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OF

# INEBRIETY.

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THE EFFECT OF ALCOHOLIC INTOXICATION  
UPON THE HUMAN BRAIN AND ITS RELATION  
TO THE THEORIES OF HEREDITY  
AND EVOLUTION.

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By A. FOREL, M.D.

*Prof. Mental Diseases, University Zurich, Switzerland.*

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Alcohol, even when diluted as in wine, beer, and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration. If the majority of men are still ignorant of this simple truth, and are disposed to laugh at it, it is owing to their deep-rooted, pernicious drinking habits, and the prejudices that have grown out of them. Men can always find excuses for their worst and most senseless habits, and interweave them into their ethics and æsthetics.

Some poisons are useful as medicines, such as corrosive sublimate, quinine, etc. I am one of those physicians that assign but a very subordinate position to alcohol as a medicine. A continued use of alcohol, as in wine, for example, offers no benefits, since the pretended stimulating effect is lessened by the repeated use, and the nuisance of chronic intoxication is increased.

The acute action of alcohol is that of a poison to the nervous system, especially to the brain, with a paralyzing result. The phenomena of drunkenness are transient, but in other respects are similar to those which are based on the shrinking of the substance of the brain, technically called paralysis cerebri progressiva, or dementia paralytica. It is true that in both these conditions there exist excitements, cheerfulness, loquacity, uneasiness even to frenzy, and raising the lower inclinations (or exciting the passions). But in drunkenness as well as in general paralysis these phenomena seem to be based more on the paralyzing of the checking centers of the brain than on any really stimulating effect. The pure rising of brain activity, as we observe in it strong normal mental excitement, although the checking plays some part, yet altogether it has quite another character more vivid and connected with raising the faculty of apperception, of activity of the senses, and with clearer consciousness. On the contrary, during intoxication our apperception and consciousness, as well as the co-ordination of the movements, are disturbed, the temporary intensifying of the instinctive impulses is apparently based upon the paralyzing of the apparatus of checking, so highly important to our well-ordered mental activity. Alcohol paralyzes the intellect, the sensations, and the will; but shows the contrary delusively to the dimmed consciousness. It paralyzes the perception of cold as well as that of warmth, therefore it seems to raise our temperature in cold weather and to reduce it in warm weather. Really it withdraws from the body heat and force, and paralyzes its activities, the basis of its life. Therefore, I can believe as little in its pretended stimulating qualities as in its pretended nutrient power. All judicious savants have long known this fact. We need to name only Dr. Richardson and his physiologist Bunge.

For years, as my school and other duties have permitted medical practice, I have administered alcohol as a stimulant in conditions of collapse and debility. But I have never witnessed an objective success. Subjectively, it is true.

patients felt relieved in consequence of the abatement of their pain and uneasy feelings. But a subjective delusion is no cure. It is true that the effect of the imagination as a brain-power over the body through the nerves is an important matter not to be underrated. But it is an element in all sorts of medicines. For its success it depends only on the intensity of the belief. It imposes apparent specific effects upon both physicians and patients, and perturbs the judgments of men in general, because it acts unconsciously. Upon this depends the successes of homœopathy in the miraculous cures of the so-called curative magnetism. With a good suggestion, colored water, and bread pills we stimulate, according to my opinion, just as well, or even better, than with wine. And we do no harm with it, while with wine we might. The physician before treating the human organism should take into consideration the question whether he may not hurt rather than help. How many reformed inebriates have relapsed through medical prescriptions of wine, beer, or cider?

Will a physician, for a doubtful medical effect, ruin a patient for his whole life? True, we may keep a patient by using narcotizing medicines of agreeable taste, as alcohol or morphine, which through feeling better, convince him he is better; which please him with us, but make him crave narcotics or become a slave of chronic poisoning.

Physiologists have found that alcohol diminishes oxidations, and therefore allows life with less food. On this the whole theory of economizing by alcohol rests—a real paragon of learned theoretical subtilty. Is arsenic a healthy food, because it makes fat and renders the skin fine and smooth? The red face shows degeneration of the paralyzed capillary vessels. Are the drinker's face or obesity signs of health? Who proves diminished oxidation an advantage to the body, and not, on the contrary, a great disadvantage, as statistics of mortality show irrefutably? Is it economically more advantageous to eat less and to drink more with more expense, and to become less healthy or even sick? The

food claimed to be "saved" by alcohol can only be carbonic hydrates, *i. e.*, quite cheap aliments, as potatoes, etc., while albumen can hardly be "saved" at all. Common-sense using all the elements of the problem, soon throws over this famous economizer, and justly calls it father of poverty and of misery.

The statistical bureau of Switzerland's new cards for the causes of death keeps the medical secret completely. The physician keeps the name and writes down only the cause of death, and sends the card directly to the bureau in Bern. Our statistics cover but two years and only the fifteen chief cities of Switzerland, with about 500,000 people in all. For 1891, of 3,409 deaths in adult males above 20 years, 366 show directly or indirectly alcohol as a helping cause; that is, 10.7 per cent. ascribed to alcohol. At La Chaux de Fonds, an industrial place, it is even 25 per cent., or every fourth man. Of the 366 death cases, only 188 were of the real working class, but 179 were persons of the so-called higher callings (officers, savants, business men, industrial people, artists, saloon-keepers, etc.). Of these 366, directly of delirium tremens, 105 died.

The consequences of the customary use of other narcotic stuffs, as opium, ether, morphine, coca, and hashish are very bad. Lewin's "Narcotics and Legislation," in the *Berlina Klinische Wochenschrift*, 1891, No. 51, a most important composition, should be thoroughly known. The vivid story of facts proves the author has closely studied and knows exactly the social poisoning as an expert physician. In the description of facts, I, unfortunately, must agree with him, but not so with his consequences and advices. We see here again that knowledge and judgment—facts and opinions—are separate things.

After treating the alcohol question, Lewin turns to other narcotics. Not able to say anything better, we cite literally the following masterful description of morphinism:

"Naturally, these explications lead to a condition which, according to my opinion of the regulation of the alcohol

question, as something inseparable from it, must, too, very soon give cause to a separate legislative act. Alcoholism takes most of its victims out of simple and skilled working-men — morphinism from those who, by their public situation, education, and culture ought the least to come into the suspicion as subject to this passion without will and energy. This is the first essential difference between alcoholism and morphinism. The second consists in the circumstance, that the effect of morphine is not followed by those unpleasant, very conspicuous, exciting, and depressing effects which are produced by alcohol. Thus, in the course of a very short time, a large congregation of morphinists has formed itself, to which belong some of the best heads of Germany, artists and savants, teachers at the universities, diplomats, officers, and business men. If alcohol hurts the hand of the nation, morphine destroys its brain. This state was scarcely known, when, at the same time as Fiedler, I first reported such a case in 1874. And, alas, how well known it is now!

“Morphinism as a passion forms and grows in the domestic circle, and does not trouble the public in a scandalizing manner. But deeper and in more fatal ways the public life and indirectly the welfare of innocent people is hurt by the consequences, which the perfected morphinism is causing. It is said if individuals must suffer in social positions by this disease it is their own fault,— but in so far as government can, it should not leave drunkards in official positions, still less so morphinists. The reason for such a measure is not difficult to see. Except perhaps cocaine, no narcotic becomes such an exigency for the system as morphine. The hunger for morphine is much more urgent than the craving for alcohol. The drunkard can wait many hours after the effect of alcohol ceases before he is compelled to take a new quantity. The morphinist, however, when the time comes that the cellules of his system imperatively demand their irritation, is precipitantly and without resistance driven to a new dose. If he doesn't receive it soon body and mind begin to suffer.



“Under such circumstances a judge injecting or taking morphine cannot follow the discussion and decide clearly, or an examiner cannot fulfill his duty and judge as he ought to do. Moreover, after a certain time, notwithstanding the introduction of sufficient morphine, the mental faculties suffer and the moral feelings are damaged. The morphine-taking racer audaciously acquires the prize on the arena; the morphine-taking surgeon elegantly performs the operation; the clinical teacher ingeniously puts the diagnosis — yet they are lost men, to whom the morphine gives skill for a time, but keeps them on a slave chain becoming shorter and shorter. Negligence in all duties, loss of energy and producing force, partly also a being brought down to a very low ethical standpoint, soon follow, and, associated with many kinds of bodily ailments, at last render the picture of sufferings a disconsolate one. Since a definite cure of this passion is brought about only quite exceptionally, morphinists are, properly speaking, to be always considered as incurable people.\* Such state, when the body, especially the central nervous system, gives the motive for continuing the drug, when the will and all moral forces combined are powerless to resist the body, cannot be done away with, or at least very seldom so.

“The difficulty to make here a practical difference between wanton and medical chronic use of drugs is very real. One is a morphinist because of the pleasant state it produces, the other because it has first removed painful conditions of the body, later it has subdued evil effects, and at last from mere custom. A third group take morphine because it controls their chronic pains. Unfortunately, it is impossible in the public interest to separate these three groups. Proved morphinism or opiophagy, alcoholism, cocainism, etherism, chloroformism, chloralism, sulphonalism, and perhaps also bromism, ought to exclude from governmental position. All individuals suffering from them

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\* Here we must oppose Dr. Lewin. Our experiences are much better, because we insist upon abstinence from morphine, from alcohol, and from all narcotic substances.

ought to be excluded from responsible positions; if the caused pathological condition is far advanced, they should be deprived of their discretion, or they ought to be put into an inebriate asylum. I do not consider them able to dispose.

“A thorough legal arraignment must wait perhaps till morphine becomes artificially preparable and, therefore, cheaper, and alcohol having played its great role, morphine will take its place. Already this plague catches some who in the sweat of their face ought to earn their bread, but not their morphine. Many millions of people are slaves already of opium! Whoever should doubt the nature or extent of this passion may look to China, which has been conquered and enfeebled by it in so short a time. Read the descriptions of Prochewalski, to see how opium demoralized the militia, officers and soldiers, in Mongolia. The use of the drug is rapidly increasing, especially since the northern provinces of China cultivate the poppy, and have become independent of India and the indish regal prices. Beyond the oceans the Chinese have carried this passion and have given to Americans, men and women, the opportunity to indulge in the same vice. In one large city of America opium-dens were discovered even for ladies, which pretended to be fine millinery-shops.”

The acknowledgment of the truth of the theory of evolution is pushed steadily into the foreground of our scientific conception of the world; this in consequence reacts on our practical social life, and on our opinions about how to form the most advantageous human society.

— Therefore, it is certainly timely to make some contemplations about the relation of the alcohol question and of abstinence to the future evolution of mankind.

We do not think man could adapt himself to the use of alcohol and narcotics, so that they would cease to hurt him, for the following reasons :

Experience teaches :

1. The general drinking and narcotic customs incessantly augment the production and the consumption — that

is, to increase the daily doses — which every man consumes in the average.

2. The “craving” (“Sucht”) which alcohol and all other narcotics produce drives to such augmentation with peculiar force when severe laws do not counteract.

3. Alcohol, and probably also all other narcotics, poison not only the individual, but also his sperm, the germs of his descendants.

4. The progeny of alcoholists, according to experience, are especially disposed to mental degeneration and to drinking excesses. Their resistibility against alcoholic liquors is never raised, but rather very much diminished. At first this may seem strange from the standpoint of evolution. Yet it becomes at once conceivable, if we know, as Prof. Weissmann has masterfully explicated, that the qualities and customs acquired by an individual during his life are never hereditary, except when the germinative plasma is itself changed. Then, however, not “a quality is transferred,” but, as in the poisoning by alcohol, the germinative plasma is directly hurt with following degeneration of the germ. The variability in transferring the dispositions, therefore, is not based on direct actions from the outside on the individual, but on the circumstance that those qualities which take their origin respectively result from the conjunction of a female with a male cellule out of two different individuals as new combination peculiar to the product or descendant — that those qualities are better saved when advantageous for this descendant than when they damage him; for on a long and healthy life of the posterity principally depends its preservation in the struggle for life.

That abstainers live longer and are healthier than even moderate drinkers of alcohol is proven by the statistics of the life insurance companies and of the insurance societies against sickness.

The drinking habit, as is well known, tends to lead a man to imprudent sexual actions, by which, on the one hand, he contracts very commonly venereal diseases, often rendering

the woman sterile and the posterity crippled, and, on the other hand, is kept away from matrimony and led to prostitution, and not seldom to premature impotence — hence, it is not difficult for him, who is not blind and prejudiced, to conclude that, in the struggle for life, man will never adapt himself to the drinking habit, but that gradually abstinence must triumph, because the drinking world will carry on things more and more extravagant, and will for that be by the abstainers outrun.

Exactly the same is true about the use of all narcotic drugs. The temperance movement ought to include all these in its combat. Lewin, whom we cited, has, it is true, another more pessimistic view, because he does not know the success of the Norwegian and Finlandian laws, and misconceives the temperance movement of all northern nations. But since in this only he errs, we can easily compose ourselves.

#### I. THE ALCOHOLIC INTOXICATIONS OF THE HUMAN NERVOUS SYSTEM.

The intoxication of the nervous system is conspicuous at the very first, often after very small doses. Alcohol is, in the first line, a poison for the nerves, and especially for the brain.

Expert physiologists have stated that poisoning by alcohol paralyzes every activity of the nerves. It is scarcely to be doubted that the excitement caused by alcoholic intoxication — yea, even the slight seeming irritation following the first glass — is based much less on an increased activity of the fine and most minute nervous apparatus of the brain than on a paralyzation of the complicated checking apparatus, which usually bridle the ruder instincts and impulses, as well as often also the too quick and imprudent running of the thoughts in the wide-awake man. Through all parts of nervous activity, from the enervation of the muscles and the simple sensation to the highest activity of the soul, the paralyzing effect of alcohol can be demonstrated. In mental effects,

the principal thing for us, alcohol paralyzes in the first line, and in the strongest manner the highest, most complicated, and finest, *i. e.*, the so-called ethic and æsthetic conceptions, conscience, and reason, the reflections of which (that are the combinations of conceptions) are the moving spring of the highest and relatively freest will, because adapted in the most adequate manner to the circumstances. The human will is always determined by complexes of partly conscious, but mostly unconscious, feelings and conceptions. All mental happening recognized subjectively — that is, by ourselves on ourselves — depends upon extremely subtle, combined molecular activities of the living brain-tissue on the nervous cellules with their feeling and irritating threads, the nerve-fibers. Therefore, the normal condition and integrity of human will and the normal condition and integrity of the human brain and its functions are vitally connected.

The acute or once happening alcohol poisoning of the brain is called intoxication or drunkenness. The individuality of the drinker and the quantity of the introduced alcohol diversify the intoxication. From a little, pleasant cheering up the mind and weakening the disagreeable feelings (slight dulling of conscience and of consciousness of all mental and corporal pains) — through all stages of excitation with loquacity, of the dimming of consciousness, of the paralyzation of language and all movements — it goes on to somnolence, apparent death, and even to real death, if enormous doses of very concentrated alcohol were taken. Intoxication reveals great individual differences: one is rather sleepy, another cheerful and talkative, a third sentimental and soft-minded, a fourth melancholic and checked, a fifth boastful, a sixth irritable and quarrelsome. In all of them, however, the weakening of the higher, especially of the ethic and æsthetic qualities of the soul, prevails in a prominent degree. Hence criminal statistics show that most crimes take place during intoxication, and that because to paralyze the higher checking apparatus causes the brutal animal instincts to rise. Hence the drunkard, too, loses the desire for the beautiful.

In spite of this, intoxication does not permanently hurt the brain-tissue, for the molecular storm produced in it by alcohol ceases by and by, if the poison has been removed from the system.

All poisonings of the body divide into acute and chronic. A division, however, especially important, where the poison is quickly eliminated from the body, as in alcohol, while in steadily remaining poisons (lead, silver, etc.) there is no distinct difference between the two. The chronic intoxication by alcohol is produced in two ways — partly by frequently repeated excessive doses (acute intoxications, drunkenness) : partly by the daily use of moderate to excessive quantities of alcohol without drunkenness. *The chronic intoxication of the brain is by far the most important one.* Its first, lowest stage consists in two well-known results, common to all moderate drinkers who take small daily doses of any intoxicating liquor, like brandy, beer, or cider. The first one is becoming accustomed to the poison effects so that small doses, which, in the beginning, lead to slight, acute intoxication, are now no longer perceived. The second one, which varies enormously, is the craving, the longing for alcohol. In less sensitive people this craving is of small amount, and shows itself only by a very trifling unpleasant feeling, viz., that a usual agreeable enjoyment is missing. But in more predisposed people, or in those already alcoholized in a higher degree, it becomes an always returning and always stronger ravening for alcoholic liquors. In heavily predisposed ones it grows to an unquenchable thirst for alcohol, which requires always larger and more frequent doses, and influences all resting circles of conception so strongly that explications, confirmations, justifications of a more and more considerable use of alcohol are unconsciously obtruded upon consciousness and will by the craving for alcohol. These first two symptoms of the chronic intoxication by alcohol connected with the pleasant paralyzation of the disagreeable feelings and with the pleasant taste, which the daily drinker more and more finds in the alcoholic beverages,

form the foundation of the insidious, siren-like nature of the alcoholic liquors. In men who only exceptionally take alcoholic beverages these phenomena do not fully show.

