aim at excluding the *virus* already imbibed and preventing its further reception. In cholera, fever, and plague, there is no cure till the patient ejects the virulent matter, and could the entrance of that matter be entirely

prevented, the existence of these diseases would, under the ordinary laws of nature, be strictly impossible.

Now, an examination of alcoholic intemperance in its origin can only terminate in one result — that is, in the conviction that it belongs, both physically and morally, to the class of *fermentative*, or *zymotic* diseases. No mere deprivation of natural appetite will produce it; never does it exhibit itself till alcohol has been consumed; and what is especially to be remarked is, that alcohol acts, in the production of the intemperate habit, by poisoning the blood and arresting the healthy operation of the nervous system. It attacks the higher faculties; those qualities which give a moral tone and leads man up to true happiness and a virtuous life. It dethrones reason, and retrogrades its victim to a level of the brute.

In this manner and in no other the craving for alcoholic drinks is produced — which is always a physical malady in its inception — until by continuous indulgence, it takes a settled and chronic form, leading its victim through the stages of *mania a potu*, *dipsomania*, *epilepsy*, and numerous forms of mental and physical depravity.

Whenever an inebriate under treatment begins to make his own case a study, and tries to give an explanation for every symptom, real or imaginary, it is evident that a very dangerous delusion is coming on. When this delusion is referred to causes within, mental failure of a serious nature is present; but when it finds causes without in the surroundings, a less serious state of debility is present.

An inebriate is one who, from the continuous, periodic, or occasional use of alcoholic compounds, injures his health, perils his business, and shows signs of change of character, conduct, and motive, and who neglects the ordinary interests of his family and the community in which he lives. Such a man has passed the border-line on the descending scale.

Abstracts and Reviews.

CHLOROFORM INEBRIETY.

In the Detroit *Lancet*, Dr. Conner gives the personal experience of a physician who used this drug and came under his care for treatment. This experience is so graphic and full of psychological suggestions that we give full extracts.

He says: "With me the chloroform infatuation was a case of love at first sight. I had been always temperate, almost a total abstainer from stimulants of all kinds. Once or twice I had smelled chloroform, and thought its odor pleasant. I was a young man just finishing my education, and fond of study. I had had some curiosity to know what it was like to be put to sleep with chloroform, and one night I happened to see a one-ounce bottle of chloroform which was bought for the toothache. I took the bottle home with me, and when I went to bed put a little of the chloroform on a handkerchief, and for the first time felt the delightful sensation of being wafted through an enchanted land into Nirvana. Those who know nothing of intoxication, except in the vulgar form produced by whisky, have yet to learn what power there can be in a poison to create in a moment an Elysium of delight. It is a heaven of chaste pleasures. What I most remember is the vivid pictures that would seem to pass before my eyes — creations of marvelous beauty — every image distinct in outline, perfect in symmetry, and brilliant in coloring. The enjoyment is purely passive; you have only to watch vision after vision; but why each vision seems more wonderful and charming than the last you cannot tell, and you do not stop to question.

"I suppose that it was an unfortunate circumstance for me that I had never been drunk before in my life, and I never thought of comparing my blissful condition with that of the

wretches I had sometimes seen staggering through the streets. I had made a great discovery. I had found a golden gate into dreamland — dangerous indeed to approach, I knew that, but who would heed any danger where the prize to be obtained was so great?—and guarding jealously my secret, I took care night after night to have by me the key to that golden gate. Probably I inhaled from half a drachm to a drachm or two each time. Generally I did not waken again until morning, and my sleep seemed to be just as refreshing as usual, only now and then I would wake with a trifling headache and feel disposed to lie a little longer in bed than common. My bodily condition did not seem to suffer in the least, and my faculties all seemed as keen as ever. I felt no craving for my pet intoxicant during the day — did not give it a thought often until bed-time came, and then it would occur to me for a moment to try and see how it would seem to go to sleep in the ordinary way, the conclusion always being that — to-morrow night I would make the experiment. So, before I knew it, I was a slave. I would say to myself, 'It does not hurt me; it seems to have no more effect than the cigar my friend smokes after dinner. Really I believe it is a positive benefit. It seems to keep my bowels regular, and it certainly makes me sleep soundly all night.'

"But after a while I found that I was using a larger quantity of chloroform than at first. I would take a two-ounce bottle half-full of the stuff to bed with me, and inhaling directly from the bottle would forget at last to cork it, and in the morning it would be empty. Sometimes I would wake after midnight, or partially wake, to take another dose. I found that there was a bad taste in my mouth all the time, keeping me in mind of chloroform. I was often nauseated in the morning, and sometimes at intervals during the day. I began to feel a longing for chloroform whenever I had a little headache, or was dispirited from any cause, and I sometimes yielded to what I already knew was a morbid craving. I began to be indifferent to the things that personally had interested me, avoided society, and became depressed in

spirits. My complexion became sallow, whites of the eyes yellow, the bowels sometimes windy and unnaturally loose, skin dry and seemingly bloodless, and injuries of the skin did not heal rapidly. In winter there was a tendency to chapping, that had not before been noticed.

"Meanwhile I had ceased to have visions, or they came rarely. I began to realize that my pet habit was becoming my tyrannical master. I had no special cares to drown, but it became my insane pleasure to draw over my senses the veil of oblivion. I loved the valley of the shadow of death. I knew there was danger that some night I should pass over the line, into a sleep from which there would be no waking; but death had no terrors for me. Nay, to bring all my faculties and powers and ambitions into the sweet oblivion of transient death was the one pleasure for which I cared to live. I was conscious of a profound moral deterioration; I became materialist; I had no soul; immortality was a dream of the ignorant; I, who had a thousand times annihilated my own soul with my senses, knew that the dream had no corresponding reality.

"Yet all this time I continued faithful in my daily duties, and resisted successfully the temptation to hurry through my evening so as to get the sooner to my chloroform. I did not admit to myself that I was a slave to the habit, or even that the habit was an injury to me, as yet; but I began to be afraid, and the more when I found, when I resolved (as often I did), to omit my nightly indulgence just for a week, how impotent my will was in the matter.

