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Walnut Lodge,

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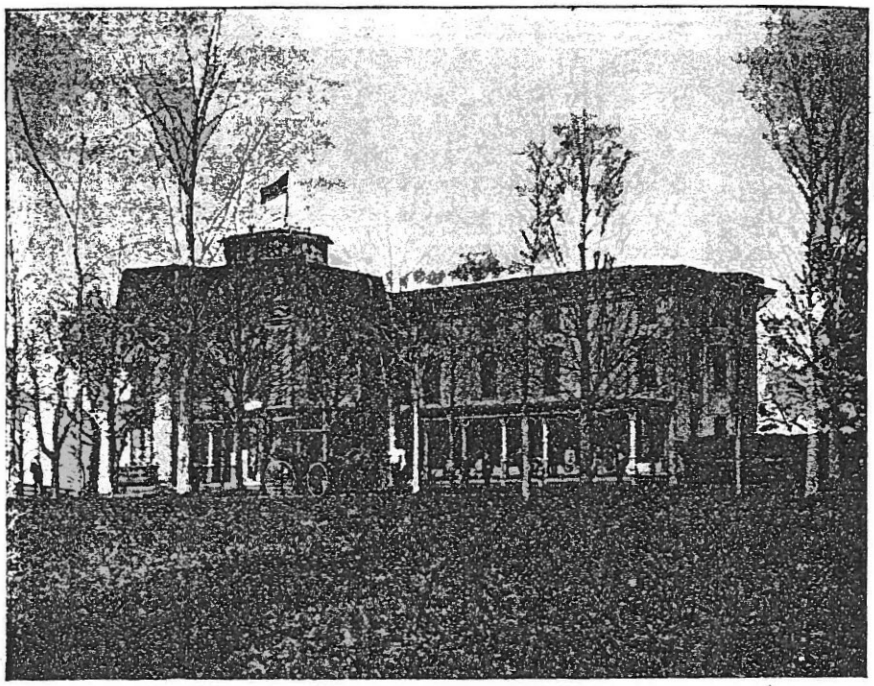

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Vol. XVI. APRIL, 1894. No. 2.

OPIUM—HAS IT ANY USE, OTHER THAN A STRICTLY MEDICINAL ONE?*

By BRIGADE-SURGEON ROBERT PRINGLE, M.D., EDIN.,
Late Sanitary Department, H. M. Bengal Army.

Judged by the line which the evidence before the Royal Commission on opium has taken, both in this country and in India, to date (December 23, 1893), the answer to the question contained in the heading of this communication can only be in the affirmative. Believing as I do that the negative is the only answer possible, either from a moral or physical point of view, taking these terms in their highest and fullest sense, I shall now proceed to support the negative by as brief as possible but pointed evidence; and for this purpose I will discuss the subject under two heads or divisions, viz., Medicinal and Non-Medicinal use.

I am the more anxious to do this, as I was *the one* medical officer, out of the four signatories to the appeal to the profession, against the practically unrestricted sale of opium in India, whose knowledge of the subject had been acquired

*Read before the English Society for the Study and Cure of Inebriety, January, 1894.

in that country during an Indian service of thirty years, twenty years of which were spent continuously in districts where the poppy had been cultivated, then abandoned, and again resumed. I feel, therefore, that this action on my part is necessary in simple justice to the 5,300 medical men who signed that appeal, now that the combat is raging round the non-medicinal uses of opium, which, in the short, sharp terms of that appeal, is absolutely disputed, as these uses are made by the pro-opiumists the bases of a justification for a limited indulgence in the drug in certain localities, and under certain conditions and mode of living.

1. *Medicinal use.*

Here at the very outset I would point out in the clearest manner that, however great these medicinal benefits are, they, nevertheless, are always regarded as invariably such as to give cause for the greatest care, both in the quantity and frequency in the administration of this drug. This is due wholly to the insidious mode of action of opium — an action absolutely peculiar to itself, viz., in luring those using it to continued indulgence, after the necessity for its use has passed, and this to an extent certainly peculiar to this drug. To illustrate this, the following, as well known, as fully admitted a fact, bears unquestionable evidence, viz., that, with but very rare exceptions, the subsequent continued indulgence in opium has been traced to the beneficial effects and sensations of the strictly medicinal administration of the drug; and, further, in no train of febrile symptoms is this relief more marked, or more beneficial, than in those which accompany the malarial fever, due to causes inseparable from the supersaturation of the soil with water, whether artificially or naturally produced; and yet more so when to these exciting causes are added those connected with the deposit of silt, largely composed of decaying vegetation, acted on by a tropical sun, and increased by the rise and fall of the tide. Here unquestionably the relief afforded by opium, when the body *is racked with malarial rheumatism*, or tortured with the agony of malarial dysentery, is such that one hardly wonders

that the sufferer from these painful symptoms longs for the time of his opiate; or, when he is off the sick list, and yet exposed to these malarious influences, is tempted to indulge in it when the rheumatic pains return, with the chill of sunset, and increase with the cold. In such cases I have known what seemed the strongest will power fail in resisting these influences, and the sufferer become enslaved to the syren effects of the drug, until at last he becomes its helpless, I might almost say hopeless, victim. I enter into these details, which I know so well, because I feel that I am not dealing with an ordinary drug, but with one which I fully admit is specially suited to the medical needs of the malarial swamps of Bengal, or those districts where the land from various causes is supersaturated with water. The value of the medicinal use of opium cannot be exaggerated in the treatment of all tropical fevers, and the diseased conditions connected with or directly resulting from them.

A. The chief medicinal use of opium undoubtedly is as a *Febrifuge*, and I may safely say it is such independent of the cause to which this febrile condition is due. Before going further I would here clearly differentiate between the *febrifuge* virtues of opium and its credited by some *prophylactic* (as regards malaria) properties, the latter owing to the presence of narcotine. In a word, febrifuge in this sense means driving the fever out, and prophylactic (as regards malaria) preventing its coming in. I as fully accept the first as I reject the second, for reasons I will give hereafter when discussing this prophylactic property. Opium in its febrifuge virtues occupies a remarkable position, whether we view it separately in its sodorific, anodyne, or soporific properties, or when we consider how it not only possesses all three, but in the case of malarial fever complicated with rheumatism and dysentery has the power of practically exhibiting all three, if need be, in the same case at the same time, it is not too much to say that this febrifuge property in the case of opium is simply unique.

B. Lately valuable *Dietetic* virtues have been claimed

for opium in the case of those whose diet is almost wholly vegetable, though how when it is a drug, which interferes with all secretions except that of the skin, and very particularly so with those secretions called into play in the production of what is known as a *good digestion*, which interference is the first step on the road to the destruction of the powers of assimilation of food, is a point on which I expect some light to be thrown during the discussion which will follow this paper.

C. The *Stringent* properties of opium, due greatly to its anodyne and soporific action in checking the diarrhœa or laxity, too frequently a constant condition of those feeding largely on a vegetable diet, in which, in certain places and seasons, the various species of the cucumber predominate, must surely be more than counterbalanced by the tendency to diarrhœa and dysentery, so markedly met with among the opium-eating prisoners in Bengal, due to conditions graphically described in the jail reports of that staunch pro-opiumist, Dr. Mouat, as follows: "The *chief mortality* was from dysentery. Among broken-down opium-eaters a form of disease particularly unmanageable, as the whole of the intestinal canal is frequently found in a state of disorganization." I can only hope that here also in the discussion some light will be shed on what seems so strangely incompatible as a dietectic action with the results visible in these fatal cases.

D. The *Prophylactic* virtues of opium have in the case of malarial fever been so lauded lately that those of us who served in India nearly forty years ago are tempted to ask ourselves how was it that this valuable property, due to the presence of narcotine, was not impressed upon us *then*, when quinine was thirty-two shillings an ounce, instead of one shilling and fourpence, as it now is; or how is it that we have failed to notice this valuable property before, or that no one has thought of urging the importance of it on the government until this anti-opium agitation reached a climax, which made it necessary to press every kind of weapon into the

service? *For the first time*, however, as far as I am aware, the explanation of this valuable property has been laid before the profession, in what may be called the journal of the British medical profession; and I for one am very glad that such an authority on the subject as the author of "Opium, its Use and Abuse," has so clearly laid down the lines on which this prophylaxis is obtained. In case, however, I might fail to convey its full meaning, I will give it in Sir William Moore's own words, as taken from the *British Medical Journal*, December 2, 1893, p. 1196:

"How does opium act as a preventive?" (against malarial fever). "Opium (I especially refer to smoking)," but eating is the prevalent habit in India where it exists, not smoking; for surely Sir William does not mean us to suppose that the small quantity of inferior opium smoked in the *hookah* will of itself produce these prophylactic benefits at the close of the day. But to return to the quotation: "Opium (I especially refer to smoking) in small quantities excites the circulation, and produces a glow throughout the whole system. In large quantities it soothes the system, and blunts nervous sensibility. Both actions are antagonistic to chill, and chill is the first stage of malarious fevers, especially of ague. The Indian, after working and perspiring all day under a tropical sun, is very likely to become chilled by the night fall of temperature, and this liability is increased by his carelessness in not using extra garments. But he comes home, and after, or sometimes before, his evening meal he takes his opium. As a consequence, instead of feeling cold and shivering, he remains warm and glowing, and so escapes chill, which, if not the real and only cause of malarious fever, is certainly the cause of many repetitions of attack."

"From recent Indian newspapers I learn of a great increase of malarious fevers in certain parts of India" (it would have been well if they had been named). "Naturally the question presents — Is this due to the abolition of opium shops, and to the limitation of the possession of opium per

person to one tola's weight (rather less than half an ounce)." I offer no apology for these two full quotations; the whole medical case of *The Opium Question* lies in them, viz., the causes in the first, and the no doubt implied effect in the second. Now, I maintain, the first is theory, pure and simple, and the second — well, it is not easy to say what it is, because Sir William has not told us how long it is since the quantity each person (age not given) could buy at various periods during the day has been reduced from ten tolas of 1,800 grains — *i. e.*, three and three-quarter ounces — (*vide* Bombay opium license) to one tola — 180 grains, or nearly half an ounce — nor yet where this reduction has been made, as regards the malarious character of the districts. However, let the latter rest. If I can dispose of the data of the first, I can afford to leave the second alone. As regards the "chill, which, if not the real and only cause of malarious fever, is certainly the cause of many repetitions of attack," I presume I have seen as much malarial fever and its results as most medical officers of thirty years' Indian service; firstly, eight years in the swamps of Orissa, including the salt lands of Pooree and the hill districts of Cuttack, then two years in Central India, and twenty years continuously in the waterlogged districts in the upper portion of the Mesopotamia of the Ganges and Jumna; and I am prepared to prove that a chill, though it may frequently be the cause of malarial fever, is most certainly neither "the only cause" of it, nor yet of "the repetitions of attack." In the pestilential malarial fever of the swamps, or salt lands of Orissa, a chill is certainly neither the primary invariable symptom, nor cause of malarial fever, the irritability of the stomach, and the terrible fits of retching, which tartar emetic and ipecacuanha, aided by tepid water, seem to have a special power in relieving, point to the attack being due, not so much to the chill, acting externally, as to some specific poison taken internally, and acting there, and nature's efforts to emit it. Here I am describing my own case. I certainly had no chill, being warmly clad and protected, but I was traveling in

a palki on duty through a swamp, and I felt I had swallowed some poisonous substance or gas, just as I once did in Greenwich from a drain ; and, though the former resulted in an attack of malarial fever, and the latter in a sharp attack of diarrhœa, yet there was no chill in either case, because I was in a healthy glow from warm clothing.

This sickness and retching symptom of malarial fever in the swamps of Bengal, may perhaps be unknown to Sir William Moore in his practice in Rajpootana and Central India, as the physical conditions of Central India and the swamps of Bengal are as different as it is possible to be — and the vicissitudes of temperature must consequently be very different in the case of the dry heat of Central India, and the most pestilential, at times almost fœtid, air of the swamps and soonderbunds of Bengal.

Now, how about this chill theory, and its prevention or prophylaxis due to the Indian's "carelessness in not using extra garments" which should I think be said to be due, for the reason I shall give after, *to the poverty in not having extra garments.* Does Sir William wish it to be understood — that the "consequence, instead of feeling cold and shivering, he (the Indian cultivator) remains warm and glowing and so escapes a chill," is due to the fact that the stimulation caused by opium is not followed by any depression, tending to produce, and increase the susceptibility to malarious influences, or injurious effects from changes of temperature as is the case with alcohol? Then I can only say his experience is not mine, and that, so far from there being any prophylaxis against malarial influences, after the opiate stimulation, the very reverse is the case, and that, as with alcohol so with the opium, the depression which *must* follow stimulation is a condition of special susceptibility to all noxious influences, as is too often the case with troops, when any considerable number of them are under the influence of alcohol, when placed in trains for a night journey, in the cold season in India, in carriages specially built for the hot season. How often is this followed by outbreaks of pneu-

monia, or dysentery apparently unaccounted for. I can name a regiment entrained at Delhi in which these sad consequences were manifested till half-way on its voyage to England.

But what are the real facts of the case when judged by the action of those most interested, viz., the Indian cultivator, and here I speak from an experience which I fully recorded at the time, in my annual reports as Sanitary officer of the Circle, little thinking that thirty years after, it would be brought forward in support of the non-prophylactic virtue of opium in the case of malarial fever. After the American war of 1862 the price of cotton rose to such an extent, that the natives in the districts through which the railway passed, actually took the cotton out of their wadded garments, and, teasing it again, sold it largely for inferior cotton. Now the districts in which this was practiced to the greatest extent happen to be those which for years have persistently refused the highly favorable cash advances for poppy cultivation, viz., the Agra, Muttra, and Alighur districts, and no one knows better than I do how they were repeatedly decimated by malarial fever, and, during the period in question, due to a great extent to cold, owing to the loss of these wadded garments, the mortality was very high. The population of these districts was over three millions and the density of it five hundred to the square mile. Thus this prophylactic theory of opium in the case of prevention of chill, if we may judge by the experience and practice of those most interested in the subject, in these densely populated districts was either unknown or not accepted, and yet in these very districts the *poppy* was once cultivated, but *rejected by the cultivators*, as admitted by government documents, for the *more profitable cultivation of wheat, potatoes, etc.;* though if we were to test these reasons more closely we should find that the tyranny of the right of poppy search, and the risk of members of the family acquiring the habit of eating or smoking opium, were the true causes of the rejection of that which was made most acceptable by large and continuous cash ad-

vances, *leaving often*, at the day of settling, but little if any sum to pay back, and this among a *chronically impecunious people*.

2. *The non-medicinal use of opium.*

It is round this point the battle is now raging, and it is well it should be clearly laid down what the bases of this line of argument really are, and, as these are supposed to be very special in their relation to India, and therefore, indirectly perhaps to all Eastern nations, it will not do to dismiss the subject by saying the false strength-giving and life-sustaining on limited food properties of opium, being not recognized in the medical practice of the West, can therefore be hardly considered such in the East, though the dilemma in which the excess in the opium habit in Burmah has placed the authorities is such that the government has to rest on the horns of it, viz., that opium in any form, and for any condition or disease is not suitable for the Burmans on the east of the Bay of Bengal, and must therefore be prohibited, but it is essentially necessary to the well-being of the Orryiah on the west coast of the Bay, though the malarial influences are similar on both sides of it, and that it would be most unfair to restrict the sale or possession of it in Orissa!

The non-medicinal uses of opium may be classed under the following heads: —

A. Tonic for ordinary labor.

B. Specially stimulant for increased exertion, whether mental or physical.

C. Sustaining life on a minimum amount of food.

D. Aphrodisiac in impotence or sterility.

E. Sensuous in debauchery.

F. Control over the action of *ganja* for endurance in fasting and self-inflicted pain, such as that of the swinging festival, for imparting false courage, for drugging purposes to rob, kill, violate, or produce symptoms so similar to insanity as to procure incarceration in a lunatic asylum.

A. *Tonic for ordinary labor.*— This I can dismiss at

once, by the simple fact, of which there is abundant evidence, that the hard-working cultivator of the Northwest Provinces neither believes in its necessity, nor is at all anxious to give it a trial, having evidence of what it might lead to.

Here, perhaps, I might mention, with marked emphasis, that the *indulgence* in anything *that intoxicates* is in direct opposition to the social and religious customs of *all Hindus* or *Mohammedans* laying any claim to respectability. Those who know the natives best, are fully aware how all of them *who have the real good of their country at heart, grieve over the terrible laxity of the social and religious* customs on this point, *now spreading over the country*, but no amount of prevalence of the breach of these safeguards will ever remove the religious scruples of either Hindu or Mohammedan, who, in the former instance, for the sake of self-preservation, and the latter for military control and discipline, laid down the lines of a total abstaining nation, which, I can bear ample evidence to, is as rigidly carried out by all true followers of "The Institutes of Manu" or the dictates of the prophet to-day, as when it was first enacted.

B. *Specially stimulant for increased exertion, whether mental or physical.*— This non-medicinal use of opium is one regarding which much has been said, and not a few supporters of opium have added that *without the regular use of this drug*, the natives of India could not undertake the great exertion they are in the habit of undergoing. A native who is dependent on opium for increased exertion is a most untrustworthy person to rely on, and in the case of a soldier, a most inefficient one, as the condition of a man after the opiate stimulation is most unsatisfactory for watchfulness or any sudden emergency, and the occasional helplessness of native seamen "*lascars*" at such times is due doubtless to opium, eaten if not smoked. The case given in an evening daily, of the faithlessness of a native regiment during the siege of Lucknow, because they could not get opium in the entrenchments, is, I maintain, the strongest argument against the use of opium, instead of being one as quoted in its favor. As

a medical officer, I would no more pass a man as fit for active service who was useless without his opium, than I would one who was dependent on alcoholic stimulation for the performance of his daily ordinary duties.

The administration of opium in the case of animals, such as horses, camels, bullocks, and even elephants, during or after unusual and prolonged exertion, is a medicinal, and certainly necessary, not a non-medicinal and unnecessary use. It is given mixed up with various spices to secure a continued rest, wherein to recoup the loss sustained in the increased and continuous exertion, but is only given on these occasions, and doubtless the driver of these animals takes a little for himself.

I would add a few words here regarding the opiate stimulation in the case of great mental strain. It would be idle to contend that opium, taken under these conditions, does not increase intellectual brilliancy, which shows itself in the style, and above all, facility with which the article is, so to speak, written off; but it is possible to attain this excellence at too great a cost. Those whose duties in connection with the press generally convert night into day, and the reverse, unquestionably find this can be done with greater ease by the use of opiate stimulants, but this is the most insidious and hence dangerous method of getting into the embrace of the opiate syren, and an early mental wreck or excessive indulgence in alcoholic stimulation, in the hopes of overcoming the subsequent languor, is the price to be paid for this violent strain and stimulation on the mental faculties, and these are the cases in which the injurious effects of the drug are seen in the great nerve centers in paralysis, and not in the shrivelling up of the internal organs.

The Coolie depôts in Calcutta, etc., from which the emigrants are largely drawn, are chiefly made up of men who have dropped out of regular work from their dependence on opium, and its effect on the digestion. Indulgence in opium, no matter how moderate, requires one condition for its *apparently* harmless effect, and that is, if not a perfect, yet a

sufficient assimilation of food to *retain* the appetite, and an abundant and good quality of food to nourish the body. Reduce this latter, and opium quickly asserts her sway, and then acquires the property of

C. *Sustaining life on a minimum amount of food.*— Independent of the highly questionable, financial, or physical morality of this supposed virtue in opium, it happens to be opposed to actual fact. If opium succeeds in this instance, it puts the case hopelessly out of the condition of ever again resuming ordinary work, with or without opium, and thus leaves the poor wretch to carry on a life of almost suspended animation, like the bear in the Himalayas throughout the winter months, when he lives on the fat stored up in the summer. The present prevalence of the opium habit in Orissa is entirely due to this dependence on opium to relieve and deaden the pangs of hunger during the famine, and I consider that nothing could conceivably be more disastrous for a country, than a plea being found for the production of opium, and its unrestricted sale, than one based on this deadening property to the pangs of hunger. At the great pro-opium meeting of the Calcutta Medical Society, if there was one point more forcibly dwelt on than another, it was the absolute necessity of a good and generous diet, if, according to these authorities, the opium habit is to be carried on harmlessly. Why do not those who persistently support this property in opium, suggest the despatch of opium to the poor famine-stricken districts of Central Asia, so that the limited supply of food may be made to go as far as possible, or are they prepared to explain how the government at their suggestion did not distribute gratuitously large quantities of opium throughout the districts visited with famine or scarcity, during the past thirty years, as they did quinine under similar conditions of malarial fever. If the poppy cultivation in India leans on a support like this, it, like the rule of the nation which endorses it, had better cease, and the country be entrusted to a nation whose code of government and honor is of a higher standard. But no government that

I have ever served under has ever thought of this mode of relieving the horrors of famine, and it is another of the weapons which the supporters of opium are driven to, in their dire straits for pro-opium arguments.