The higher degrees of intoxication by alcohol, which alone come into consideration in our theme, can be divided into two groups — (a) curable and (b) incurable ones.

(a) *Curable degrees.* — To these belongs first a raising of the already-mentioned apparent resistibility (insensibility against larger doses of alcohol) and of the craving for alcohol. Further, quite gradually, according to the individual predisposition not before high or soon after relatively small daily doses of alcohol, there takes place a series of phenomena, of which sometimes the one, sometimes the other, is more distinct; weakening of the ethic, very commonly also of the æsthetic, feelings and conceptions, irritability of the character very often connected with emotional, soft temper, lessening of mental activity and faculty of apprehension; one-sided, stubborn dogmaticalness, want of intelligence in general, brutality of mind, mendacity, inclination to rabietic distortion, raising of impulses, combined with diminishing of the corresponding production of energy, partial sexual impotence, rhythmical trembling of all muscles (to be noted especially in more minute movements), etc. This slow change of the nature of the chronic alcoholized remains unknown to him until, after many months of abstinence, he is completely cured, he is able to account for it. This often, if at all, occurs in a complete way, after some years. In the higher degrees of alcoholism the character can become more than beastly, and show all transitions to complete mental disturbance: senseless jealousy, irritability and brutality, the most shameless recklessness towards weaker ones, especially towards women, the meanest cynicism, etc. In its highest degree alcoholism can produce senseless wrath, with insatiable thirst for blood. Sometimes greater, sometimes smaller, dullness of consciousness, feelings of anxiety, hallucinations, and delusional ideas of persecution, especially of jealousy, accompany these conditions.



In the course of chronic intoxication, often completely unremarked even by the whole company of the poisoned, there take place, not seldom unexpectedly, quick fits, which one has called delirium tremens (delirium alcoholism), and which suddenly betray the mistaken disease, hitherto slumbering. Usually, for producing such a fit, a disturbance of the accustomed way of the general functions of the body is sufficient, especially of nutrition—*i. e.*, a trouble of digestion, or the lying abed consequent upon a smaller or greater accident, or any other disease. The man in question must not necessarily have had an intoxication before, and not seldom has still the reputation of a quiet citizen, who does his duty, is respected, and, at the most, is accustomed to taking somewhat strong doses of alcohol. Soon after the derangement of the usual economy of life has occurred he begins to suffer from sleeplessness, restlessness, anxiety, strong trembling, terrific dreams, then also in the daytime of hallucinations, especially terrible moving visions of animals, and corresponding delusional ideas. The patient is often frightfully agitated, runs from anxiety with his head towards the wall, will kill his supposed persecutors, and dies in consequence of refused food and deranged digestion, combined with alcoholic fatty heart degeneration, and with brain exhaustion, particularly if fever or even pneumonia is setting in, and suicide is frequent in such conditions. Usually he recovers after some weeks, and I have often known the patient, and also his family, to think it a defamatory calumny when I declared the fit to be alcoholic delirium. To say such things was infamous, the man has not been a drunkard, he has never gone beyond the allowed quantity, etc. Not till my prophecy was realized, and further fits of delirium tremens occurred, did they hesitatingly admit it might have come from drinking.

Delirium tremens, consequently, is a mental disease taking place episodically in the course of the chronic alcohol intoxication. Curing this fit of insanity is, therefore, by no means equal to curing the chronic alcoholism. However, the fit of delirium always furnishes the irrefutable proof of

chronic alcoholism. But the reverse is not valid, for chronic alcoholism may exist in just the same irrefutable manner without any delirium, even without the precedence of any inebriation. In predisposed people still other mental derangements, as melancholia, mania, paranoia, etc., occur in the course of chronic alcoholism.

(b). *Incurable degrees.*—Chronic alcoholism usually lasts many years, mostly till death, since the only cure (the lifelong complete abstinence from all alcoholic liquors) is not only totally misconceived, but even in an incomprehensible way is marked as very dangerous, and that too from the medical side. But if the organs of the body, except the brain, have suffered less, and the patient does not soon die of a disease of the heart or the liver nor of a fit of delirium, the chronic alcoholic may live many years. In case of continued excesses, especially in somewhat advanced age, about the fortieth year, or more frequently around the fiftieth, we sometimes observe symptoms pointing to shrinking processes in the brain tissue. All such are to be noted, especially the weakening of memory and a general dullness and imbecility of intellect and mind. This condition is very similar with a premature senile imbecility (*dementia alcoholico-senilis*), but may occur under certain circumstances in rather young people. It is incurable. As much incurable is the pronounced chronic alcoholic madness (*paranoia*), which, under similar circumstances, often develops with delusion of persecution. On the contrary, a peculiar mental derangement, which looks very similar to the general progressing paralyzation of the brain, that is the alcoholic pseudo-paralyzation with inarticulate language, mania with exaltation, etc., is not by any means always incurable, and is to reckon better than (*a*).

All this shows clearly that chronic alcoholism, as a whole, is nothing but an imperceptibly graduated disease of the mind or the brain. To him who might still doubt, it may be said, that the autopsy of the chronic drinkers shows thickened places of the meninges of the brain, gathering of water in the brain cavities, and in advanced cases distinct shrinking of the

brain. Further, we should still like to point to the just published annual record of the Nether-Austrian State lunatic asylums for 1889 (Vienna, k.k. Hof- und Staatsdruckerei, 1890). On page 7 it is stated that out of 549 men received in 1889 in the State lunatic asylum of Vienna, 135 fell sick exclusively by alcoholism, and 84 under co-operation of it. Consequently 40 per cent. of the male receptions was wholly or partly due to the beloved alcohol. We may at once add, that out of 115 fresh male receptions of the cantonal lunatic asylum, Burghölzli in Zürich, in 1890, 31 (that is, 27 per cent.) concerned exclusively alcoholic and morphinistic (3) kinds.

## II. INDIVIDUAL PREDISPOSITION AND HEREDITARY TRANSLATION.

The more exactly we study the drinkers, that is, the chronic-poisoned by alcohol, the more we are convinced how enormously the individual dispositions differ (that is, the kind of reactions by the effect of alcohol on man), and on how different and complicated causes this disposition is based.

One is intoxicated easily by small quantities, and is believed by the public to be peculiarly unable to resist; but he is often the least endangered, if he, in the rest, is in ethic respects well disposed and possesses an ordinary will, especially if the craving is not exceptionally quick developed in him. Another apparently stands ordinary quantities, but becomes in a short time "craving" (süchtig), that is, there is developed in him very early an irresistible longing for larger and larger quantities of more and more concentrated alcohol. This intense and early development of the craving has been called dipsomania; it is always the proof of a heavy hereditary burdening, and very often appears only periodically (periodical inebriety, "Quartal-Trinker"). That this intense craving offers one of the greatest dangers, is without doubt. Another man is neither soon intoxicated nor in any special degree craving, but yet very deficient in ethic respect, weak of character, careless, unable to consider earnestly important problems of his future life. He is also very much

endangered and simply becomes a drunkard by the saloon-habits and the compulsory drinking of our society. In a large majority of our drinkers the trouble is still another one; they are simply the victims of human rage of imitation, of our social-drinking habits with their compulsory drinking connected with vainglory and braggartism, as well as of the popular delusion, that alcoholic liquors are healthy fortifying means. An extraordinarily insidious trap lies in the conspicuous, considerable faculty of resistance of certain people, who are able to consume large quantities of alcohol without getting intoxicated. They finally become chronic alcoholists, without observing it, without having had any intoxication; they seduce many others and endanger their progeny in especially high degree by the considerable alcoholization of the tissues of their system. Such people very often die of alcoholic degeneration of the heart, of the liver, etc., without having previously betrayed any considerable degree of chronic alcoholism of the brain, because in them other organs of the body are very often more inclined to alcoholic degeneration than the brain. In these things there are many individual differences. That poverty and misfortune often promote inebriety we will not deny, but this cause has been immensely exaggerated by certain tendencies. Usually it is, on the contrary, the inebriety which produces poverty. In very many cases the drinking habit and poverty are the two sister-products of badly predisposed brains, which fall as victims of our drinking habits. In well-off people, however, alcoholism rages scarcely less than in poor people.

It is already well known that inebriety, the chronic poisoning by alcohol, is transferred by the degeneration of the semen of man and of the ovaries of woman to the progeny of the drunkard. It is true, it very frequently causes in the descendants the above-mentioned irresistible longing for alcohol, but also a variety of other diseases, the children of the drunkards perishing in large percentage of debility of life, dwarfed growth, idiocy, mental diseases, and so forth. In modern times these facts have received an essential support by statis-

tical investigations of a most careful kind, among which the incredulous may take to heart especially the following:

Professor Demme, in Berne, "The Influence of Alcohol on the Organism of the Child." Stuttgart, 1891.

Dr. M. Legrain, "Heredity and Alcoholism." Paris, 1889.

Dr. P. Garnier, "Insanity at Paris." Paris, 1890.

For our question it is especially important to note the hereditary translation of the irresistible craving on the children by a father or a mother, who themselves did not possess this craving, but were drinkers only by custom or sociability. Very important for us is the further fact that in mental respects abnormally disposed people (psychopaths), as a rule, cannot bear alcoholic beverages, and become very easily inebriated.

### III. INEBRIETY IN ITS RELATION TO PSYCHOPATHIA AND INSANITY.

We have seen that the chronic poisoning by alcohol can produce not only the typical delirium tremens, but still other forms of mental troubles. Almost of the same great importance is the fact that the psychopaths, the so-called nervous people, and the insane, as a rule, bear the alcohol very badly, also when their disease has not its cause in alcoholism. Firstly, these people become very easily accustomed drinkers, and then often very small doses of alcohol are sufficient for them to produce considerable phenomena of poisoning. I saw severe delirium tremens with public dangerousness in psychopaths after the consumption of quantities of cider, scarcely to be called very immoderate (one and a half to two liters daily). Especially characteristic for the alcoholism of the psychopaths is the considerable prevalence of the mental troubles, of the changes of character, and of the nervous derangements in general. This is so evident that, very commonly in them, before the tissues of the body are alcoholically degenerated in a degree worth mentioning, we observe severe nervous and mental derangements, which sometimes look so similar to the non-alcoholic kinds of nervous and psychical

diseases, that the diagnosis is made very difficult. Yea, we can decidedly affirm that there are intermediate forms between alcoholic and non-alcoholic mental troubles, since the abuse of alcohol, even the simple use of it, gives in psychopaths not seldom only the last inducement for the outbreak of a slumbering psychosis, epilepsy, or a similar disease. We can, too, observe after the cure of such troubles, that the degenerations of the tissues of the body, as we find them in other cases of chronic alcoholism, are absent or developed in only a very low degree.

The facts just cited are of high importance. There are many more psychopaths among the drunkards than was formerly believed. The poisoning by alcohol and the psychopathy help and cause one another, the one always predisposing for the other: the poisoned becomes psychopathic and produces psychopaths; the psychopath becomes very frequently inebriate, and produces drinkers. This unfortunate circle is to be abolished only by curing the inebriety, that is only by abstinence, because a congenital (inherited) abnormal disposition of the germinative plasma as the psychopathia, can as such not be cured in an individual. On the other hand, a deeper investigation of the mental troubles shows more and more, that, by the inconceivable graduations of the psychopathia and of the deficient normality, they offer all transitions to mental health. We find a quite similar series of transition between the formally normal man having become inebriate only by seduction, sociability, etc., on the other hand, and the insane drunkard, the dipsomaniac or "Quartal-trinker," on the other hand. Nowhere is a sharp boundary-line.

It was frequently pretended that the dipsomaniac is incurable. That is not true. The experiences of the well-conducted establishments for the cure of drunkards (*vide* Christiania record, l. c., page 208, discourse of pastor Hirsch in Lintorf; besides this the first annual report, 1890, of the asylum for curing drunkards in Ellikon on the Thur), prove the curability of dipsomania. By abstinence the dipsomaniac is much better to be cured than the drinker, since birth defective in ethic respect and completely characterless.

We step here before an important question. In the ninth report of the Zurich Assisting Society for Lunatics, of 1884, as well as in the "Correspondenzblatt" for Swiss Physicians, 1890, April 15th, page 233, I have treated the importance of the constitutional insanity (psychopathies, diseases of character) which so often represent the transition to mental health, and I have emphasized how necessary it is for human society that such conditions are timely recognized, and the persons suffering from them are made inoffensive, if necessary, by limiting their liberty in special institutions. All this leads forcibly to the scientific conviction that the inebriate or the habitual drinkers are to be put in medical, social, and legal respect upon the same scale as publicly obnoxious psychopaths, and, therefore, are to be treated as mentally abnormal men. The delirium tremens, the other alcoholic mental diseases, and even the heavy intoxication are nothing else than mental diseases, and, therefore, to be fully equalized to the rest of the acquired mental diseases. The chronic latent poisoning by alcohol, the chronic alcoholism with its changes of character, is in comparison to the just mentioned alcoholic mental troubles about what the constitutional mental troubles are in comparison to the pronounced acquired mental diseases. The chronically alcoholized submits to the force of his craving with the same irresistible surety as the constitutionally insane to the power of his morbid impulses. His will is, as soon as the inebriety has reached a certain degree, amidst our given social circumstances, just as little free, stands under just as strong a compulsion as that of the constitutionally insane. He is bound to succumb.

The subject of *Animal Speech*, which is now attracting much attention in the scientific world, will be treated by Professor E. P. Evans in the opening article of the August *Popular Science Monthly*. Professor Evans gives much striking evidence to show that animals communicate among themselves by vocal sounds, and that many of them learn the meaning of human speech.



## THE RESULTS OF SCIENTIFIC INVESTIGATIONS CONCERNING THE EFFECTS OF ALCOHOL ON THE LIVING HUMAN SYSTEM.

BY N. S. DAVIS, A.M., M.D., LL.D., CHICAGO, ILL.

During the last fifty years our knowledge of organic and analytic chemistry, together with the invention and application of instruments of precision for conducting chemical, physiological, and pathological investigations, has increased with great rapidity.

*Pari passu* with each step in this rapid progress in developing the methods and means for strictly scientific research has alcohol as it exists in the fermented and distilled liquors attracted attention and investigation. Such investigation early demonstrated it to be a simple carbohydrate, consisting of carbon, hydrogen, and oxygen, and in a pure undiluted state actively destructive to both vegetable and animal life. It was found not only to destroy the vitality of such animal tissues as it came in contact with, but to retard or prevent their decay after their death. Further investigation, aided by the microscope, proved it to be exclusively the product of the action of bacteria on saccharine matter in the process called fermentation. It displays but feeble affinity for the oxygen or nitrogen of the atmosphere at ordinary temperatures, but a very strong affinity for water and both vegetable and animal albumens. When largely diluted, as in the various fermented and distilled liquors in use, it may be introduced into the living human system through the stomach, and its effects investigated with all the accuracy afforded by modern chemical and philosophical methods. The presence of diluted alcohol in the human stomach directly diminishes the digestive power of the pepsin, as shown by many investigators, and more recently by Hugouneng (*Lyon Medical*, March 1, 1892), and it holds in check the

secretion of gastric juice until it is absorbed, when the secretion returns. This appears to have been clearly shown by Gluzinski ("Deutsches Archiv. fur klinische Medicin." B. 29, p. 423, Leipzig), who experimented on the human stomach by administering moderate quantities of alcohol with food, and withdrawing the contents of the stomach for examination at different periods of time. He found that the alcohol rapidly disappeared from the stomach by absorption, as there was neither aldehyde nor other products of alcoholic oxidation in the stomach contents, and very little digestion of albumen. But when the alcohol had been entirely removed a rapid increase in the acid secretion of gastric juice took place, and active digestion followed; and in some instances the secretion continued after the digestion of food was completed. It is evident that the direct contact of the alcohol with the gastric mucous membrane caused dilatation or congestion of the vessels and tubules, thereby checking the secretion so long as such contact remained, but as soon as it had been removed by absorption the congested vessels yielded a more rapid flow of secretion than natural. It is evident also that if the contact of the alcohol should be repeated daily, or several times a day for any considerable length of time, the gastric mucous membrane would become permanently congested and its secretion perverted, as seen in all cases of chronic alcoholism. The alcohol absorbed from the contents of the stomach is carried by the portal veins in part directly to the ascending vena cava and right cavities of the heart, and in part indirectly after distribution through the liver. From the right cavities of the heart it is carried with the current of blood through the lungs to the left cavities of the heart, and from thence to every part and tissue of the living body unchanged in form or composition.

Since Dr. Percy, many years since, so clearly demonstrated the presence of free alcohol in the brains of drinkers other investigators have found it present in the liver, spleen, kidneys, lungs, and muscles. Dr. J. E. Usher, in his recent

work on "Alcoholism and its Treatment," says: "In several cases, after death, I have been present when pure alcohol was obtained by simple distillation." That it does thus circulate with the blood through all the tissues of the body is further proved by the fact that it is readily detected in the eliminations from the lungs, skin, kidneys, and the glandular secretions generally. Conceding the well-established fact that diluted alcohol undergoes no digestive change in the stomach, but is rapidly absorbed and carried with the blood into all the tissues of the body, three questions of paramount importance are presented for solution: 1st. What are the effects of its presence on the blood itself? 2d. What are the direct effects of its presence on the various structures to which it is carried? 3d. What are the secondary or remote effects of its protracted presence as in cases of habitual or frequent repetitional use?