"This was my condition at the end of two years. I was still only using a moderate quantity of chloroform, about three drachms daily, exceeding that quantity only by accident. An opportunity offered for a change of occupation and surroundings, which I eagerly seized in the hope that it might enable me to break my fetters. For about three months, under the new surroundings, I abstained from chloroform, and found it really not difficult to do so. I began to think that I had greatly over-rated the power of the habit. At all

events, after the first week I had no craving for the stimulant. But one day I came across a bottle of chloroform. When I saw it I smiled to myself to think that I had imagined myself a slave of any such thing. Night came, and when I was ready for bed the devil of appetite gave me his commands, and I obeyed. Just one smell to see whether I really wanted it; I would not take the bottle to bed with me. So I inhaled, standing, directly from the bottle — a full pound of chloroform — and with the first breath of the vapor came back, with renewed force, all the old appetite, keener than ever from long abstinence. Once more I saw the old time visions, as beautiful and as vivid as at first. One peculiarity of these visions I may speak of right here. Objects would appear with wonderful sharpness of outline just as they would be seen with the eyes, only reduced to microscopic size like objects seen through an inverted microscope.

"To go on with my story. What happened after I got the bottle in my hands I do not know. The next morning I found the bottle corked and in its place, but only half full of chloroform, and I was told that I had been found lying in some kind of a fit; some thought I was drunk.— as indeed I was. From this time I realized myself a slave, but not now a willing one. I did not again commence at once the use of the chloroform, but at intervals of from three to eight weeks would indulge in a regular spree, lasting from one to three days, during which I would keep myself as nearly as possible dead drunk, and would consume from four to eight ounces of chloroform. All this time I kept my habit a secret, and continued to do my ordinary work with the usual zest in the intervals between my sprees. At last discovery came. You well remember how I was found apparently lifeless, and how by the active use of restoratives you brought me to myself. How my moral perceptions were quickened the moment I saw myself through the eyes of another!

"You know that it was not in a week or a year that I was placed morally on a firm foothold again. Indeed, you did not know how often, after I had given you and myself my

word and pledge to abstain wholly from chloroform, I relapsed, taken unawares by the tempter. For more than two years I kept up the conflict, too often thinking the final victory won, only to find there was one imperative command it was useless for me to attempt to disobey, and that command came to me whenever the least whiff of chloroform entered my nostrils. Once or twice I tried the expedient of returning to my first practice of a regular moderate use of the stimulant, but I found that moderation was now almost impossible. If I went to sleep under the influence I would awake again, and find myself then unable to sleep, distressingly wide awake and nervous, until I courted again my 'dearest foe.' Symptoms like those of delirium tremens several times developed. I saw 'things,' not now beautiful visions, but shadowy images, that filled me with nameless, irrational horror. Appetite was capricious. I was frequently nauseated, but food seemed to relieve this condition; vitality was low, the blood ran sluggishly in my veins, and seemed especially to desert the surface of the body. I suffered particularly in cold weather, and it was during cold weather in winter, especially, that I found it almost impossible to resist my besetting temptation.

"At last I prevailed by sheer force of will. I had recovered enough faith in the soul to assert my freedom, and I now look back upon those years of conflict with a kind of self-pity, to think I could have been so weak. But I do not today court temptation. I am not conscious of a lurking appetite, but I dare not put my virtue to any severe test. I am sure, however, that the chloroform habit is one that can be broken by steady determination. I have no faith in any process of tapering off. It is just as easy to quit once for all as to prolong the agony, and the suffering is often purely imaginary. It took many months for me to recover. If doctors only knew the fascination of this drug, they would seldom or never prescribe it. The danger of the wine cup is nothing to that of the chloroform bottle."

THE PHYSIOLOGICAL ACTION OF ALCOHOL IN THE RELIEF OF PAIN.

Dr. Carpenter, in the Huntorian Lecture on Alcohol, remarked as follows:

"Alcohol may relieve pain for the time being; but the pain will recur with greater force when its paralyzing effect has passed away. Pain is the manifestation of interference with the nerve battery, by the aid of which nutrition and the removal of the consequences of life are regulated. The pain is proof that action in the nerve cell, or current through nerve tissue, is interfered with. There can be no pain if nerves of sensation be destroyed. There will be no pain if the current of blood be arrested, so that vital action be arrested in the cell for the moment. It follows, therefore, that there are cases in which arrest of circulation, by diminishing an onward current, giving rise to a general languor, arrests the chemical changes that are taking place in the nerve cell, and ease results.

"There is no agonizing nerve force produced; arrest of action means arrest of change. Action of a nerve cell is produced by oxidation of some of the contents of the cell. If those contents be not in perfect accord with the requirements, pain is felt until the oxidation is completed, and the result of the action taken away by proper vessels. These actions cannot be complete in every cell whilst the patient is under the influence of alcohol. There is arrest of oxidation; there is arrest of the cleansing process, which the nervous and absorbent systems have to perform, and, as a consequence, waste material is kept *in situ*—that is, in the nerve cell, or in the capillary supplying it. As soon as the narcotizing effect of the alcohol is exhausted, there is recurrence of the pain by a renewal of oxidation, the matter to be oxidized being abnormal; the longer the interval before the pain recurs, the more severe it will become, because the waste matter must be oxidized before it can be removed; and length of interval corresponds with greater activity when it arises.

The arrest is only attended by an increase in the quantity of oxidizable matter in the peccant nerve cell.

"If pain do not recur, it is because the faculty of that cell is destroyed, and there is a commencement of disease in that organ. The use of alcohol for the relief of pain is perfectly certain (if it be continued for any time) to set up disease in the nerve battery, which regulates the vital actions of the part in which the pain is felt.

"The use of alcohol for such purposes intensifies the succeeding pain first, and then sets up an irremediable disease. It may bring renown to the physician to relieve pain, to destroy the particular nerve cell which gives rise to it; but it is not a rightful proceeding to lay down the first stones as a basis for disease which has a natural tendency to increase. I have now, for thirty years, made close observations upon this point; and looking back upon the history of my neuralgic cases, and other painful diseases, I see this set out as a broad fact, that those who have taken alcohol as a narcotic have suffered a hundred times more intensely than those who have never touched it, or have had their end hastened by its use, because a kind of enthausia has been set up, which is promoted by some among us. I have now, for many years, warned those who have consulted me as to the danger of subcutaneous injections for the relief of pain; It may be pecuniarily profitable to inject morphia five hundred times in one patient, but I am sure it is immoral. I have urged upon those suffering to have patience (I prefer another class of remedies, namely, those which assist oxidation): to bear with the pain until the process which causes it is completed, when the pain will cease forever."

The temperance agitation of to-day is the superstitious stage of the epidemiology of inebriety,—the very infancy of the subject, where extravagant credulity passes for fact, and conclusions are reached by inspiration and consciousness, rather than by actual observation and study of facts.

TRANCE STATE IN INEBRIETY.