D. *Aphrodisiac in impotence or sterility.*— Nations whose social customs, as they relate to marriage, are such as seriously to induce and then confirm impotence and sterility, are much given to indulgence in aphrodisiac remedies, and no *drug* is more in request for this than opium, though, while it excites the function, it only does so to destroy it ultimately, and among the poorer and disreputable classes these form a very large proportion of the frequenters of the opium dens alluded to under the next head, E. The desire of paternity among Eastern nations largely conduces to the administration of aphrodisiacs among the inmates of the Zenana, and opium unquestionably is *the* drug most used, as it is by those engaged in horse-breeding operations in various districts in Northern India.

E. *Sensuous in debauchery.*— Sir William Moore, in the abstract of the paper which he read at the Imperial Institute on the 23d of November, 1893, "On Opium," is made to state the following: — "It was said that using opium was wicked and immoral and destructive of health. He had often smoked opium, and really did not see where the wickedness and immorality came in." Surely Sir William must have forgotten what he said, at the discussion which followed my paper on "Opium from a Public Health Point of View," at the meeting of the British Medical Association at Bournemouth in 1891, when, alluding to one of the charges brought against opium, viz., that the opium habit in excess led to impotence, he said, so far from this being the case, all the first class opium-smoking saloons in Bombay had a brothel attached to them! Exactly so, and it is here the unutterable debauchery takes place among the wrecks of sexual and other indulgence, whose condition, if we are to accept the statements of some observers, is due to "painful affections of many years' standing!" and not to the habit of opium

smoking. To contend, therefore, that their presence in the opium saloons in Bombay or dens in Calcutta, which Surgeon Lieut.-Col. Crombie visited with the police, was to find relief in the oblivion of the opium trance, and not for sensuous purposes, must rest on different data, else why the presence of one woman in each den, and the brothel attached to the smoking saloon in Bombay? Sir William Moore obliges me to unmask the horrid truth. These women are there in both cases for the express purpose of leading the thoughts into sensual channels during the opium trance in which the misery of impotence is obliterated. More I need not say, except to add that if this is questioned, I hope to have one present in the meeting, who will describe the objects sought for, at one of these dens in Akyab, and the reason why women, if only one, and she a withered old hag, are present. I repeat, it is the hope of obtaining relief from the opium crave together with sensual pleasures, that urges these poor creatures into these dens, and not the painful affections of years, and while there, as in the alcoholic trance, the condition described in Prov. xxiii, 33, is experienced, when in the opium trance in these dens of sin, "their eyes shall behold strange women."

F. *Controlling power over the action of "ganja."* — This is a non-medicinal use of opium, regarding which little is said, but I fear much is concealed, and as I have paid considerable attention to this subject in its bearing on crime and insanity, I am glad of this public opportunity of exposing the dangers of the *lately supposed harmless* substance called opium, in its reference to crime, and its share in the production of insanity. The statistics of Indian lunatic asylums would lead us to suppose, that opium figures so slightly in the *credited causes of insanity*, that for practical purposes it may be excluded from the category of admitted causes of insanity, and alcohol and "ganja" may be considered as the chief, if not the only causes of insanity in India. Now those who have made close inquiries into the subject will have found that the union in the administration of these drugs,

which commences in the shop in which they are sold, under license, where "ganja" and opium may be seen together, seems designedly continuous for the following reasons: "ganja" is never taken or administered uncontrolled by the judicious mixture of opium, except to run "amok," or to do some murderous deed *at once*, and were all these cases carefully investigated, I have little doubt some would be found in which the victim of "ganja" had (forgetful of its consequence) taken the drug in an uncontrolled condition, and perpetrated the crimes for which he is charged, though hardly knowing what he was doing, and certainly not with a murderous intention. Of course it is quite different when a man has a blood feud to settle, or a grudge to carry into effect, what he then does, he does with a fixed intention; but apparently meaningless and aimless slaughter of innocent human beings, like that of the man in Northern India, a short time ago, who cut down fatally seven men before he was overpowered and disarmed, is due to the maddening influence of uncontrolled "ganja."

No crime produced by opium forsooth! I purposely leave out the petty thefts committed to secure money to buy opium wherewith to allay the pangs of *the opium crave, as they are too manifest to need allusion to, but the criminal use of opium in the practice of Thugs and professional murderers demands our careful consideration.* With the single exception of sulphate of copper, I believe there is no drug more used for criminal purposes than opium. The effects of professional criminal poisoning in that land of choleraic diarrhœa and dysentery, by very small but continuous doses of sulphate of copper are incredible, and the facility and secrecy with which life can be taken either in old or young is almost beyond relief, and cholera and diarrhœa, like snake-bite, are credited with an amount of deaths to which they have no claim whatever. The following happened in my own experience, when in medical charge of a troop of R. H. Artillery at Morar Gwalior, thirty years ago, and will show how possible it is to conceal this process of slow but sure murderous

poisoning. On the occasion in question, I was the means of saving the life of the child of the officer commanding the artillery division at Gwalior, Central India, by unexpectedly examining the food, and detecting what was hoped to be the final dose of sulphate of copper! One of the servants in the kitchen was, no doubt, the poisoner in this case, but who of them it was impossible to decide, and as the child recovered when the administration of the poison was stopped, it was useless to press the case further. By the cautious administration of opium, it might be quite possible to produce the opium craving, while the controlling influence of opium in the case of "ganja" can produce symptoms so resembling insanity as to deceive the most skillful observer, and when once the victim is confined in a lunatic asylum, if the case is one whose permanent seclusion, or even death is desired, the facilities for attaining this are both simple and numerous.

The government in India has successfully stamped out the system of Thugism in that vast empire, and though organized and subsidized bands of Thugs do not now, after due performance of special religious observances to their patron goddess Kali, sally out on their mission of murder, yet we may rest assured, the facilities of obtaining a narcotic like opium is taken advantage of to the full, by those who set but a small value on human life, when its removal may bring in a few rupees. One case that I know of only realized eighteen rupees, to be divided among some eight persons concerned in the murder. But if Thugism has been banished from India, it has found a not uncongenial soil in this vast city; where the professional drugger plies his trade, in conjunction with the bully and garotter, by means of the poor unfortunate, who, as in India among the Thugs of old, acted as decoy, and perhaps, also, the secret introducer of the narcotic into the liquor to be drunk. No crime due to opium! I repeat. Listen to the following which happened in my own experience at the Charing Cross Railway Station, and to the murder of a poor professional brother in the Borough last year. Could the narcotically-drugged liquor tell its tale

in London, we should then know something more of what opium can and does do to aid crime of every description. The case of the poor trooper of the 10th Hussars, whom I rescued from his, if need be, murderers, as was the case with doctor in the borough, exhibited a knowledge of the power of drugging, for which I was hardly prepared, and the case-book of the London Police Station, to which I took this trooper in a helpless condition of opiate stupor, will amply confirm this. The case of the doctor in the borough is a very instructive one, when compared with this. The condition in which this trooper was made over by me to the police, was one in which anything could have been done to him; not so with the poor doctor in the borough. In his case the narcotic had not been pushed far enough, and after submitting to a certain amount of robbery, he left the public house, and when in the lane resisted another attempt to rob, but this was soon silenced by the garotter, and the victim of the *harmless drug, opium*, lay a corpse in the lane. Could every story of the poor young men who come to London for the first time, and are robbed, either in a public house, or less respectable place, while under the influence of a narcotic, given in some liquor, it might even be coffee, reach the public ear or eye, as I saw it in the Strand, instead of "shame concealing what justice could disclose," we should then know what opium has to answer for. The case of the murderer Neal, is just one of those in which opium was at first used for its aphrodisiac properties, and after some time the monstrous method of black-mailing, originating in the opiate trance, was commenced, and the strychnine, which Neal had taken himself, first as an anti-opiate stimulant, and finally used for his murderous purposes, led to his detection. The condition produced by this indulgence in opium was such, that, like the blood in Macbeth, the strychnine and its victims haunted Neal night and day, to such an extent that one of the police engaged in the investigation told me, this strychnine was the clue that led to his conviction and execution.

The crime which follows the drugging of the intended victim is in exact proportion to the extent to which the narcotic is pushed; if resistance is offered, the Thug's cord, or the knuckles, as in the case of the poor doctor, close the scene, or, when the dark, silent river flows near, after the robbery or crime has been effected, the throat is cut, to lead suspicion into the line of suicide, and the body thrown into the river, and the verdict perhaps "suicide when of unsound mind."

Is no crime traceable to opium? That which woman has proved to be dearer than life has been lost at a time when the friendly meal or cup have, by means of this narcotic, secretly added, placed her in the condition in which I made over the Hussar to the police, and left her in the hands of one, who under the guise of love, seeks to gratify his lust, though it may often ruin his victim body and soul.

The use of opium in combination with *ganja*, as a means of endurance of the physical pain to which many of the devotees in India subject themselves, is well known, but not a few of these poor people ultimately find their way into the lunatic asylums from the destructive action of this *ganja* on the brain; but such stimulant narcotics are not needed by the men and women who will go through all they do in their pilgrimages, and who would scorn the use of opium or ganja to help them, those, therefore, who do use these drugs are for the most part a debauched, disreputable lot. As regards the property of imparting courage (after all only a false courage, and a little creditable to Sikh or Rajpoot), opium with ganja is very unsatisfactory, for, while a false courage may be felt, *a very real want of self-protection is manifested, and those who have engaged these men in mortal combat soon find them easy to defeat on this very ground.* The loss of true self-protection can never make up for any amount of false courage, and a feint or two soon leads the subject of this Dutch courage to his own defeat, as, in an unguarded or reckless moment he exposes himself to the fatal cut or thrust.

There is one use for opium, a medicinal one, all other use is vicious, from the peculiar character of the drug.

DELIRIUM TREMENS.

By George B. Twitchell, M.D.,

Of Cincinnati, Ohio.

"A rigor and delirium from excessive drinking are bad." — *Aphorisms of Hippocrates.*

The tendency at present is to underrate the importance and gravity of delirium tremens. We are warned against the old-fashioned free use of sedatives: "Feed your patient and he will get well;" "When he is exhausted he will fall asleep anyway." Such advice is often heard. The descriptions of delirium tremens to be found in the text-books are very meager, and they frequently entirely omit many of the important phenomena of the disease. Monographs describe many different forms, and are often confusing. This confusion and, indeed, many of the current ideas as to the prognosis and treatment of this disease depend upon a very misleading conception, which is, that "delirium tremens is really only an incident in the history of chronic alcoholism." (Osler.) This is true, but the same might be said of cirrhosis of the liver. Delirium tremens is as much a specific disease as cirrhosis of the liver is; but the breadth of the idea that it is "only an incident" hides this important fact, and, consequently, many of our conceptions of this dangerous disease are founded on the observation of comparatively mild pathologic conditions. The aim of this paper is to give to delirium tremens its true importance as a disease.

The clinical observations to be used here were made during an eighteen months' service as externe and interne at the Cincinnati City Hospital. A great many cases of all grades of alcoholism are continually received at this institution, and while an effort is made to exclude simple cases, the policy of the receiving physician is always to err on the side of safety. So it is that many cases are received that other-

wise would not be. It is extremely difficult to estimate the extent of a drunken man's illness. Alcoholism in all its minor forms is associated with an hysterical condition that is hard to recognize. A man is rarely so drunk as he pretends to be. When a man is suddenly sobered by some necessity, it is simply this hysterical condition that has disappeared. However, it must be remembered that nothing else so completely disguises other disease as does alcoholism. A very severe injury may be hidden under drunkenness. All the symptoms of pneumonia disappear before a concomitant delirium tremens.

During the eighteen months that I served at the City Hospital, 360 cases of alcoholism were received. Of these, 132 had delirium tremens. Many cases were under my care, or at least, where I had opportunities of observing them. Others I did not see, but I obtained my knowledge of them from the clinical records. Every possible precaution was taken to insure accuracy. However, certain errors were hardly to be avoided. Probably the 360 cases of alcoholism contained more than 132 cases of delirium tremens. The cases overlooked were probably abortive cases. The inclusion of these cases (could they have been positively identified) would have reduced the death-rate given. This error is probably not very great, and is, perhaps, the only one that could have occurred in compiling the statistics.

Etiology.— Sometimes a man goes directly from drunkenness into delirium tremens, but more frequently the disease makes its appearance as he begins to sober up. Anstie says that the first symptom is a distaste for alcohol. I have not noticed that. The disease often begins one, two, or three days after the individual has ceased drinking. This accounts for the erroneous opinion once held that the disease was due to a withdrawal of the accustomed stimulant. No single drinking bout ever produces delirium tremens. It may cause death by alcoholic poisoning, but not by delirium tremens. It is the chronic drinker who develops this disease, and he may develop it without having ever been drunk.

Usually, if not always, there is an exciting cause aside from alcoholism. Näcke lays great stress on this. By all odds the most frequent exciting cause is exposure to inclement weather. How severe this exposure frequently is, can only be appreciated by one who has engaged in public practice among the lower and criminal classes. An accident may be the exciting cause. An habitual drinker, drunk or sober, is injured (perhaps a leg has been amputated), and the case goes on well for thirty-six or forty-eight hours, when the patient becomes nervous, sleepless, has hallucinations, and runs into delirium tremens that will be almost certainly fatal. A similar result may follow a simple fracture or any slight injury. Probably, the majority of cases of surgical delirium are cases of delirium tremens. The delirium tremens may come on in the course of a pneumonia. Other acute diseases sometimes act as exciting causes.

SYMPTOMATOLOGY.— In describing the symptomatology of delirium tremens, it has been found convenient to divide its clinical history into three stages. This division must of necessity be somewhat artificial, and it must not be expected that every case will present the stages in a typical form, especially as recovery may take place at any time in the first, second, or third stage, and death in either the second or the third.

Incipient stage. As the disease makes its appearance the subject becomes restless and does not sleep well. If he falls asleep his sleep is haunted by dreams that soon awaken him. The minute he closes his eyes hallucinations pass before his mental vision. During this stage he is rational and *fully appreciates the character of the disease that is approaching*. He now truly has the "horrors." He may be tremulous, but usually he has only the slight tremor that follows every debauch. This is not nearly so pronounced as the true tremor of delirium tremens. At any moment he may become wildly delirious, and, losing the mental control he still has, pass rapidly into the violent stage, becoming dangerous to himself and others. In the incipient stage the

patient also exhibits the usual gastric symptoms that follow ordinary alcoholic intoxication.

The incipient stage may last one or two days, to be followed by the violent stage or by gradual recovery. First attacks rarely go beyond this stage. Probably fully half of the cases of delirium tremens that recover do so at this time. At the City Hospital such cases were called *impending delirium tremens*. These are the cases that Näcke calls *abortive delirium tremens*.

Violent stage. The violent stage begins with the true delirium. Sometimes it is ushered in with a violent epileptiform convulsion. Epilepsy in connection with delirium tremens has often been described, and, of course, delirium tremens may occur in an epileptic; but delirium tremens does not cause epilepsy, whatever hereditary alcoholism may have to do with it.

Convulsions were rarely seen at the City Hospital, although occasionally a patient in the violent stage would be received with a history of having had a convulsion. The convulsion may be exactly like that of epilepsy, with the exception, perhaps, of not having the cry. However, it is not epileptic, but should rather be called epileptiform. The patient may recover from a convulsion and be but very slightly delirious. Soon, however, the delirium increases. Krukenberg considers the convulsion "as an initial symptom of the delirium itself." Moeli states that the epileptic attack increases the gravity of the prognosis.

Rapidly, but perhaps by inappreciable degrees, the visions that the sufferer knew did not exist, become realities to him. The patient starts suddenly, turns his head, listens, or looks about him suspiciously. He may still appear rational and deny having hallucinations, probably because he even looks upon his attendants with suspicion. He becomes violent, struggles to free himself from imaginary foes, and perhaps screams at the top of his voice. Hallucinations, illusions, and delusions, often but not necessarily, of a persecutory nature, crowd upon his mind. Illusions are now

much more frequent than hallucinations. These may be of sight, hearing, or smell. Those of sight are most common, and are probably often connected with changes in the retina and optic nerve. A patient will often be seen going through some definite motion, as if at his work. His hands may move as if he were unraveling some endless skein. I have seen a printer go through the motions of setting type. Sleep is almost impossible.

The tremor is very pronounced. It is quite different from the slight tremor of all drinkers, which is easily controlled by the use of whisky. The true delirium tremens tremor is much greater; it is increased by an effort to use the muscles. In severe cases, especially when temperature is elevated, the tremor persists even during sleep. It usually begins in the tongue and upper extremities, and finally also affects the legs. It is most marked in the hands.

The patient, on account of the mental condition, feels no pain from the most severe injury. He throws a broken leg about as if it were sound. The symptoms of a pneumonia are completely masked. There is anorexia, but vomiting is very rare. Constipation is the rule. The temperature is variable. There may be very little fever or the temperature may run up to 104° or higher, without pneumonia or other complication to account for it. The patient often sweats profusely. The urine is scanty, high colored, and usually contains some albumen. At this time the patient may rapidly wear himself out and die. This is usual in cases with severe injuries or pneumonia. The disease may run a comparatively mild course throughout this stage. The great excitement, however, is not of long duration, rarely lasting longer than three or four days; but at the end of this period the exhaustion does not always lead to natural sleep, as many clinicians would have us believe; it often leads to a peculiar typhoid state presently to be described.

After the violent stage is well developed, the prognosis becomes grave. Death may take place very rapidly, the entire disease having lasted perhaps but two days. Pneu-

monic and surgical cases usually die in this stage ; so also do the febrile cases of Magnan. One fatal case (complicated with simple fracture of the tibia) that corresponded to the description of Magnan was observed.

Typhoid stage. The patient gradually passes from the previous condition into this state. But while this stage not infrequently follows a very violent second stage, it more often occurs in cases that, from the beginning, have had a more quiet delirium, and, indeed, from the start, have had somewhat of a typhoid character, which became more marked as the disease developed. It is the patients that have been drinkers for years, and, perhaps, have had many mild attacks of delirium tremens, that exhibit this stage most perfectly.

As this stage develops, the delirium becomes quiet. The patient loses his fear of the hallucinations, nor, indeed, are hallucinations frequent, if they exist at all. Illusions, however, are very frequent early in this stage, and are not usually of a persecutory nature. The patient tugs at his shackles, and thinks he holds the reins of a team of horses. This illusion is very common. Illusions of hearing are frequent.

The typhoid state gradually deepens. The patient is extremely tremulous. He is never awake, and rarely asleep. He is easy to control, but needs constant watching, just as a case of dementia would. He may get up and wander aimlessly about. His speech becomes more and more of a mumble, and finally entirely unintelligible. When sharply told to put out his tongue he protrudes it slowly. He passes urine and feces in bed or anywhere. Albuminuria is usual. The pulse is weak and rapid. There is always some elevation of temperature, although it rarely rises above 102° until the end. Cheyne-Stokes breathing is occasionally observed. The conjunctivæ are injected, the eyes watery, and the eyelashes frequently glued together. The pupils are normal or react slowly.

The patient lies with his mouth open, his tongue and lips dry, and his breath extremely fetid. One of the cases ob-

served developed a parotiditis, probably by infection through the ducts from this foul mouth. The patient usually takes sufficient food. The bowels are constipated.

The subject lies in this condition for six or eight weeks, or even longer. He gradually grows weaker. One day his temperature runs higher than usual, reaches 104° or 105°, or even higher (in one case 108.2°), and he then dies.

A small proportion of cases recover, even at this stage of the disease. The great majority die. This sequel to the violent stage of delirium tremens, for all that it is hardly mentioned in the literature, is by no means rare. At the City Hospital it was often called alcoholic meningitis. Leptomeningitis, undoubtedly, does occur with alcoholism as an important etiologic factor, but when it occurs it presents more definite signs of meningeal inflammation. Paralysis of the third nerve occurred in one alcoholic case in which undoubted meningitis was proved at the necropsy.