In answering the first of these questions, the fact, conceded by all chemists, that alcohol displays a strong affinity for the water, albumen, and hemoglobin of the blood must be kept in mind. Hence its presence in contact with these constituents of the blood could hardly fail to alter either their forms or functions, or both.

Using the microscope, Dr. B. W. Richardson of London early claimed that the presence of alcohol altered the natural contour of the red corpuscles and promoted their disintegration. Virchow, in studying the condition of the blood drawn from an inebriate, says he found "a decrease of water and an increase of fibrine and of colored clots." Dr. J. E. Usher, in his work, previously quoted, while prosecuting a series of experiments on the blood of persons affected with chronic alcoholism, says: "Repeatedly red corpuscles were found to be irregular in outline, presenting a contracted or shrunken surface. Apparently a partial coagulation had taken place, with a decided diminution in size. . . . The chief pathological changes noted are to be found in a contraction of the cells, with some evident exudation of the coloring matter, and an entire loss of their normal outline.

The leucocytes offer a striking contrast, being more numerous ; but, instead of disorganization, these cells indicate that a coagulation of the nuclei has taken place, and they seem to be enlarged or swollen in a surprising degree." He states further that the blood examined was less alkaline than normal, and that crystals were augmented in quantity. Magnus Huss and others have noticed in the blood of habitual drinkers an excess of fatty globules, and Usher says : "Anemia is not an uncommon concomitant of alcoholism, the blood becoming very poor and watery — the white corpuscles being much in excess of their normal quantity. The liquor sanguinis is poor in albuminoids, and the salts are usually in excess. So poor in hemoglobin may the blood become that it is not a singular thing to find the red corpuscles reduced to 60 parts in 1,000 parts of blood," which is less than half their natural proportion. In addition to the foregoing changes in the constituents of the blood, the direct experiments of Prout, Bocker, myself, Hammond, and quite recently Bodlander, have proved that the presence of alcohol diminishes both the absorption or reception of oxygen, and the exhalation of carbon-dioxide through the air cells of the lungs.

As the reception of oxygen by the hemoglobin and serum of the blood from the air cells of the lungs, and the elimination through the same channel of the carbon-dioxide, constitute the chief function of the lungs, the influence of alcohol in diminishing that function uniformly and in a notable degree, is one of its most important effects relating to its use either as a drink or a medicine.

Perhaps no fact in human physiology is better established than that oxygen is being constantly received from the pulmonary air cells by the hemoglobin and serum of the blood, by which it is conveyed in the arterial blood to every tissue of the body, and by its presence sustains nerve sensibility, secretory action, and all the metabolic or molecular movements that constitute assimilation, nutrition, disintegration, and excretion. Consequently whatever diminishes the capa-

city of the hemoglobin and serum for taking up the oxygen from the pulmonary air cells diminishes all the metabolic processes in the living body. That the presence of alcohol in the blood does thus diminish the capacity of the hemoglobin and serum for taking up the oxygen is not only proved by the diminished amount of oxygen taken up and of carbon-dioxide exhaled, as shown by the investigators just named, but also by the early and well-executed experiments of Bocker of Germany and W. A. Hammond of this country, showing that it diminished the aggregate of all the secretions and eliminations, and more recently by Mohilinsky, who experimented on fifteen healthy young men, a part of whom were habitual moderate drinkers and part were total abstainers. The amount of alcohol given to each varied from two to five ounces per day. In all those who had been total abstainers he found the assimilation of the nitrogenous elements of food and of fat or oil diminished; and in nearly all the retrograde metabolism or nitrogenous disintegration was diminished an average of nearly nine per cent. These effects are attributed by V. A. Manassein, Schmiedeberg, and Bocker to the influence of alcohol in inhibiting the systemic oxidation processes, dilating the blood-vessels, lessening arterial tension, retarding circulation, and lowering temperature. The experiments of Schulinus and Salzynski pretty clearly demonstrate that about ten per cent. of the alcohol taken into the blood immediately disappears, or, at least, loses its identity. As such disappearance is not accompanied by either increase of heat or of carbon-dioxide, or of consumption of oxygen, it cannot be from the sudden oxidation of that amount of oxygen, as is generally supposed. Moreover, alcohol at the ordinary temperature of the atmosphere, or of the human body, displays but a feeble affinity for oxygen, while its affinity for the elements of the serum and hemoglobin of the blood is very active. And that this active affinity of the alcohol causes some important molecular changes in the serum and corpuscular elements of the blood is not only shown by the decrease of water and the

increase of fibrine, as stated by Virchow, but also by its retarding, and when present in large quantity preventing, the conversion of hemoglobin into oxyhemoglobin, as fully demonstrated by Dr. George Harley of London, Dr. J. D. Kaes of Chicago, and others. Dr. Harley showed that the addition of five per cent. of alcohol to fresh arterial blood completely destroyed the capacity of the hemoglobin for further oxygenation or for purposes of nutrition. Dr. Kaes found that when absolute alcohol in varying quantities, from one to five per cent., was mixed with the freshly drawn blood, diluted with distilled water, it made no perceptible change in the oxyhemoglobin spectral bands at ordinary atmospheric pressure and a temperature of 98° F. Neither was there any evidence of the oxidation of the alcohol. But when the pressure was diminished by means of the air-pump the oxyhemoglobin was rapidly reduced by surrendering its oxygen, which did not combine with the elements of the alcohol present, but escaped in a free state. It was further shown that when the oxyhemoglobin was reduced in contact with the alcohol it was less capable of re-oxygenation than when reduced without the presence of alcohol.

The second question — What are the direct effects of the presence of alcohol on the various structures to which it is conveyed in the blood? — has already been answered in part by the facts quoted from Bocker, Hammond, Mohilinsky, Manassein, and others, to the effect that it diminishes in a marked degree retrograde tissue metabolism or oxidation processes and their products, such as carbon-dioxide, urea, phosphates, heat, etc. In fact, the results of all scientific investigations concerning the effects of alcohol on the metabolic processes in living tissues have shown that its presence retards those processes more particularly as regards the nitrogenous metabolism dependent upon the presence of oxygen. The influence of alcohol in lessening the internal distribution of oxygen and in retarding tissue metabolism necessary involves impairment or disturbance of the functions of every important organ. Its influence on the stom-

ach and lungs has already been stated. But, in addition to those statements regarding the effects of alcohol on the functions of the stomach, it is proper to refer to an unusually careful and extended series of experiments by Blumenau on five young men between the ages of 22 and 24 years. He gave the alcohol, diluted, from ten to twenty minutes before the dinner, consisting of soup, cutlet, and bread. The results are given in the *Annual of Universal Medical Sciences*, 1891, Vol. 9, letter 1, page 4, as follows: "1. During the first three hours after the ingestion, the gastric digestion is markedly retarded, which is dependent upon diminished digestive power of the gastric juice; in other words, upon a decrease in the proportion of hydrochloric acid present therein. 2. The diminution is especially pronounced in persons non-habituated to the use of alcohol. 3. Stronger solutions of alcohol act more energetically than weaker ones. 4. During the fourth, fifth, and sixth hours after the meal the digestion becomes considerably more active, the proportion of hydrochloric acid markedly rising. 5. Under the influence of alcohol the secretion of gastric juice becomes more profuse and lasts longer than under normal conditions. 6. The motor and absorptive processes of the stomach, however, are markedly depressed, the decrease being directly proportionate to the strength of alcoholic solutions ingested. 7. Alcohol distinctly retards the passage of food from the stomach into the duodenum. 8. On the whole, alcohol manifests a decidedly unfavorable influence on the course of normal gastric digestion. Even when ingested in relatively small quantities, the substance tends to impair all gastric functions. 9. Hence an habitual use of alcohol by healthy people cannot possibly be approved of from a physiological standpoint."

Glazer (see *Deut. Medicin. Wochensch.* Leipzig, Oct. 22, 1891) has given the results of an extensive series of experiments to determine the effects of alcohol on the urine and the kidneys. His conclusions are given in the *Annual of Universal Medical Sciences* as follows: "That alcohol, even in rela-



tively moderate quantities, irritates the kidneys, so that the exudation of leucocytes and the formation of cylindrical casts may occur. It also produces an unusual amount of uric-acid crystals and oxalates, due to the modified tissue changes produced by the alcohol. The effect of a single act of over-indulgence in alcohol does not last over thirty-six hours, but it is cumulative under continued use." Chittenden, in experimenting on dogs by keeping them under the influence of alcohol eight or ten days, found the elimination of uric-acid in the urine to be increased 100 per cent. over the natural proportion. The effect of alcohol on the total amount of urine secreted is stated differently by different observers, some claiming that it is increased and others the reverse. I think these contradictory results depend upon the coincident conditions in each case. It is well known that drinking freely of water directly increases the flow of urine; consequently if alcohol is taken largely diluted with water, as in beer, the influence of the latter may be sufficient to maintain an increase in the quantity of urine. But if the alcohol is taken without such dilution the renal secretion is both diminished and altered in quality, as stated by Glazer.

The direct effects of alcohol on the functions of the liver in regard to the quantity and quality of the bile secreted, have not been determined with as much accuracy by investigators as in reference to the functions of the stomach, lungs, and kidneys. But that it interferes with such secretion more or less, and still more impairs the glycogenic and ptomaine destroying action of the liver, is shown by the frequent and extensive changes found in the organ in chronic alcoholism, and the readiness with which habitual drinkers succumb to almost all acute infectious diseases. Of all the organs or important structures of the body, none are more directly and uniformly influenced by alcohol than the nervous. Carried in the arterial blood into contact with all the delicate nerve cells and fibres of the body, its immediate effect is that of an anæsthetic, diminishing the sensibility and impairing the natural functions, both sensory and motor. That it produces these

effects when given in liberal doses all concede : and if the dose is large enough or frequently repeated, it suspends all sensibility and action, and life is ended. But it has been, and still is, very generally claimed that in small or moderate doses it is stimulating and tonic, increasing nerve sensibility and muscular force, and anæsthetic or paralyzing only in larger quantities. The same paradoxical or contradictory effects have been ascribed by medical writers to all the anæsthetics and narcotics, as ether, chloroform, opium, etc., but just when or in what quantity any one of them ceases to be a stimulant and begins to paralyze, no writer or experimenter has been able to decide. And an accurate analysis of the symptoms or effects produced by alcohol in every variety of dose from 4 grammes (3 i) or teaspoonful to a half pint, will show that no such opposite effects are produced at any stage of its influence. All who are conversant with the physiology or functions of the brain and nerves know that all sensations and muscular movements are regulated by nerve influence. The action of the heart and the movement of the blood in the vessels are directly under the control of the cardiac and vasomotor nerves, and some of the fibres of these nerves are excitors of action and others are inhibitors, and it is the regulating influence of the latter that keeps uniformity and harmony in the circulation of the blood. All our voluntary movements and sensations manifested by the cerebro-spinal nerves have also their excitors and inhibitors by which we are enabled to co-ordinate muscular contractions and relaxations in executing all our voluntary movements, however complex. Equally true it is, that our mental actions as manifested through the convolutions of the brain, are regulated by excitors or sensations, and inhibitors. Every individual whose brain is in its natural condition has frequent sensations, impulses, or excitors of mental action which he promptly inhibits or disregards. It is on the proper development of this mental inhibition that every person's self-control and sense of propriety depend. If these physiological facts are kept clearly in mind we shall be able to interpret more correctly the

influence of both small doses and large doses of alcohol on the human system. Thus a moderate dose circulating in the blood, by directly diminishing the sensibility of the cardiac and vaso-motor nerves immediately lessens the tension of the blood vessels, allowing them to dilate, and by simultaneously lessening the sensibility of the cardiac inhibitors, allows the heart to beat faster, but the efficiency of the circulation is diminished in proportion to the vascular dilatation and the cardiac frequency. At the same moment the presence of the alcohol is diminishing the sensibility of the cerebro-spinal nerves of ordinary sensation, and consequently the individual is less conscious of cold, heat, pain, weariness, weakness, or even of his own body-weight, not because the alcohol either warms or cools or strengthens, as is popularly supposed, but simply because it diminishes the sensibility of the nervous channels through which all sensations or impressions are conveyed to the seat of consciousness in the brain. At the same time the alcohol in the same moderate dose is so far diminishing the sensibility of the mental part of the brain itself as to impair both the acuteness of mental impressions and the mental inhibition; thereby imparting a feeling of ease, lightness, and lessened self-control, that makes the person feel as though he could move with less resistance and accomplish more in a given time than before he took the alcohol. It is exactly this diminished cerebral and nerve sensibility produced by a very moderate dose of alcohol, which inclines the individual to talk without reserve, sing songs, dance, or fight, in accordance with his surroundings, that make both him and his friends think the alcohol a stimulant. Yet give him another dose of the alcohol and diminish the sensibility of his nerve cells and fibres a little more, and he still thinks he could do more and do it faster, while the greater loss of self-control and muscular co-ordination renders him incapable of either walking or talking with steadiness. Give him another dose and he soon sinks into a state of complete anæsthesia with neither muscular power nor mental consciousness. The process from the beginning to the end is one of progressively

diminished nerve sensibility and action, with no stage of increased force, either physical or mental. The truth of this has been abundantly demonstrated on every field of human labor, civil and military, physical and mental. And it is further demonstrated by the results of the most accurately devised experiments conducted by Prout, Boker, Hammond, Richardson, Ridge, Anstie, Harley, Sidney-Ringer, Dubois, Fife, Lauder-Brunton, Martin, Parkes and Wallowics, H. C. Wood, Reichert, Vierodt, Hervier and St. Laver, Smith, Perrin, and Lehmann. After carefully reviewing the work of all these in the *Dublin Journal of Medical Science*, September, 1891, Dr. E. MacDowel Cosgrave concludes that "contrary to what has been and is supposed, it is found, from all these researches, that small doses of alcohol produce from the first a narcotic rather than a stimulating effect."

But I must hasten to the answer of the third question, namely, What are the secondary or remote effects of the protracted presence of alcohol in the system, as in the case of habitual drinkers? From what has been already said regarding the direct action of alcohol on the constituents of the blood, the internal distribution of oxygen, and on the metabolic or molecular changes in the tissues, we should expect its protracted use would produce structural changes of importance in every living structure of the body. And unfortunately the frequent opportunities for examining the bodies of those dying from chronic alcoholism have abundantly verified that expectation. The blood itself is found impoverished of its hemoglobin, corpuscular and nutritive elements, with an excess of excretory products. The secreting organs including the stomach, liver, spleen, pancreas, and kidneys, undergo fibroid, and sometimes fatty degeneration, with atrophy of their secretory cells. The lungs undergo the same fibroid sclerosis constituting chronic interstitial pneumonia or fibroid phthisis, though less frequently than the liver and kidneys. The changes in the muscular structures are more in the direction of fatty degeneration than fibroid. And, as remarked long since by Lancereaux and Trousseau, "The appearance

of the heart in alcoholism is quite special; the fat does not merely line (or cover) the heart, but likewise penetrates between the muscular fibres, and induces atrophy by the compression it exerts upon them; at a later date the muscular fibres become fatty." The changes induced by alcoholism in the nervous structures, both central and peripheral, are also well-marked and important. These changes are briefly described by one writer, as follows: "The characteristic changes which have been observed in the brain, medulla oblongata, etc., of confirmed drinkers, consist essentially of a peculiar atrophic modification by which the true elements of nerve tissue are partially removed; the total mass of nervous matter wastes, serous fluid is effused into the ventricles and the arachnoid, while simultaneously there is a marked development of fibrous tissue, granular fat, and other elements which belong to a low order of vitalized products." The same changes have been more recently found extensively in the peripheral nerves in cases of alcoholic neuritis. It is these steadily progressive degenerative changes in the brain and nerves that cause the habitual drinker so frequently to suffer from vasomotor paralysis and so-called heart failure; from neuritis, neurasthenia, anaesthesia, paralysis, serous apoplexy, and various forms of mental derangement. Even the procreative organs of both sexes are found to suffer similar degenerative changes and impairments, as has been demonstrated experimentally by Mairet and Combernal, in Paris.

In view of all the foregoing investigations and established facts I ask whether there is any rational basis for the claim that alcohol is either a stimulant, tonic, or conservator of tissue? Can an agent that directly diminishes nerve sensibility and muscular contraction, in direct ratio to the quantity given, ever act as a true stimulant or tonic? Can an agent that by its affinity for the hemoglobin and serum of the blood diminishes the internal distribution of oxygen and markedly retards the metabolic or both nutritive and disintegrative changes, possibly conserve or protect any natural tissue? Instead of conserving, is not its effect necessarily degenera-

tive, as we see everywhere following the persistent use of alcohol? These are questions of momentous importance to the human race. The duty and responsibility of giving them correct answers belong to the members of the medical profession. In view of all the strictly scientific investigations thus far, I do not hesitate to answer that alcohol when taken into the human system acts directly as an anæsthetic and retarder of all natural metabolism, nutritive, disintegrative, and secretory; and when persistently used causes tissue degenerations that impair health and shorten life.