Prof. Mierzejervski of St. Petersburg, Russia, in a recent work on contributions to the study of alcoholism, makes the following reference to a subject that has been disputed by some neuralogists:

"There sometimes appears in inebriates a condition which reminds one of psychic epilepsy, and which is called alcoholic somnambulism, and is very interesting in many respects. This condition has of late attracted greater attention than ever before. A short time ago Dr. Crothers described it under the name "Trance State." (The Trance State in in Inebriety. Hartford, 1882.) The characteristic symptom of such a somnambulistic alcohol attack is a total *amnesia*. In an attack of delirium the patient retains the memory of what has gone on just previous to it, and after the attack is over he can recall some of the most prominent features of his delirium, even though the recollection be indistinct.

"One absolute amnesia does not accompany delirium tremens. Cases, however, of attacks of epilepsy in amnesia patients, associated with an attack of delirium, have been more or less frequently described, and, in fact, have been observed several times by the author. Alcoholic somnambulism is, however, entirely unrelated to this form of trouble, and is a separate and distinct disease, and one which possesses a high degree of interest, from a legal point of view. As an example of this somnambulic "Trance State," which developed itself without any symptoms of delirium, the author cites a case which demands the attention of the profession.

"A young man acting in the capacity of chief of police in the town of Tschita, in Transbaikalieu, an old drinker, committed a whole list of misdemeanors, while in one of these somnambulic states, without being able afterwards to recall the slightest circumstance connected with them. Amongst other things he attacked his own private secretary, struck him over the head several times, and knocked him

against the wall. Then he caused the arrest of two people, entire strangers to him, ordered a gallows to be erected (which order was obeyed by his subordinates during the night), and then ordered them executed. His orders were carried out, but in such a manner that the two victims were supported by the executioners until they were cut down, and so escaped unhurt. Immediately afterward he seized the house of a tailor, maltreated the inmates, etc., etc. Two days later a medical commission sat on his case and clearly made out an attack of delirium. The patient had no recollection whatever of what had taken place. He was, of course, discharged.

GENERAL PRINCIPLES IN THE TREATMENT OF INEBRIETY.

Dr. Everts, the well-known superintendent of the Cincinnati Sanitarium, made a report on the treatment of the insane, to the Superintendents of Insane Asylums Association, that is exceedingly suggestive, and will amply repay a very careful study. The following passages are given, as most accurately describing the general principles governing the treatment of inebriety. The word inebriety is placed after the word insane, to show how clearly one description would apply to the other.

"The most prominent of all methods may be mentioned —restraint. Restraint, that falls upon the patient as he approaches the hospital, as the shadows fall from its façades and towers upon the lawn beneath. Restraint, that becomes more appreciable when expressed by the attitude of persons in authority, superintendents and subordinates, physicians, attendants, nurses, and others acting under orders, whereby the patient is placed at once and unequivocally upon the footing of a person laboring under some kind of disability, as requiring care and treatment, as an invalid, as insane (inebriate). A whole system of restraint making it possible to secure for the benefit of the insane (inebriate), more or less

perfectly, by general and special means, persuasive or coercive, (*a*) regularity of habits, including eating, drinking, bathing, exercise, and rest, and (*b*) an abandonment of pernicious practices. All of which, to an intelligent observer familiar with the homes and habits of our people—the assumptious intolerance of environments, insubordination towards authority, and indifference of conduct characteristic of the insane (inebriate), and attitude of concession, evasion, and downright lying generally occupied by relatives, friends, and physicians towards the patient, justifies the presumption in favor of hospital over home treatment."

"The insane (inebriate) are for the most part true egoists, in the technical sense of the word. Suffering deterioration of the highest and most complex capabilities, in accordance with the law of retrogressive order, soon or late they fall below, if indeed they ever occupied, the true plane of altruistic perceptions, and hence become comparatively incapable of present forbearance, subordination, or self-sacrifice for the good of others, or of self prospectively. Children or savages, according to the degree of deterioration effected by disease or the violence of activities manifested, are the insane (inebriate). As children or savages, according to conditions, tenderly or rigidly, they must be treated for their own good and the welfare of society."

On the question of cure, Dr. Everts thinks a small per cent. only can be permanently restored to active life again. He says: "Are there not, also, reconstructive activities and processes? May not destruction be arrested? May not injured structures be repaired? Arrested? Yes. Repaired? Yes. Restored? Never. Destructive processes are only arrested by an interposition of more stable, hence less complex, structures; accomplished by reconstructive activities, never by reproduction of original tissues, however slight the deterioration. The ratio of stability of all organized bodies is inverse to that of their complexity. Therapeutically we may modify physical activities to a limited and always uncertain degree by affecting states, but we cannot divert natural

processes by any possibility from lines established by material conditions. If we were more accurately informed respecting the relations of structure to activities of phenomena, and the definite relation of drug force to constructive, destructive, and reconstructive activities, we might hope to effect much more by medication of the insane (inebriates) than is now possible."

STATE CONTROL FOR CHRONIC INEBRIATES.

In the section of Public Health of the Academy of Medicine in Dublin, Ireland, at the February meeting, Dr. Tweedy read a paper on the above topic, from which the following is an extract:

"The question of the care of inebriates has been steadily gaining ground since it was first mooted in 1855. The subject, he said, was beset with difficulties, there being in the minds of many a deeply-rooted prejudice against any measures that would interfere with the liberty of the subject, or afford unprincipled persons an opportunity of putting troublesome relations out of the way. In answer to the first objection, it was urged that the rights of individuals should occupy a secondary place in reference to the peace and well-being of the community. Dipsomania was a form of insanity, as evidenced by the utter absence of moral sense, self-control, and self-respect combined; while duplicity and cunning characterized the diseased. The process of self-destruction was slow but sure, and practically might be considered as a species of suicide. In answer to the second objection, he submitted there was no greater danger of unjust detention for the inebriate than for the lunatic. It was exceedingly improbable that two medical men of integrity would lend themselves as accomplices to such a fraud. An act partly permissive and partly compulsory would be more likely than the present to effect good, as many patients would voluntarily submit to treatment if the threat of compulsion were held over them *in terrorem*. Unnecessary publicity would be avoided by the

appointment of a committee consisting of the nearest of kin, two physicians, and a magistrate with summary jurisdiction. Early treatment, so essential for cure, could thus be secured as well as by three convictions for drunkenness within six months, proposed by the late Dr. Dalrymple. Detention should be 'until cured,' or for a period of at least twelve months.