Näcke describes a type of chronic delirium tremens which corresponds to this typhoid stage. He uses the term typhoid in describing it. The *chronic continued delirium tremens* of Rose may be the same. However, many of the chronic forms that have been described seem to be rather cases of true insanity. The descriptions of these forms are often unsatisfactory.

Diagnosis.— Usually the diagnosis presents no difficulties. The conditions to be excluded are : acute alcoholic intoxication, psychoses made prominent by drink, alcoholic insanity, delirium of infectious diseases, and mania.

The diagnosis of the third stage may be difficult if a previous violent stage has not been prominent, or has, perhaps, not been observed. In making a diagnosis of delirium tremens in the early stages, it is well to remember that it is the rule for a man to have a rational period between an intoxication and the true disease. It is sometimes necessary to watch a case a few days to exclude alcoholic insanity. The tremor has diagnostic importance, but a slight tremor is usual in all forms of alcoholism.

PROGNOSIS.— Statistics show a mortality of from 2 per cent. to 35 per cent. Probably, this variation depends, to some extent, upon what is included as delirium tremens by the various observers.

Of the 132 cases, 2 (while in the typhoid state) were removed by friends. The result in these cases is unknown. The total mortality of the 130 cases was 35.4 per cent. Of 12 cases complicated by pneumonia, 10 died. Of 9 cases complicated by surgical injuries, in only one was the injury a dangerous one of itself. The other injuries were simple fractures (usually of the tibia, or above the ankle), crushed toe, fractured lower jaw, and scalp-wound. Only 2 recovered (the scalp-wound and jaw cases); 6 died in the violent stage, and 1 at the end of a long typhoid stage.

Of the 109 uncomplicated cases, 29 died, *i. e.*, 26.6 per cent. Of the 29 deaths, 20 occurred at the end of the typhoid stage, and 9 during the violent stage. Of the 80 recoveries, 33 took place during the incipient stage, or, in other words, were abortive cases; 7 recovered after the typhoid stage, and 40 recovered after the violent stage had commenced, and without going into the typhoid stage. Many of these 40 cases were very mild.

PATHOLOGY.— The question as to the pathology of this strange disease is not an easy one to answer. Autopsies, however, make some suggestions. When death occurs after the typhoid stage, the post-mortem examination shows a wet brain — in fact, a very wet brain. There is serum everywhere, in the ventricles and between the membranes. The arachnoid is so water-logged as to appear gelatinous; it may be faintly cloudy, but it is never opaque. The vessels of the pia are dilated. The brain has a wet, glistening appearance, identical with that of the *wet brain of nephritis*. This condition has often been mistaken for leptomeningitis. It is not a meningitis at all. The difference between an inflammation and an edema need not be discussed here.

In the cases that die during the violent stage, the arachnoid has not so much of a gelatinous appearance, as if, perhaps, the edema were not of so long a standing.

The lungs are also edematous, and especially marked in cases dying after the typhoid stage is a condition of hypostatic pneumonia of a higher grade. A piece of the lung will sink in water. This condition is sometimes so marked as to lead to its being mistaken for pneumonia, and the sudden high temperature that occurs just before death gives some color to this idea. Microscopic examination reveals the error. Of course, this condition is practically the same on both sides and is limited to the lower lobes. A cut is smoother than a cut through an area of red hepatization. It should not be forgotten, however, that pneumonia may occur.

The kidneys are probably always affected. In the post-mortems held on the cases observed, the lesions were frequently quite extensive. Interstitial nephritis, sometimes of a high grade, was always present, while parenchymatous changes were by no means rare. Large white kidneys were never found. Krukenberg describes the kidney-lesions, both macroscopic and microscopic, at length. His valuable article should be consulted on this point.

The heart was of the usual granular kidney type. Beginning cirrhosis of the liver was occasionally observed.

The old inanition-theory, that delirium tremens is due to the want of an accustomed stimulus, is rarely advanced now. The arguments that have been urged against it seem conclusive. However, this does not exclude the idea that delirium tremens is a form of cerebral asthenia. By cerebral asthenia may be understood a condition of insufficient nutrition, not that the food needed is alcohol, but rather that the alcohol has interfered with the nutritive processes to an extent making proper nutrition difficult, while perhaps the last intoxication has, for a time, shut off the nutrition almost entirely. Associated with this view of the pathology is the idea, very commonly held by both physicians and laymen, that delirium tremens does not develop except in men that do not eat while drinking. It seems to me that this idea is founded on insufficient observation and is not entirely correct. The absence of food from the stomach makes the ab-

sorption of alcohol more rapid, but surely the deleterious effects of alcohol can and do occur in drinkers who eat. Of course, constant drinking interferes greatly with digestion and nutrition.

Undoubtedly, the symptoms of delirium tremens do present certain slight analogies with those of nerve exhaustion, neurasthenia, especially, perhaps, in the way of the insomnia and the frightful dreams. It seems improbable, however, that a neurasthenic condition could be carried far enough to produce all of the phenomena of this disease. In cerebral anemia we never find conditions analogous to delirium tremens, unless, indeed, accepting the theory of Traube, we consider the symptoms of uremia as symptoms of cerebral anemia and edema.

The toxemic theory, *i. e.*, that delirium tremens is due to a toxic action of the alcohol imbibed (unless a very wide construction be put upon it), fails to explain the phenomena of the disease. No amount of alcohol will produce delirium tremens in a healthy man or animal not accustomed to drink. The symptoms of alcoholic poisoning are entirely different. It is hard to think of alcohol as a cumulative poison. And, if alcohol should accumulate in the system, why would its effects differ from those of acute alcoholic poisoning, and why would two months, or even longer be required to eliminate the poison ?

More plausible is the idea that the disease is due to actual changes in nerve tissues, the results of the repeated insults of the alcohol ; that it is similar to alcoholic neuritis. This theory and the one allied to it, that delirium tremens is a form of insanity, is very often suggested. Delirium tremens and alcoholic insanity are far from identical clinically. Changes in the cerebral cortical cells have been described in delirium tremens, but they do not appear to be constant nor indeed frequent.

The symptomatology of delirium tremens strongly suggests that its phenomena are due to retained products of metabolism, poisons that may or may not be eliminated,

rather than to chronic organic changes in nerve-tissue. Apparently, the kidneys are constantly crippled.

On account of the large amount of kidney parenchyma in excess of what is ordinarily needed, it is very difficult to draw inferences from the appearance of a kidney as to its efficiency. However, the constant presence of these lesions cannot but exercise some influence on the symptomatology, if, indeed, they do not cause all of the phenomena of the disease.

Fürstner found albuminuria in 40 per cent. of all cases examined. He also reports three cases in which delirium tremens developed in well-marked cases of chronic nephritis. In these cases there was an enormous increase of albumen in the urine, and casts were also found. He attributes the albuminuria to a transitory hyperemia brought on by alcohol. These observations are very suggestive, as are also the similarities between the symptoms of poisoning in chronic nephritis and the symptoms of delirium tremens.

The eclampsias of the two diseases are identical. Delirium is a prominent symptom of uremia. Delusions of persecution are common in *folie Brightique*. It has been suggested that many of the hallucinations of delirium tremens are in reality illusions founded on alterations in the retina. These alterations may be of uremic origin. The tremor seems a specific symptom of delirium tremens. Muscular symptoms, however, not very different, also occur in chronic nephritis.

Osler, in speaking of uremia, says: "In some of these cases a condition of torpor persists for weeks and even months. The tongue is usually furred, and the breath very foul and heavy." In the records of the Cincinnati City Hospital are to be found accounts of cases which entered in a condition of torpor, and finally died. The diagnosis made, chronic nephritis, was fully substantiated by the post-mortem examination. Yet these cases in every particular, both of symptomatology and pathologic anatomy, were identical with the condition that over and over again was seen to proceed by inappreciable degrees from a typical delirium tremens.

Death from delirium tremens usually occurs at perhaps a little earlier age than does death in ordinary cases of granular nephritis. The first attacks of delirium tremens, which may occur early in life, are not fatal, being usually abortive cases. This may be because the kidney lesions are not far advanced. Moreover, it is possible that elimination by organs other than the kidneys is also imperfect.

Many cases of uremia, and the other accidents of nephritis, such as edema of the brain and lungs, come on suddenly after a debauch or unusual exposure, and it is not impossible that the symptoms of delirium tremens may be of a similar nature, brought on by the extra work that the last debauch, with concomitant exposure, or injury, or pneumonia, throws on a pair of already crippled kidneys. It is well known how a chronic nephritis influences the prognosis of a pneumonia or an injury.

Uremia, as we ordinarily see it, and delirium tremens are not identical clinically; and for all that, in certain cases it is extremely difficult to differentiate between the two; yet, usually, does delirium tremens present a specific clinical picture. This is an argument against the theory that has been here suggested. Another point is, that while the severe uremic symptoms of interstitial nephritis are usually associated with a great increase of albumen in the urine, all cases of delirium tremens do not have albuminuria.

So, for all the arguments in favor of the theory that has been here suggested, it cannot be said with any degree of certainty that it is the correct one. Further investigation must settle this. But whatever finally proves to be the true explanation of the phenomena of this disease, I believe it will be found that delirium tremens does not and cannot occur in subjects with healthy kidneys.

TREATMENT.— The frequent, if not invariable, presence of kidney lesions, whether these lesions do or do not constitute the essential pathology of the disease, should not be forgotten. It is wise to begin treatment with a purgative, and to keep the bowels freely open throughout the disease. Practice shows the value of this. Diuretics, especially digi-

talis, have been used and highly praised. Probably hot-air baths and similar procedures would be of great value, especially in the typhoid stage. I have never seen them used. Such means should be used with the idea of eliminating the toxic principles, whatever they may be.

But there are a number of other indications to be met, and in meeting them we are possibly employing physiologic antidotes, for surely certain drugs seem actually curative. By the proper use of sedatives we can prevent the nervous system from becoming overwhelmed, until time enough has passed for the toxins to be eliminated. And, indeed, it seems that, violent nervous disturbances are of themselves injurious and dangerous, aside from exhausting the patient, increasing, perhaps, the very products of metabolism of which we are anxious to get rid. It is not considered safe to allow the convulsions of puerperal eclampsia to go unchecked. Yet no one would claim that the drugs used in checking them remove their cause; but the common opinion is, that these drugs are to some extent curative. Surely morphine is so considered by many.

A great many cases of delirium tremens will get well without treatment. These are usually abortive cases. First attacks almost always recover unless associated with pneumonia or injury. A careful attention to the digestive system will hasten recovery. Capsicum or some similar drug aids greatly in overcoming a nervousness (present after every alcoholic intoxication) that seems associated with the disturbed stomach.

In the severer cases the stomach symptoms are not nearly so promiment. Vomiting never interferes with medication. Little can be done for the anorexia.

It is often impossible to tell whether a case in the incipient stage will stop or go on to more dangerous conditions. A radical treatment at this time is easier, safer, and more successful than later. Put the patient to sleep before the severe delirium comes on; it is easy now; it may be very difficult later. The earlier that chloral or other hypnotic is used, the easier can its results be obtained. Exhaustion

does not assist the drug until the typhoid stage is reached, when the sleep obtained is not natural, but a sort of semi-coma, and the time for benefit from the drug has passed; or, too often, the typhoid stage is never reached, and the exhaustion that we had hoped would aid us leads to a coma that rapidly ends in death.

The medical treatment in vogue at the City Hospital, when I was interne, was potass. brom., gr. xxx; chloral, gr. xx, every three hours — sometimes a little more and sometimes a little less. Very little else was used in the violent stage until the heart began to fail, when, of course, stimulants were administered. The results were not good. Bromides are absolutely worthless in such a disease. At the best their sedative action is a very mild one. Chloral was usually given in altogether insufficient doses. If the chloral or other drug does not make the patient sleep, it does no good and probably does harm.

In a few cases chloral was given in sufficient doses to produce sleep; 30, 45, or 60 grains, varying with the case, were given from every half hour to three-quarters of an hour, until the patient was asleep, and then if he was delirious on waking he got another dose, 30 grains being usually sufficient at this time. The cases so treated did remarkably well. When the treatment was commenced early, but small doses were required. One dose was often sufficient; more than three were never required. The patient often slept eight or ten hours without waking, and on waking was rational. Some of the cases so treated were very severe, one being complicated with a fractured jaw; yet all recovered. Of course, the unusually good results obtained were, in a measure, accidental. This treatment was not sufficiently used at the City Hospital to be very good evidence in favor of such dosage. In all, ten cases were so treated. But while this number is very small, it must be remembered that the results obtained by this treatment in former times were good. One great advantage this method has over repeated small doses is, that the patient is not so often disturbed. It is often very difficult to persuade a violent delirium tremens patient to

take medicine after the first two or three doses. Hypodermatic medication alarms the patient too much.

In pneumonia the tendency to heart-failure is so great that perhaps chloral would be dangerous. However, recoveries under any treatment are rare. Perhaps it is especially in surgical cases that this treatment is most valuable. In these cases the first intimation of delirium should be met by sufficient chloral.

Unfortunately, many cases will die, no matter what treatment is used. It is astonishing how rapidly some of these cases, especially surgical ones, grow worse in spite of all efforts of physician or surgeon.

Shackles are a necessary evil. In the violent stage they are often indispensable, the milder substitutes, such as tying a sheet over the patient and to the bed, being altogether insufficient. In the later stages it is bad practice to use them, as they tend to keep the patient in one position and increase a tendency to hypostatic pneumonia.

A number of drugs were tried in the typhoid stage. Ergot had no effect. It was used with a mistaken idea as to the pathology. Digitalis seemed of some value, but did not accomplish much. Whisky was used without very satisfactory results, a much better heart stimulant being found in strychnine. Some clinicians use whisky quite freely throughout the disease. I am inclined to doubt the propriety of this. Strychnine is a most valuable drug in the typhoid stage, and, indeed, in every stage of the disease. It should be used very freely.

Patients in the typhoid stage should not be kept in one position. Possibly something might be accomplished in some cases by getting the patients out of bed occasionally. This, of course, should be done carefully.

The constant watching required through the many weeks that these cases often last, is very exhausting to both physician and attendants, and is too liable to result in carelessness. Perhaps the greatest difficulty in treating delirium tremens is to persuade the attendants that the patients are really human beings, suffering from a disease.

DELIRIUM TREMENS.

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By delirium tremens we mean a peculiar condition of the nervous system produced by the use of alcohol, and, perhaps, by its too sudden abandonment. I would not, however, confine the evils of the effects of alcohol in surgical cases merely to this disease. You all, I think, must notice as you go on through hospital practice and sights that the patients who do not drink do a great deal better than those who do, in every form of accident and injury. The calmness of body and mind is with the temperate. The resistance to shock is with the temperate. The ability to respond to stimulants promptly is with the temperate, for the intemperate have already used up their powers of vital resistance; they have become accustomed to the overuse of stimulants, and they do not respond readily to them, and you do not get the benefit from stimulants which you expect. An illustration of this is seen in etherization; as we said before, it takes a great quantity of ether, and laborious and excitable and protracted etherization, to overcome the drunkard, and make him go to sleep; whereas the patient who is temperate, as a rule, takes it calmly, succumbs to it easily, and recovers promptly. There can be no doubt, I think, that the continuous use of alcohol has a deleterious effect on the tissues, hardens them, thickens them, prevents absorption as readily, dilates the veins, leads to a slow and labored circulation; in that way delays absorption, and, moreover, produces finally some changes in the brain, which in the end are structural. All these things count against the patient when he is suddenly brought to meet the strain of a severe accident or a severe operation.

Delirium tremens, applied as a name to a disease, indi-

cates of course two marked conditions which are the characteristics of it; one is the temporary insanity, and the other is tremor. I should add to these, I think, a third characteristic, which is more marked in this affection than in any other single disease, and that is sleeplessness or vigilance. It is true that we see this more or less in other affections; but we always see it in the patient who has delirium tremens. A delirium, then, accompanied with tremor and with sleeplessness, expresses pretty nearly the description of a case of this kind.

There seem to be two varieties of it quite different from each other. One is the case in which the patient is very full of alcohol, and has not eliminated it from the system; and the other is the case in which he has been accustomed to the stimulation of alcohol for a long while, and has it suddenly withheld from him and misses its support. Perhaps we had better call the cases in the first class cases of pure alcoholism. In this class the patient is loaded with the results of the execretory products of alcohol which are not eliminated. His secretions are checked; his head is confused; his pulse is rapid; his skin is red and hot; his eyes are usually inflamed; his mind is irritable, somewhat delirious. He also is sleepless, maniacal. He easily passes to another state wherein alcoholism terminates in positive convulsions; and they are a well-known occurrence — not very frequent, but yet they do occur; are distinctly epileptiform in character and quite severe. On the other hand, the patient who is suffering from the want of alcohol, from true delirium tremens, is pale and subdued; has a weak, soft pulse, and a creamy, moist tongue. He is delirious; but he is quiet and civil, as a rule. His delirium is entirely that of fear; and all the efforts which he may make, which may result in injuring himself or in injuring others, are not apparently from any spirit of ugliness or homicidal mania, but to escape from the imaginary peril which he sees about him and wishes to avoid. The patient with true alcoholism gets over that condition in twelve hours, perhaps, and then passes on to the

second stage of delirium tremens. On the other hand, very many patients are brought into the hospital perfectly sober. It is difficult perhaps to extract from them the admission at first that they drink at all. They show for the first day perhaps no change from other patients; but soon after confinement in bed with a fracture, or with a painful broken rib, or with a wound — soon after confinement, within a few hours or a day — they begin to show the restlessness, the sleeplessness, and the tremor of true delirium tremens. These two classes of cases then would seem to be quite distinct; and although the final treatment of the two is practically the same, yet the alcoholism requires a different treatment while it lasts during its brief period, from that of the patient who begins with a delirium tremens without any alcohol in the system. In the patient with delirium tremens the tremor is most marked usually in the tongue and hands. He rarely can hold the hands steady, almost never can protrude the tongue without constant tremor; and this is quite characteristic of this nervous affection.

This is not to be confounded with the patient who has a tremor from debility in advanced fever. Take, for instance, the typhoidal state, in which we have jactitation, subsultus of the tendons, shaking of the fingers, quivering of the muscles of the face, and the dry, parched tongue and lips which the patient cannot control. In this typhoidal condition, perhaps, the patient is unable to protrude the tongue even though he tries to do so in answer to your request. On the other hand, the peculiarity of the patient with delirium tremens is that he is excessively anxious to do whatever he is asked to do by the doctor, with the idea that it will be a benefit to him; and being already in a state of fear, he is extremely submissive and overdoes everything that you ask him to do. If you ask him if he can sit up, he bounds up in bed. If you ask him to put out his tongue, he puts it out with great violence, and holds it out a long while. While he is thus afraid that he is going to die, his mind is in such a changeable state that no impression lasts longer than a few seconds;

and even though you may congratulate yourself that you have made some impression upon him, you cannot have the slightest confidence that it will last with him after you have left him. In this condition of pure delirium tremens his fears are so great that he forgets pain, and will abuse a broken limb, or a wounded surface in a way that no patient could bear in any other nervous condition. It is repeatedly the case that patients with delirium tremens, who are not properly watched, will tear off the splints and get out of bed, tear off dressings, etc. They are totally insensible, apparently, to the feeling of pain, while the stronger impression is on them of some reason why they should escape. The reason why they wish to escape is because they see around them in imagination various distressing visions which frighten them to a terrible degree. All sorts of phantasms and illusions pursue them, and some of their delirious fancies are extremely absurd, of course. In this condition of mind they can hardly be held to be accountable for what they do; and they are really temporarily insane, and may commit crime without any desire to commit crime, but only to escape from imaginary dangers. The patient with delirium tremens, for example, will get out of bed and try to escape from the room or the ward of a hospital, and if opposed, will not hesitate to inflict homicidal violence on the person who meets him if he has the strength to do it. In that way, you see, occasionally murder and crimes are committed in the delirium-tremens condition; and it must be strictly borne in mind that these people are in a state of absolute mania, and not safe to be trusted for a moment. Their promises are worth nothing. They are extremely dangerous to handle without assistance.