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M. FAVILLE of Paris has estimated the number of persons using morphia in that city at forty thousand. Now another authority, who claims to be supported by the best of evidence, asserts that there are over one hundred thousand persons taking morphia in Paris to excess, daily.

CHRONIC alcoholism may be attended with symptoms resembling those of general paralysis, but the former are not progressive if the alcohol be withheld, while the latter, once manifested, continue to a fatal issue. The lesions of chronic alcoholism also most closely resemble those of general paralysis, but in the one condition careful examination shows that the morbid changes fundamentally involve the intima of the vessels, while in the other it is especially the adventitia that suffers.

THE success of the *gold cure* in Copenhagen has been advertised far and near, as phenomenal and wonderful. The *Medical News* of that city reports a different view of the results. Of fifteen cases treated, twelve relapsed. Of the remaining 3 one has relapsed and taken the treatment twice and is now five months abstinent. The other two claimed to be cured. All claimed to have great repugnance to spirits after two or three weeks, but this did not last long. The journal is somewhat bitter in its denunciations of this so-called remedy for inebriety.

THE PSYCHOTHERAPIC TREATMENT OF MORPHINISM.\*

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BY DR. EDGAR BERILLON OF PARIS,  
*Editor "Revue de l'Hypnotisme."*

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The question of morphinism is justly seriously occupying the minds of physicians and psychologists.

This new form of intoxication has, during the past few years, made such rapid progress that many authors do not hesitate to signal it as a veritable social danger. It seems to us, however, that the gravity of the evil lies not so much in its rapid extension to all classes as its frequent development among the intellectual class. If one should make a list of all the great minds, savants, physicians, litterateurs, and artists who have become addicted to this most tyrannical of all drugs, one would be surprised at its length; nor would the astonishment be less from a knowledge of the names of well-known men whose brilliant careers have been brusquely arrested and their moral and intellectual value entirely ruined by this evil.

It is necessary to recognize that it is, above all, among the intellectual classes that pain, both physical and mental, is the most dreaded; this explains the facility with which many persons have recourse to morphine to relieve them of sufferings judged by them intolerable. Nearly all the morphinists that we have had occasion to observe had first accepted with gratitude the assistance of this marvelous anæsthetic. None of them suspected the rapidity with which the "besoin morphinique" establishes itself, and the disease was formed, in the majority of cases, so insidiously that they did not realize or distinguish the difference between

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\* Translated from the French by Dr. Herbert Adams, Berlin, late Assistant Physician "Brooklyn Home for Habitués"; member "Société d'Hypnologie et de Psychologie de Paris."

the sufferings due to abstinence and those for which they had first taken the drug.

This confusion often constitute the first difficulty that one meets when it comes to inaugurating the treatment. The patient rarely fails to invoke the following argument: "Who can promise me that, when I have abandoned the morphine, I shall not again have my former sufferings?" This difficulty is not the only one. Under the influence of his intoxication, the morphinist soon presents psychic troubles the most varied. Of all the functions, that of sleep is the most profoundly affected. If morphine favors sleep in the beginning, it very soon, on the contrary, engenders the most rebellious nocturnal insomnia. The patient, not able to sleep at night, frequently becomes a noctambul, while often, during the greater part of the day, he may rest as an inert mass, incapable of thinking, moving, or acting. He has not force of will to rise from bed, and, fortune permitting, he soon forms the habit of passing here the greater part of the day. According as he is, or is not, under the influence of his injections, he passes from one extreme to another of profound anæsthesia or hyperæsthesia in which the entire nervous system participates. If at certain moments he is indifferent to everything, deprived of his initiative, a prey to horrible dreams, at others, when under the influence of a recent injection, he is brilliant, animated, and capable of making a certain figure in the world, or of applying himself to his ordinary occupations. It seems to him as if he were infused by his injection as with an elixir of life. But the duration of the period of animation tends more and more to shorten itself. Very soon the fictitious excitation created by the injection passes away, and sensations the most normal are painfully felt again. As soon as the crisis of abstinence develops itself, the sufferings assume such an acute type that the patient will neglect nothing to prevent their return. It is then that we may observe with great distinctness the moral and psychic side of the malady, and observe the apparition of the singular phenomena of



auto-suggestion. Demoralized by the fear of suffering, the morphinist exaggerates unconsciously the painful effects of the suppression of the morphine. He is a prey to a veritable *hyperaesthesia auto-suggested*. Under these conditions it is not at all surprising that he should subordinate all his actions to his desire to avoid the pains, the mere thought of which determine in him a profound moral depression.

Morphinism is then primarily an intoxication; secondarily it becomes a veritable disease "de l'esprit," the effects of which manifest themselves, above all, by an alteration of the principal faculty, the *will* — that is to say, that all therapeutics not based on a thorough observation of the mental condition of the patient will be doomed to failure.

That which essentially characterizes the psychic state of the morphinist is the paralysis, the anaesthesia of the *will*. If the most of his intellectual faculties have remained intact; if his imagination has survived, and even in certain cases is exalted, his initiative, on the contrary, is abolished. Nothing strikes the observer more than the want of decision, the irresolution which the patient manifests, and, above all, when it relates to his taking steps to inaugurate the treatment of his habit.

One of the illusions to which we cling the strongest is that of our free *will*. The morphinist is not deprived of this. The illusion which he caresses the longest is that he will be able to give up his morphine when he wishes to. To justify his continuation he furnishes himself with the most specious arguments, to such a degree that he felicitates himself on the services which it renders him, when he has need to act or work, not wishing to admit to himself the exaggerated price he pays for them. In short, the morphinist is, above all, a victim to paralysis of the will. Let us add to this that he is rarely free from the two neuroses which exercise the most depressing action on the moral energy — hysteria and neurasthenia — not to speak of the nicotinism and alcoholism so frequently observed in these patients, and

one will be sensible of the inherent difficulties in all attempts at the treatment of morphinism.

However, notwithstanding their extraordinary irresolution, it frequently happens that, justly alarmed by the grave trouble to the nutrition, struck by the failure of their intellectual faculties, one of these patients decides to demand of medicine to cure him of a disease which she has nearly always caused. He then receives the advice to isolate himself, for a short while, in a sanitarium.

Advice, in itself, is good, but it has little chance of being listened to and followed. Very few morphinists, in fact, will make such a confession of their impuissance. The majority of them devoting themselves to diverse labors, most often to scientific, literary, or artistic, which they are able to continue, thanks to the increasing doses of their habitual stimulant, do not wish to resign themselves to abandon their social situation nor the direction of their affairs. They dread the darts of public malignity, disposed to consider as an alien any person entering a sanitarium. In presence of the obstinate refusal of patients to submit to isolation, a certain number of physicians decided to try the employment of psychotherapy—that is to say, of suggestion during the hypnotic state, to arrive at a cure of morphinism.

In this respect, the observations by MM. Burkhard, Wetterstrand,\* Auguste Vaisin, Fonel, Blocq, Zambaco, Marselli, and Garodichze are the most conclusive, and the results obtained by them are of the nature to carry conviction. Having had, ourselves, occasion to apply suggestion in the treatment of morphinism, we believe the moment has come to point out the role that psychotherapy is destined to play. This role will be more extended from the fact that morphinists generally show themselves very amenable to suggestion

\* Dr. Wetterstrand reports 22 cases treated by suggestion alone. In 19 cases the treatment was followed by complete success. Dr. Wetterstrand considers that this mode of treatment is going to cause complete revolution in the treatment of morphinomania. With several of his patients he had recourse to prolonged sleep during several weeks; with others the cure was effected much more rapidly.

when they have once determined to attempt a cure. The physician (and this is one point we judge useful to insist upon) should not commence the treatment until he is assured that he has acquired the absolute confidence of the patient. Much time and patience is often necessary to acquire the necessary influence on the patient to direct the treatment with authority. The facts show that a cure, although difficult, is not impossible to obtain. This is why we publish the resumé of some of our observations, which seem to us to contain certain teachings useful to retain.

CASE I. — The first patient that we had occasion to treat, Mme. C., aged fifty-five, came in 1882 to demand the aid of hypnotic suggestion against the intolerable pains which she suffered in the left ovarian region. Some years before she had sustained a rather severe operation in this region, and it was during convalescence that she commenced, on the advice of her physician, the use of morphine. She walked with the trunk flexed at an angle of 45, and could not straighten herself except under the influence of injections of morphine, and even then there was considerable deformity of the spinal column and difficulty in walking. The general condition of the patient was extremely poor.

She did not come to ask for treatment of her disease; she was occupied only with the abdominal pains. We exhausted all our arguments, without success, to induce her to diminish the morphine, attributing to the phenomena of abstinence the periodic return of the pains. We then encountered the petition that we have since heard from a majority of our patients — "Cure me first of my pains; then we will see about the other." I complied with her request, and after a few sances she was profoundly affected. Incidentally, in suggesting to her to not feel again the pain, I also added in the suggestion that the morphine would certainly considerably shorten her life. This idea deposited in her mind soon took deep root, and some days afterwards she came spontaneously to ask my aid in the cure of her habit. She gave us the reason of her determination to cure herself —

that she wished to live as long as she possibly could, for she knew her death would cause great joy to some of her heirs, "and if morphine is going to shorten my life I am going to quit it."

The treatment was commenced without any definite method. I confined myself to suggesting to her to guard the determination to cure herself promptly, to become very avaricious of the injections, and to continue the suppression in spite of whatever sufferings might follow.

The patient was animated with such a desire to be cured that she suppressed the injections much more rapidly than I had thought of doing. In less than fifteen days, without the aid of any medicine whatever, by the sole power of will, seconded and stimulated by daily suggestions, she triumphed over the most cruel sufferings. It was possible by suggestion to greatly reduce the intensity of her sufferings, and in particular the profuse perspirations by which she was troubled for several months after the entire suppression.

The cure has been maintained for five years. She has told me that the argument which had a decisive action on her cure was the fear, suggested by me, of shortening her life.

CASE II.—Mlle. B., thirty years of age, was an intelligent lady, having decided, as "religieuse," on hospital service; having been expelled from the order on account of her drug-taking, she was sent to us by Dr. Gonel. She came to consult us on the 4th of February, 1890. Some years previously she had been attacked by intermittent facial neuralgia, for which she had been given hypodermics of morphia for two years (beginning with two per day and finishing with eight per day). During the year of 1887 she had multiple abscesses, for which she entered the "Beaujon Hospital." She was here treated by Drs. Milliard and Schwarz, who decided to suppress brusquely the morphine. She fell into a delirium which lasted some twenty days. She was in a state of great excitement, chanting day and night. When the delirium passed away she awoke completely well, and the

cure lasted for two years. The neuralgias returning eight months ago, she again began taking morphine, and commenced with four injections daily.

The day she came to consult us her color was yellowish and cachetic. She suffered from gastric pains, her digestion was poor and painful, and she alternated with constipation and diarrhœa. For some time she had had terrible nightmares. The catamenia had been suppressed for some months. When the hour for her injection arrived, if she endeavored to retard it, she was seized with sudden vomiting, shiverings, and diarrhœa. She had become melancholic and lived constantly preoccupied in thinking of the future. She took fifteen injections daily of five milligrammes each, making about eight centigrammes for the twenty-four hours.

The treatment was commenced the 6th of February, 1890. It was decided that the patient should come and receive the suggestions daily and she should suppress one injection each day. She slept soundly from the first séance. The twentieth day, conforming to a suggestion made, she laid on my bureau her syringes and the remainder of the morphine. All the malaises with which she was troubled, such as diarrhœa, vomiting, and profuse sweats, disappeared under the influence of suggestion. The catamenia returned. Two months afterwards the patient looked like another person.

The success of this cure was due in a great measure to the assistance of an infirmière, Mrs. Rousseau, who assisted greatly by frequently massaging the patient and also sustaining her by her counsels, watching her carefully, etc. Eighteen months afterwards the cure continued.

CASE III. — Mme. B., aged thirty-three, mother of four children, commenced taking morphine in 1884 on account of nephritic colic. Afterwards she took injections for the slightest neuralgias and more especially after the removal of a uterine polypus by Dr. Gonel, who advised the patient to consult us. She came the 3d of July, 1890. Two years previously, having attempted to substitute cocaine for the

morphine, she became quite seriously affected mentally, and especially by hallucinations. She entered the asylum at Charenton. Dr. Ritti suppressed radically the morphine. Having entered the 23d of February, she left at the end of April, cured and in good general health. She weighed ninety-nine pounds on entering and one hundred and twenty-three on leaving the asylum. She remembers this treatment with terror, and wonders that she was not made permanently insane by it. The cure was of short duration. In September of the same year, being "enciente," her physician expressed a fear of the return of her polypos. On account of her despair at this intelligence she again commenced taking morphine, beginning with five injections daily. When she came to consult us, she was taking forty centigrammes daily. She made several injections without removing the needle, fearing the numerous punctures, as she had had, and had still, a certain number of abscesses. These, indeed, are what induced her to attempt a cure.

The patient passed her nights in reading; her books denoted a cultivated mind; she had read the works of all the well-known authors. She did not sleep before four or five o'clock in the morning, and rose very late. She took no breakfast, and often slept again in the afternoon. Her temper had become irritable and she was very unsociable.

The treatment commenced on the 3d of July and was continued without interruption during one month. An extraordinary thing was that the patient came each day without a single exception for a consultation. It is but just, however, to add that she paid for the first month's treatment in advance; that had certainly a considerable influence on her perseverance. From the 6th of July, three days after the commencement of the treatment, she took only 20 centigrammes. The 16th of July she took only three centigrammes.

At each séance she was plunged into profound sleep, with amnesia on awakening. She received the suggestion and made the injections only with extreme repugnance. In

spite of the malaises which she experienced, vomiting, diarrhœa, and profound sweats, she held fast.

The 24th of July she laid on my bureau her collection of syringes, conforming to a suggestion that I had made. She continued coming to demand my aid during some weeks on account of the malaise which she felt from time to time. She recovered her normal habits of sleep, her appetite, and she has an excellent general appearance.

CASE IV. — The 1st of March, 1892, Pauline L., aged 26, came to my clinic complaining of rather serious nervous and mental troubles, hallucinations, nightmares, ideas of suicide, etc. She attributed these symptoms to the use of morphine. She entered the Charité in 1888 on account of some nervous trouble, and was there treated with morphine. She took at the time of quitting the hospital one grain of morphine per day, and continued taking that amount. A druggist, "à la conscience large," according to the expression of the patient, sold her as much as she wished at sixty cents a grain. She worked day and night to procure it, preferring to go without food rather than abstain from morphine. The appearance of several abscesses induced her to try to diminish her dose, which she did, alone, to 50 centigrammes.

When she came to consult me, she took 50 centigrammes daily, divided into eight injections. She had arrived at an extreme degree of enervation, the genital sense was entirely abolished, and the menstruation was almost entirely suppressed.

Being very hypnotizable, the treatment was easy. A very curious thing was that she did not wish and could not be hypnotized except by certain persons. The suggestion was made that she diminish one injection each day. At the end of four days, bilious vomiting having occurred, she increased a little. At the end of fifteen days she was taking only two injections daily.

To finish, I suggested to her that on arriving home she should throw away her solution, and that after vainly trying to make an injection she should throw her syringe on the floor and stamp it under foot.

These suggestions were punctually carried out. For four days she remained in bed, having vomitings, diarrhœa, and cold sweats, and demanding morphine from those around her. But her sister, having been warned, saw that none was given her. The fifth day the malaise had disappeared, and the patient felicitated herself upon having escaped from the habit. Since the first of April, 1892, she has not taken any morphine. She has, moreover, received energetic suggestion to resist all cravings which may occur. During the two following months she had very disagreeable sensations and fear of dying, and at certain moments a truly lamentable state of mind; but she hastened to come to demand the aid of suggestion, and all her troubles vanished as if by enchantment.

I have been able to assure myself, beyond the peradventure of a doubt, that the patient is nearly well and takes no morphine.

CASE V. — Mme. O., aged 26, in the course of a phlebitis complicated with a painful œdema extending to the thorax, commenced the use of morphine, which alone relieved her pains. The disease was rapidly formed, although she claims never to have experienced any pleasant sensations from the morphine beyond the mere calming of her pains. At the end of some weeks her physician allowed her to make the injections herself. She now takes eight centigrammes daily.

The treatment was commenced the 24th of May, 1892. From the first séances a manifest somnolence was obtained. She received the suggestion to repress, of herself, one injection. The same evening she did so, and, nevertheless, passed a better night.

The next day she received the suggestion to suppress radically the injections of the next morning and to rise at eight o'clock without feeling the usual malaise. The suggestion was punctually followed and the patient passed a very agreeable morning, having risen at 8 o'clock. Very intelligently the patient seconded the treatment with enthusiasm and manifested the desire to cure herself very rapidly.



At the third séance she slept profoundly, and received the suggestion to dine "en ville" in the evening without any previous injections, and to bring me the next day her solution, syringes, etc. At the appointed hour on the following day she brought me her syringes and two bottles of morphine pellets, sold her by an unscrupulous druggist.