"In the discussion which followed, Dr. Duffey said the real defect in the act was its limitation to ten years; for it would be absurd to suppose any one would spend money in starting an institution on the probability of the measure being renewed by Parliament. That was why Dr. Cameron and others had started the Dalrymple Home. If the 'Homes' could be placed under the same management as existing institutions for lunatics, they would probably be sufficiently numerous throughout the kingdom.

"Dr. Henry Kennedy remarked that in the results reported from America he did not hear of many cases that were really cured, and he invited explanation as to whether or not there had been any absolute cures after a year's confinement. The association of inebriates with the inmates of a general lunatic asylum would have a prejudicial effect, as people would not go into a place where there were lunatics. Medical men in practice knew that the number addicted to drink was exceedingly great, and it was lamentable to see persons likely to be benefited allowed to follow their own vicious instincts. He had seen men recover, but in no case a woman who had fallen into the degrading vice. The subject of their treatment was, however, surrounded with considerable difficulty.

"Dr. Cameron agreed that every facility should be given for the reclamation of the habitual drunkard, but there had been a little exaggeration of the results of habitual drinking. Dr. Tweedy had represented an authority as stating that 75 per cent. of the crime committed by the prisoners in a certain gaol was due to intemperance. No doubt it often happened that drunkards were thieves and robbers and murder-

ers, but it was simply a coincidence that a man who was a robber, a burglar, or a murderer should also be a drunkard. That 75 per cent. of the persons committed to prison drank was highly probable; but it was equally probable that 75 per cent. of the persons not committed to prison drank too. Were it not so, how could the public-houses be kept? With regard to the numerous plans proposed for the cure of intemperance, he did not think that the voluntary system would have the desired result.

"The President, in confirmation of Dr. Duffey's remarks, said the great success of some of the institutions in America was due to the fact that compulsory and voluntary seclusion were combined. Those who did not choose to go in ran the chance of being put in by their people. As a member of the commission on prison dietary, he visited a great number of prisons in Ireland, and he was astonished at the number of persons confined for crimes which had been produced directly or indirectly by drink. Touching the question of compulsory confinement for drunken habits, he saw in a gaol in the north of Ireland a woman who was in for the two hundred and thirty-fifth time merely for drunkenness. She was a 'bail prisoner,' that is, imprisoned in default of finding bail for good behavior. Instead of imposing the smaller penalties incurred on conviction for drunkenness, this was the side-wind adopted by the Belfast magistrates for keeping drunkards under control. The woman in question was a lunatic, and ought to be treated as such. She herself said she was sure to get drunk when she went out, and her great desire was to stay in prison. Though not under a sentence compelling her to work, she worked as a matter of liking, and kept herself neat and tidy. It was an outrageous state of the law that she should be treated as a criminal when she was really a lunatic. Having given an example of a dipsomaniac in the upper ranks of life, he said unless means were taken to deal with the disease, the number of dipsomaniacs would steadily increase, believing, as he did, in hereditary dipsomania.

"Dr. Tweedy, in reply, said he had not alluded to the voluntary system as a defect, but he meant to convey that the voluntary system, unbacked by any system of compulsion, was a radical defect in the act. Of course, the limitation of the operation of the act to ten years was a great objection. It was desirable to have retreats for dipsomaniacs, and he advocated the utilization of lunatic asylums on the principle of using existing means until better were provided. Dr. Kennedy had rightly concluded that the number of cures in America was inconsiderable. In his own experience of individuals with this form of insanity, he saw no permanent cure, except where very early treatment was adopted; but there were no means of keeping dipsomaniacs under control for a proper period. Even supposing they were not perfectly cured, it would be important to get dipsomaniacs into an establishment where they would be improved. He agreed with Dr. Cameron that the individuals included in the 75 per cent. were guilty of a great number of other crimes besides drunkenness. In reference to the retreat at Kent, and the surreptitious introduction there of drink, Mr. Hoffman, in his second report in 1881, had mentioned that public-houses in the vicinity of retreats did not cease to give serious trouble to licensees whose establishments were without grounds to confine the inmates within bounds, or where they had not a trustworthy staff to prevent the introduction of drink."

BRANDY IN EMERGENCIES.

Dr. Allbutt of London, writes as follows on that topic:

"What are the cases of illness which, in popular opinion, require the administration of brandy, and which are most likely to occur when the sufferers are at some distance from home or medical advice? They are the following: apoplexy, epileptic fits, bleeding from ruptured lung vessels, syncope or fainting. Take them in order, I may remark that in each of these cases brandy or other alcoholic preparations are highly dangerous—in apoplexy, because, a blood vessel having

ruptured in the brain, blood is being poured out in or upon the brain, causing pressure and consequently the apopletic fit. Nature endeavors to repair the mischief in her own way by sealing up the rupture in the vessel by means of a plug of coagulated blood. Now, suppose some brandy is administered; the heart is made to beat faster, blood is sent quicker and with more force to the vessels of the brain, the plug of coagulum is forced out, more blood is pumped out upon the surface of the brain, and the patient either dies without recovering consciousness, or only recovers partially, remaining paralyzed on one side for life.

"Epileptic fits frequently depend upon a condition of engorgement or fullness of the blood vessels of the spinal cord. Alcohol, by increasing the heart's action, sends more blood to the already engorged vessels; it also acts specially on the nerves which control the size or calibre of the blood-vessels. The alcohol paralyzes such nerves (vaso motor nerves), and consequently, the blood vessels, not being kept under control as regards size, expand and admit more blood, —which blood, owing to the diminished contractile force of the blood-vessels, becomes sluggish in the vessels, causing a condition of greater engorgement than previously existed. Hence brandy is the worst remedy in epilepsy.

"In bleeding from the lungs, the same argument holds good as in apoplexy. Nature endeavors to plug the ruptured vessel with a clot of blood. Alcohol displaces this clot by causing the heart to send more blood with more force to the blood-vessels of the lungs.

"Syncope, or fainting, may depend upon a variety of causes. In elderly persons it is often associated with a fatty condition of the muscular tissue of the heart and coats of the blood-vessels. Alcohol administered often causes a rupture of some softened vessel, or a tearing of some of the soft, fatty tissue of the diseased heart. Syncope may also arise from excess of heat (sun-stroke), or from severe cold. If from the former, the already engorged condition of the blood-vessels of the brain are still further engorged by the admin-

istration of alcohol. If from the latter (cold), alcohol, by lowering the temperature of the body (as can be proved by the thermometer), makes recovery far more tedious and difficult, if it does not even turn the scale toward death. Syncope from hysteria, excitement, etc., requires no alcohol, as the subjects attacked can be quickly restored by throwing a little cold water over the face and chest."