If an accident of any kind happens to a person who is habitually taking alcohol, which suspends suddenly the ability to take it, as, for example, an accident which causes them to have nausea, then delirium tremens frequently supervenes. It is not necessary that there should be a surgical accident either; for it is a well known fact that

delirium tremens is extremely common on the immigrant ships a day or two after they leave port, in consequence of sea-sickness interrupting the ability of the drunkards to take their customary stimulants. It is extremely common; and occasionally such patients have to be confined; and occasionally they commit suicide by jumping overboard. So that anything that suddenly shakes the nerves and interrupts the action of the stomach brings on this condition.

It is a very curious fact that in some drinkers the delirium-tremens condition does not come on suddenly, but waits till a day or so after the occurrence of the accident before it begins to show itself.

Pathology.—The pathology of this affection is almost nothing. It is apparently a functional disease, and it does not terminate fatally very often. When it does terminate fatally, it is usually accompanied by great serosity of the brain, what is called in some books œdema of the brain; in the older books it was called by the older writers by the very impressive term of a wet brain. In this condition the autopsy shows the sinuses loaded with venous blood, the ventricles and the spaces about the arachnoid cavity loaded with serum which extends down into the spinal canal. The mode of death is by gradual coma coming on exactly like what is called sometimes a serous apoplexy; coming on gradually, sleep deepening into stupor, inability to be roused, and finally resulting in death. Other changes may be found in the organs due to the habitual use of alcohol, but other changes coming from delirium tremens do not seem to exist; so that practically it is a functional rather than a structural affection; an affection of worn-out and exhausted nervous energy; and the pathology points to the treatment, which should always be of a soothing, supporting, and quieting nature.

Now, obviously, it will not do at all to consider the patient with alcoholism in the same category, as regards immediate treatment, as the patient with delirium tremens. The patient with alcoholism is already loaded with the effete

results of this indulgence; and the sooner it can be eliminated from his system the better for him. With such a patient, then, sometimes an emetic is of use; always a mercurial cathartic is of use; and sometimes something to promote the secretion of the kidneys, or of the skin. After the alimentary canal and other emunctories have been thoroughly cleared out, then is the time to begin to apply the treatment we should give to real delirium tremens.

The only cure for this affection of exhausted nerves is sleep. This is a panacea in this affection. It is a cure, if it is long enough and if it continues uninterruptedly. To procure sleep has always been one of the great indications in the treatment of this affection, and the one thing most difficult to obtain. In almost all other affections we have in opium a most powerful remedy to procure sleep. Unfortunately there are two reasons why it is not advisable to use opium in delirium tremens; one is that it is totally inoperative unless enormous amounts are given. The ordinary dose only excites the patient. Where a grain of opium would do in one case, a good many grains are necessary to subdue the mania of the patient in delirium tremens. In addition to this, it seems to exert an unfortunate effect upon the brain; and it has been pretty well proved by investigations that narcotism produced successfully with opium has some dangers in delirium tremens; that it is liable to result in lasting coma, and to carry the patient off into that serous condition of the brain which terminates finally in death. Chloral also is objectionable to a certain degree on account of its depressing effects. We know that chloral is quite a powerful hypnotic. We also know that it has a marked effect in depressing the action of the heart, and that it is rather accumulative in its action; and if several successive doses are given the combined effect may last longer and be greater than we had expected. As a depressant to the nervous system and the heart, it is somewhat dangerous; not that it should be set aside, but be used with great caution. One might think that ether would offer the best possible remedy we could use in

delirium tremens. The patient, however, succumbs to ether with difficulty, but finally goes to sleep. His muscles are relaxed; he bursts into a drenching sweat, and sleeps for a while with good effect; but so far as I have observed he always wakes with the delirium unabated; and it can be used with success, apparently, only as a temporary expedient. As a temporary expedient it is extremely valuable. In the patient with delirium tremens who is strong and violent, and suddenly meets with a severe accident, has a bad fracture, for instance, and has got to be transported, it may happen that etherization will be the best way to do it. He may be etherized fifteen to thirty minutes until he can be transported, perhaps put to bed, perhaps have his fracture treated, his limb dressed; but as a direct remedy, a curative agent, ether does not seem to have had a marked success. Chloroform, I should suppose, would quiet the patient quickly, but be a good deal more dangerous in this condition than in the ordinary condition, and be liable in some unexpected cases to kill the patient

In order to procure sleep, as far as drugs are concerned, we have to resort to the milder class; and often they are quite as effectual as the stronger. The most efficient, and the most innocent of all that are efficient, is the bromide of potash. They may be given safely in large doses, at intervals of four to six hours, for quite a while; and although if given a long while it finally affects the brain, reducing its circulation so far that the patient becomes temporarily demented, as I have seen in a number of cases, yet for the few days that perhaps we have to use it for delirium tremens, it almost never does any harm. It frequently is successful in procuring sleep; and it is apparently an innocent agent. Now much milder agents are sometimes successful, as, for instance, the tincture of hops (which is a good bitter), or valerian, or the preparations made from valerian, especially the combination of valerian and ammonia known as valerianate of ammonia, which is a good stimulant and good quieting agent, and apparently perfectly harmless.

Certain agents that have a stimulating quality are also sometimes very useful, especially the compound spirits of ether, called otherwise Hoffman's anodyne; this used to be called the heavy oil of wine, is a stimulant and also a sedative agent. It is a good agent to use in delirium tremens. Probably paraldehyde would come in the same class, to a certain degree. Sulphonal is uncertain, extremely slow. Its therapeutic effects do not come on apparently for several hours after administration, and then last a good while. It is to a certain degree a depressant to the heart; and it is to be classed, I should think, in the treatment of this disease, somewhat in the same category as chloral.

Stronger agents were sometimes used with great success, but they became so dangerous that I think they have become pretty much abandoned. I would instance, as an example, digitalis. That used to be very largely given, twenty years ago, in delirium tremens; and the doses were enormous, sometimes one drahm of the tincture, sometime that amount in two successive doses. This frequently quieted down the circulation to such a degree that the patient went to sleep; but sometimes fatal cases arose from its use, and it was then abandoned for safer agents.

There are some things which sometimes will put the patient to sleep merely by quieting the nervous disturbance which arises from the condition of the stomach. Of these capsicum is extremely valuable. It is appalling to see the ease and satisfaction with which the drunkard will take a large bolus of red pepper. He sometimes takes ten grains of this. It is easily administered in a crumb of bread. That sometimes quiets all the aching and distress at the epigastrium, and in that way tends to take the place of alcohol, and so secondarily to induce quiet and sleep.

Should alcohol ever be given? That is rather an important point. Many authorities think it should; some think it should not. I must say, for my own part, that I think a limited amount of alcohol, in the form of malt liquors, is useful and justifiable in treating these cases. You must bear in

mind when you get one of these bad cases that in almost every case the patient has been a spirit drinker, accustomed to liquors which contain from forty per cent. to fifty per cent. of alcohol; and he is accustomed to carry large amounts. The percentage of alcohol in malt liquors is so small that he may drink a large quantity of them without approaching the intoxicating dose to which he was accustomed; and a pint or quart of ale is nothing, almost, to the habitual drunkard. The advantage of giving a certain amount of stimulant in this form is that it contains the bitter and narcotic effect of hops, which is very grateful to the stomach, and the nutritive effect of the malt, that is, it combines a tonic with a certain amount of nutrition and a moderate amount of alcohol. Many cases of delirium tremens do extremely well on being allowed a moderate amount of strong beer or ale; and they get along without much other drugging.

I know that in these cases the care of the patient is so wearing, and the anxiety, when the case is prolonged to the second or third night without sleep, is so great, that one is tempted to try other forms of drugs, and to administer them to the patient in large quantities to induce sleep. I do not think it is good practice. I think it defeats its end, and sometimes leads to bad results. I should rather pin my faith on mild drugs, and trust to food and gentle stimulation in the treatment of this affection.

This leads to another point: How much is it best, and in what way is it best, to restrain the patient? To tie them down and put them in the strait-jacket, or to fasten the ankles and wrists and put a sheet across the chest, as you sometimes see, is not in itself beneficial. I believe it is directly injurious; and if it can be dispensed with, it had better be. You can imagine, for instance, the patient almost terrified to death by the visions that he sees around him, tied down. He struggles frantically, exhausts himself, throws himself into a state of great prostration, becomes more and more alarmed. He cannot sleep certainly in that

condition, and he probably receives more injury than benefit from it. At the same time, of course, in large institutions where a good many of these cases have to be taken care of, it is absolutely indispensable sometimes that some mode of confinement should be used; only I would enter a protest against its being used indiscriminately, or any more than is absolutely necessary. Take the case in which we can have our own way, in which the patient can be kept in a private room or house by himself, and have plenty of attendants; then it is never necessary to tie the patient, because the best form of physical restraint is by the nurses holding him temporarily and then relaxing, amusing him, talking with him, trying to win his confidence. In that way he does not exhaust himself, is not so alarmed, and gets well a great deal quicker.

Another point which I think is very important is that these patients should not be left alone, and should not be shut up in the dark. Nothing terrifies them so much. They are very fond of society, while in this state of mind. They seek intercourse with everybody about them. They are the better for it. Of course, if at any time they show the slightest disposition to go to sleep, then is the time to quiet things down, exclude the light, and while carefully watched, allow them to sleep as long as they will, not being afraid that they will sleep too long, as a rule. The presence of people with them, cheerful conversation, amusing them to a slight degree, letting them feel they are not deserted, assuring them they will get well, is of great importance in this nervous condition.

Now the next most important point, perhaps the most important of all, is food, nutrition. If they can take nutriment, if the stomach will tolerate food, they almost always get well, and they almost always go to sleep after they have taken food. The trouble is, in the early stages, that the stomach is often extremely irritable and food is not retained. It is in this condition, I think, that minute doses of calomel are sometimes extremely useful, and also the use of carbonic

acid gas in all forms of effervescing waters. Ice may be freely given and minute doses of calomel; and then gradually the patient can be tried with lime-water and milk, or some concentrated liquid food, etc. If the stomach will retain food, the patient should be fed on liquids at short intervals, precisely as we should treat a very sick patient in an exhausting disease. It is a condition of exhaustion, wants food, plenty of it, administered often in small quantities and in the liquid form. If you can once get the stomach to tolerate food, and afterwards give the patient something like a little malt liquor, frequently you can get along without any drug of a narcotic kind; and if that can be done, it is of great advantage.

I said that sleep was the panacea. It is in the majority of cases if it is lasting enough. Unfortunately, there is a certain percentage of cases where the sleep is not satisfactory. In the typical case the patient wears himself out in from twenty-four to thirty-six hours, and finally drops to sleep, and is thoroughly and dead asleep, and sleeps eight, twelve, or fourteen hours, something of that kind, and wakes somewhat exhausted, but perfectly calm and conscious; then the disease does not come back. The thing is over, and he needs only careful nursing and feeding to get along. On the other hand, in the exceptional class of cases, the patient sleeps a shorter interval, and wakes delirious; and those cases are always of extremely bad prognosis. They terminate in two ways; either these short naps are ineffectual, and with recurring delirium, until finally the patient becomes exhausted, and passes into the condition of serous effusion of the head, and dies; or else, in another class of cases, and a pretty large one, the delirium keeps recurring, and he passes on to permanent insanity. I do not think it is perhaps realized how often we see cases at the hospital which after a week of struggling of this kind cease their tremor, perhaps cease a good deal the morbid vigilance, but remain permanently in a state of mania, and are practically insane. Eventually, perhaps, they have to be removed to in-

sane asylums, and pass through some of the stages and treatment of ordinary mania, with various results. This would seem especially to be the case with powerful men of athletic habit, accustomed to live out-of-doors, and commit great excesses; at any rate, that is the class of cases I have in mind.

Sleep when it comes and lasts, and the patient wakes sane and clear, is a cure. When it come interruptedly, and the patient wakes delirious, the prognosis is extremely unfavorable.

You must see, of course, that with a patient in this condition, it is extremely difficult to treat a fracture, or to bring about a successful result in a head injury. It is in injuries of the extremities and in injuries of the head that delirium tremens is so disastrous, either in producing bad results to the injuries themselves, or in finally killing the patient. Delirium tremens, as you may imagine, is the worst possible complication of a scalp wound, whether with or without a fracture of the skull. The patient's brain is in a morbid state of excitement for a good many consecutive hours. He is liable, of course, to set up a meningitis in consequence of his injuries; and his chances of doing this are very much increased by the delirium tremens which accompanies many of these cases. In injuries of the extremities, especially of the lower extremities, it is almost impossible, in fractures, to keep the parts still while the patient is in a state of delirium tremens. I have sometimes found that they did best by being slung up temporarily in the Nathan Smith anterior splint, in which the leg is suspended on a wire frame, and held up over a pulley, so that it hangs. In this way a fracture of the tibia or femur can be held relatively quiet, and the patient can move about all he likes without doing much injury to the leg, because the leg is kicking about in the air, and not reaching any other object. With this apparatus, the patient can get out of bed, sit on a chair, and get into bed without disturbing the fracture.

What could be better than instantly securing the patient, and doing the leg up in an immovable plaster cast? Any

amount of apparatus that we can safely put on to the living tissues of the limb will not be sufficient to control the quivering and twitching of the long muscles, which the patient can keep up inside of the cast, so that it sometimes happens that upon removing the cast after a week or so, we find a compound fracture where originally there was a simple one. It is perhaps safer that the limb be put up in the Nathan Smith splint, and the patient watched a day or two until the delirium has subsided; or if the plaster cast is used, it is safer that it should be in the form of a high trough, having the small surface of the front of the bones exposed, and thus the condition of the fracture can be constantly seen and watched. It may seem almost incredible, but I have known of instances in which the patient removed the plaster cast from the leg when not thoroughly watched. To be sure, he had very little of his finger-nails left in the morning. Also more remarkable, this patient finally got a good leg, although he had a fracture in the middle of the femur, and we expected almost anything to result from the way in which he tossed about for a number of days.

Other agents produce a certain sort of delirium tremens; for instance, tobacco, if used in very great excess; tea notably. The excessive tea-drinker has a tremor and a great nervous excitation or wakefulness, does not have the delirium, but the other phenomena of delirium tremens, and he has to be treated in the same way.

The treatment of the convulsions which we occasionally see in the drunkard is pretty difficult. I do not know that we can do much except to try as rapidly as possible to get the alcohol out of the system. These convulsions are occasionally fatal. I have seen several result fatally after a day or so of continually recurring convulsions following the condition of pure alcoholism. The treatment, of course, should be to eliminate the alcohol, and to soothe the patient if we can.

Three or four other agents I will speak of for a moment, which are extremely useful with the drunkard in averting an

attack. For instance, a person comes to you, and says plainly: "I have had these attacks before, and I feel one coming on. I am getting shaky, cannot sleep, am beginning to think I see visions, etc., etc." What shall be done? Of course, he wishes and you wish, that he should abandon the habit of taking alcohol, and you want to carry him through this threatening attack, and compose his nerves. In that case there are some other agents that seem to do a great deal of good. Most important of these, I think, are the preparations of coca, given in small doses, especially the coca wine, which is extremely useful in counteracting the excitability produced by this state of slight delirum tremens. Camphor is also another old-fashioned remedy, sometimes very grateful to the patient, and very soothing. Asafœtida, a much-disused agent, but still, I think, an extremely valuable one, may be given in pills well coated over so that it is tasteless and does not nauseate the patient. It should be given largely to be of any effect — ten, twenty to thirty grains; and its advantage is that it is quieting, disposes to sleep. It is also to a very marked degree stimulating, and it is also somewhat relaxing to the bowels. These three qualities render it extremely valuable in slight nervous affections resulting from incipient delirium tremens or alcoholism. Hyoscyamus also seems to have a very good effect sometimes in quieting the patient and making up for the loss of sleep and the nervousness that he feels. These patients also may sometimes be given coffee and tea, if they wish it, to take the place of other stimulants. Once in a while some effect may be got from counter-irritation applied over the pit of the stomach, which sometimes affords great relief in this nervous state.

We would say then, in short, to sum the matter up, that if you have a patient who is in this incipient stage, you try these simple remedies and take care of him. If you have a patient who has been on a tremendous debauch, and is still full of alcohol, the treatment of delirium tremens will not be of the slightest avail until you have eliminated the alcohol

from the system, and that can be done most speedily by simple cathartics, by producing sweating, stimulating the kidneys, and allowing a little time to elapse before you apply the other treatment. When you meet the real case of delirium tremens, it is best conquered by gentle and sustaining treatment, rather than by any violent treatment, personal restraint instead of mechanical restraint, plenty of food if it can be taken; if liquor is given, in the form of malt liquor; if narcotics are used, the mildest possible agents to be tried first. If the patient sleeps, and has a good sleep and wakes once sane, he is certainly cured. If he has an imperfect sleep and wakes delirious, he may get another and better one, and wake up sane; but he is extremely liable to get a succession of short naps, and wake with a delirium that is liable to terminate in acute mania.

It is a little difficult, until you have seen a good many of these cases, to recognize this condition of delirium tremens when it is first coming on. Its incipient stages, however, are quite marked to one who has seen them. These patients usually begin by being very talkative and extremely communicative with regard to their past history and the nature of the accident. They seek conversation with every one about them. They are a little too wakeful and excitable. They have rather a too wideawake look about the face. They are too alert all the time. Accompanying this there is very frequently a little tremor to be detected, until at last delirium tremens is developed with great rapidity and positiveness, and there can be no doubt about the case. Of course, if these early stages are detected and treated, we have a much better chance of warding off the subsequent affection, so to speak, than if they were overlooked; hence, I think it is a good practice in treating all hospital cases, where we have to deal with such an immense amount of these results of drunkenness, to always consider that point when you look at a patient brought in with a broken leg, for instance. He has got a broken leg; what else? Is he a drunkard or not? It is of no use to ask him. You must judge by look-

ing at him ; and in many cases you can learn to distinguish the person who drinks from the one who does not drink. If you are in doubt you had better give him the benefit of the doubt, and watch him closely. Administer some gentle solution — a mercurial cathartic ; perhaps early in the case, a mild stimulant, or tonic compound like beer ; or the early administration of a sedative of simple nature the first night you see him. In this way you may sometimes avert or postpone, I believe, the severe cases, and lead them to better results.

The law holds the drunkard accountable for anything he does. It is a little in dispute, I think. A good deal is to be said on both sides ; and I think a good deal is said on both sides by judges in court as to how far the patient actually crazy with delirium tremens should be considered an accountable being. We know how far the point is stretched in endeavoring to secure the acquittal of criminals, that they may have inherited insanity, or been insane, or had a temporary insane impulse, or something of that kind, and that sometimes this point is carried so far as to be abused. If any person is to be allowed any privilege or loophole to escape from the consequences of crime, it seems to me it should be allowed also to the case of delirium tremens. It would not do to excuse the man who is clearly drunk from the consequences of the crime he may have committed, because he voluntarily put himself in the condition ; but if he has passed into the state of delirium tremens, and then committed a homicide, not from malice aforethought, but only because he was afraid something was about to happen to him, I think he ought to have the benefit of the doubt, as being temporarily under the dominion of an insane impulse. I would strongly impress upon your minds that you cannot trust in the slightest degree patients with delirium tremens. You cannot believe them to the slightest degree, and you should have them closely watched. By way of illustration I may cite one case which occurred in the City Hospital, in Ward K, which is on the ground floor, and which at that

time did not have any netting or bar at the windows, and which happened to be used at that time for females. Going through one morning I found an old drunken woman, well advanced in delirium tremens, who attempted to cut her throat. She did not succeed. She only made a gash through the flesh, which had been sewed up, and that was doing perfectly well. The nurse said to me: "I wish you would control her, because she keeps pulling off the bandage, and I am afraid it will start the bleeding, etc." So I made some remarks to her, which I thought produced a very fine effect. I asked, "Do you want to get well?" "Oh, yes," she answered. "Well, if you want to get well, you must not touch these bandages. You will die if you touch them." "I will never touch them." She sank back quietly, and I walked down the corridor. Hearing a commotion, I looked around, and to my astonishment this patient had got out of bed, pulled off the bandages, and jumped out of the window. You may produce an impression one second; it is forgotten the next second; and a crime or a suicide may be committed the moment your back is turned.