The effects of this sudden suppression promptly manifested themselves; during one month she was quite agitated and had spells of shivering and cold sweats. The day after her suppression she had a profuse diarrhoea; she vomited her dinner of the evening before, and arrived at my office worn-out, discouraged, and walking with difficulty. I put her profoundly to sleep. By suggestion, I dispelled her malaise and restored her courage; she left me quite gay, reanimated and determined to resist all temptations to take morphine. For some days she received the same suggestions. The cure has been maintained for six months, and every indication points that it will be continued. During four months the patient came from time to time to demand the aid of suggestion.

This case is remarkable on account of the rapidity with which the suppression was effected. The rigorous adhesion to our usual method would have made the suppression more slowly, but we yielded to the pressing solicitations of the patient to finish with it at once. We must recognize that she showed a very uncommon force of will, and was, moreover, endowed with remarkable intelligence and a very active mind. In this case, we had recourse to some physiological stimulants (digitalis, ext. coca) to compensate the brusque suppression, conforming ourselves, as we have always done under similar circumstances, to the precepts so justly formulated by Dr. Jennings.

In three other cases the treatment by suggestion was employed as an adjuvant to the treatment directed by our eminent confrère, Dr. Jennings, the competence of whom, in all matters relating to these questions, is so well known. He has also recognized how much the phenomena of auto-suggestion dominate the situation, and he proposes in a com-

ing work to treat more fully of this, giving the results obtained. That which we should remember concerning the influence of suggestion in the treatment is, that it plays the principal rôle, first of all, in deciding the patient to begin treatment, then to awaken and stimulate his will-power and to give him a sufficient sum of energy, so that he will not be discouraged by the first uncomfortable feeling that he may experience.

We quickly come to the conclusion that the first few séances should be devoted to revivifying the failing will-power. The essential part of the treatment is, above all, to determine the patient to *will* to arrive at a complete cure, to exalt his desire to be free from his tyrannical drug, to make it odious to him, and to make him give a proof of this by taking the initiative in his treatment—in one word, to make of this the most active agent in the cure.

From our personal observation we believe ourselves able to deduce the following conclusions:

1st. If the distinction that writers have tried to establish between simple morphinism and morphinomania presents a certain interest from a clinical and medico-legal point of view, it offers only a secondary interest from a therapeutical standpoint.

2d. In both cases psychotherapy, that is to say, the employment of hypnotic suggestion, in the majority of instances, effects a complete cure without recourse to isolating patients in a special establishment.

3d. In the cases where isolation is judged necessary, psychotherapy facilitates the treatment by diminishing very appreciably the pains and various troubles due to the abstinence.

4th. The difficulty in the demorphinization of a patient does not at all correspond with the mental troubles which he may present, nor with his poor physical condition at the moment of the commencement of the treatment. The difficulty results above all from the default of energy of the patient and his irresolution to cure himself.

5th. The duration of treatment is about one month.

The morphine should be gradually suppressed. When the patient decreases to two or three centigrammes per day, the suppression should be radically made. At this time the suggestive séance should be repeated more often to combat the malaise and sustain the energy of the patient.

6th. The period of convalescence is less long when the suppression has been more slow. During some months after the total suppression, the malaises which frequently trouble the patient are easily dissipated by suggestion.

7th. The cures obtained by the employment and with the aid of suggestion are much more sure than those obtained by a forced suppression. They have for a base the awakening of the patient's will, and the putting into play of this will is the surest means of preventing a relapse; moreover, it is possible by suggestion to inspire in certain persons a positive disgust for morphine.

#### ANTIPYRINOMANIA.

Under this name Dr. Cappelletti (*Revue générale de clinique et de thérapeutique*, May 17th) writes of a mental affection caused by addiction to the use of antipyrine. An hysterical woman, twenty-three years old, had used the drug to excess for two years, to allay headache, taking every day as much as two drachms. She had become affected with loss of appetite, sleeplessness, tinnitus aurium, and muscular weakness. She entered a lunatic asylum of her own accord, to enable herself to abstain from antipyrine. The dose of the drug was reduced, but this produced such a state of prostration and such grave functional disturbances, even when the patient was unaware of the reduction, that potassium bromide and caffeine were resorted to. The patient was finally cured of these ill effects and of her craving for antipyrine. The author recommends the gradual reduction of the dose in such cases.—*N. Y. Medical Journal*.

THE IMPAIRMENT OF MORAL FEELING AND  
WILL PRODUCED BY THE CHEMICAL AC-  
TION OF MORPHINE IN THOSE ADDICTED  
TO ITS USE.

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Opium and its alkaloid, morphia, is a poison to the nervous system when taken habitually. It impairs and destroys moral feeling and will.

Its action suspends and permanently enfeebles volition and conscience. Whether this is due to its agency upon cerebral structure — that is, whether it is imbibed by the nervous tissues and creates by such imbibition changes incompatible with pain, for instance, or whether by its action on the brain the will directs the attention of its influence to structural or moral suffering, as the case may be — is a very difficult problem for psychologists. It would seem that the suspension and enfeeblement of the moral faculties produced by opium, while the intellectual faculties remain comparatively unimpaired, should depend rather upon a relation between opium and sensibility and consciousness than upon the relation which it has to cerebral substance. There is great degradation of moral feeling and impotence of will in those who have become the slaves to morphine addiction. Taken at first generally to relieve pain, it is simply impossible for those who have inherited a neuropathic constitution and who belong to the neurotic circle of society to stop its use after they have taken it for a few weeks to relieve pain. Hence the great care that should be exercised by the profession in its use and the great necessity of withdrawing it just as soon as possible and substituting some other anodyne. I will take

pleasure in sending a prescription to any reputable physician who addresses me at my sanitarium for an anodyne which I have found beneficial in a practice of twenty years in the field of nervous diseases, to give those who, by reason of their neuropathic constitution, ought never to take opium or its alkaloid, morphia, except as a last resort. Pain in the pelvic viscera in women is generally relieved by a hypodermatic injection of  $\frac{1}{2}$  of a grain of atropia, while the pains of dysmenorrhœa are relieved by  $\frac{1}{2}$  to 1 drachm dose of fluid extract viburnum prunifolium.

The galvanic current of electricity is also very useful in relieving pains which otherwise would have to be relieved by opiates. The finest moral sensibilities are antagonized entirely, and those not so fine much blunted in the opium habituate. All family claims and interests are sacrificed by the habituate. Many are untruthful and untrustworthy, and with the worst class of these unfortunates there is not a deception they will not practice to get their favorite drug. There is a physical deterioration of nerve element, for the opium enters the blood and acts there injuriously upon the elements of the exquisitely delicate structures. In this way the finest, latest organized, least stable parts which subserve moral feeling and the will are injured.

Most morphine habituates do not take morphia for any pleasurable sensation that they derive from it, but rather to relieve the terrible pain and distress which comes on as the result of abstinence. Many are morphine habituates before they know it. A patient of mine from Pennsylvania told me that she never dreamed she was under the thralldom of the drug until, her hypodermic needle being broken, she could not take the accustomed dose which she had taken under medical advice for weeks to relieve the pain of a synovitis of the wrist joint, and then the psycho-somatic suffering was very great until her physician arrived and administered a hypodermic, when all her disagreeable and painful sensations vanished. Her physician for the first time realized that his patient, who was a very neurotic person, had

acquired the habit, and after several ineffectual attempts to break it up sent her to me. She had taken it but six weeks, but, endowed with a strong neuropathic constitution, the habit had been easily formed, and abstinence from it produced languor, lassitude, loathing of food, aching of the limbs, and indefinable wretchedness, with threatened collapse when her physician attempted to take it entirely away. She suffered from complete exhaustion and prostration of mind and body. The control over her muscles was impaired. Systematic treatment by the reductionary plan, with the bromides, followed by warm baths, electricity, and a tonic consisting of tinctures ferri and strychnia and a careful diet based on physiological food values restored this patient to perfect health in a few weeks, and we sent her home with no craving at all for morphia.

We have treated many cases of morphia habit where the physician could not make his diagnosis, the clergyman write his sermon, the man on exchange buy and sell stocks, or the society woman entertain until the usual hypodermic of morphia had been taken, when the mental processes became clear and the muscular system restrung, the eye became bright, and an artificial and temporary health was imparted. To be replaced by pallor, pain, and distress as soon as the effect of the drug had died out, necessitating another dose. In all our cases, with two exceptions only since 1876, these patients earnestly desired a cure and gladly cooperated with us in our endeavors for their cure, which have been almost uniformly successful. There is very little suffering attending the treatment and cure of an opium habituate and the psychosomatic suffering following withdrawal can be very successfully combatted by warm baths, the judicious use of electricity and other agents. The morphine habitue takes the drug hypodermically for the instant sense of relief he or she experiences and for the rapid and ineffable solace obtained. Such persons soon get to that point where the will is paralyzed and the personal consciousness is benumbed. They have not enough energy to throw off this torpor, to break from their

habit and take hold again of their duties. There are morbid fears and dreads, and vertigo and insomnia are common disturbances. There is anæsthesia. The reflex actions are weakened. There is constipation, and abstinence brings on diarrhœa. The pulse may be intermittent, the heart's action is weakened, and there is dyspnœa with hoarseness, especially when the patient is trying to abstain. The eyes lose their brightness, the patient becomes prematurely old, the face in extreme cases becomes an expressionless mask, and the skin takes on an earthy tint. There is a progressive cachexia which generally ends in death if the patient is not cured. All serious work is simply impossible to a morphine habituate deprived of his stimulus, and if abstinence is kept up a violent frenzy is developed, and even a delirium tremens and collapse. The diagnosis is made from the strange expression of the physiognomy, the wan complexion, the sunken eyes, the vacant looks, and the general appearance of dullness and listlessness. There is a marked lowering of the physical and moral tone. There are also some cases who retain an appearance of health, who enjoy an excellent appetite, and who physically and mentally defy detection until they voluntarily acknowledge their addiction to the drug.

It is an invariable rule, however, that in opium habituates work is not possible except under the influence of morphia. The morphine habituate always increases his dose to get the relief, repose, and comfort he wants, and this steady increase of poison injected means of course, as I have said, a progressive cachexia, both moral and physical.

In the treatment of this disease abrupt suppression I regard as absurd and barbarous as well as dangerous. Gradual suppression and reduction is the only sensible treatment, I think, and even this is not possible generally in the patient's own home, for he will surely cheat his physician and obtain morphine in excess of that prescribed. The nerve tone has to be improved, sedatives are indicated, the insomnia has to be controlled, and the whole physical and mental tone brought up to the normal standard. The patient must be kept quiet

and secluded from society, or he cannot be cured. We have had gratifying results from treatment of these cases. Our plan of treatment consists of gradual reduction, using the alkaline bromides at first, followed by iron, strychnine, and electricity, hot baths and mental quietude, and an atmosphere of tranquillity. The strictest surveillance is practiced, and no patient for the first two weeks allowed off the grounds without a nurse.

We use all the means which science furnishes to cure this disease, and from many years' experience consider it a very curable affection.

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A statistical table published in the *New York Voice* shows that in this country there has been an enormous increase in the consumption of fermented liquors, with no diminution in the amount of distilled spirits. The production of fermented liquors, which in 1872 amounted to 6,409 gallons per head of the population, had risen in 1892 to 15,166 gallons per capita; the distilled spirits being 1.665 gallons per capita in 1872, and 1.833 in 1892. "A careful study of these facts gives little encouragement to those who are claiming that the use of fermented liquors are driving out the distilled liquors. Assuming that the consumption of these liquors is practically equivalent to their production, it is evident that for twenty-four years the per capita consumption of distilled liquors has remained fairly constant, with a marked upward tendency in the last three years, while for the same period the consumption of fermented liquors has increased threefold. A comparison between the years 1863 and 1892 shows an increase in the per capita production of distilled spirits of 385 per cent., and in the production of fermented liquors, of 828 per cent."

*Morphia* should not be given to inebriates until hypodermatically when the urine is of low specific gravity and contains albumen.



## Abstracts and Reviews.

EVIDENCE ON THE CARE AND TREATMENT OF INEBRIATES. Taken by the Department Committee appointed by the Home Office of the British Government in May, 1892.

Mr. Mathews, Secretary of State, declared that great difference of opinion having arisen as to what kind and degree of punishment for offenses committed by habitual drunkards would be most effectual, both as a deterrent and with a view to the reformation and cure of such offenders, it appears to me much advantage would result from an inquiry being made into the subject.

Following this, a committee of the following persons was appointed: J. L. Wharton, M.P., Chairman; Sir W. G. Hunter, E. L. Pemberton, C. S. Murdock, Dr. David Nicolson.

This committee held ten different meetings, extending from May 27, '92, to Feb 24, '93, and examined twenty-four witnesses concerning the Habitual Drunkards Act and the best method of dealing with inebriates.

The following is a synopsis of some of the very interesting facts which were brought out by this inquiry:

The first witness, Dr. Hoffman, inspector of Retreats under the Inebriates Acts, said that there were nine inebriate asylums licensed under the act in Great Britain. Most of them received only the middle and upper classes, persons able to pay. Some of them are exclusively for females, others for males, and two received both sexes. All these places were small, and in 1890 had 109 different persons under treatment. Some of these were relapsed cases, who had been at other asylums, but the most of them were new cases. Of eight hundred cases treated in these asylums, only 35 are known to be readmissions.

The defects of the law prevents more cases from coming to these places. Patients object to going before two magistrates and signing away their liberty, and owners of asylums fear to invest property where a license must be procured every 13 months to continue in the business. Some patients work for a part of their expenses, and if labor could be provided for all, great improvement would follow. He urges that power be given all managers to receive and hold patients without publicity; also to restrict them in close confinement whenever necessary. A case was given of a patient who escaped several times from an asylum, drunk to frenzy, returned and was destructive, alleging his object to have the managers expel him, which they were obliged to do. In this case their only course was to have him arrested and sent to jail for assault. The asylums were not able to deal properly with the criminal inebriates. From twelve to thirty months seems to be the minimum and maximum time for the successful treatment of these cases. Persons punished by fines and short imprisonments are made worse, and the object of the law is defeated.

Sir John Bridge, chief magistrate at Bow Street, believes inebriety should always be considered a crime, and that if existing laws were carried out fully the evil could be restrained. He finally acknowledged that an asylum for inebriates where the term of confinement would be for long periods would be better than the present prisons. He comes in contact with inebriates who commit crime, and thinks they cannot be reached except by severe measures and prompt confinement, and liberty under police inspection for a long time.

The police magistrate of Westminster, Mr. DeRutzen, thinks the large number of arrests for drunkenness who are discharged when they become sober, should receive more attention, and not be treated so lightly. They become hardened by this treatment. Long treatment, abstinence, and work will do much to bring on a cure. A case of a woman who was convicted 257 times for drunkenness, might

have been saved if she had been sent to some retreat for a year or two. A case of a woman who had been arrested 60 times was mentioned, that was finally sent to a retreat, and proved to be a most exemplary case after six months' residence. As a magistrate his services were sought in advice by relatives of inebriates, and if retreats could be opened with legal powers to detain such persons, many cases could be saved.

Mr. James Munro, late Minister to Victoria, Australia, gave an interesting account of asylums in that country. In 1870 a committee in Melbourne subscribed money and opened an inebriate asylum. In 1872 an act was passed giving power to retain inebriates. Persons could go before a magistrate and consent to be sent to an asylum for 3, 6, 9, or 12 months, and could be held legally according to commitment. The government appropriated money to aid the asylum. Dr. McCarty managed it, with only moderate success, up to 1890, when, by a consolidation act, it was taken by the government, and is now managed the same as a lunatic asylum. In 1889 the government established another asylum, so that two asylums for inebriates are under the state care. There are no private asylums of any kind in Australia. Both of these asylums charge all patients for board and care, and persons are detained from 6 to 12 months, on their own commitment. Criminal inebriates are sent to prison as in other parts of the world. The inmates of these asylums are from all classes, and suffer from excess in drink. These places have suffered from bad management, and the public interest has not grown or the work been as favorable as it should have been.

One of these asylums is located at Northcote, the other Beaconsfield. A third so-called asylum was opened by a missionary. Each inmate gives a certain amount of labor in return for his care and treatment. He thinks all retreats should have employment as a part of their treatment. So far not enough cases have been under treatment to form any very reliable statistics or conclusions.

Dr. Usher, formerly government medical officer of

Queensland, and author of a recent book on inebriety, testified that an inebriate should be treated the same as a lunatic. His liberty should be signed away the same way. No hesitation of the liberty of the patient should prevent similar dealing with the alcoholic. His treatment as to length of time should turn on his condition. If hereditary it should vary from one who has acquired inebriety. He believes diet and dietaries should be a part of the treatment, and meats should not be used only in exceptional cases. Separate classes are necessary for paying and non-paying classes. The state should sustain asylums for criminal and pauper classes. The great want is power to compel restraint and long residence in an asylum. Many retreats are not doing good work because of bad management and frequent changes. He thinks the system of voluntary detention in America the best at present. Cases were mentioned of inebriates who hired rooms by the year in retreats and occupied them when they felt the need of restraint and medical care, coming and going under the advice of the physician. A certain class of inebriates should be regarded as insane and receive positive medical care. The specifics are fraudulent, in that they do not contain what they claim, and are based on conditions which do not exist.