PEPTO-QUININE IN INEBRIETY.—Quinine has been used with excellent results in cases of inebriety, at the beginning of treatment, where alcohol was discontinued at once. In large doses it has been found a sedative and stomach tonic. Recently, I have found pepto-quinine a much better remedy. This is a combination of pepsin with quinine, made by the Pennsylvania Chemical Manufacturing Company of Philadelphia, and put up in compressed tablets and powder. In ten cases I have found doses of this remedy of half the size of the usual dose of quinine to have more pronounced effects. The very common irritation of the stomach is more quickly allayed by this remedy than by quinine alone. Also the sedative effect follows from a smaller dose and more rapidly, than from quinine. It is evident that pepto-quinine will become an almost indispensable remedy in inebriety, and take the place of quinine wherever the latter is used alone.

In some cases of inebriety a most remarkable exaltation of memory is apparent, which begins after the use of alcohol and grows very intense for a long time, then gradually fades away. Sometimes these memories concern events which have been unpleasant, and make vivid the wrongs, real or imaginary; or they are of a more pleasing nature, in which the happy events of life are lived over with great intensity. In one case a patient gives this as a reason for the use of alcohol, by which he could live over the golden hours of the past. These changes of memory are of great diagnostic interest, and should be studied in every case.

Editorial.

CENTENNIAL OF DR. RUSH'S STUDIES OF INEBRIETY.

The National Temperance Society are to hold a centennial celebration next September, in which they request all friends of temperance everywhere to unite. The following is one resolution which describes the occasion for this meeting:

WHEREAS, "The celebrated essay of Dr. Benjamin Rush of Philadelphia, entitled: An Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind, first published in 1785, was largely instrumental in awakening attention, and stimulating to action, the early temperance reformers, and was the introduction of literature as an educator upon the subject of temperance."

Our temperance friends should not overlook the fact that Dr. Rush taught distinctly that inebriety was a disease; and urged repeatedly that hospitals should be established for its exclusive treatment, in all the principal cities of the land. In the work noted in the resolution, he both affirms the disease of intemperance, and divides it into acute and chronic forms, describing each in most graphic terms. The heredity is noted, and the liability to die of other disease, and the nature and character of these diseases are mentioned.

Post mortem appearances, and remedies to be used in the different forms of disease, are described at some length.

In the later works of Dr. Rush, these views are elaborated with singular clearness and accuracy. It is apparent that whatever Dr Rush wrote on the moral side of inebriety was merely a repetition of that which had been said over and over again before, but his recognition of the disease of

inebriety, and its treatment in special hospitals, was a revolution in science, upon which his future reputation will rest. This notion of disease and its remedy had been mentioned from time to time, for twenty centuries, but Dr. Rush was the first to organize it into a practical study, and urge its application in the solution of the temperance problem. He saw with the eye of an expert, the application of these facts, in the same way that Franklin, Jenner, Morse, and a host of others, realized, formulated, and vitalized, truths of nature and science, which had been waiting for ages for birth and recognition. His moralizing was welcomed, but his outline of the great facts of science was unwelcomed, and consigned to that eternal round of evolution, where all new truths are regarded first with indifference, then with fierce denial, and finally accepted. His statements of disease were for over half a century regarded with indifference. When in 1855, they were recognized and advocated, and then began the stage of contradiction and denial, not yet passed, but most happily drawing to a close. Thus Dr. Rush's little work, which it is proposed to make the subject of a centennial celebration, was not only far in advance of that generation, but still beyond the comprehension of a large number of enthusiastic reformers and temperance advocates of to-day. The centennial of Dr. Rush's writings should be something more than a recognition of the evils of inebriety, and its remedy by moral means. Unless the physical nature of inebriety be noted, and the remedy by physical means be fully recognized, this centennial will be a spectacular farce.

Every scientist in the country will welcome this celebration of the writings of a great man. Welcome the spirit and impulse that actuates so many to signalize this event, in the effort to comprehend inebriety and its remedies; but they ask that it be from no narrow, half-sided view, or imperfect conceptions of his works.

The intelligence of this age demands something more than vague statements and vaguer theories, and moral remedies, based on mediæval conceptions of mind and body. It

demands an intelligent answer to the question, What is inebriety, and what is the remedy? A century ago, Dr. Rush answered this in part. Will our temperance friends complete this answer, in this centennial? Will they point out the facts which the teachings of science, and the best experience of the age confirms? If this centennial celebration does that, it will mark an epoch in the evolutionary progress of social science.

INEBRIETY COMING FROM HEART DISEASE.

In the study of the early history of cases of inebriety, it not unfrequently appears that some supposed heart disease existed long before alcohol was first used, which disappeared after inebriety began. Often in the progress of the case a sudden, violent beating of the heart will ensue, and pass away as quickly as it begun. The patient will refer this to the former disease of the heart. When this early heart trouble is studied, it will be found to have appeared suddenly, and been noted by great difficulty of breathing and general precordial distress. In one case it began soon after a violent effort to reach the depot to catch a train. In another case severe exertion in rowing a boat to escape a coming storm produced it. In each case sudden great trembling and agitation of the heart followed, which was relieved by alcohol, and when spirits was used steadily it disappeared. In a third case this history of a fluttering heart followed great grief, and was relieved by opium. To break away from the opium, alcohol was used, and inebriety followed. In these cases, without doubt, some form of acute asystolism or muscular heart-strain was present. This is farther confirmed by the history of conditions most favorable to this disorder, of which might be mentioned excitement, irregularities of work and living, great extremes of emotion, care, and anxiety. In such conditions, where a sudden trembling heart, and general nervousness, with heart distress, comes on, this state of heart-strain may be most reasonably inferred.

It seems clear, from the frequency in which these histories of heart-strain appear, that they are followed by some peculiar state of nerve exhaustion that merges rapidly into inebriety. It is also evident that inebriety produces some state of the nerve centers that predispose to heart-strain, and, finally, organic disease. Cases with the following histories are illustrations:

An inebriate will engage in some severe physical exertion, or will be thrown down, or suffer from violent agitation, and soon after have palpitating heart, and later have marked organic disease. Why this is not more common is probably owing to the general anæsthized state of the inebriate, who suffers less from the shock of any injury, either to the mind or body, than one who had not used alcohol. In other cases some disease or condition of debility is followed by heart trouble, called functional because of its transient nature and intermittent character. Where alcohol is given as a remedy, inebriety is very apt to follow in these cases. In some cases of functional heart-trouble spirits are not tolerated, but in others its sedative action is marked, and its value most enthusiastically defended. The conclusion forces itself on the minds of the observer that inebriety is most likely to follow heart-strain or other functional disorders of this organ, and alcohol should never be given in those cases as a medicine.