Dr. Quimby, in a recent lecture, remarks: — "Nothing can be more stupid and fatally inconsistent than the theory held by many medical men, viz., that every one is formed with equal powers of resistance, and capacity of discrimination in the use and abuse of alcohol. Hence, every one should be held equally responsible for all violations of law, both human and divine. This is flatly contradicted by all facts and experience, and is not true. Such men assert dogmatically that no one need drink unless he chooses to, and all can stop if they but will to, and that alcohol is a food and brings some unknown power to the system.

This assumes a degree of knowledge that is not in the possession of any human being. Such theorists are not familiar with modern physiology or the limitations of science, and most unfortunately are blind leaders of the blind.

Abstracts and Reviews.

THE RELATION OF THE ABUSE OF ALCOHOL TO MENTAL DISEASES.

The abuse of alcohol must be considered, not only as a cause of insanity, but as a symptom or effect of insanity. There are abundant statistics to show that the habit of intemperance is often inherited. In all probability it is not a craving for alcohol that characterizes this inheritance, but a neurosis, the characteristic symptom of which is a want of inhibition or power of self-control. It will be convenient to consider the action of alcohol as a cause of insanity under the following headings: (1) Alcoholic abuse acting directly as a cause of insanity. In the cases under this heading, the mental arrangement is due, in a primary attack entirely, and in subsequent attacks, principally to the toxic action of alcohol on the nerve cells. It may be mentioned that such toxic action is in some cases due to the presence of propyl, butyl, and amyl alcohol as impurities. In such cases, probably, the nerve cells are hereditarily predisposed to the action of alcohol. In the first attack the derangement is purely functional and the patient may recover completely, but is more than ever predisposed to the toxic action of alcohol. In the second and subsequent attacks, the mental derangement is principally functional; but the more numerous the attacks, the more tendency is there to organic changes taking place in the cerebro-spinal nerve tissue, until finally the patient does not recover, but develops symptoms characteristic of chronic alcoholism, which will be referred to under the next heading. In this class of cases, the mania is liable to be of a type resembling epileptic fever, during which suicidal acts may be committed either purposeless in character or as a result of delusions or hallucinations. (2) Alcoholic abuse acting indirectly through its action on the tissues and organs

of the body. Prolonged, excessive indulgence in alcohol produces tissue changes which consist chiefly in a considerable increase of connective tissue elements of the brain cortex, together with degeneration of nerve cells, more particularly those of the deep layers. The attacks are generally gradual in their onset, but occasionally are sudden. They are characterized by suspicions, hallucinations, and delusions, which at first are usually intermittent and varying, while at other times they are fixed. So long as they are intermittent, the prognosis for recovery is good. The organic diseases are generally cirrhosis of different viscera which produce a condition of melancholia. (3) Alcoholic abuse acting in conjunction with moral or physical causes. Strictly speaking, those two causes stand to one another in the relation of cause to effect; they, however, act and react on one another to so great an extent that the effects of both are combined in the causation of the ultimate result. A common example is where business misfortunes lead to alcoholism, or where alcoholic habits lead to failure in business, in both of which cases we have a mental depression associated with the abuse of alcohol. In cases where mental depression has led to alcoholism, the type of insanity is generally delusional mania, but where the alcoholic habits have led to mental depression, the symptoms are usually those of melancholia. (4) Alcoholic abuse acting in association with certain physical causes: (*a*) sunstroke, (*b*) injury to the head. While many patients completely recover from their injuries, there more frequently are more or less nervous symptoms. In both of the above lesions, one of the most common results is an increased susceptibility to alcohol, and a change in the manner in which the emotions are affected in the early stages of intoxication.— *Dr. R. H. Noott, in Lancet.*

Dr. Bridge says: "I am firmly convinced that alcohol actually renders the tissues less liable to resist the spread of the morbid process and less able to withstand the poisonous

action of the toxine of scarlet fever. Alcohol itself is the toxine of yeast fungus, and seems to stimulate the multiplication of at least some other bacilli. But, whatever the explanation, the fact remains that my experience of non-alcoholic treatment has been hitherto entirely satisfactory. — *Medical Pioneer.*

CASE OF PARALDEHYDE HABIT.

By T. H. Stucky, M.D., Louisville, Ky.

I would like to report a case of paraldehyde habit. The latter part of April I was called to see a young woman twenty-one years of age, who had previously been addicted to the use of morphine. She had been in Illinois attending the Keeley Institute, and had been relieved partially. I found her very restless and nervous, and prescribed valerian and assafœtida, but she was unable to take it. I then ordered three ounces of elix. paraldehyde, saw her the next day, when she seemed much better, and told her if she had any further trouble to let me know. I heard nothing more in regard to the case until, I think, the latter part of September, when her husband came to me and asked if his wife could not stop taking that stuff; that she had had the prescription doubled in May and filled ten times — which was sixty ounces; in June had it filled sixteen times — which was ninety-six ounces; in July filled twenty times — making one hundred and twenty ounces; in August filled twenty-three times — one hundred and thirty-eight ounces; September filled thirty times — one hundred and eighty ounces.

I went to see the patient and she stated that she drank the medicine from the bottle whenever she began to feel a little faint or nervous. I was surprised to learn that it still produced sleep and gave her decided benefit apparently, but the most interesting feature was that I could not see it affected the heart to any marked degree. It produced absolutely no alarming symptoms, and her appearance was similar to what we see in a person addicted to strong drink —

she resembled an individual who had been on a protracted spree. The paraldehyde was withdrawn the first of October entirely. She was placed in bed and watched carefully by a competent nurse, and I gave her valerian and strychnine. She seems to suffer just as one who is recovering from delirium tremens.

This patient consumed an average of six ounces of paraldehyde a day, or one hundred and eighty ounces during the month. I have never seen report of a case of this character and it struck me as being very unusual.— *Medical and Surgical Reporter.*

CLIMACTERIC INEBRIETY.

Dr. Caldwell, in the Virginia *Medical Monthly*, writes as follows:

"But perhaps the most common, and I really think the most terrible form of mental disease which is developed at the climacteric, is a tendency to the abuse of alcohol. Here let me say, in defence of woman, and in opposition to much clap-trap which it has been of late the fashion to write about their drinking, that after a considerable experience of women who have given themselves up to the habit of intemperance, I have never yet had one as a patient in whom there was not some strong inducement to the indulgence. Women are always secret drinkers, in this differing greatly from men; for when a women does give way to intemperance, she knows how much more she has to lose than a man has, and how much more misery she will bring on others. The cause will generally be found to exist in some physical suffering, or in some mental distress, from which she seeks relief, or in a form of climacteric insanity. I have cured a drunken woman of her habit by a pessary for retroflection. I have known many driven to the use of an alcohol anæsthetic by the neglect or infidelity of their husbands; but by far the larger number of these unfortunates have adopted the habit late in life as a relief from their climacteric discomfort.

"These are cases of insanity, and it would be a wise law which would enable us to place them in seclusion till the time of their trial is over. I do not believe that women ever take to drink from the mere love of it, or from convivial indulgence, as men do."

REPUTED "CURES" FOR INEBRIETY.

We have repeatedly drawn attention to the persistent efforts by the representative of proprietary and undisclosed alleged "cures" for inebriety to push their wares in non-medical temperance, religious, and philanthropic circles. The favorite hunting-ground of the proprietors of all such specifics has ever been these circles, in which intelligent criticism by persons in a position — from professional training — accurately to weigh the character of the psychical phenomena presented before them cannot reasonably be looked for. Whether the alleged panacea be a patent medicament for the cure of rheumatism, or a secret process for the cure of drunkenness matters not; it is all the same. We have known of men of wealth and culture publicly testify their belief in the perfect efficacy of a once popular, but now discredited, patent external application for the cure of rheumatism of any chronicity. Accordingly, we read in the pages of a lay contemporary, of committees, composed of clergymen and non-medical persons, seeing inveterate drunkards "cured" before their eyes, practically *coram populo*, of 20-year-old "crave for intoxicants" being extinguished by processes and preparations of various forms.

Take an instance. A female drunkard, after taking a certain remedy for so many days, in a public assembly the other day, when asked whether "she was restored to the condition in which she was when in her teens," replied: "Yes; I have no desire for drink," whereupon a member of the investigating committee oracularly remarked, "That is perfectly satisfactory. It is a complete cure." Such a test is, to the experienced and skilled student of inebriety, value-

less. We have heard similar declarations as positively and publicly made, thirty years ago, by ardent teetotalers, who, in the intensity of their enthusiasm believed that a sudden and perfect cure of the drink crave had been effected by purely moral and religious means. Times without number special teetotal mission operations have produced as wonderful and more numerous apparently quite successful cures. Beside Father Mathew's hundreds of thousands of seeming immediate cures, these modern results shrink into comparative insignificance. In those days the effort was purely disinterested — a labor of love; now the credit is attributed to a special secret potion or application, and avowedly for gain.

Many medical men who have made the scientific treatment of the disease of inebriety a special study, and all genuine homes, could produce as sensational testimony from inebriates under their care at a certain stage of their treatment, for inebriates desirous to be cured, whether they relapse or not, are usually most grateful and elated, and feel perfectly certain they could never taste liquor again. But the loyal practitioner of the art of healing and the judicious conductor of such an institution would scorn to take such an advantage of a phase in the mental condition (often evanescent) of the patient, while science declines to accept such phenomena as a test of permanent improvement. We gladly record that most of the leading temperance reformers have held aloof from all these sorry exhibitions, which are as little calculated to serve the cause of true temperance as would be mesmeric or hypnotic similar and more rapid "cures," which could as readily be produced in public gatherings.

At the same time nothing but good could result from an analysis and publication thereof of the various and numerous "remedies" which are alleged by their proprietors to have been nearly, if not always, successful. One curious feature is that the inebriety "cure" is reverting to its pristine form. The original modern specific was a liquid medical preparation. That was succeeded by hypodermic injections with or

without the physic to be swallowed. The latest "cures" are simply fluids to be taken by the mouth.—*British Medical Journal.*

DEGENERATION AND ORGANIC DEFECTS.

Dr. Tomlinson of St. Pauls, in a recent discussion, made the following remarks, which are especially applicable to cases of inebriety:

"I think care should be taken to state definitely what we mean by defective and degenerative, as there seems to be a tendency to use the terms interchangeably. A defective individual I understand to be one who, either as the result of hereditary or congenital imperfection of structure of constitution, or as the result of acquired imperfection resulting from causes operative during the first seven years of life and producing arrest or irregularity of development, is handicapped in proportion to the degree and character of the defect.

"If this imperfection exists in the nervous system it is manifested by instability and renders the individual liable to develop some one of the different forms of nervous disease, according to the degree and character of the defect in the general nervous system; whereas if the instability is in the cortical envelope of the brain itself, the tendency will be toward aberrant psychical functioning, and just as the nature of the manifestations of defect in the general nervous system will be influenced by the physical conditions surrounding the individual, so will the manifestations of aberrant pyschical functioning be determined by the nature of the mental environment.

"The process of degeneration is usually called primary when it takes place during the period of development and without any apparent extrinsic cause, and secondary when it follows or accompanies some gross pathological change in the general organism or the nervous system by itself.

"I think, however, that the term secondary is inapplic-

able, and that we should use the term consecutive instead, as best explaining the conditions superimposed upon the process of degeneration, as it takes place after development is complete; or at the climacteric period when symmetrical decay begins. Therefore, as a consequence, if any part is essentially weak or has been overused, its more rapid process of decay will be conspicuous as a disease process, not only by its local manifestations, but by its influence on the organism as a whole."

INEBRIETY AND CRIME.

The eyes of lawyers are beginning to open to the facts as to the relation of alcoholic drinks to crime. In the recent trial of Robertson, the New Bedford murderer, who killed his wife when drunk, Lawyer Holmes for the defense used the following significant language to the court and jury (Italics ours):

"It has been said, and I suppose it continues to be the opinion of the court in this commonwealth, that drunkenness is no excuse for crime. That is a very old doctrine, gentlemen, and one reason of the rule is said to be, because the safety of society depends on holding the drunken man responsible. Although we must agree that this is the law, I think we may well claim that *the doctrine has not secured the safety of the community*, that the safety of the community would be more secure if we held that *drunkenness did excuse from all crime*, for then society would set about to *prevent the making of drunken men*. Alas, how long will it be necessary for us to go on in this vein before the commonwealth shall realize that *punishing the drunken man brings neither remedy nor safety to the community*. . . . So long as the recollection of these facts shall remain in your mind, you can never be satisfied that here was a scene of deliberate premeditated and malicious murder — that doubt if not conviction shall cling to you that there was the unreasoning act of a drunken man. And if, when you have mitigated your ver-

dict by these just and merciful considerations, you still ask yourselves, upon whom then, shall the balance of the penalty for the death of this poor woman be visited, let your answer be found in the curse denounced of old — 'Woe unto him that giveth his neighbor drink, that putteth the bottle to him and maketh him drunken also.'" — *New England Home.*

MODERATE DRUNKARDS.

Dr. Rae, editor of *Temperance Record*, gives the following clear statement of some of the facts that are denied so sharply.

"We are indebted for the phrase 'moderate drunkard' to Mr. Josse, a naturalized Frenchman, who was at one time M. P. for Grimsby, and died last summer. When occasion required him to explain that he was not a total abstainer, he did so by saying that he was a 'moderate drunkard'; and, while 'superior' persons smiled at the ingenuous Frenchman applying to himself the name of drunkard, there is no doubt he was right. The fuller and more correct knowledge of the effects of alcohol on the tissues of body and brain, which every day's investigation is putting us in possession of, is proving to the world that the phrase 'moderate drunkard' more correctly expresses the condition of everyone who takes alcohol, than the more euphonious 'moderate drinker,' which is preferred because it claims to be not only compatible with, but actually indicative of, respectability. It is proved beyond doubt that the smallest quantity of alcohol causes a disturbance in the system: that the disturbance increases according to the quantity imbibed, and that there is no point in the process of drinking alcohol at which a line can be drawn, and it can be said, 'Up to this point mind and body have not been injuriously affected, the functions of neither have been impaired, but the next drop makes the sober man drunk.' No; drunkenness, which simply means the disturbance of the system through the drinking of alcohol, begins with the

first drop imbibed, and develops, according to the constitution and temperament of the drinker, physical, mental, and moral aberrations of which the victims may, and generally do, remain unconscious, although these aberrations may be attracting the attention of strangers, and deeply grieving the hearts of friends. And thus it comes to pass that persons who are called 'perfectly sober,' say and do things they would neither say nor do if they had not been having some drink. Instead of being spoken of as 'perfectly sober,' such persons should be spoken of as 'partially drunk,' but this, their real condition, is concealed rather than expressed by the phrase they use in describing themselves, that of 'moderate drinkers.'

"We live in an age when nobody defends drunkenness. The representatives of the liquor interest are even more emphatic than the temperance party in denouncing drunkenness; and they do it with such an air of innocence as would almost persuade one to believe that the drunkard wrongs them by consuming so much of their liquor and adding so much to their profits. They repudiate all responsibility for the drunkenness that the drinking of their liquor produces. They take their stand on the platform occupied by the persons who drink so as to become only partially drunk, and claim these 'moderate drunkards' as the persons for whom they cater, because they are thought to do themselves and the drink interest credit by the moderation of their bibulousness. The liquor interests are quite willing, yea, clamorous, that the temperance party should turn their attention, and confine their attention to drunkards, and by some means get rid of them, so that the way may be kept clear for the drinkers who have not yet become drunkards, going on drinking with as little as possible of the fear of consequences before their eyes. Drunkenness, meaning thereby the condition that is universally acknowledged as such, being thus utterly discredited, it is most important that the evil effects of the drinking which has not yet resulted in this drunkenness should be insisted upon, until they are thoroughly understood

and their significance is grasped. And as a preliminary consideration it is very desirable that all drinkers of alcohol should bear in mind what Dr. Coley says: 'Those persons who are in the greatest moral and physical danger from alcohol are just the ones who are most ready to prescribe for themselves, and the least ready to believe that they cannot stop whenever they please.'

"The drinking of alcohol produces a disturbance in the system; and Dr. Clouston of Edinburgh says the alcohol 'affects more strongly the highest brain functions of emotion and control.' He also remarks that 'it is now generally recognized that as the moral faculties were the last to be evolved, they are commonly the first in brain disease to disappear.' The first effect that alcohol produces on the drinker is that of weakening his self-control, and paralyzing the moral will that would guide him aright. A very common symptom of this evil effect is seen in the drinker being puffed up with an overweening sense of his own importance. When sitting with his tap-room companions he lays down the law with a confidence that infallibility itself might envy. At home he asserts his mastership with a decision and sternness under which wife and children cower. At work or in business he despises those who would instruct him, or tender him advice; and, as an employer, he is exacting as becomes one who feels what a mighty man he is. The result of this state of things is seen in the quarrels that are so frequent between persons who have been drinking, but are declared to be 'perfectly sober.' Two such meet, neither of whom can brook the presence of an equal, and words of hauteur or contempt on the one side or the other excite anger which finds expression in blows.

"Now, this is an alcohol-produced condition that may have very serious consequences when the men thus swelling with pride have onerous and responsible duties to discharge. The confidence begotten of this pride is a confidence that has its foundation in obliviousness of danger. Take the case of the engine driver on a railway. The alcohol that puffs him up

with an exalted sense of his own importance, blunts his apprehension of danger, and at the same time impairs the clearness of vision and steadiness of hand on which safety depends, and he is thus placed in a position to do and to dare what a man who had not touched drink would shrink from doing. Who can tell the number of accidents that have been caused through those on whom the safety of trains depend being unbalanced by drink, and so rendered heedless of danger and forgetful of duty? Then, there is furious driving on highways and on crowded streets, resulting in numerous accidents. Some are acknowledged to be the result of drunkenness in the drivers; and the recklessness to which the majority are attributed is no doubt largely the result of the liquor that has made the drivers heedless of danger, while leaving them to all appearance 'perfectly sober.' Then there is the seafaring world, the members of which have the reputation of an unhappy *penchant* for liquor. The commander of a ship holds a position of the very greatest responsibility, and in virtue of that responsibility he is entrusted with autocratic power. The safety of precious lives and of a valuable ship and cargo, depend on the sound judgment which a very little alcohol impairs. It is not to be doubted that many a ship has been lost through those entrusted with her safety tampering with alcohol. At the moment of writing there appears in the daily papers an account of a Board of Trade inquiry into the stranding of a vessel on the Chili coast. We read: 'Allegations of drunkenness were made against the master, but the court, though they found he had taken drink, could not say that he was drunk,' but they found that 'the stranding was due to negligent navigation,' and suspended the master's certificate for nine months. It is not difficult to imagine that there would have been no 'negligent navigation' if there had been no drink. Amongst the temperance facts bearing on this matter is the confession of an experienced ship's captain, who, on one occasion, getting on deck after a comfortable dinner, at which he had enjoyed his wine, felt so proud of his ship and her belongings, and of

himself as her commander, that he ordered more sail, and insisted on his orders being carried out in spite of such hints as to the imprudence of so loading the masts, in face of the fresh breeze then blowing, as his officers could venture to give; but who soon after, when the effect of the drink had passed away, and in his sober senses he could see how the masts were bending almost to breaking and the ship was in the utmost danger, ordered a shortening of sail, and shuddered at the thought of what might have been the result of the folly which only the drink he had taken had led him to be guilty of. The 'moderate drunkard' stands in great danger of becoming a helpless and hopeless drunkard; and, in the meantime, his potentiality for mischief, involving injury to others as well as himself, is very great, and is not at all adequately realized by those who encourage by their example the use of alcohol as a beverage.

ALCOHOL AND CRIMINAL LAW.