The superintendent of the Grove Retreat for Women, Mrs. Hughes, has had many years' experience with inebriate women. They are from the middle and lower classes, and come from the police court frequently. Twelve months is a minimum time; most cases should be under care longer to fully recover. They should have some employment to do well. Greater power of restraint should be granted, and classification of criminal and pauper inmates. Magistrates should have power, on the certificate of the physician, to commit cases for long periods, to be changed by parole where the patient could bear it. Diet is an essential part of treatment, and many cases can be cured by occupation and nourishing diet. The law should be changed to permit cases to be arrested without warrant where they had run away, and

the time of commitment should be lengthened with every escape. A large number of these poor inebriates could be restored to sobriety and made useful citizens by long restraint in retreats, but the law must be changed.

Mr. Philips, the physician to this retreat, mentioned a difficulty coming from friends who, after a time, insisted on the discharge of patients against the judgment of the officers. Such people judged solely from appearances, and were suspicious of some motive in retaining the case after a seeming recovery.

Prof. Clifford Allbutt, Lunacy Commissioner, believes that retreats are a great success, considering the difficulties of admission, length of detention, payment, discipline, management, and restraint. When these are improved this fact will be recognized. The treatment of inebriates would vary widely with the class of cases, some of which are by conduct a source of public danger, others merely an offense. Some have inherited the tendency to drink and are diseased, others have fallen into this by environment. They all require a different machinery in treatment. They should be confined the same as lunatics are in different parts of an asylum or retreat. The question of inheritance, mental soundness, or defects can be determined generally without any doubt. The time of treatment should be not less than twelve months, and longer in most cases. The sentence should be for a definite time with power to renew it as the circumstances dictated, and by the proper authorities. In the case of criminal inebriates careful inquiry into the case should be made before any disposition or sentence is passed; then the case could come under full hospital and disciplinary care. He would send such cases to the lunatic asylums, and have them in a part of the building by themselves. The treatment would be the same as lunatics, only modified according to circumstances. Someone would be responsible for their care and control, and a practical machinery would soon be fitted to their necessities. They would be under inspection of competent men, and no abuses of power or authority would be

likely to follow. Inebriety is diminishing, and will in the aggregate grow less and less, and a large number of the victims can be best treated under the lunacy commissioners in separate parts of existing asylums. For the paying class retreats could be provided that would combine special means and measures for the permanent cure of over half of all the inmates. I think the curability of this class is very high, and will increase in the future, but only from long periods of detention. From seventy to eighty per cent. can be restored, and with fair surroundings and care very few of this number will relapse. These retreats need skilled managers, who can do more than barred doors to build up the brain and break down this thirst for spirits. The law should give all retreats full power of control, and keep them under constant inspection and regulation to some central authority. He would do away with voluntary signing by the patient, and only require the signature of a responsible person with two physicians for his commitment.

Dr. Branthwaite, Superintendent Dalrymple Home, from his experience of ten years feels assured that at least thirty-five per cent. of all cases under treatment are cured. No case is permitted to go out of the grounds under three months, and if they are refractory they are placed under the constant care of an attendant. The law is very cumbersome in aiding to arrest escaped patients, and should be changed. The methods of admission are bad; persons should be committed without their signature, and sent out on some plan of ticket-of-leave. Employment would be beneficial to nearly all cases. We are crippled by the legal difficulties in getting in and getting out of asylums. Dipsomaniacs should be sent to insane asylums, and some means provided to restrain the criminal inebriates, as a class, by themselves. If these obstacles were removed all retreats would be crowded, and the demand would far exceed all the possible accommodations that would be provided for years to come.

Mrs. Smith, the Superintendent of the St. Veronica's Retreat for Women, has on an average forty cases of all classes

under care. They work for their treatment as far as possible; many of them are cured, some relapse and return; twelve months is a minimum time to expect permanent results, especially for women in middle life. Has had a case of tea inebriety, where the mother and grandmother were addicted to the same trouble. This case was in a state of stupor as long as she could get tea. She showed the same symptoms as alcoholics, and was a difficult, troublesome case. Good food is a part of the treatment; exercise and labor are required of each one. The patients of the better class show a tendency to get down to a level with those of a lower social grade. They sleep in separate rooms and dormitories. The act is an obstacle for the free admission and detention of cases.

Dr. Street, of the Tower House Retreat, a mixed asylum where both male and female inebriates were admitted, believed both sexes could be treated at one place with success. The women are more difficult to cure because more degenerate, but are less refractory. The least time of treatment should be six months. The power should be given to retain people for years under certain restrictions. Certain cases can only live free from spirits under restrictions and care of others. The law is a great obstacle and must be changed before we can do much practical work. These cases are curable far beyond any present conception, but the law must be changed.

Dr. Gray, manager of the Old Park Hall Retreat, takes servants who are inebriates, both men and women, and makes them work for their treatment; he finds them valuable. His asylum takes both sexes, but expects to open a separate asylum for women at a distance, and thus separate the sexes. He thinks an industrial home would be very practical if power was given to make each inmate work. Cases are received for a small sum and so many hours' service a day; this has worked well. If these persons employed and under care and treatment should do refractory acts, they can be taken before the courts and fined and imprisoned, at the op-

tion of the magistrate. Many of these cases have lost all moral considerations, and are childish and irresponsible. In his experience many of them recover, but from the application of long periods of detention and confinement, from six months to three or four years.

Col. McHardy, prison commissioner for Scotland, said: Drunkenness has reached enormous proportions in Scotland. In 150,000 commitments, 105,000 were for drunkenness and petty crimes associated with it. From 1872 to 1875 the commitments in Glasgow rose from 10,000 to 18,000. In 1891-92, 342 persons had been sentenced for drunkenness over 50 times, and 939 had served sentences for this offense over twenty times. This shows the uselessness of short terms of imprisonment. He advocated the boarding-out system for pauper inebriates, believing that each case should be sentenced for a term of years and then sent out in the country to board with responsible families, who would receive a small sum in payment together with the services of the patient in some work. These cases would be under the care of the farmer or tradesman where they lived, and also under an inspector who would keep an oversight and correct all abuses. If the case proved incorrigible he would be placed in prison and confinement. All persons who gave these cases spirits or aided them to escape would be open to a legal action. He thinks this system of boarding out must be adopted for the inebriate the same as the chronic insane; that retreats can only reach a certain class, and the prisons, with some modifications, for another class, but the large class of chronic inebriates must be put out under commitment, away from towns and cities, in the care of families. The large number of cases who never come under the police notice but who are obstacles and perils to homes, should all be taken out under such a commitment, and many could be cured. They are practically lunatics, and should be treated as such. In Scotland 2,000 lunatics are now boarded out, many of whom are chronic inebriates, and so far the system is a success. There are no retreats for inebriates in Scotland organized under the act.



Dr. Norman Kerr, from a large experience and study was confident that at least one-third of all cases under treatment from six to twelve months and more were cured. Whenever the disease of inebriety was recognized rational means were used, and the cure was a reality in most cases. Pauper cases should all come under full legal restraint and have occupation as a part of the treatment. He believed women did not differ from the men in respect to degeneration and difficulty of treatment. He would have all retreats open to inspection by the government, and each case committed for a certain definite time and under full legal power to arrest in case of escape, and to force them to obey such rules as were found valuable and necessary. He gave an interesting history of laws in different states and countries of the world for arrest and commitment of inebriates to asylums; also of the rapid change in public sentiment in Great Britain concerning the need of asylums and special physical remedies for the restraint and care of inebriates. Criminal inebriates should be treated separately, and the act should be changed so as to include under the head of inebriates all persons who used narcotics of any kind to excess. Inebriety should be recognized as a nerve disease, coming and going like storms; then the methods of treatment will be clear and rational to all.

The superintendent of Colman Hall for inebriates, Dr. H. R. Ker, thought many inebriates run parallel grooves with insanity. He believed they were very curative if taken in the early stages, but the legal restraint must be clear, positive, and practical. Little could be done at present until the act was changed, the few cases under treatment only showed what could be done with better facilities. The cures of the present cases, from 30 to 35 per cent., was very hopeful, and showed what might be expected in the future.

Sir Andrew Clark, president of the Royal College of Physicians, thinks private asylums cannot be successful because duty and personal interests will always clash. The state should have full power over each retreat, and give ample laws of control and hold them to a line of duty. It is

his experience that a drunkard in a family means ruin to that family unless relief comes from some source. The larger number of drunkards are in families that never bring them into publicity except to the physician. No evil is greater and of more importance, and the state by legal acts must foster and encourage asylums where compulsive treatment can be carried on for periods of from twelve months to many years, and even a lifetime in many cases. Separate asylums should be provided for criminal cases; the rich and poor should be together, and sharp restraint with occupation should go together. Short sentences by the courts are injurious; long sentences under state control in state asylums are the best hope for these cases.

Mr. Manning, governor of Her Majesty's Prison at Pentaville, believes short sentences of inebriates a very unfortunate means of cure. He illustrates this by a case where after twenty sentences for inebriety following each other rapidly, the man came for six months and was fully restored after this. He relapsed long after and died, but had the sentences extended to years this case might have recovered. He thinks the prison unfit, and that retreats and intermediate places should be established and conducted on both a compulsory and voluntary plan. Employment of some form in the open air is of great value, and surroundings of cheery character to raise up the moral and elevate the entire man is essential.

Rev. Mr. Morrison, chaplain of the prison at Wandsworth, believes that drunkenness should never be punished as such by the state, that it should not be considered as a crime or offense. Men who commit crime when intoxicated should be punished for the crime and not for drunkenness. The habitual drunkard is always degenerate in stature, in brains, and in general health. He should be treated in separate retreats by distinct means and methods. He should be considered a modified lunatic and come under the same general laws. The laws should reach out and apprehend his condition, and give authority to hold him months and years:

under control in special surroundings and places, and where industry should be a part of every day life.

Judge Hannay, of the metropolitan police court, thinks the poor diet given in prisons to short term prisoners, especially inebriates, is an active cause for their relapse as soon as released. A part of each prison should be put apart for these cases, and the treatment be reformatory rather than penal. This, with work, would cure many such cases. Long time of detention is essential in all cases.

T. L. Murray Brown, barrister-at-law, secretary of committee of discharged prisoners, etc., etc., deplors the failure of the present methods of short sentences. Half a century hence it will be difficult to persuade our grandchildren that such a state of things existed as the present treatment of inebriates in the year 1892. He believes in private asylums under government inspection for the paying classes, and the public asylums for the poor classes. The period of treatment should be from one to three years, with release on parole. They should be reformatories and have legal power under the control of medical men, and be classified.

Chief Constable Dewar of Dundee says short terms of imprisonment are recuperative and not deterrent. Inebriety should be considered the same as an infectious disease, and the treatment should be compulsory isolation. It is a disease which is sure to follow down in families from one generation to the next. His experience would indicate that they can be made self-supporting in part while undergoing treatment, but it must be in Homes especially organized for this, both by the state and private enterprise.

Rev. Canon Acheson, who had been prison chaplain for years, mentioned a case of a man who, with his son and two daughters, had been sentenced repeatedly for inebriety. All of them were in prison and in the workhouse together; they had all served over twenty sentences each for the same offense. The hereditary nature of inebriety had been established, and all prison experience gave marked evidence of this. All such cases must have compulsory treatment in re-

treats of months and years. He had noticed many cases that were cured; some would only lead lives of abstinence in asylums, and should be provided for as long as they lived.

Sir Richard Quain believes that in the future dipsomania, with its premonitory symptoms, will be studied and provided for. Such cases will be sent to retreats and controlled during the paroxysm, then liberated. Other cases of habitual drunkards should have long periods of detention, and all managers of retreats should have ample power of restraint. Recovery is certain in many cases, and even those most incurable have been known to get well in asylums and retreats. Our present methods are very faulty and must be changed; the act must be modified greatly.

Captain Staffard, commissioner of prisons, objected to having criminal inebriates confined in prison. They should be in asylums for that purpose, where the discipline and diet and system of commitment and discharge should be arranged to meet such cases. Short sentences are a great evil and demanded a change.

This comprises only a small part of the testimony, which occupies over a hundred closely printed pages, and gives our readers a fair idea of the intense interest on this subject in Great Britain.

This committee made a report in which they reviewed the evidence at some length, and closed recommending the following:

The Secretary of State have full power to make rules regulating the forms of admission of all applicants to retreats. That retreats be encouraged by aid from public rates to provide accommodations for the treatment of the poor, and also to give them work and more perfect control over each case, and that the maximum time of detention be extended to two years. That the law be changed permitting friends of cases to make application for their admission to any justice, and that the property be holden for all bills contracted during his detention in an asylum. The Home Secretary to regulate all rules of admission and discharge of patients, also

manner of arrest when the person escapes, and the question of discharge on ticket-of-leave, the enforcement of discipline, and other rules. Relating to criminal inebriates, more explicit authority be given to the police to arrest and hold persons drunk and disorderly on the street. Magistrates should have larger powers to hold and confine such cases. Reformatories should be aided by public funds to provide means and measures for the control and occupation of these cases under proper discipline. When these places cannot be had accommodations should be provided in prisons and lunatic asylums and poorhouses until they could be utilized for this purpose. That magistrates have power to commit to such reformatories for lengthened periods all habitual drunkards who come within the action of the law, who are guilty of neglect, ill-treatment of wives and families, or who have been convicted of drunkenness one or more times within a year.

#### AMERICAN INEBRIATE ASYLUMS.

Dr. Crothers read an elaborate paper on this subject before the neurological section of the American Medical Association, at Milwaukee, Wis., June, 1893. The following is the closing part of the paper:

"The most careful authorities of this country and Europe agree in the statement that fully one-third of all cases who come under treatment for periods of three months or more are permanently restored.

"Other institutions, where inebriety is treated as a vice or by empirical methods, claim eighty and ninety per cent. of recoveries.

"It is needless to add that all such statements are not supported by published statistics.

"In view of the chronic character of these cases, and the imperfect means of treatment, the results so far are encouraging, and indicate great possibilities in the future from a better knowledge and control of these cases.

"Such is an outline view of the history and present condition of asylums in this country. The rampant empiricism which is so prominent to-day is indirectly rousing up a new interest in all asylums for inebriates.

"The increasing crowds of relapsed cases, whose faith in the gold cure specifics have been misplaced, are rapidly filling up all asylums, and come in a measure prepared to accept physical treatment, and to appreciate the needs of means and remedies. There are ideals of the coming means and appliances essential for the successful treatment of inebriety, towards which a few institutions are struggling. Each year's experience brings larger and clearer conceptions, and each institution is becoming more adapted for scientific work in this field.

"An outline of the scientific treatment of inebriety in asylums in America will describe some part of the treatment common to each, but not yet attainable in its entirety, because of the numerous obstacles and want of support from public opinion and other conditions.

"The situation of an asylum in the suburbs of a city or in the country near large centers, with ample grounds for retirement and quiet living, is essential. A proper building, equipped with baths and all the appliances for comfort, with means of amusement, joined with ample legal power to hold the patient a year or more, are equally essential.

"They should be called hospitals, not only in full recognition of their physical disabilities, but as places where every condition of life can be regulated and every surrounding can be made to aid recovery and restraint. Literally, a quarantine hospital, where isolation and removal of all the exciting causes, combined with appropriate treatment, to build up and restore the deranged functional activities of the organism, can be obtained.

"The time of treatment should be from six months to two years, and be governed by the condition of the patient, and extend to a legal control on parole for a long time after leaving the asylum.

"In Connecticut the law gives control over all committed cases for three years, whether on parole or otherwise, in the limits of the State.

"The hospital should provide exact military restraint, with duties and responsibilities, rewards, and punishments, suited to the condition and capacity of the case; also work, amusement, and occupation, both mental with physical, as medicinal agents. Every condition of life should come under exact military control. Baths, exercise, sleep, food, and medicines, all to be regulated and applied uniformly. Each one should be treated as suffering from profound disease of the brain and nervous system, requiring long rest and building up. The general treatment should begin with an examination and enquiry of the facts concerning his past life and present condition. These examinations should be repeated every few weeks, because of the rapid changes and errors which are impossible to guard against in the first and other examinations. The use of spirits should generally be abandoned very early in the treatment, and the return of the drink paroxysm anticipated by the use of drugs, baths, exercises, and special control.

"Many of the paroxysmal drinkers are practically epileptics and require similar treatment. They are suffering from grave disturbances of the physical centers, and physical remedies are required in addition to other means.

"Other cases are delusional maniacs and paranoics, out of harmony with every condition of natural healthy living, and unable to correct and adjust themselves to such conditions. In others, nerve exhaustion is at the bottom of the drink impulse; inherited tendencies, reflex irritations, and many complex conditions which can only be discovered and treated in hospitals. When these are treated the causes are removed and the alcoholic soil is exhausted and dies away.

"States of poisoning from stupor to full delirium are made the subject of special treatment, according to the experience and theories of the physician. These acute symptoms, followed by chronic conditions, require equally special remedies and means.