Where neurasthenia and other states of debility are present, these cardiac strains are easily provoked by alcohol, and may go on to inebriety and serious organic disease. Alcohol, in all cases, produces alteration and exhaustion of the myocardium, with final dilatation, where it is used continually or in excess.

The presence of any form of heart trouble increases the complexity of the case of inebriety. If it began before inebriety appeared, and has been held in abeyance by the use of alcohol since, a more profound form of degeneration has come on. If organic lesion is present, which has come on from use of alcohol, it is equally doubtful in prognosis. It is

evident that all forms of heart-trouble may both precede and follow inebriety; also, that in each case there are lines of causes from which the progress and prognosis of the case may be predicted with more or less certainty.

EDUCATION IN INEBRIETY.

Dr. Wright of Clarksville, Tenn., has, in a report on School Hygiene to the State Board of Health, pointed out many of the conditions of nervous exhaustion which precede inebriety. Without doubt inebriety begins in the defects and strains of school life as positively as from the saloons. The results of bad air, long confinement, over-crowding, mental strain and excitement in classes, want of proper exercise, and other unsanitary states, are fatal to the future of the child. In after life this is seen in the nervous, hysterical women, the feeble, irritable men, who become inebriates or insane.

Education applied without regard to surroundings and natural capacity, and along unphysiological lines, unfits and destroys every victim of a bad heritage. Down in the common schools, the subjects taught and the methods of teaching, in the most unsanitary surroundings, are the active factors to lay the foundations for inebriety. This is seen in the perverted tastes, feeble will-power, headaches, chorea, sleepless nights, increased nervousness. Later, inordinate self-esteem, excentricities, and general perversions, which point to a mental and physical dyspepsia that ends in inebriety. A writer has said, "that profound ignorance has more promise for the longevity of the race than the highest culture of modern times." Dr. Wright enters an earnest protest against the routine methods and bad surroundings of the school systems of to-day, in which brain force is centered and turned in certain directions, no matter what the capacity or quality may be. Brain-tire and nervous exhaustion in childhood always leaves a defect which is most likely to culminate in inebriety from the slightest exposure in after life.

School hygiene is a neglected field for the study of the early stages of inebriety, insanity, and idiocy. True education of the future will turn on the study and avoidance of these defects, that are slowly and surely preparing the ground and building up an army of inebriates and insane for to-morrow.

INTOXICATIONS MORE FREQUENT AT CERTAIN TIMES OF THE DAY.

The records of police courts and accident hospitals indicate that intoxication from alcohol is more frequent for a period of two hours before and two hours after midnight. English physicians have noted and commented on this fact, but no reasons have been given why it is so. In periodic inebriates, as a rule, the drink paroxysm comes on more frequently at night than in the day time. In two cases under my observation, if intoxication did not come on before midnight they would remain in the same state until the next night. In another case a drinking man avoids intoxication by going to bed before ten in the evening. If he remains up, although he may not drink, he will be intoxicated at midnight. In club houses, among those who drink regularly, a degree of intoxication is noted at midnight not seen at any other time. Cases have been noted where the drinker has used only soda or acid drinks for many hours before, but at midnight becomes intoxicated without any special exciting cause.

The cumulative action of alcohol on the brain-centers has never been studied, but a little observation will show that it exists more generally than is supposed. Take the common observation of men who drink regularly through the day, and seem not to be much worse for it, but late at night are intoxicated, although they have not used any spirits during the evening.

It appears that alcohol, like bromide, may remain in the system to some extent without producing any marked action, then suddenly, from some unknown cause, burst into great

activity, producing profound intoxication. That this occurs most frequently at or about midnight seems to be indicated by a variety of facts. The causes are both physiological and psychological, and probably also due to climatic conditions, etc., etc. This is an unknown field of the greatest practical interest, and we trust some one will study the facts and show their real meaning.

SOME STATISTICAL FACTS.

From the last census it appears that insanity increased one hundred per cent. from 1870 to 1880. This was not the actual increase of insanity, but represented in part the more perfect registration of cases. The whole number of insane in the United States were estimated at one hundred thousand, approximately, the actual number would be more, if a perfect record of all the insane could be made. For the treatment of these unfortunates the country have provided eighty different State asylums, and forty private asylums, with a capacity for forty thousand inmates. In reality fifty-three thousand insane are cared for in these asylums, leaving forty-seven thousand outside, uncared for, and without treatment.

There are approximately five hundred thousand inebriates in the United States, suicidal maniacs, unknown and unrecognized. There are only twenty-one asylums and homes for their cure and treatment. In these places less than four hundred cases are being cared for. The State punishes by fine and imprisonment not less than sixty thousand of this number every year, with no other result than to precipitate them into more uncurable conditions. The efforts of moralists of necessity fail, because founded on a wrong conception of the nature of inebriety. The mortality of inebriates exceed that of the insane, and has been estimated at from fifty to sixty thousand a year. The average duration after inebriety has appeared is ten years. The best and most accurate statistics of experts in the study

and treatment of inebriates indicate that from thirty to fifty per cent. are curable. Inebriety is without doubt increasing. Some authorities estimate this increase at fifty per cent., others less, but all agree that it is far beyond the ratio of increase of the population.

CONSUMPTION OF ALCOHOL.

Some idea may be obtained of amount of alcohol used, from the last report of the Bureau of Statistics, No. 3, 1883–84. The past eight years were divided into two periods of four years, and an average of each was made with the following result. From 1876 to 1880, the average gallons of distilled spirits used per year were 56,413,606. Of wines for this period 22,169,804 gallons. Of malt liquors it was 318,959,473 gallons per year. For the second period from 1880 to 1884, the average yearly consumption of distilled spirits was 71,535,859 gallons. Of wines 25,955,893 gallons. Of malt liquors 487,052,413 gallons a year. The increase per cent. was for distilled spirits 27½, for wines 12½, for malt liquors 51½ per cent. The increase of population for the past four years has been twelve per cent., keeping pace with the increase in wine drinking. The increase of spirit drinking has exceeded the growth of population, as two to one, and the beer consumption as four to one. The revenue from distilled liquors has gone from five millions in 1863, to seventy-five millions in 1884. During this time the revenue from fermented liquors has increased from one million in 1863, to seventeen millions in 1884. In 1884, 20,837 gallons of spirits were used for scientific purposes, as in colleges, chemical laboratories, and by the government in the preservation of specimens of natural history. For medical, chemical, and trade purposes, 3,841,902 gallons were used, and for export 9,800,788 gallons. Thus for legitimate purposes 13,663,527 gallons were consumed. Over ninety-two million gallons were withdrawn from bond last year. Of this the thirteen millions and more used in the arts, and a

wasture by casualties, leakage, etc., of over four million gallons, would leave over seventy-six million gallons to be consumed as a beverage. Among the many curious facts are the following: The exports of whiskys during 1884 was an increase of three million gallons over the year before. Six hundred and seventy-two thousand gallons of New England rum was shipped to the coast of Africa during the year. The demand for rum is increasing from the west coast of Africa. One firm at Cambridge, Mass., sent one hundred and fifty thousand gallons at one shipment last year. The importation of foreign wines have fallen off about four million gallons during the year past. The importation of malt liquors have increased nearly three hundred thousand gallons. To the student of science these figures have a psychological significance and meaning, that invite the most careful study and examination.