The International Monthly for the Abolition of the Drinking Customs has an article on the above topic illustrating the progress of the movement in Switzerland. It is as follows:

"In the excellent proposal for a new criminal statute for Switzerland, from the pen of Professor Charles Stooss, jurist, of Berne, are found two paragraphs which demand special attention, proving as they do, that our efforts and aims are becoming gradually understood, and have gained the ear of distinguished jurists. It is not a question of abuse, but simply of the punishments to be meted out to offenders under the influence of alcohol. And it will be noted how closely the Swiss proposal corresponds with our views, since in the nature of the punishment, Professor Stooss mainly aims at the cure of the drinker, and blends harmoniously punishment with curative treatment. Article 25 runs thus:—'If the crime attributable to excessive indulgence in spirituous liquors, the judge shall be empowered to prohibit the offender

from entering a licensed house for from one to five years.' Article 26: 'Should an offer be made to receive the drinker into an asylum for inebriates, the judge, on medical advice, and independently of any punishment, may order him to be detained there for a period of from one to five years.' The grounds for these proposals are found in a work on criminal jurisprudence by the same author, from which we make the following extract: 'In many cantons the judge *has* the power to prohibit the offender, whose crime is owing to drink, to enter a public house for a stated time. This unique law exists in certain cantons only. The ruffian who, when in a drunken state, commits acts of violence, the monsters who cannot control their drunken lust, care nothing for a fine or short imprisonment, but the deprivation of the right to visit the beer house cuts them on the raw and robs them of the chance to give loose rein to drunken passion. This provision could not be applied to large towns, but has been found most efficacious in country places. Again, dipsomania is a disease. The dipsomaniac, like the consumptive, should be handed over to the physician. Though the disease be self-caused, it is a danger and an injury to the public weal, and the most fruitful source of crime. Not only assaults and rows are begotten in drink; murder, manslaughter, rape, the causes of calamities, which destroy the life of hundreds, stand in close relation to it. If it is the duty of the State to protect the community against dangerous lunatics, it is no less so to guard it against the madness of the drunkard. The canton of St. Gallen has the following laws: 'Habitual drunkards can be committed to an inebriate home. The period of restraint shall extend from nine to eighteen months. In cases of relapse the period may be extended. When opportunity offers, an offender may be removed from a penitentiary to an inebriate home. Work is indispensable in the treatment of drinkers, but is not everything, and treatment in a home is necessary to complete the cure.' Professor Forel adds: 'We heartily approve this humane, just, and judicious law. Doubtless, men of the old school will fall

foul of it. But the common sense of the Swiss nation, which never refused to listen to plans of true progress, will not be deceived by the old litany of imperiled rights and invasion of the liberty of the subject. The proposed changes accord with the true spirit of the times, and are in harmony not only with scientific experiment, but with the opinions of the most clear-headed and most eminent juriconsults of the present period.'" —*Temperance Record.*

DEATHS FROM CHLORAL.

Dr. Comstock gives the following in the *Hahnemannian Monthly:*

"It seems to be a remarkable coincidence, at this day of great advances in medicines, that the well-known English scientist, Professor Tyndall, and the late Emperor of France, Napoleon III, should have both succumbed to the incautious use of chloral. Tyndall was not only a scientist, he was versed in medicine. Why should so learned a man in England have been so injudicious and reckless as to have selected chloral as a hypnotic? From the reports of the case he seems to have been habituated to its use, as it was his custom to take a dose every night, at bedtime, to relieve his insomnia. We can scarcely believe that the profession in London should have been unmindful, not to say ignorant, of the insidious dangers of chloral. We accept it as a fact that so distinguished a man as Tyndall would only take chloral on the advice of his family physician. When chloral was first introduced into this country (the discovery of Dr. Lebreicht of Berlin), it was at once employed by the profession as a hypnotic. A large experience has proved it to be a drug having its appropriate place in therapeutics, but its use has been followed by so many accidents and deaths that the profession now regard it with suspicion, and employ it seldom and only with many precautions. As one of the antidotes for strychnine it is recommended; and the reverse is true,

that the tonic effect of small doses of strychnine wlll alleviate the toxic effects of chloral. Chloral contracts the pulse, and in larger doses depresses the heart's action and materially lessens the respiration with heart failure, finally ending in profound narcotism. If there is found to be any atheromatous condition of the arteries or fatty degeneration of the heart or tissues, such as a man of Tyndall's age might be liable to have, chloral would be a dangerous agent, and positively contraindicated.

"With all these facts well known to every qualified medical man, two such illustrious personages as Tyndall and Louis Napoleon III have been fatally poisoned and sent to their eternal sleep by chloral. The death of Napoleon, in 1871, was supposed at the time to have been the result of a surgical operation, and the real facts in the case have been suppressed from the public as well as from the medical profession. But this fact is now demonstrated to me. It is well known that Dr. Thos. W. Evans, the celebrated American dentist of Paris, assisted the Empress Eugenie to escape from Paris during the late war with Germany. Dr. E. informed the writer of this that he intends after a proper time to publish all the facts incident to the death of Napoleon III at Chiselhurst. I have not only the authority of Dr. Evans, but also the statement of Dr. Gage of London, in saying that Napoleon did not die from the shock of a surgical operation, but from a dose of chloral administered two days after the operation. Louis Napoleon began to complain early in 1870, and was in failing health at the commencement of the war with Germany, but although his French medical advisers stated that he had some kidney or similar affection, they never accurately recognized or made known the exact nature of his malady. At the time of the battle of Sedan, and when he was captured, he was suffering most intensely, and the cause of his suffering (which was then unknown) proved to have been 'a fit of stone.' Not until his arrival in London, and at his residence at Chiselhurst, after consulting Sir Henry Thompson, was the true diagnosis of his ailment

made known. By a careful examination of a patient, and sounding, the existence of a stone in the bladder was diagnosticated. The operation of lithotomy was advised, and it was made by Sir Henry Thompson, on the 10th of January, 1873, and, with the assistance of several physicians, the calculus was removed. The Emperor endured the operation well and reacted satisfactorily, and joy reigned within the imperial household. Everything looked favorable On the day following the operation his temperature was normal, and he took nourishment with a relish, and was full of hope and in the best of spirits. Sir Henry Thompson regarded him as being in no danger. Napoleon's son, Prince Louis, who was then a pupil at Woolwich, was at home during the operation, but returned to school the next day after the operation, as the whole outlook was decidedly hopeful.

"In England it is the custom, when a surgical operation is necessary, for the surgeon to make the operation, but for the attending physicians to make all the prescriptions. Sir Wm. Gull was the Emperor's physician, and, on the evening of the 12th of January, the second day after the operation, a dose of chloral was ordered. The Emperor objected to taking it, and even absolutely refused to do so, because a dose of it had been given him the evening previous, and, although it produced sleep, it left him with such a feeling of oppression and malaise, that he remarked in a common sense way that as he was doing well and suffering no especial pain, he did not think another dose was required. (If the suggestions of the imperial patient himself had been followed, it might not have been so well politically for the peace of Europe.) The eminent Sir Wm. Gull insisted that the medicine should be taken, and the Empress was appealed to to advise the Emperor to obey his doctor. Through her persuasions the Emperor yielded, and the dose was swallowed. The action of the chloral upon Napoleon was to produce great depression, followed by a profound euthanasia that ended in an eternal sleep — the sleep of death. Sir Wm. Gull, so well known as the court physician of Queen Victoria

and the Prince of Wales, has passed away, but Sir Henry Thompson still lives, and the surgeon who successfully removed the calculus was not responsible for Napoleon's fatal sleep. After Napoleon's sudden death there was, as if by a consensus of agreement, little said in the London medical journals about it, and no official report of the autopsy was ever given. This action was resolved upon out of respect to the feelings of the sadly afflicted and ill-fated Empress, whose many disappointments in this life have been truly overwhelming.

"In Professor Tyndall's case an overdose of chloral was administered by his wife, but from what the public now know, we hope that death by chloral may never again claim any more such illustrious examples as a Tyndall or a Napoleon."

DRINK AS A CAUSE OF INSANITY.

At a meeting of the Magistrates' Sub Committee of the Glasgow Police Board with the officials of the Glasgow Barony Govan Parochial Boards, the following statement was submitted by Mr. Andrew Wallace on behalf of the Govan Combination Parochial Board:—

The object of this meeting, as I understand it, is to lay before the Magistrates some facts that have come under the notice of the inspectors as to the relation between the consumption of intoxicating drink, specially that class of spirits commonly called "finish," methylated spirits, or "fusel oil" and insanity. I may say at the outset that I have never had any means of ascertaining with any degree of certainty what kind of spirits the pauper lunatics who have come under my charge had been consuming, but I have no hesitation in saying that the consumption of spirits, whether adulterated or not, has been the most potent cause of pauper lunacy that I know of, and if the Magistrates propose to deal with the question of the sale of adulterated spirits, so as to lessen pauper lunacy, I think it may be useful that they should

know to what extent intemperance is a cause of insanity, so that, if possible, they may deal with the whole question of the immoderate use and the common sale of intoxicating drink. It may not be generally known by the Magistrates that pauper lunacy in Glasgow, and indeed in Scotland, has very greatly increased during the last twenty years. A very few figures will serve to show the extent of that increase. Take, for example, the parish of Govan Combination. At May 14, 1874, there were chargeable to the parish 165 pauper lunatics. At May 14, 1893, the number had increased to 563 pauper lunatics, the increase being in the ratio of 241 per cent. The population of the Combination in 1871 was 151,402, while in 1891 it had increased to 284,982, the increase being in the ratio of 88 per cent. So that the pauper lunacy has increased at a ratio of nearly three times greater than the population. The average cost per annum of each pauper lunatic is £30, including maintenance, management, medical attendance, and lodging, and this gives a total cost in 1893 of £16,890; and as the other two parishes have as many lunatics as Govan, this gives a grand total cost of £50,670 for pauper lunacy per annum, and it is still on the increase. I may here state that in 1874 the total number of registered paupers in Govan, including dependents, but excluding lunatics, was 3,205; in 1893 the number was 5,036, or an increase of 57 per cent., being 31 per cent. less than the increase of the population. The same ratio of increase in pauper lunacy and relative decrease of pauperism has occurred throughout the whole of Scotland, as is borne out very clearly in the annual report of the Board of Supervision for the year ending May 14, 1892. I need not, therefore, go into the statistics in detail. Now, as regards the relation of drink to pauper lunacy, I would not give my own experience, but that of Dr. Watson, the medical superintendent of Merryflats Asylum, for the year 1892. Of the admissions into the asylum for that year, where the causes were ascertained, nearly 43 per cent. were due to drink; 15.3 per cent. were due to hereditary predisposition; 15.3 were due to epilepsy,

and to no other cause was the percentage due to more than 6.5 per cent. The same percentages generally were given by Dr. Liddell, the former medical superintendent, many years ago. While dealing with the subject of the baleful influence of drink, adulterated, no doubt, as most of it is, I may state that while looking up some old documents to-day I came upon a report by Dr. J. B. Russell, the medical officer of health to the Committee of Health of the Board of Police, and read at a meeting on January 19, 1874, to the effect that in less than one month there were seven cases of infant suffocation by "overlaying" by drunk parents. This was at the New Year time, but Dr. Russell states that the registrar's returns gave an average of 17 deaths per annum in Glasgow of children under one year from "suffocation." Dr. Russell adds: "Although it might be difficult to produce such proof as would support a criminal charge, no person so far as I can ascertain, who has any experience of such cases, has any doubt that, with hardly an exception, drunkenness is associated with 'suffocation' and 'overlaying' of infants in bed." With the foregoing facts before them, I think the subject of not only "finish" drinking, but also of spirit drinking in general, is worthy of the most earnest consideration of the Magistrates of the city of Glasgow.

ACCIDENTS AND ALCOHOL.

The exaggerated use of alcoholic beverages as a cause of accidents is certainly an important subject to which scarcely any attention has been paid. Many a railroad disaster, many another accident destructive of the happiness of whole families, much damage to property, may be traced to the fact that a man in a responsible position has lost the clearness of his head, was tired and inattentive or indifferent and giddy, all in consequence of beverages he had taken. It is obvious that this common noxiousness of alcohol comes under the observation of the officers of accident insurances, but they have failed to make their experiences a subject of general inform-

ation. The only distinct statement of this kind we have is contained in the great statistical compilation of 1887 concerning the profession of brewers and malsters. They had 9.08 accidents in 1,000 insured, *i. e.*, more than in all other professions, even mining Killed by accidents during professional occupation we have, in 1889, 92 brewers and malsters; in 1890, 89. One hundred killed among the brewers means 63 widows and 153 orphans. How, in the presence of these figures, brewery owners feel justified in continuing the old fashion of paying their wages partly in the shape of excessive free beer is hard to understand.

After brewers the carrying business and the building trades seem to be rich in alcoholic accidents. As to the latter, Dr. E. Golebiewski, confidential physician to the Northeastern Builders Association, has published some observations in his paper, "The advantages and disadvantages of the law on accident insurance." He has investigated 3,972 accidents; 791 of them happened on Mondays, 596 on Tuesdays, 654 on Wednesdays, 619 on Thursdays, 657 on Fridays, 601 on Saturdays, 54 on Sundays. Thus the day following the "Day of the Lord," the "Day of Rest," is marked by far the worst figure, and no one would have a doubt that the cause is in the Sunday spree or in the favorite Monday drink. Especially frequent are on Mondays, precipitation from high, falling from the ladder, dropping of objects, falling through, slipping or stumbling, burning and scalding, falling in excavations. Among 413 lesions of the head, 114, *i. e.*, 28 in 100, belonged to Monday. Sometimes Saturday presents approximately the same dangerousness.

Dr. Golebiewski is very outspoken on the part played by alcoholism in accidents. He is not a temperance fanatic; on the contrary, he writes, "No one will gainsay the usefulness of alcohol" (he means whisky). The following are some statements taken from his publication: "By their own confession workingmen occupied in building operations drink every day 20 to 50 pfennigs (4 to 10 cents) whisky, mostly Nordhaeuser or Nordhaeuser with rum. Some may take

less, but others will consume twice as much. The quantity to be had for 20 pfennigs is about 250 grams (8 ounces), *i. e.*, per year 91 liters for 73 mark (about $17). After ten years it would make about 912 liters. Considering, moreover, that many workingmen, during working hours, eat but poorly and cold, deferring their warm meal to evening time, it must be admitted that the above quantity of alcohol is amply sufficient for the gradual poisoning of the workingman's organism. We have to acknowledge that the workingman engaged in the building operations, with rough air, with damp and chilly weather, needs something stimulating for his body, and experience has proved that 5 to 10 drinks of whisky per day are supported for a number of years without any injury. But, according to the quality and quantity the man drinks, and according to his constitution as well as to the food he takes, the consequences of a protracted alcoholic *régime* will sooner or later make their appearance, either in the first place as a pathologic affection of the digestive organs, as in most cases, or in some other way. In the severest cases, alcoholics are liable to delirium tremens and often find their end in an insane asylum ; in other cases they die with fatty degeneration of the heart ; or they lose prematurely the normal resistibility of their body. Since my connection with this professional branch, the subject has occupied my attention in a particular degree. In many a patient I noticed the slow and prolonged process of healing ; sometimes its sudden stoppage ; the unusual frequency of neuritic pains ; while other persons who had been injured in the same way would reach much earlier their complete recovery. As a rule, the cause of this fact was to be found in pathologic conditions attributable to the habitual use of alcohol." Thus, alcohol not only increases the number of accidents ; it also makes the healing more difficult. Golebiewski continues : " In many alcoholics the influence of alcoholism on the whole pathologic condition is mostly much greater than the influence of the accident itself. The law on accident insurance has entirely forgotten the question of alcoholism, but this is wrong. The necessity of

taking into account the question of alcoholism in all laws of this kind imposes itself at every moment. There is no doubt that a large portion of insurance rents is paid as a result of the abuse of alcohol alone."— *Medicinische Neuigkeiten.*

INSURANCE OF OPIUM USERS.

Perhaps the most important evidence secured by the British Parliamentary Commission appointed for the purpose of investigating the opium question is that tendered by the management of the Oriental Life Assurance Company, which possesses what may almost be described as the monopoly of the native business of India. According to the testimony of the directors of that institution, no extra premium is charged to users of the drug, and this estimate of the risk seems to be confirmed by the surprising fact that, during twenty years, not a single claim has been paid for death which could be attributed to the use of opium.

INEBRIETY IN PARIS.

The Chief Medical Officer of the Prefecture of Police of Paris is Dr. Paul Garnier. He is a man of wide reputation, a careful observer, a typical Frenchman, a close student of Parisian criminal life, and of the causes contributing to it. In a recent statement, as a matter of fact, and not from any sentiment antagonistic to the social customs of his city, he says:

"The progress of alcoholic insanity has been so rapid that the evil is now twice as prevalent as it was fifteen years ago. Almost a third of the lunacy cases observed at the Depot Infirmary are due to this disease. Every day it declares itself more violently, and with a more marked homicidal tendency. The accomplice of two-thirds of the crimes committed, upon whom the criminals themselves throw the responsibility of their evil deeds, is alcohol. It visits upon the child the sins of the father, and engenders in the following

generation homicidal instincts. Since I have frequented the haunts of misery and vice in Paris I have observed gutter children by the hundreds who are only awaiting their opportunity to become assassins — the children of drunkards. Moreover, there is a terrible flaw in these young wretches, a flaw which doctors do not observe, but which the pyschologist sees clearly and notes with apprehension — the absence of affectionate emotions; and as a matter of fact, if these criminals are neither anæsthetiques nor lunatics, their characteristics are insensibility and pitilessness."

The Brooklyn Medical Journal gives the following advice regarding the use of cocaine:

1. The amount of cocaine used must be in proportion to the extent of surface it is desired to anæsthetize. In no case should the quantity exceed one grain and three quarters.

2. Cocaine should never be used in cases of heart or pulmonary diseases, or in persons of highly nervous temperament.

3. In injecting cocaine, the introdermic method is preferable to the hypodermic. By injecting into, not under mucous membrane or skin, the risk of entering a blood-vessel is avoided.

4. During injection the patient should always be in the recumbent position.

Dr. Newsholme, in a recent lecture on Occupation and Mortality, says that the vast difference between the death rates of publicans, viz., those engaged in the sale of beer and spirits, and persons engaged in other occupations between the same ages, can only be explained by the effects of chronic alcoholic poisoning. The increase of the death rate from inebriety among the general population, from 40 to 56 per million from 1860 to 1890, and this, notwithstanding the failure of the death certificates to give all the cases, was very significant.

LECTURES ON AUTO-INTOXICATION IN DISEASE, OR SELF-POISONING OF THE INDIVIDUAL. By Ch. Bouchard, Professor of Pathology and Therapeutics, Member of the Academy of Medicine, Paris. Translated, with a Preface, by Thomas Oliver, M.A., M.D., F.R.C.P., Professor of Physiology, University of Durham. In one octavo volume; 302 pages. Extra cloth, $1.75 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street.

This work has a special interest to every physician, and opens up lines of inquiry concerning phenomena which confronts every student. The study of poisons formed within and without the body, and their influence in health and disease, is the topic. The graphic, clear, suggestive style and and the open, frank treatment of the subject make this one of the most attractive and readable works in a very obscure field of study. The contents give the reader the best conception of its value.

The thirty-two lectures in this treatise include the following:—

Pathogenic Processes in the Main. Production and Elimination of Poisons by the Organism. Preliminaries to the Experimental Study of the Toxicity of the Products of Emunction. On the Toxicity of Urines. Causes of the Toxicity of Urine. Toxic Principles in Urine — the Part they Play in Producing Uræmia. Origin of the Toxic Substances of Urine — Toxicity of the Blood and Tissues. Origin of the Toxic Substances of Urine — Toxicity of the Fluids and of the Contents of the Intestine (Bile and the Products of Putrefaction). Origin of the Toxic Substances of Urine — Toxicity of the Products of Putrefaction and of the Fæces. Intestinal Antisepsis. Pathogenesis of Uræmia — Distinction between the Symptoms of the Pre-uræmic Period of Nephritis and the Symptoms of Intoxication. Pathogenesis of Uræmia — Discussion of the Exclusive Theories. Pathogenesis of Uræmia — the Part Played by Organic Substances

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and Mineral Matters in Uræmic Intoxication. The Therapeutic Pathogenesis of Uræmia. Transitory or Acute Auto-Intoxication of Intestinal Origin. Internal Strangulation and Constipation. Acute or Transitory Intestinal Auto-Intoxication — Gastric Disorders — Indigestion — Poisoning by Tainted Meats. Chronic Gastro-Intestinal Auto-Intoxication — Dilatation of the Stomach. Dilatation of the Stomach — Etiology, Pathogenesis, and Therapeusis. Auto-Intoxication of Intestinal Origin — Typhoid Fever. Pathogenic Therapeusis of Typhoid Fever — Antisepsis of the Internal Medium. On the Pathogenic Therapeutics of Typhoid Fever — the Treatment of High Temperature. Pathogenic Therapeutics of Typhoid Fever — New Mode of Bathing in Fevers; Dieting of Fever Patients. Auto-Intoxication by Bile. Pathogenesis of Jaundice. Malignant Jaundice — Aggravated Jaundice. The Toxic Nature of Pathological Urines. Pyocyanic Disease. Poisoning Accidents in Diabetes. Poisoning by Pathological Poisons. Cholera (Three Lectures). The General Therapeutics of Self-Poisoning. General Recapitulation. Index.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE. By Dr. C. B. Burr. Medical Superintendent of the Eastern Michigan Asylum. George S. Davis, Publisher, Detroit, Mich., 1894. Price $1.00 postpaid.