" These are some of the general ideals in treatment to which every scientific asylum is moving. All asylums suffer for want of ample legal authority over their cases for sufficient time to secure permanent results. Public opinion regards asylums as of only temporary, and, in most cases, of doubtful value. But the theories of their work are openly termed "fads," and supposed to be founded on some mercenary or selfish purpose. The pulpit, press, and ultra reformers pass by on the other side, like the Levite. Public patronage is withheld, and most all asylums depend entirely on the income of patients for support. Hence, they are more or less crippled in every way. Many asylums suffer from poor location, bad buildings, and surroundings, inability to classify their inmates, and apply special treatment to each one. In many places baths and systematic exercise cannot be secured. The nutritive, hygienic, and physical treatment cannot be carried out on the ideals of the managers; hence, many asylums are using the means within their power in anticipation and looking forward for larger and more perfect facilities.

" The treatment of inebriety not only includes everything found valuable in hospitals for the insane, in reformatories of the most advanced type, and in the modern sanitarium and homes for neurasthenics. The essentials for treatments in each of these classes are required for the inebriate. The asylum managed on the scientific plan of providing for the requirements of each case must have the power of control, and special buildings given to the hospitals for the insane; the discipline and management of the modern reformatory and the appliances of the best sanitariums and private homes; then it can approximate to a measure of success in the treatment that at present is only in outline. American asylums are leading the world in these directions of practical work, and while no one has combined only in the crudest way these appliances, many asylums are approaching it yearly. Asylums all over the world are at the beginning and infancy of their existence. A great deal of



preparatory work must be done before they can reach the first stage of scientific work. The moral remedies by appeals to the will power and morals of the case must pass away. The delusion and palsy of the higher brain centers must be recognized, and dissolutions beginning in the ethical centers extending down to all the lower faculties must be studied. The great fog banks of metaphysical theories of free will, moral depravity, vice, and wickedness must disappear from all conceptions of inebriety, and its practical management in asylums. Asylums and managers who act on the theory that the inebriate is half-wicked and half-sick are crippled. Asylums and managers who attempt by drugs or moral appeals to restore and cure the victim are still far back in the stage of credulity. The specific vaunter, who professes to break up the symptom for drink, as if it was the disease itself, is an empiric, either ignorant or by design. Asylums and managers who teach dogmatically the nature of inebriety and its only true remedies are not very far along in their scientific work. Asylums who claim large percentages of cures from certain means and remedies are not worthy of confidence.

"Inebriety is found, when carefully studied, to be the most complex neurosis of modern research, dependent on heredity and many physical causes, also physical condition and environment, that are not clear to the most minute study. Asylums for treatment so far, by isolating the patient, places him in the best condition for study of conditions and applying means for relief.

"The more thorough this study, the wider the range of causes appear, together with the means and methods of relief. The most advanced asylum of to-day follows a general prospective plan of treatment and has no specifics or no special theories that are not open to change and readjustment, besides a few general facts, which stand out like mountain peaks in a new land, all the intervening space is unexplored. No one can speak dogmatically as to where inebriety begins, and what the exact causes may be. No one can explain the

varied phenomena of drink storms, of the action of spirits on the physical brain, of the power of heredity, of the brain condition which demands relief by the craving for neurotics, of the sudden cessation of this drink impulse, under unusual circumstances, of its equally sudden outburst from causes unknown. Even in asylums the same uncertainty exists. Cases that seem restored, relapse, and others that are considered incurable become restored, showing that our present knowledge is very imperfect, and the known is comparatively nothing in contrast with the unknown.

“Running through all this phenomena of inebriety is an outline of a uniform movement of cause and effect; of events following each other according to some law; good examples are the periodicities of the drink impulses, and the outbreak of such impulses from the presence of certain conditions that can be foreseen and studied. Patients under care in asylums present a remarkable uniformity of symptoms and progress that is often startling to the student. Not unfrequently such cases can be anticipated and the results of treatment known far in advance. The drink symptom is dependent on some conditions of brain degenerations and changes. It will suddenly die out and disappear under the most adverse conditions and surroundings. Examples are numerous of persons who become temperate, sign pledges, and stop all use of spirits under the most unfavorable circumstances. Every temperance and revival meeting furnish illustrations of persons who are restored permanently, although the same means have been used many times before with no results.

“Persons are known to stop drinking from the slightest supposed reasons, and in all these cases the last means used are credited with being the active cause.

“The true explanation in all these cases is that some change or evolution of brain function has occurred and the drink symptom has died out.

“It is not the last prayer, pledge, or solicitation of others, or the last drug or remedy of special means used that has

caused this change. Other and more obscure causes are at work, and the time comes when their action is apparent in the cessation of the drink impulse. Physicians in charge of asylums recognize this fact, and realize that their best efforts are in building up the brain and nervous system, and placing the organism in the best possible condition for both organic and functional change.

"Remedies directed to the drink symptom are never curative; a dose of mercury acting on the liver is a more rational method than bromide to check the drink impulse.

"Asylum study of these cases show that inebriety is often a symptom or phase of a neurosis which may break out and change to some other form. General paralysis, melancholy, and many forms of insanity, together with tuberculosis, and various neurotic affections follow frequently on the subsidence of the drink craze.

"The statement that the gold cure specifics are followed by an increased number of insane among those who have used the treatment must be a literal fact. The proof of such a statement is found in the experience of every asylum, and the general principles of neurotic diseases. The number of such persons cannot be easily determined, but the more powerful the narcotic used to stop the drink symptom, the more certain insanity and profound degenerations of the brain centers will follow.

"All asylums for inebriates suffer from the large number of incurable inmates, persons who, after an uncertain course of treatment, go away, relapse and condemn the asylum for their failure. Much of the current opinion concerning asylums is formed by the irresponsible statements of incurables. Such persons seem to take pleasure in denouncing asylums in every place, and boasting of the intrigues of its inmates. On the other hand, persons who have received substantial benefit conceal all reference to their treatment and residence in an asylum.

"The result is that all institutions are judged by the unthinking public from the statements of those who have failed to receive any benefit from its work.

"Unthinking physicians who suppose that the control of the drink craze is the central object of treatment often lend their influence to unfavorable criticism of asylum work. This, joined with bitter condemnations of moralists, complicates and increases the difficulties of every practical asylum trying to understand scientifically this new field of medicine.

"American asylums have many advantages over all foreign institutions, in freedom from caste and prestige; also in ability to follow independent lines of work and rise above the prejudices and opposition of those who dread change and advance. Some general conclusions may be stated, as follows:

"1. The asylum care and treatment of inebriates began first in this country, and has grown and extended to all civilized nations of the world.

"2. American asylums have developed the disease theory and the practical character of physical treatment in institutions beyond that of any others in this field.

"3. Asylums in this country represent nearly all stages of development and early growth, from infancy and childhood, with its feeble conceptions and infantile efforts, to the boastful assumption and over confidence of youth, on to the dawning truth of early manhood, when reason and judgment begin to reign.

"4. A few of these asylums discern some great outline truths which may be stated with confidence as ideals towards which there is a rapid movement.

"5. Inebriate hospitals must take the place of jails and station-houses. Such places are dangerous in their mental and physical surroundings by intensifying the degeneration and removing the patient beyond hope of recovery. They are in many cases literal training-stations for mustering armies of chronic maniacs that never desert or leave the ranks until crushed out forever.

"6. Inebriate hospitals should receive the incurable inebriates and make them self-supporting, and build them up physically and mentally. They would relieve the taxpayer and relieve society of untold burdens of sorrow and misery.

"7. Inebriate hospitals should receive the recent cases and place them in the highest conditions of enforced health and vigor, and thus return a large number to health and sobriety again.

"8. Inebriate hospitals can be self-supporting when once established. They should be managed on scientific business principles, like military training schools.

"9. Inebriate hospitals should be built from money raised by taxes on the sale of spirits, on the principle that every business should be obliged to provide for the accidents which grow out of it.

"10. These are the realities which every inebriate hospital is approaching and which all experience points out as practical and literal in the near future.

"11. The inebriate hospitals of to-day are only in the infancy of their work, contending with great opposition and prejudice, misunderstood, condemned, and working against innumerable obstacles.

"12. Lastly, there is an intense personality in inebriate hospitals to each one of us. They may bring salvation and restoration to some one near and dear. They may be fountains of healing whose influence shall cross and influence our pathway in many ways.

"13. Inebriate hospitals and their work are the great new lands which only a few settlers have reached. They are calling to us to come up and occupy, and thus help the race on in the great march from the lower to the higher."

A LAW has been presented to the Legislature of Michigan to punish inebriates who are arrested by fine, give bond to go to an inebriate asylum, and be treated at the expense of the county if he has not money to pay for it. This is said to be urged by some of the specific cure-all asylums.

## HOT WATER IN ACUTE ALCOHOLISM.

BY S. W. BURSON, M.D.,

*Attending Surgeon to the West Side Dispensary : Instructor in Surgery,  
Chicago Polyclinic and College of Physicians and Surgeons.*

The following cases were treated during the winter of 1889 and 1890 in the Cook County Hospital :

CASE I. — Male, aged 40. Fracture of tibia during a debauch. Two days after admission a typical delirium tremens appeared. Thirty grains of potassium bromide and fifteen of chloral hydrate were given every hour for twenty-four hours without inducing sleep. This treatment was then discontinued, and a cup of hot water flavored with peppermint essence was given every hour. He became less noisy, at night slept some, next day was quiet, and thirty-six hours after beginning the treatment with hot water he had recovered. Five days later the delirium recurred. A cupful of hot water was ordered to be given every half hour, and in twenty-four hours he recovered permanently.

CASE II. — This patient was admitted to the hospital suffering from several contusions resulting from a fall received during a drunken debauch. From the patient himself there was obtained a history of excessive indulgence in alcoholic beverages, and of previous attacks of delirium tremens. The premonitory symptoms of delirium tremens, extreme restlessness and nervous excitement, were marked. He was given a cupful of hot water every hour. No delirium developed, and his convalescence was uneventful.

CASE III. — Male, aged 49. The second day after admission this patient developed a violent delirium. A cupful of hot water was ordered for him every quarter-hour. He resisted his attendants, and received but little during the first day. The second day the attendants were ordered to use a hard rubber syringe, and put the water in his mouth. This was successful. The third day his delirium was mild only, and treatment was ordered every half-hour.

*Abstracts and Reviews.*

Exposure to a draught from an open window was followed by a pneumonia which ran a light course for a week, during which a mild delirium persisted. With the subsidence of the fever the remaining delirium vanished.

CASE IV. — Male, aged 20. La grippe, complicated with pneumonia. Six days after admission, and one day before the pneumonia cleared up, characteristic delirium tremens appeared. Hot water was given every hour the first day, under which he greatly improved, and every two hours for the next two days, when his delirium disappeared.

CASE V. — Male, aged 37. This case was admitted at 5 P. M., and during the first night developed a violent delirium tremens. He was ordered to be given a cupful of hot water every fifteen minutes during the first day and every hour during the second. Thirty hours after admission he had a refreshing sleep, and six hours later had recovered. For a week after he was permitted to rise his mind wandered slightly at times, but no distinct relapse occurred.

CASE VI. — Male, aged 33. Nervousness, with hallucinations, appeared the first night after admission. A cupful of hot water was given every hour. The second day there was occasional delirium, which on the following day became violent. The treatment was ordered given every half-hour, and on the fourth day he recovered permanently.

CASE VII. — Male, aged 22. Upon the appearance of delirium tremens, this patient was given thirty grains of potassium bromide every hour for five doses. Four hours after this was discontinued he fell asleep, and slept for five hours, awaking into a very violent delirium. He was then given a cupful of hot water every half-hour. The first day of treatment he had lucid intervals, in which he would give sensible replies to questions. The second day his delirium was violent. The third day he permanently recovered.

CASE VIII. — Male, aged 24. Traumatic hemothorax. Because of his debilitated condition, this patient was placed upon strychnia and digitalis, with a half-ounce of whisky every three hours. The third day delirium tremens ap-

peared. His medicine was discontinued, and a cupful of hot water was ordered every hour. The third day after treatment began he had lucid intervals, and on the fourth day he recovered.

Of this series all were males, and all gave a history of alcoholic habits; one was complicated with contusions, one with fracture, two with pneumonia, one with la grippe, and one with traumatic hemothorax. As to treatment other than the water, one received the bromide and chloral mixture every hour for twenty-four hours, and one bromide alone hourly for five hours, without perceptible sedative effect; and another was given whisky for three days, without the prophylactic effect which some writers claim for it. All were alike confined in bed, some by restraint, and all were given a cupful of hot milk every two hours for nourishment.

Except in the case complicated by pneumonia and refusing treatment, the duration of the delirium averaged between two and three days after treatment began. Improvement dated in all cases from the commencement of the treatment. No marked crisis occurred, but, instead, a gradual diminution of the symptoms. There was less delirium, less excitement, slight periods of quiet, a little sleep at times, then lucid intervals alternating with mild delirium, finally recovery.

Authors agree that the ingestion of alcohol produces gastritis, decreases intra-arterial pressure, lowers temperature, increases heart action, induces nervousness, retards the excretion of urea, and irritates the kidneys.

The ingestion of hot water in the disease under consideration applies a hot fomentation to an inflamed surface, washes a catarrhal mucous membrane, increases blood-pressure, thus slowing heart action, tends to restore normal temperature, quiets nervousness, aids the excretion of urea, and soothes the kidneys.

Alcohol in the laboratory is the great dehydrant. There is evidence pointing to a similar action in the body. Since alcohol is plainly the etiological factor in this disease, its



elimination is the important work in the treatment. This occurs chiefly through the kidneys, in part through the skin and lungs. Water, in addition to its being the substance for which alcohol has the greatest affinity, is an excellent diuretic. Hot water is one of our best sudorifics.

It would appear that we might anticipate, *a priori*, such results in most series from this treatment of delirium tremens as occurred in the cases herein reported.

#### ALCOHOLIC DELUSIONS.

The following narrative of delusions preceding an attack of delirium tremens is of interest as a study.

The narrator is a lawyer of ability who has been a steady drinker for years. He went to see a football game and dined with some old college friends who had come to town to see the game. He went to his rooms and was not seen at his office for three weeks. The following is his account of some part of his experience:

"You know I have rooms near Madison Square," he said, "and it is my custom in the morning to go over to Delmonico's or the St. James for breakfast, and then to walk over to the Twenty-third Street station of the Third Avenue elevated and go down to Hanover Square to my office. The morning after the football game I breakfasted at the St. James and started to walk across Madison Square. I have always enjoyed this walk, especially in the bright, sunshiny mornings in November and December. The people one meets there, the nurses and baby carriages, the tramps and the dogs, never failed to interest me. I made the acquaintance of the tramp dogs, and when I had time I would sometimes take them over some bones and bread to eat.

"This morning, as I was walking through the square by the fountain, I saw a bug come out from the grass and sit down on the edge of the walk. He seemed to be an especially intelligent bug, and to be personally acquainted with me. I do not know the kind of bug he was, as I am not up

on these things, but he had a body of the same shade as the Yale blue, and his legs were striped with orange and black. These colors naturally interested me, as I was still thinking of the football game. I had seen insects and birds and other animals around the square before, but it was the first time I had ever seen a bug of that color. The bug was evidently waiting for me, for when he caught my eye he nodded and waved his legs as if apologizing for being unable to shake hands on account of the difference in our height. Naturally I stopped and looked at him. He beckoned to me and started up the walk toward Fifth Avenue. I followed a few steps behind. He was such a friendly bug, and he seemed to take so much interest in me, that I wanted to see where he was going to take me.

"He went up the west side of the avenue, stopped from time to time to smile at me and beckon me to follow him. He walked about as fast as I did, and kept five or six steps in front of me. I was afraid some one would step on him, but he kept out of the way of passers-by. Up at the reservoir at Fortieth Street he stopped a while by the iron fence and rested. It was a pretty good tramp for him, but he was determined, and in a few minutes he beckoned to me and started on again up the avenue. We got up to the park about 11 o'clock. My interest in the bug had been growing all the time, and I wondered more and more what his object was. He walked through the park to a bench over by the arsenal, where he signaled me to sit down. The bug sat down on the edge of the walk opposite. We sat there for some time; it must have been several hours. Along in the afternoon I began to think that I had had no lunch. I didn't want to leave the bug, for I thought he was tired and was sitting there to rest himself.

"At last I asked him what he was up to and why he had brought me up there. He tried his best to answer, and from the way he moved his legs and looked at me I knew that he understood what I was saying. I sat there and talked to the bug for an hour. He didn't make any reply, but he seemed

to be an appreciative listener. About the time I had made up my mind to leave the bug and get my dinner a park policeman came up and asked me what I was doing. He said that he had been watching me for some time and that he heard me talking, but couldn't see any one to whom I had been talking.

"Oh, I have not been talking to any one," said I, "except the bug that brought me up here."

"What bug?" asked the policeman. I explained to him about the bug and pointed out the creature sitting on the grass by the edge of the walk. The policeman asked me if I minded going to the arsenal and explaining it all to the sergeant. I told him that it seemed to me rather an unnecessary proceeding, but if the sergeant was interested in such things I should be glad to go. I spoke to the bug and he followed me. He went into the arsenal and climbed upon the desk beside the sergeant, who asked me my name and address. He then asked me if I would step into the back room for a while until he had examined the bug. I fell asleep there. I must have slept very soundly, for yesterday morning I woke up in Bellevue Hospital, and they told me I had been there a little over two weeks."