Many persons are confident that drugs may be found which act directly on the nerve centers and assist in the restoration of healthy nutrition of the brain. But a careful study will show that the difficulty of adjusting the dose and regulating the intensity and direction of the drug action cannot be overcome. Also the collateral disadvantages caused by the disorders of assimilation and nutrition coming from these drugs often more than counterbalance the good that may be produced from the direct action of them.

To all our numerous consultants and correspondents who ask to have line of treatment designated by which they can treat themselves, we would say, take a Turkish bath twice a week. If weak and sleepless, take an electro-thermal bath once a week. These baths are given at Dr. Shepard's, on Brooklyn Heights, Brooklyn, N. Y., in the most thoroughly scientific manner, and under the charge of one of the greatest Turkish bath specialists in this country.

Clinical Notes and Comments.

CONTAGION OF INEBRIETY.

Dr. Ray, Professor of Materia Medica in the Southern Medical College, Atlanta, Ga., writes in a late number of *Medical and Surgical Reporter* concerning the contagion of the disease of inebriety, mentioned by Dr. Crothers in the *Alienist and Neurologist* for October, 1884:

"Quite a large experience and very careful observations with this class of unfortunate persons, compel me to the belief that with many inebriety is a disease, apparently inherited and likewise contagious, and where this inherited predisposition exists resistance to the contagion is almost beyond the power of the victim. This is true in relation to other diseases, and why may not inebriety be controlled by the operations of the same law. A very striking incident is given of a gentleman who never drank or had any desire to drink at home or in his own neighborhood, but when he passed over into another country he could not resist the impulse to drink. He inherited the desire to drink, and his system was ripe for the contagion, which came on from some mysterious influence, affecting him when he reached a certain section of country. In a second case a lady, born with this same inheritance, through the influence of her husband drank to excess with him, but when he was away could abstain. Her brother could remain at home on the plantation perfectly sober, but when he went away would inevitably drink to intoxication."

He concludes that inebriety is a terrible disease, and its victims should be pitied rather than condemned and despised.

INDICATIONS OF TREATMENT IN DELIRIUM TREMENS.

We have depression of the organic functions, and an enfeebled, exhausted condition of the nerve centers; the cells of the gray matter of the brain are, moreover, under the influence of a poison whose expression is an erethism, determining constant, irregular discharges of nerve force while denying repose. There is more or less gastric irritability and catarrh; a languid, systemic circulation; the blood vessels of the pia mater are engorged. The leading indications then are: first, to promote elimination of the toxic agent. This indication, however, must be kept in abeyance for a time by the second, which is the most urgent, for the rapid expenditure of nerve force threatens to wear out the patient. The second indication is to calm the excited brain and stop the destructive waste going on in the nerve centers till reparation shall have been fairly instituted. This should be accomplished by some medicament that will have the minimum of congestioning action, while suspending cerebral activity in a manner analogous to natural sleep, "tired nature's sweet restorer." Third, the system should be supported by suitable nutrients and stimulants. I believe that we have in capsicum the typical stimulant, in chloral the typical hypnotic, and in beef-peptones the typical nutrient—in delirium tremens. The latter should be given in the form of broth or beef-tea continuously during the attack, and to the extent of the tolerance of the stomach.—DR. HURD *in Gazette.*

RESULTS OF LEGAL CARE AND TREATMENT OF INEBRIATES.

The following records show how positively the legal methods of treatment of inebriety by fine and imprisonment both pauperize and criminalize its victims.

In the county prison of Perth, Scotland, in 1872, there were nineteen inebriates under sentence, with the following history: One had been in prison for the same offense one

hundred and thirty-seven times, and one a hundred and two times; three over sixty times, and three over fifty times, and four over forty times, and seven over twenty times. In the Albany Penitentiary, in 1877, five inebriates were confined who had been sentenced to prison for inebriety from fifty to sixty-four times before. In the prison on Blackwell's Island in 1881, forty-one of its inmates confined for inebriety, had a record of having been in prison for the same offense from twenty to seventy-eight times. There is probably not a prison or jail in this country in which more or less of these incurables are found. Cases that might have been saved had their maladies been recognized and properly treated, but regarded as criminals and treated as such, has precipitated them into incurable conditions. The State has made them or educated them, and in this way it actually is producing inebriates and criminals in its efforts to check and suppress them.

"*Misdea*," by Prof. Lombraso E. Bianchi. The author, the distinguished founder of criminal anthropology in Italy, and one of his students, have made a voluminous study of the celebrated case of "Misdea." Misdea, a young soldier, was known without provocation to have shot several of his comrades and subordinate officers inside of a few minutes, while in a room together. Shortly afterwards he was undoubtedly suffering from acute alcoholism. They show that without doubt the man, who was extremely excitable and heavily burdened by bad heritages, was also a great drinker, and a sufferer from epilepsy, especially from extremely frequent and well-marked attacks of epileptic vertigo; also that he committed these apparently objectless murders during an attack of what may be regarded as insanity. There were abnormalities and a symmetry of the skull, and many other symptoms, which entitled him to be classed among the "*delinquente nate*." The heredity of Misdea, regarded from a psychopathic point of view, is unique. Notwithstanding these facts, he was condemned and executed.