The author, an exceedingly practical man, has grouped a very valuable work, which will be warmly welcomed by the profession. It is divided into three parts, and is especially intended for an elementary class room work.

Part I is devoted to the study of the faculties of the normal mind. Examples and illustrations are freely used to bring out the relations of the various mental operations to each other. Definitions are brief and pointed, great pains having been taken to simplify psychological study, but at the same time to employ terms in their precise and technical significance.

Part II is devoted to mental diseases, causes and forms of insanity being discussed in accordance with an original plan of the author. The arrangement of the subject, impressing as it does the idea of departure from normal standards of thinking, feeling, and acting, in insanity, enables the student to grasp the salient features of each form of disease readily. Part II is, in the opinion of a distinguished medical teacher, peculiarly well adapted for the use of students of medicine.

Part III deals with the management of cases of insanity. This part of the work cannot fail to be of service to the general practitioner, as well as the medical student and attendant, although especially addressed to the latter. Explicit directions are laid down for the care of cases. The various emergencies encountered in the treatment of patients are discussed, and rules of conduct suggested for the every-day guidance of the attendant.

THREE INTRODUCTORY LECTURES ON THE SCIENCE OF THOUGHT. By Prof. E. Max Muller. Open Court Publishing Co., Chicago, 1893. In paper 25 cents.

These most excellent lectures were delivered at the Royal Institution in London, and have been read and re-read by thousands of scholars with intense pleasure. They are as fascinating as the stories of fiction, and should be read by all who are interested in the history of language and thought.

Such works as these are real contributions to the thought of the day and are indispensable for all scholars and readers.

THE DISEASES OF PERSONALITY. By Dr. T. Ribot. Open Court Publishing Co., Chicago, 1894. Price 75 cents in cloth ; 25 cents in paper covers.

Another edition of this valuable work within the means of a larger circle of readers will be welcome.

The first chapter is devoted to organic disorders, and the second treats of emotional disorders. The third chapter takes up disorders of intellect, and the fourth dissolution of

personality. In the concluding chapter the following suggestive topics are presented. Zoölogical individuality, colonial consciousness, physical synthesis, and psychical synthesis. The ego is a co-ordination.

Each of these and other phases of this very fascinating field of study are presented in a singularly graphic style that is sure to interest the reader who may not be familiar with the general subject.

BLAINE'S HANDY MANUAL OF USEFUL INFORMATION.

There has just been published in Chicago a most valuable book with the above title, compiled by Prof. Wm. H. Blaine, of Lancaster University. Its 500 pages are full of just what its name implies — useful information — and we fully advise all our readers to send for a copy of it. It is a compendium of things worth knowing, things difficult to remember, and tables of reference of great value to everybody, that it has never before been our good fortune to possess in such compact shape. Our wonder is how it can be published at so low a price as is asked for it. It is handsomely bound in flexible cloth covers, and will be sent to any address, postpaid, on receipt of 25 cents in postage stamps, by the publishers, G. W. Ogilvie & Co., 276 and 278 Franklin street, Chicago, Ill.

A SYSTEM OF LEGAL MEDICINE. By Dr. A. McLane Hamilton, and L. Godkin, Esq., with other collaborators. E. B. Treat, Publisher, No. 5 Cooper Union, N. Y. city.

This work, consisting of two large volumes, is in press and will comprise one of the most complete studies of medical jurisprudence ever published. Each special chapter is written by the leading authorities in that field, and the whole will comprise an exhaustive study brought up to the present.

These volumes are to be sold only by subscription. Address the publisher.

THE STRIKE AT SHANE'S. A sequel to *Black Beauty*. A Prize Story of Indiana. Written for, and revised, copyrighted, and published by the "American Humane Education Society." Price ten cents each. Boston.

The Strike at Shane's is an interestingly written story of how the animals and birds on the farm of a grinding, thoughtlessly cruel farmer brought him to a correct appreciation of their real value by withdrawing their support and assistance, by exercising the right of human toilers and going on a strike.

MESSAGE TO YOUNG MEN — WILD OATS, by REV. J. P. GLEDSTONE, is the title of an eight-page leaflet, No. 27 of THE PHILANTHROPIST SERIES.

It is one of the most effective appeals for purity of life, and true manliness ever written, and should be read by young men everywhere. It should be circulated by the million. Price by mail, twenty cents a dozen; one dollar a hundred. Address, THE PHILANTHROPIST, P. O. Box 2554, New York.

"NIL DESPERANDUM." Published by the American Humane Education Society. Autobiographical Sketches and Personal Recollections. By Geo. T. Angell, President of the American Humane Education Society and the Massachusetts Society for the Prevention of Cruelty to Animals. 19 Milk street, Boston. 1894. Price by mail ten cents.

George Keil, 1715 Willington street, Philadelphia, announces the early publication (third edition) of the *Medical and Dental Register-Directory and Intelligencer* for the States of Pennsylvania, New York, New Jersey, Maryland, and Delaware. It will present not only a complete list of all medical and dental practitioners in the States named, with place and date of graduation, but also lists of professional educational institutions, hospitals, societies, etc., and will be of much practical value to all members of these professions.

Science. A weekly journal, published by N. D. C. Hodges of 874 Broadway, New York city, has been twelve years before the public, and is the great weekly paper for the working scientists in this country. New facts and new discoveries of every kind are noticed here and commented on before they go into permanent form. A trial subscription is offered for one dollar a year to new subscribers.

No more acceptable gift can be sent to those who are students of science.

The *Popular Science Monthly* is the strongest magazine published, devoted to popular science. The particular feature of this journal is accuracy of statements. Its contributors are experts who present each subject with scrupulous care, and the reader has full confidence that they are the best and most reliable statements of scientific facts up to the present time.

The *Homiletic Reviews* for March and April are exceptionally strong journals, in vigorous robust thought. Its writers comprise the ablest thinkers and writers of the day. Published monthly by Funk & Wagnalls Company, 18 and 20 Astor Place, New York, at $3.00 per year.

The Voice is the leading paper of the prohibition party, is vigorous, aggressive, emphatic, and eminently fair in controversy. Funk & Wagnalls, N. Y. city, are the publishers.

The *Phrenological Journal* of Fowler, Wells & Co., N. Y. city, grows with the years, in new and absorbing interest. No journal is more helpful and suggestive to the practical man or woman in every circle of life.

The *Review of Reviews* is without any rival in the literature of the English Language. No other journal gives a more perfect picture of passing history.

The *American Medical Temperance Journal* under the editorial care of Dr. J. H. Kellogg is one of the most attractive pioneer journals now in the field.

Editorial.

EVIDENCE OF INEBRIETY.

The study of the phenomena of inebriety is beset with great difficulties. The patient may both consciously and unconsciously mislead and conceal the real truths, and the observer will form erroneous conclusions. Many of the facts depend on the statements of the inebriate and can only be verified with difficulty. The drink history, comprising a record of when and where and how spirits are used, is open to various sources of error, which may be corrected by persons who have observed these facts. But the facts of the origin, causes, and conditions of the drink impulse depend largely on the conceptions of the victim, and such statements are the most difficult to confirm of all neurological inquiries. Such persons often have congenital abnormalities of consciousness analogous to astigmatism, or color blindness, and are unable to judge correctly of a motive or conditions which seem to lead to certain acts and lines of conduct. Many of these cases have defective brain developments and organic perversions, followed by states of exhaustion and depression, for which alcohol or some other allied narcotic is a most fascinating means of temporary relief. In addition to this the use of spirits has a special degenerative influence on the higher psychical centers, paralyzing and destroying the power to correctly judge of the nature and character of truth.

The inebriate is incompetent to ethically or intelligently understand the import and meaning of his conduct, and hence will deceive the investigator, exaggerating certain facts and concealing others. Often following some sensory suggestion, and always keenly sensitive to any form of psychical pressure, such as the supposed theory of his case, entertained by others, or any conception which will appear

to him to lessen the gravity of the drink offense, or in some possible way create sympathy in his behalf. If in a court for some crime associated with drink, he will deny everything or confess to acts not true, and at all times his confession will be exaggerated and often describe motives and conduct that are unreal and unnatural. The reasoning may be clear and accurate on matters not concerning himself, but utterly unreliable concerning his drink acts and motives.

The statements of a drinking man in a police court or a hospital, and in a reform meeting, will vary widely, and yet no apparent design be present. If these variations are brought to him for explanation, he will show confusion and deny them in general. A case was sent me as an example of vice at first, the history carefully studied by a competent observer. My inquiry revealed an exactly opposite state, and from the same history which to a large extent was based on the statements of the inebriate. A long-continued study of this case brought out another class of facts, and confirmed the experience of all students as to the worthlessness of evidence based on the inebriate's conceptions of his case.

Practically a full statement is recorded of the inebriate's theories, and then evidence is sought to disprove or confirm it. Exceptions to the natural history of such cases are regarded with suspicion and doubted unless sustained by other facts. Inebriety is usually found to be uniform in its origin and progress. The same general range of causes are common to each one, and the same general growth and development will be found in each one. Investigation and study of these cases requires long patient gathering and comparison of facts, always open to error and correction.

PSYCHICAL INEBRIETY.

We use this term to describe a class of cases that have sudden spasmodic impulses to procure spirits, and drink to intoxication at once. There is no premonition, the mind and body appear in the best condition to resist morbid impulses,

when almost instantly the man will rush to a saloon and drink as much as he can procure, and become delirious or stupid in a few moments. If left to himself he will repeat this once or twice, then recover and be greatly prostrated, and if a sensitive person will manifest great contrition and melancholy.

Usually these cases are confused as to the memory of events occurring during this drink paroxysm, and are incredulous of the statements of others, supposing such accounts to be exaggerated for the purpose of alarming them. The delusion of power of control is common as in other cases. The mind seems to be in a frenzied spasmodic condition in which memory and consciousness are held in abeyance and are inactive. These states resemble masked epilepsy, in the suddenness and intensity of the attack, and they differ from the dipsomaniac impulses in being indescribable. The latter will manifest in word and act an all-pervading thirst, and increasing demand for relief, while the former in a dazed, bewildered way will seek and use spirits, as if dying from thirst. Muscular agitations and explosions of nerve force, moaning, and acts of violence, such as pushing, kicking, and striking without purpose or object are also common. The following case is typical. A lawyer, age 42, who had drank in moderation for years and to excess at long intervals, after four months treatment recovered. After two years of abstinence he suffered from severe mental shock, and drank to stupor for two days in his room. For the next two years he drank at uncertain intervals and was destructive at the time, and suffered from fever and exhaustion for a few days after. Coming under medical care and observation it was noted that after uncertain intervals, in which he appeared to be in the best of health and full control mentally, he would disappear and be intoxicated in a very few minutes. On one occasion, while holding a pleasing conversation, and in seeming good spirits, he suddenly turned pale, rose abruptly, seized his hat, and ran at the top of his speed nearly a mile, where he bought a pint of spirits and drank it. Then

rushed to another saloon, bought half a pint, drank most of this, and began to throw things at the bar-tender. He resisted restraint wildly for a few moments, then became stupid. He slept the next day and recovered after two days, appearing as if he had suffered from severe wasting illness. On another occasion he was seized before he could procure spirits, and resisted in a wild automatic way, striking, kicking, and shivering convulsively for a short period, then became drowsy and slept for a few hours. Bromides were given with good results. His flushed face and wild staring eyes, with convulsive tremors, seemed more like masked epilepsy. In a case reported on good authority, a farmer who had similar attacks, while running to a saloon to procure spirits fell into a stream of water, and was rescued with difficulty. He was taken home stupid. On a similar occasion he was purposely thrown into a stream of cold water, and taken out restored. On another occasion he injured a bar-keeper who refused to give him spirits, and died in jail from some unknown trouble. It would appear natural that such cases might have homicidal impulses after the first impulse for spirits were partially gratified. The histories of some criminals who have drank before crime was committed seem to confirm this. These convulsive crazes for spirits are practically unknown, and suggest a new field of observation that promises many practical facts. There is no doubt very intimate relations exist between epilepsy and convulsive diseases, and crime and inebriety. Imbecility shows the same tendency to convulsive seizures, in which morbid mental and physical impulses are prominent. These cases may be called psychical at present, but no doubt when studied their true relations will be understood, and the conditions and causes outlined.

One of the curious facts brought out in the opium investigation is that, in a population of one hundred and ninety millions in the opium district of India, in the year 1890, the

average consumption of opium was one pound and a fraction over one-fourth for every man, woman, and child. It appeared that the amount consumed had not increased in ten years in greater proportion than the rate of population.

DR. McCARTY, THE AUSTRALIAN PIONEER.

The same old storm cloud of persecution and opposition has gathered and broke round the great Australian pioneer student of inebriety, Dr. McCarty. It is a veritable repetition of the same story, and the same misrepresentations, persecutions, slanders, and violent opposition, which greeted the late Drs. Turner and Parrish, and Dr. Day, together with many others, both living and dead. A long list of pioneer workers went down in the furious opposition which greeted their first efforts to establish the fact of the disease of inebriety, and its curability in hospitals for that purpose. Others braved the storm and struggled on waiting for a recognition which in many instances only came after death. An outline of Dr. McCarty's experience and history shows that he began in 1859 to agitate the subject of the medical treatment of inebriety, and the need of special hospitals, in the *Melbourne Argus*. After fourteen years of continuous agitation by letters to the press, lectures, and appeals, Dr. McCarty gave up a private practice of twenty years' duration and opened an inebriate asylum under a corporation, at Northcote, near Melbourne. In 1871, the government, through its secretary, promised to provide land and houses and a grant of money. In 1872, twenty-two acres of land was purchased by money raised from voluntary subscriptions, and a mortgage loan was given on the property for the balance, and the home was opened for patients the next year — 1873. The government gave the corporation a small grant of money which was expended on the buildings, and refused to extend any other aid after that time. In 1877, Dr. McCarty purchased the property from the trustees, and the loans were all changed to his name, and from that time it

was conducted as a private asylum under a special act. In 1884, the Lunacy Commission refused to grant license to continue the asylum, and began proceedings to take the property away from Dr. McCarty, claiming a defective title, and an act was passed abolishing all private retreats. Dr. McCarty had bought this property, assuming all liabilities and promising to continue it as an inebriate asylum during his lifetime. The value of the property having increased immensely, the government determined to possess it for a public institution. Accordingly, a bill was passed appropriating the property as the government should see fit to use it, and Dr. McCarty was ordered to vacate after a certain date. The reason given for this was, that government wished to establish a charitable inebriate asylum, and Dr. McCarty had no technical title to the property which practically belonged to a corporation that was extinct; hence, it would revert to the State. His enemies asserted that he had made a failure of the asylum, when in reality he had been in charge for fifteen years, beside making the asylum self-supporting; he had paid out of the earnings fifteen thousand dollars for interest and on the capital.

There was no question of the conduct of the asylum and success of treatment during this period. The central object was to obtain the property at all events. Of course, Dr. McCarty was turned out and the asylum closed, and twenty years of active labor in this direction was ignored as unworthy of any notice. The Board of Lunacy and the government authorities assumed the role of banditti and demanded the property or life, and having obtained one sought to destroy the other by destroying his reputation.

The same old story of personal persecution, of slanderous stories of Dr. McCarty's incompetency and dishonesty were repeated, until we seem to be reading the history of Binghamton Asylum, only the events are bolder, less scrupulous. We are too far away to feel the bitterness and suffering inflicted on Dr. McCarty and his family, by this most iniquitous event. We are also far too familiar with similar

instances of the rankest injustice to hope for change or redress by protests.

Our association sends Dr. McCarty our deepest sympathy and profound assurances that

> "In our lives, in our works, in our warfare for man:
> And bearer — or borne upon — victory's shield,
> Let us fight battle-harnessed, and fall in the van:
> Hold on, still hold on, in the world's despite,
> Nurse the faith in thy heart, keep the lamp of God bright,
> And my life for thine, it shall end in the right."

CHARGES AGAINST THE FOXBORO ASYLUM.

The old story so familiar in all asylums for inebriates has come into notice again at the Massachusetts State Inebriate Asylum at Foxboro. Cruelty to patients, poor food, neglect of proper care, and free whisky, and patients running away all the time, bad, immoral influences from attendants, and unfit patients, are the common charges that have been urged against every asylum in this country.

Sometimes special prominence will be given to one or more of these allegations, but all of them are urged in every case. These charges are always made by discharged patients and their friends. The more degenerate and disreputable the men, the more persistent the charges. Not long ago a legislative committee examined some witnesses who claimed to have been abused at an asylum. It appeared that the father of one of the injured patients was a spirit dealer, and had surreptitiously sent him brandy while in the asylum, and urged him to run away, and otherwise disobey the rules. The other case was a criminal tramp and pauper, who was discharged for profanity and stealing. The charge of poor food is the complaint of every one, and would be made of the richest and most excellent diet that could be served anywhere. Cruelty to patients always turns out to be want of attention and neglect to provide them such delicacies as they may consider essential. Should they violate any rules, the punishment would be cruelty.

The abundance of spirits in every asylum is always a delusion with a small basis of fact. All patients of such asylums have the delusion that spirits can be had and are drank freely by many persons. In reality, it is always difficult to procure spirits, and almost impossible to drink secretly or in moderation. One of the common delusions is that of having spirits or being able to get them. In reality, the opposite is true. Violent and immoral conversation is always condemned by those who are most guilty of this, and so on through all the list of charges. The complainants are always the most guilty, unreasonable, and disreputable of witnesses, and the charges are always unsupported and malicious.

Notwithstanding the same charges have been made year after year in the papers, and disproved continually, they are taken up by the press again and furnish the idle gossip of the hour.

The asylum at Foxboro is one of the most promising and practical institutions of the country, and under the care of thoroughly trained, scientific physicians. Fortunately, it is beyond the power of delusional maniacs and gold-cure defenders to destroy. It can bear rigid investigation and criticism from any source. While the management may be embarassed by these detractors and unjust critics, the public will soon ascertain the real source and motives for this, and join in defending and sustaining one of the great pioneer asylums of the world in a work that will occupy a very large field in the near future.

CLASSIFICATION OF INEBRIETY.

A general grouping of cases from an etiological study brings into prominence three distinct classes, viz.: hereditary, acquired, and neuropathic. The hereditary forms are direct and indirect. In the direct are tendencies to use spirits both for their taste and effects; in the indirect are cravings for relief which spirits more than all other substances satisfy. Physical and psychical defects are included

in this class, in which low vitality and tendency to exhaustion provoke a desire for spirits.

In the acquired or developmental form, there are certain specific causes, of which traumatism, both physical and psychical, are common. The physical causes are blows on the head, severe injuries to the body, heat and electrical strokes. The psychical are shocks from profound emotional disturbances, such as fear, grief, joy, and excitement; also alcohol in any form used suddenly to excess, causing intoxication; also lead and other mineral poisons; also syphilis, and repeated gonorrhoeal infections. In the general causes of this class are defective nutrition, elimination, and aëration. Persons who are overfed or underfed, and who neglect the functions of elimination and the quality of the air inhaled, are of this division. Climate and environment are active factors in many cases, and belong to this form. Contagions, imitations, and psychical forces are of this class. Among the favoring causes are superstitions, bad moral and mental states, and psychical degenerations.

In the neuropathic class are placed all those cases in which some marked psychosis exists, and the inebriety is only one of the family group. Melancholia, mania, epilepsy, hysteria, and many other neuroses, are of the same family. The inebriety appears from some unknown exciting causes. The periodical cases are found in this class, and the uniformity of the appearance and duration of the paroxysm points to a degenerative psychosis as the basis of these cases.