J. W. V.

The Foundation of Death; a Study of the Drink Question, is the title of a work by Axel Gustafson, published by Ginn, Heath & Co., Boston, Mass. The idea of this book, to gather and group all the facts that are well established, was a good one; but in the execution of it the author has most painfully failed. Five hundred pages of statements are given that are worthless as facts, because so mixed with religious dogmatisms and assumptions. Even the bibliography, which should have been discriminating and reasonably accurate, gives a large place to trashy sermons, and omits the best scientific publication on this subject. Such books as this simply mark the stage of empiricism and agitation, in which superstition, fact, and fiction, are served up in a spectacular medley. If the author had made a study of the history and character of a few inebriates, he would never have examined three thousand works on this subject, or considered the world literature on alcohol enormous. Or even would he have dared to venture on a book particularly made up from statements of non-experts largely. *The Foundation of Death, or a Study of the Drink Question*, brings no additional light on the subject, and leaves the reader more hopelessly confused than before.

The Illustrated Medical Journal Co. have published lists of *Perforated Adhesive Medical Journal Labels*, containing the names of all the journals on medicine, pharmacy, and hygiene in this country and Canada. They are just what every physician needs for addressing his reprints, and medical colleges and asylums who send out circulars. Four complete sets will be mailed postpaid for fifty cents, by addressing the publishers above named.

The *Popular Science Monthly* are publishing a most valuable series of papers on cholera, by Dr. Pettenkofer. The March and April numbers contain some very important papers on the brain and nervous system, which should be read by every student of science. No other journal published has a greater variety of scientific matter that is so trustworthy.

Insanity and Allied Neuroses, by Geo. H. Savage, M D., Physician and Superintendent of Bethlehem Royal Hospital, etc. Lea Brothers, Publishers, Philadelphia, Pa., 1884. pp. 544. This is a book of most excellent common-sense views of insanity and its treatment. Its clinical character and clear brevity are rare merits in books on this subject, and the student of inebriety will find many most valuable and suggestive pages. The chapter on the causation is the best in the English language, and the cases given to illustrate the different phases of insanity are more suggestive than any lengthy description could be. The author's large experience and most thorough knowledge of the subject is apparent on nearly every page. We most heartily commend this book to all our readers. The publishers have brought out an attractive volume, which must have a large sale.

Psychiatry; Clinic of the Affections of the Prosencephalon, by Dr. Megnert, professor of nervous diseases, etc., Vienna. This is the title of a large treatise, which G. P. Putnam's Sons of New York are publishing. The first volume is an explanation of his doctrine, that the pathology of insanity is a chapter in the anatomy of the prosencephalon. It discusses the relation of the facts of consciousness to cerebral anatomy, the chemistry of the brain, and makes three divisions: *First*, of those which are based on anatomical changes. *Second*, those from nutritive affections. *Third*, those depending on toxic states. The review of these divisions are exceedingly clear and able, and so far this work promises to be the greatest work ever published in the English language.

Babyhood is the name of a monthly published in New York under the care of Dr. Gale and Marion Harland. Its purpose is to give parents and others correct knowledge upon the care and training of infants. The first two numbers are very attractive, and we commend this journal to all our readers. The subscription is only $1.50 per year.

The *Scientific American* brings weekly a most suggestive table of contents of equal and greater interest than that of the daily paper.

The *Public Herald* of Philadelphia, edited by Lum Smith, Esq., is waging a furious crusade against frauds of all kinds, and particularly those advertised in the newspapers. We notice with pleasure the exposure of some of the alcoholic and opium specifics. The religious and temperance papers who admit these frauds in their pages may expect heavy weather when Mr. Smith turns his attention to these swindlers and their consorts.

The *Homiletic Review* for March and April are most excellent numbers of a large monthly, which presents the latest and best theological thought of the day, in the form of sermons and papers. It is published by the enterprising firm of Funk & Wagnalls, 10 and 12 Dey Street, New York City. $3.00 per year; 30 cents per single number.

The *Electrical Engineer* grows in interest with each number. No other subject of practical science is attracting more interest in the world to-day, and more talked about, and less known than electricity.

The *American Inventor*, a monthly, should always be included in the list of journals that are indispensable for the library.

The Medal of Superiority has again been awarded in 1884 by the American Institute to the Jerome Kidder Mfg. Co., 820 Broadway, New York, for their Superior Electro-Medical Apparatuses. In 1883 this company received the Medal of Superiority over *three* competitors. For many years their appliances have been before the public, and at all the principal exhibitions held in this country since 1872, including the Centennial Exhibition at Philadelphia in 1876, they have been awarded the highest premiums for their superior productions. On receipt of stamp they will mail a copy of their Electro-Allotropic Physiology, which has been revised and enlarged, and contains much new and valuable information.

Fellows' Hypo-phosphites is a remedy now used very extensively in Europe and this country, particularly in mental and nerve affections. In inebriety from opium and alcohol it is indispensable, and is both prescribed by physicians and purchased over the counters by patients. Its popularity and demand are increasing every day.

Cocaine and its preparations, as advertised in our journal by Parke, Davis & Co. of Detroit, Mich., are most remarkable anaesthetics, and we urge our readers to test them in the varied neuralgias seen in inebriates and opium cases. Dr. Wood reports some excellent results from the use of Hyoscine Hydrobromate, the alkaloid from hyoscyamus, in delirium of insanity. It should be tried in those intractical deliriums of inebriety, so difficult to control. Parke, Davis & Co. prepare and sell this alkaloid.

The Anglo-Swiss Condensed Milk which is being advertised in this journal, has won the highest encomiums from the most competent authorities as the best food made for infants and invalids. A treatise on this all-important topic will be mailed, free of cost, to all applicants by the Anglo-Swiss Condensed Milk Co., 86 Hudson street, New York city, or can be procured of druggists.

Dr. F. O. Young of Lexington, Ky., says: "I have used *Papine* in my practice, and I have taken considerable pains to test it and watch its action. I think it superior to any preparation I ever saw used containing opium. It is safe and pleasant, and in no case did it ever produce the least nausea."

Horsford Acid Phosphate fully merits all that can be said of its value as a brain and nerve tonic. In the anaemia and exhaustion from opium inebriety it is without a rival in therapeutics.

Lacto-peptine should be used in all cases where digestion is impaired. It is commended by many of the most distinguished medical men in the country.

Judge Moran of Tennessee, declared in a late address: "Of the crimes of adults that I have noted professionally, seventy-five per cent. are chargeable to the immoderate use of alcohol. Of the crimes of children, fully ninety per cent. can be traced to drink and inebriate parents."

It is a fact not well understood that inebriates, under the influences of spirits, are especially prone to heat, apoplexy, and cerebral congestion. In most cases it may be safely assumed that sunstroke is provoked by the use of alcohol, and where a case is found in the streets suffering from *coup de soleil*, he is both a neurotic and alcoholic. Hence the use of alcohol where the person is exposed to the sun is a source of great danger.—*Dr. Christie.*