Dipsomania is found in all these classes, particularly in the hereditary and neuropathic types. It comes direct from inebriate or insane parents. These cases always appear at the climacteric periods of life. They may quickly develop from the use of beer and spirits, and are associated with paroxysmal exhaustion. Atavism appears in both of these classes. The early moderate use of spirits takes on some form of organic degeneration often covered up for a long time. In some cases the direct alcoholic degeneration halts

at a certain period, and while spirits are used every after in limited quantities, death follows from some acute disease. In other cases degeneration directly traceable to spirits continue to death. These cases are always in the psychopathic class. In another class the spirit craze halts and is followed by mania, melancholia, or acute inflammation of the vaso-motor nerves, stomach, liver, lungs, or other organs, and recovery follows, and a long period of invalidism ends in death. Cases in the traumatic class go on rapidly to a fatal issue, often in suicide or homicide. Cases of acquired inebriety frequently recover suddenly from the prayer and pledge, and as often relapse, in most unusual conditions. Many cases of all classes are closely allied to epilepsy, others to idiocy, imbecility, and low forms of pauperism, criminality, and reasoning insanity.

Inebriety is far too complex a disorder, and the facts of its origin and pathology are not clearly enough known to sustain any exhaustive classification at present.

STUDY OF CASES IN STATION-HOUSES.

The Kings County Medical Society have appointed a committee to inquire into the care and disposition of persons found on the streets suffering from partial or complete coma. At present such persons are at the mercy of the police, and cannot be admitted to the hospital if there is the slightest suspicion of alcohol being the cause. The police decide this, and consign the victim to the cell of the station-house. If it is from sun or heat stroke, or cerebral hemorrhage, or any other possible cause in which spirits were taken at the last moment, there is no discrimination, and the patient dies of neglect. In Brooklyn and New York city these cases are very numerous, and the deaths in the station-houses are equally common. There is undoubtedly a great evil in this and serious wrong that demands relief. The committee to investigate is a very able one, and composed of Dr. J. H.

Raymond, Dr. J. C. Shaw, and Dr. L. D. Mason. The latter is secretary, and we take pleasure in asking our readers to write Dr. Mason, 171 Joralemon street, Brooklyn, N. Y., any facts or cases which may have come under their observation. It is the purpose of the secretary to make a study of these sad cases, which may or may not be associated with inebriety, and point out the means and methods of treatment. The JOURNAL OF INEBRIETY will publish these studies in the future, and we urge our readers to aid Dr. Mason by notes and references as far as possible.

THE large number of gold cures in Massachusetts, and their wild claims of success, innocently tempted a member of the legislature to offer a resolution for a committee of inquiry into their merits. With a Barnum-like strategy, the leaders of these cure-alls rushed around and hunted up some of the Foxboro incurables who had run away or been discharged, and gleaned from them the most doleful charges of wrongs and cruelties practiced at this new State asylum, and filled the Boston dailies for a week with the wildest sensational charges. As a result, gold-cure inquiries were put aside and all interest was turned to Foxboro; thus public attention was diverted, and the gold-curers have escaped investigation. In meantime this young struggling asylum and its management are filled with astonishment at the falsehoods and slanders and excitement which have suddenly burst over them without warning or premonition. The gold-curers may postpone the evil day by this method, but the "mills of the gods will grind on, and the judgment day will come at last." Fraud, deception, and trickery will always have their own Nemesis.

DR. ALBERT DAY, so well-known to all our readers, has an elegant home at Melrose Highlands near Boston, Mass., where two or more select cases can be accommodated, with the luxury of superior surroundings and expert medical care.

PERSONAL LIBERTY.

The drunkard insists on destroying himself, his family, his property, and breaking down all law and order, and is a literal anarchist. Society endures this, and the plea of personal liberty is raised when his conduct is questioned.

Science indicates that such conduct is insane, that the drunkard has no right to any liberty that brings peril to himself and others. He has no right to be a source of suffering and loss to any community. That he has no right to marry and entail on the next generation weakened vitality, diseased tendencies, and incapacities to live normal lives.

No man has a right to destroy his reason by drink, to become diseased by drink, to destroy his moral sense and conception of right and wrong.

The higher laws of duty demand that such conduct be repressed by depriving the victim of liberty which he is so obviously unfit to enjoy.

DR. CHARLES MCCARTY is now an old man, having given over thirty years of his life to the study and medical care of inebriates in Melbourne, Australia. He has been practically twenty years in active charge of Northcote retreat, until it was seized by the government. As a writer he has attracted much attention by his clear, vigorous papers on this subject. Few of the younger students of inebriety are aware of his early efforts over a quarter of a century ago, and we hope to give some notice of his work in the near future.

WE give in this number two very significant papers on Delirium Tremens. They are both by expert writers and may be said to convey the best and most advanced knowledge of this subject up to the present time. These papers were originally published in the *Medical and Surgical Journal* of Boston, Mass., and *Medical News* of Philadelphia, Pa.

THE superstition that all inebriates who commit murder are sane and conscious of the nature of their acts, has broken out again with greater intensity than ever before. Six inebriates are under sentence of death in Connecticut, Rhode Island, and Massachusetts. In every case delirium, delusions, manias, and histories of extreme alcoholic excess preceded the homicide. Yet the courts and jury have decided they were of sound mind and fully responsible.

THE Washingtonian Home of Boston, Mass., has taken a new lease of life under the care of Dr. Ellsworth. It has been refitted and changed materially in all its appointments. If its board of managers recognize and provide for the new and larger demands of the class they treat, a career of great prosperity will come to them.

THE March number of the Chicago Magazine of CURRENT TOPICS is replete with timely articles covering a wide range of subjects. The contributors include some of the most popular magazine writers in the country, whose work will insure a cordial reception for the March number. This magazine has been making giant strides in popular favor, by reason of its high character and wide range of its matter, and the popular subscription price of the publication — $1.50 a year, 15 cents a copy.

Clinical Notes and Comments.

MORPHINISM.

Dr. Waugh, the eminent writer and clinician, gives the following very clear views in the *Medical World:*

"There are several things that must never be forgotten in relation to these cases. The first is, that stopping the morphine is not curing the disease, but only a preparation for the real treatment. People stop it themselves, or they go to various sanatoria to be "cured," but they don't stay cured. After the drug is discontinued and the immediate effects of the stoppage have passed off, we are confronted with these questions: 1. What is the condition that led this person to use morphine? 2. What changes have taken place in his system, due to the use of morphine? 3. How strong is the force of *habit* with him, and how can we overcome it?

"In the first place, we find back of the morphine habit an inveterate neuralgia, rheumatism, neurasthenia, insomnia, or one of those degenerations of the cerebral tissues that lead to dementia, melancholia, what we used to call softening of the brain — but most frequently, perhaps, that form of mental aberration that gives the law such perplexity, paranoia. Chorea, spinal irritation, myelitis, and hysteria have made their previously unsuspected appearance when the morphine mask has been torn off. What folly to think, then, that all one has to do is to stop the morphine to "cure" the disease. The fact is, no mortal man can tell whether any given case *can* be cured, or what is really the matter until the morphine has been taken away. Sometimes, very rarely, we are compelled to tell our patient he had better resume the morphine; and once in awhile we are compelled to advise the friends to take him to a sanatorium where he can spend a year with a capable physician, in combating a para-

noia, seeking to check the degeneration, and rebuild the nervous tissues. Well it is for the patient if we can induce him and his friends to see the impending evil and take the proper means to avert it before it is too late to arrest the disease. Too often we are unable to obtain legal control until some overt act has made the brain disease evident even to the unskilled eyes of judge and jury.

"My second point is that the period of drunkenness or morphine addiction does not leave the man in the same condition as it found him. This is the weak point of the nostrum people, whose "cures" have a curious habit of dying suddenly during the treatment, or soon after it. Has any one noted how many of Keeley's people die within two years of their cure? The physician is but a bungler who sends out his patients to take on themselves all the burdens of this hard battle of life, just after throwing off a narcotic habit. Every one of those poor, benumbed nerves is throbbing with new-found life; each is exquisitely sensitive to noxious influences, and yet we expect such a man to rough it among the strong men that run this world. I tell you, after stopping the drug, the first question should be whether the man is able to do anything at all; the next one, what he can do. I recollect a fine young doctor whom I sent to Kansas to cut wood, and I have always regretted I did not make it a year, since seeing the benefit he derived from it. To be sure, most patients think they cannot afford to follow such advice, and then we envy the Czar, who tells people to do and they do it."

DEPOPULATED BY OPIUM.

W. Hoffner, manager of the Société Commerciale, which owns large stores on the Marquesas and Dominique Islands, says that the natives are dying off very rapidly on those islands by reason of the use of opium, and that in a short time there will be none left. The past year has made fearful inroads on them.

"The deaths have been so frequent that lately the French Government has been doing all it could to suppress the opium traffic, but with meagre success. It hinders it in some ways, but in the main it is carried on as before. The French Government introduced opium into the islands about twenty years ago, and now a vain effort is being made to stamp out the evil. It is, however, too late to remedy the wrong.

"The natives are dying off like flies. In ten years, if the present rate of mortality keeps up, there will not be one of them left. The last few years have been especially severe and made terrible inroads on the population. Where the natives cannot get opium to satisfy their cravings, they substitute a brandy obtained from the cocoanut tree, which is even worse than the product of the poppy juice. The liquor is nothing, in fact, but the natural sap of the cocoanut tree. The islanders bore holes in the tree, and the sap almost immediately begins to run. This process kills the tree, but they do not care for that. The liquor is stronger than opium, and I have seen the poor natives drunk on it and lying about like dead men for three or four days.

"They do not smoke the opium, but eat it, and in enormous quantities. They eat so much of it, and have such abnormal cravings for it to the exclusion of almost every other desire, that they do not buy the amount of general merchandise they ordinarily would. As a result, business is bad in the islands. Trade, outside of opium, has fallen off a great deal, and the people seem to have lost the energy and desire to advance that they once had. It is so quiet there now that I think I shall return to Chili, where I was before. When the native population is wiped out altogether, as now seems to be its fate, the islands will be an excellent field for emigration. I am not sure that at present the French Government would encourage immigration."

Mr. Hoffner says there are now very few Americans on the Islands.

The following, from *The Voice*, is significant of a great change in old-time discussion of the alcoholic problem:

"If a man wants a drink of whisky, for instance, and knowing the price of whisky to be 15 cents a glass, pays that sum and receives the whisky in return, by no stretch of reasoning or language can the transaction be described as robbery. It is a legitimate contract carried out according to law and common sense." — *Chicago Post.*

That is true only on condition that the man's action *is a voluntary one.* But you know, and every other man knows, that in millions of cases the action is not a voluntary one, and that the man would give all he possesses if he wasn't compelled by an insidious disease which the saloons are engaged in promulgating, to pay out that money. For what other reason are men by the tens of thousands rushing off to "gold cures"? That disease is as much a compulsion, though a more subtle and diabolical one, than a bludgeon or a revolver would be. Moreover, what about that man's wife and children?

THE *Battle Creek Sanitarium* is one of the finest equipped Hotel Hospitals in the world. The best appliances and means known to science are in use here. No invalid can find a better place for rest.

THE tonic which has come down with a constantly increasing reputation after long years of trial and experience is *Horsford's Acid Phosphate.* It is the most reliable and valuable remedy that can be used.

THE *Bromo Potash* of Warner & Co. is the best form of this remedy we have used. We find it most palatable and effective. We would urge a trial of this effervescing mixture above all others.

THE Rio Chemical Company of St. Louis, if it had never done more than present to the profession its valuable *S. H. Kennedy's Extract of Pinus Canadensis*, would have placed the profession under a lasting obligation to it. There is no more healthful, stimulating, and generally beneficial application that can be made to a diseased mucous membrane than this. — *Med. Mirror.*

HYPOPHOSPHITES. — According to an interesting article by Miss Frances E. Willard, on "Reminiscences of the Late Sir Andrew Clark," Sir Andrew seems to have had a limited confidence in medicine. At the conclusion of his interview with her, he gave her the following advice: — "Take as little medicine as possible; accept your sufferings. Strength is perfected in weakness. In labor you will find life. If you are terribly run down sometime, go away for a fortnight's rest, and with each meal take a teaspoonful of *Fellows' Syrup of Hypophosphites.*"

DR. CHAS. NEDSKOV, Sorrento, Fla., says: — "*Papine* alone and in combination has been quite satisfactory. A case just dismissed may serve as illustration. The patient, a married lady, I found suffering severely from congestion and

neuralgia. After preliminary treatment I ordered *Papine*, teaspoonful doses, half-hourly administered. Pain relieved after third dose, and next day she felt, to use her own words, 'a thousand times better.' Combined with Bromidia, a very noted improvement was effected in a case of 'nervous prostration' and inveterate chronic insomnia."

THE *California Grape Food Co.* manufacture a concentrated, unfermented *grape juice* which in many respects is one of the best compounds of grape juice on the market. We have used it as a tonic in several cases with most excellent results. For states of chronic gastritis and general nutrient debility, it has proved one of the most valuable remedies we have used. There is evidently a great future in this remedy, and a wide field for its application in many cases of disease. Send to Norman Barber, 77 Warren street, New York city, for circulars.

THE Pharmacopœia is singularly poor in vegetable alteratives, and sarsaparilla, the best known and most frequently prescribed, is most uncertain in action and frequently very disappointing in results. Any well-tested addition, therefore, to our *materia medica* in this class of remedies will, we are sure, be gladly welcomed by practitioners. Some time ago we received from Messrs. Parke, Davis & Co., of Detroit, U. S. A., a sample of a syrupy compound containing the essential elements of *Trifolium pratense* (red clover), *Stillingia sylvatica* (yaw root), *Lappa officinalis* (burdock), *Phytolacca decandra* (poke root), *Berberis aquifolium* (mountain grape), *Cascara amarga* (Honduras bark), and *Xanthoxylum Americanum* (prickly ash). All these are powerful alteratives, and have been in common use by American physicians in cases of a scrofulous or syphilitic nature. The proportions of each drug contained in the syrup are given with the directions, and to increase its operative action eight grains

of iodide of potassium have been added to each ounce. We have used it with decidedly satisfactory results in some cases of chronic skin diseases of suspected specific origin. Being very palatable, children take it readily, and we have found it exceedingly useful, when combined with small doses of perchloride of mercury, in treating congenital syphilis. — *Hospital Gazette.*

TRIONAL AS A HYPNOTIC FOR THE INSANE. — In no class of cases are the qualities of a hypnotic more severely tested than in the conditions of sleeplessness occurring so frequently in asylums for the insane. Yet it is in these very obstinate cases that *Trional* has shown itself an ideal sleep-producer, being prompt, safe, and reliable in action and devoid of unpleasant after-effects. Attention to its value in asylum practice has been called by Drs. Mabon, Randa, Brie, Collatz, Schultz, Garmier, and others, and quite recently Dr. Schlaugenhausen communicated to the Medical Society of Styria his experience with *Trional* at the provincial insane asylum at Feldhof, of which he is the director. During the past year the new hypnotic has been thoroughly tested in a number of cases of various psychoses. In the vast majority, especially in chronic mental diseases attended with sleeplessness, the remedy was given with complete success. The patients enjoyed sleep of six to eight hours duration after administration of 1.0–2.0 gm., and no unpleasant after-effects were observed. In acute psychosis, however, its action was not quite as satisfactory, but it should be borne in mind that in conditions of extreme mental excitement no single hypnotic will be efficient in every case. Schlaugenhausen formulates the results of his experience in the following words: — "*Trional* is a reliable hypnotic in most instances, and must be considered a valuable addition to our list of remedies. It will gain a firm foothold among sleep-producers."

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ARISTOL may be used dry, or in 10 per cent. ointments, oils, collodions, or ethereal solutions. *Supplied by us in ounces only.*

SALOPHEN.—IN ACUTE RHEUMATISM, Salophen has been strongly recommended as the most energetic and eligible remedy now employed. Salophen is a salicylic-phenol derivative, so bonded, chemically, as to render it innocuous.

SALOPHEN is supplied in *ounces, tablets and pills.* It may be given with equal parts of Phenacetine. (*See Pill List "W. H. S. & Co."*)

EUROPHEN.—AS A COMPLETE SUBSTITUTE for IODOFORM no remedy is comparable to Europhen. It is the best known cicatrisant for open wounds, and catarrhal or ulcerative states, whether or not specific; and it has a special value in cavitil lesions.

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SULFONAL-BAYER.—FOR INSOMNIA and NEUROSES the safest and most decided remedy is Sulfonal, since it induces physiological sleep, free from narcosis and sequelæ. It is the most reliable of hypnotics, and is endorsed alike by neurologists and general practitioners.

SULFONAL is best exhibited in boiling water, allowed to cool to the drinking point. *Supplied in ounces, tablets and pills.*

LOSOPHAN.—TRIIODOCRESOL or Losophan is indicated in MYCOTIC, FUNGOID or PARASITIC diseases. It has given excellent results in mycosis, pityriasis, eczema, prurigo, sycosis vulgaris, the epizoa, acne and pediculosis.

LOSOPHAN is employed in 1 to 10 per cent. solutions or ointments. Eligible formulæ are given in our circular. *Supplied in ounces.*

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Dr. Ira Russell is the founder and superintendent of the Home, and letters of inquiry should be addressed to Dr. F. W. Russell, the superintendent. For information we are permitted to refer to the following gentlemen:

C. F. Folsom, M. D., Prof. Mental Disease, Harvard College, 15 Marlboro St., Boston.
W. C. Williamson, Esq., 1 Pemberton Sq., Boston.
J. H. Hardy, Esq., 23 Court St., Boston.
Rev. G. J. Magill, D.D., Newport, R. I.
Wm. A. Hammond, M.D., 43 West 54th St., New York.
G. Webber, M.D., 133 Boylston St., Bost'n.
G. F. Jelly, M.D., 123 Boylston St., Boston.
C. H. Hughes, M.D., editor of Alienist and Neurologist, St. Louis, Mo.
E. C. Spitzka, 130 E. 50th St., New York, N. Y.
W. W. Godding, Superintendent National Insane Asylum, Washington, D. C.
Clark Bell, Esq., editor of the Medico-Legal Journal, New York City.
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Bain, Mind and Body. $1.50.
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Bucknill and Tuke, Psychological Medicine. $8.00.
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Tuke, Mind and Body. $3.00.
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Gowers, Manual of Diseases of the Nervous System, $7.50.
Lyman, Insomnia and Disorders of Sleep. $1.50.
Mitchell, Injuries of the Nerves. $3.00.
Roose, Nerve Prostration. $4.00.
Stewart, Diseases of the Nervous System. $4.00.
Wilks, Lectures on Diseases of the Nervous System. $6.00.
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Galton, Natural Inheritance. $2.50.
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Starr, Familiar Forms of Nervous Diseases. $3.00.
Levinstein, Morbid Craving for Morphia. $3.25.

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Ireland, The Blot on the Brain. $3.00.
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Meynert, Psychiatry. $2.75.
Tuke, Insanity and its Prevention. $1.75.
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Stearns, Insanity, its Causes and Prevention. $1.50.

LEA BROTHERS & CO.,
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Ross, Diseases of the Nervous System. $4.50.
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Hamilton, Nervous Diseases. $4.00.
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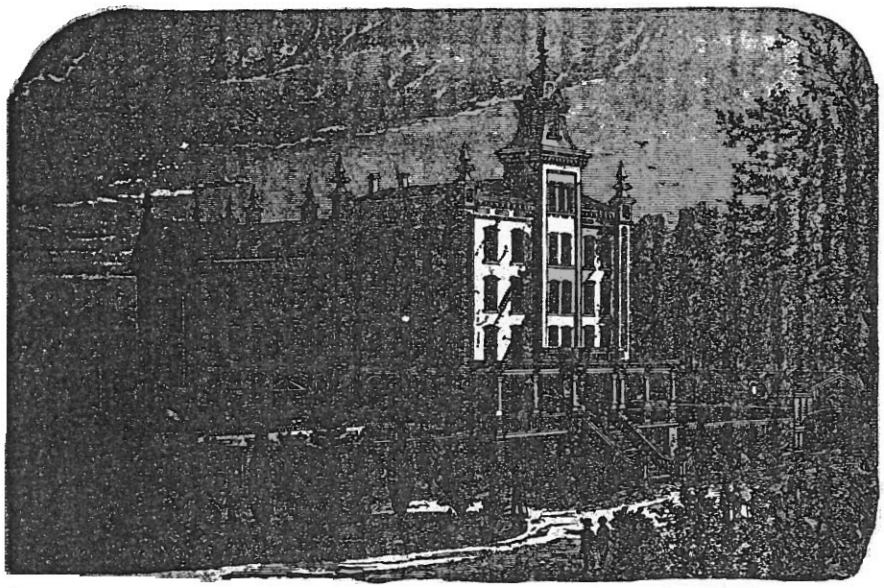

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