In the case of a broker the following history has been sent for publication. He was a wine drinker at meals, occasionally using spirits in the intervals. He never suffered from delirium tremens, but at times saw elephants.

The first time these elephants (or rather elephant, for only one elephant appeared the first time) visited him was one night when he had not been drinking very much, but when he was greatly worried and physically run down. He was lying in his bed, hoping that sleep would come, and thinking how desolate and lonely the blackness of the night was, when he saw a line of telegraph poles approaching him. The poles were the regular distance apart, but instead of having wooden cross bars there were no cross bars and only one glass insulator on the top of each pole. The telegraph line began miles away and approached him gradually until it

extended over his bed, with the wire the regular distance above his head. Then he saw an elephant six or seven miles away slowly walking along the wire. He was balancing himself with his trunk, using it somewhat as a professional rope walker does his balancing pole. But the elephant was evidently not an expert, and he swayed from side to side as if in danger of falling off at any moment. He would occasionally stop on the top of a pole and sit down to rest on the glass insulator.

This was alarming. The line of wire ran directly over the bed, and if the elephant should happen to fall off it would smash the bed and kill the occupant. The expression on the elephant's countenance showed that he was afraid this would happen. It took from 3 o'clock till daylight for the elephant to walk over the telegraph line. He stopped over the bed some time, swaying to and fro. The stopping was intentional, and he looked down to make the acquaintance of the man in the bed.

This visitation resulted in a reasonable amount of abstinence for several weeks, but after a while the elephant appeared again. This time he capered along the telegraph line as if he were rather glad to be back in a familiar place and pleased to meet his old acquaintance. The elephant walked with a firmer tread and danced around a little. Over part of the line he ran, and jumped up and down to show how strong the wire was and how firm the poles were set. The man in the bed watched this performance and figured out that there were at least twenty-five miles of telegraph line and only a few feet of it were over his bed. The chances of the elephant falling on him were not one in a thousand.

In a few weeks the elephant reappeared with several other elephants. They faced about in a row on the section of line over the bed and were introduced one by one. They were a polite lot of elephants, for they all bowed and waved their trunks in a friendly way. The man was a good deal alarmed lest one of the elephants lose his balance or a section or the wire break with so many elephants on it. The intro-

ductions were gone through safely and the elephants marched off about morning.

Since that time the elephants have been frequent visitors. The telegraph poles have added branches to themselves and hundreds of wires. Some nights thousands of elephants appear and caper along the wires for miles. They appreciate the spirit in which they are received. The nights have come to seem lonely without them, and the man sometimes lies awake until they appear. Then, knowing that his old friends are near at hand, he goes peacefully to sleep, assured that no harm will befall him in such company.

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#### LIFE INSURANCE AND INEBRIETY.

Mr. Stanton, actuary of the U. S. Life Insurance Company, makes the following remarks in the *New York Medical Examiner* on the customs and practices of companies relating to drinking men and inebriates:

I have submitted to the officers of all the American and Canadian life insurance companies inquiries as to their usual actions in the cases of men of certain confessed or known habits of drinking, and men of a large number of occupations generally regarded as more or less hazardous. As a result of this inquiry, the usual course of action of twenty-four American and three Canadian life insurance companies has been ascertained. As to applicants who confess to no daily habit, but that they have occasionally drunk too much or gone on "sprees," the companies, almost without exception, put themselves on record that such cases should be unqualifiedly rejected.

In cases where the applicants have formerly been more or less intemperate, but show a record of temperance for five or more years, the verdict seems to be that they should be either accepted for the plan applied for, after diligent individual inquiry, or else to be given short term endowments.

In the cases of applicants of formerly intemperate record, but who have shown evidence of temperance for only one or

two years past, nearly every company casts a verdict of rejection, or postpones them for a further period of two or three years, during which time it is endeavored to hold them under some degree of observation.

Where the applicant admits, or is convicted, of former intemperate habits, but has been an *absolute abstainer* for five years or more, it seems usual to accept him, or else restrict to an endowment policy. If the period of total abstinence has not lasted for more than a year or so, subsequent to former intemperate habits, he is emphatically declined by all companies.

There is a very large class of *occasional* drinkers, and men who are willing to admit that they take some three or four drinks a day, but who claim never to have drunk to excess. One-half the companies heard from decline such cases, especially if the liquor drunk be ardent spirits. The action of the other companies seems to be to make diligent personal inquiries, and base their decision thereupon.

A particularly strong suspicion always attaches to hotel men, saloon keepers, brewers, and distillers, and all directly allied to those interests, because of the strong temptation to intemperance they undoubtedly are subjected to. I find that applicants who keep hotels, but claim to be strictly temperate and *never* to "tend bar," are generally accepted. Those that make the same claim to temperance, but admit *occasionally* tending bar, are just as generally declined. Collectors for breweries and distilleries or liquor houses, or clerks or laborers in or about them, are universally declined, unless they are advanced in life, and are able to show a good record of many years of correct habits, or are total abstainers.

In nearly all the above-named cases the age of the applicant seems to carry a great deal of weight; and any degree of intemperance that has occurred in middle life seems to weigh with the companies more heavily than cases of an equal degree of intemperance in much younger men. Doubtless this ruling is justified, owing to the reformatory influence of marriage.

A very careful consideration of all these facts will tend strongly to reprobate the careless use of stimulants. No man who takes a few glasses too much once in a while can tell how strongly it may operate against his chances of obtaining a much needed insurance upon his life, perhaps for many years to come; compelling him very likely to leave unprotected those years of his life that most need the protection of life insurance.

It cannot be claimed with any show of justice whatever, that the companies are too arbitrary in these matters, or that they draw the line of rejection too rigidly, because the previously quoted statistics of mortality do, beyond any question, prove that any excessive use of ardent spirits, malt liquors or other stimulants, to the extent of even becoming an *occasional* habit, makes the risk a bad risk for life insurance, and if accepted would entail the necessity of a certainly increased mortality.

It is the practice of life companies generally to discriminate severely against those who use tobacco to a hurtful extent and to unqualifiedly reject those who have acquired a habit of using narcotics.

RECOLLECTIONS OF DR. JOHN BROWN,  
AUTHOR OF "RAB AND HIS FRIENDS," ETC.  
By DR. ALEXANDER PEDDIE, M.D., F.R.C.P., Edinburgh.  
G. P. Putnam's Sons, New York city, Publishers.

Our readers will be pleased to hear that Dr. Peddie has presented a most charming volume of personal reminiscences of Dr. Brown, who was probably one of the most attractive physicians of his generation. Every reader of "Rab and his Friends" will have an intense interest to know something of the personality of the author; and when they realize that he was a physician in general practice, living an active, busy life in the city of Edinburgh, the desire increases to know more of him. Dr. Peddie was his intimate friend, and from recollection and correspondence and other papers, has been

able to give a very graphic word-picture of Dr. Brown's medical, intellectual, and social life. As a narrative it has all the charms of a romance, only the hero was a real ideal man in many ways, who, notwithstanding all the sorrow and suffering he was surrounded with as a physician, lived in a separate world of sunshine that was felt by all he came in contact with. Dr. Brown had a very high order of brain power and conception of the higher relations of life. His literary work gave evidence of a marvelous insight into human nature, and a charm of expression that would have placed him among the great literary men of the world. Dr. Peddie brings out this fact, and also shows that he could have been great in almost any department of study and work. We owe Dr. Peddie a great debt of gratitude for this picture of one who dispensed so much brightness and sunshine as a physician, and raised the ideal medical life in the community, and left the world much better for having lived.

This little work should be read by every physician who has an ideal before him, and wishes to know something of the inner life and thought of the leaders of the past.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By JOHN V. SHOEMAKER, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc. Second edition. Revised. In two royal octavo volumes. Volume I, 353 pages, devoted to Pharmacy, General Pharmacology, and Therapeutics and Remedial Agents not Properly Classed with



Drugs. Volume II, 680 pages, An Independent Volume upon Drugs. Volume I, in cloth, \$2.50 net; sheep, \$3.25 net. Volume II, in cloth, \$3.50 net; sheep, \$4.50 net. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry Street.

These two volumes may be said to be the most complete up to date on this subject. The additions and practical references to all the latest facts, with formulæ, comprise a library of itself that is indispensable to every physician. The strong feature of this work is the brief statements of all the essential facts known, giving the reader an excellent idea of the literature, and also suggesting new fields of study not yet occupied. The author, Dr. Shoemaker, is an excellent teacher, and clearly comprehends the wants of the physician who has not time to make exhaustive readings and studies of drugs. Some of the chapters on general principles are classical, as giving all the leading facts in a brief way.

We feel certain no library can be complete without these volumes, and urge our readers to procure them at once.

**DRUNKENNESS.** By GEORGE R. WILSON, M. B. C. M., Assistant Physician, Royal Asylum, Morningside, Edinburgh. London: Swan, Sonnenschein & Co., Publishers, 1893. Scribners, of New York, American Publishers.

Ten years ago a work of this character would have destroyed the reputation for sound learning of almost any medical man. It would have been considered as unsound and opposed to all medical and moral conceptions of inebriety. To-day it will be accepted as an admirable study of the obscure physical and psychical disorders of the alcoholic problem.

The author has made the common mistake of writing the subject down to the reader, rather than bringing the reader up to his broad level of scientific truth. The profession needs most of all to be taught the real facts concerning inebriety, and not the laity. The latter will never learn any facts in this field that are not supported by the general pro-

fession. This mistake of the author gives a fragmentary, broken character to many topics, and leads to explanations and attempts to harmonize existing beliefs of vice and moral weakness that appear very awkward in a work of an expert physician. It is evident that the author could give to the profession a grand work on this topic if he should confine himself to strictly scientific lines. Turning to the many excellent presentations of different phases of inebriety, a summary of the contents will give the reader a fair idea of the work.

The first chapter on physiology gives a fair view of the principles of neurology, describing the selective action of alcohol on the nervous system, on the circulation, and the narcosis which follows, affecting the nervous processes from above downwards by direct and indirect means. The abolition of inhibition, and all the varied defects of sense-perceptions and speech-functions, together with personal equation and narcosis, and all the varied functional changes, are discussed clearly.

In the second chapter, on pathology, alcoholic dissolution is described in a graphic way; and the changes from the highest to the lower levels, with the halts and movements at the middle and intermediate stages. Drunkenness, insanity, and the various divisions are mentioned, all showing the neurosis of inebriety.

In the third chapter the etiology is presented in a very satisfactory way. The predisposing conditions, and the neuropathic diathesis, defective nutrition, altered relations of the nervous system, mental disturbances due to nervous lesions, states of perverted inhibition due to alcoholic excess, are the most suggestive topics of the work.

The last chapter, on therapeutics, lacks clearness, and while suggestive is not very satisfactory. The legislative treatment is a fair resumé of the many existing theories and schemes for the legal treatment of inebriety.

Together this will be found a most helpful and thoughtful study, and we commend it to all our readers. The author has opened up many very suggestive fields of study, and

described graphically conditions that were very obscure before. We have given free extracts in this number, from which the reader will get some idea of the real value of the work.

THE TWENTY-NINTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE WASHINGTON HOME OF CHICAGO. For the year ending January, 1893.

This institution reports 1616 cases under treatment during the past year. Two hundred and fifty-seven had delirium tremens, and only sixteen used opium. One was a chloroform inebriate. The months of July, August, September, and October were noted for the largest number of admissions, and twenty-four were considered as insane when admitted. The average time of treatment is over twenty days, and each inmate receives a course of ten lectures on the fundamental facts of physiology and laws of health. A large number of cures are reported.

The Martha Washington Home for women, in a separate building, admitted during the year 110 inmates. The average time of treatment was thirty-five days. Both institutions are prosperous financially.

These institutions publish a reform paper called the *Washingtonian*, which seems to be very popular. A new superintendent, the Rev. Mr. Morrow, has been in charge for the past year, and this report shows many wholesome changes and new conceptions, and also new life in the work.

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DR. WOOD says: "When a mother uses opium the child in the womb has the opium habit at the time of birth." It has been frequently noted that when children are born in women who are opium eaters the child seems at first well; then in the course of a few hours goes into collapse and dies. Now, I believe that the collapse in these cases develops because the child has not had the usual stimulus of opium, and should the child be given opium immediately after birth it would live.

*The Science Weekly* is a rare grouping of facts that are of intense interest to every medical man in the country.

*The Popular Science Monthly* continues to be one of the most instructive and valuable magazines that comes to the table of thinking men in this country.

*The Homoeletic Review* of New York city is a rare magazine of higher theological writings and criticism. These papers are always very stimulating to the medical reader, and the facts presented are often of much practical interest.

*The Voice* has grown to be the great prohibition organ of America. We take pleasure in saying the statistical facts which it publishes are accurate and reliable. This is an exception to the rule for similar publications. Funk & Wagnalls of New York city are the publishers.

*Report of the trustees of the Massachusetts Hospital for Dipsomaniacs and Inebriates, March, 1893.* This institution was opened in February for patients, and this report is confined to a description of the building and its cost, and the laws of the State relating to it. The report says that this is the first effort in the State and country to make provision for the legal detention of dipsomaniacs and inebriates in a properly organized asylum. That dipsomania is a curable disease, and all authorities agree that compulsory detention is an essential in treatment. Occupation is to be made a part of the treatment. Accommodations have been provided for over one hundred cases, and the arrangements seem to be excellent for this purpose. The superintendent, Dr. Hutchinson, has one of the most important places for original work and observation in this country. With a new pioneer asylum, doing work that is largely unknown, he has a rare opportunity to make a name that will be associated with the great leaders of psychiatry in the coming century. This asylum will be watched with the keenest interest, for on its success hangs the fate of a number of similar institutions in embryo.

## Editorial.

### DISEASES OF THE KIDNEYS IN INEBRIETY.

Dr. Wood, in a recent clinical lecture, gives a very clear explanation of the physiology and pathology of many confusing cases that come under asylum treatment—cases of inebriety coming under treatment in an asylum, being a history from the family physician of what is termed incipient Bright's disease. When examined, albumen and casts are found in the urine. The removal of spirits and the improved health of the person is always followed by the disappearance of albumen and casts. If the person is a gourmand and eats excessively at times, albumen will appear again, but, as a rule, be of but short duration. Some of these cases come with a history of Bright's disease in advanced stages, and unexpectedly recover. Cases who apply for life insurance are rejected for this reason, and later, when abstaining from spirits and living a hygienic life, are accepted as good risks. These cases are not clear, and are always attributed to the irritation of alcohol in the system.

Dr. Wood relates three cases in which there seemed to be evidence of chronic disease that changed from treatment. He says: "In Mr. R. the urine contained casts and albumen and oxalate of lime, but when given nitro-muriate acid and Turkish baths, all these symptoms disappeared."

In Mrs. C. and Mrs. S. the urine became loaded with albumen, casts, and uric acid, but disappeared under treatment. The abundance of casts and albumen was followed by excess of uric acid. He believed that the oxalates and lithates were simply irritant poisons, which, acting on the kidneys, already predisposed by original constitution or long irritation to take on degenerative lesions, produced what may be called acute exacerbations of a chronic form of Bright's disease.

A case was mentioned where a man working exposed to the fumes of smelted gas had albumen of the urine, which disappeared when he changed his work.

The first fact made prominent in Dr. Wood's lecture was that arsenic, alcohol, lead, and various poisons, when taken into the system, are capable of producing not only renal symptoms which we recognize as those of acute Bright's disease, but a condition of renal irritation which resembles chronic diseases of the kidneys, and cannot be distinguished from fully-formed disease.

The second fact is that poisons formed in the body are capable of acting on the kidneys precisely in the same manner as do poisons which come from without; and that lithic acid, oxalic acid, and probably ptomaines and other organic substances originating in the human system may produce not only albumen, but also tube casts.

I believe that the history of cases of contracted kidneys, whose nature we only recognize when the mischief has become chronic, would be found to be the result of a debauch, perhaps, as the outcome of an oxaluria, or as the product of lithuria, or the work of a poison from without the body. As a result, there has been a series of renal irritations and paroxysms of sub-acute albuminuria, each one passing away, leaving behind a minute scar on the structure of the kidney, these scars accumulating until the whole structure has been destroyed.

A person having pulmonic catarrh gives out the signal note of danger in a frequent cough, which is an alarm bell that rouses greater care and caution. In the catarrh of the kidneys no sound gives any indications of the danger. When the organ is wrecked, then we wonder that it was not discovered before.

The impression that worry will cause Bright's disease is true in the derangement of digestion, the impaired primary and secondary assimilations leading to the development of organic poisons, which must be eliminated through the kidneys. Paroxysms of hysteria and emotional and nerve-

storms can so alter the nutritive activity of the kidneys as to lead to the same trouble. The great lesson this should teach — that of persistent treatment of persons who have a predisposition to diseases the result of which is to produce poisons that are irritating to the kidneys, heavy eating of nitrogenous food, and the use of any substances that provoke albumen — are to be studied and guarded against. In the treatment the stimulation of the skin as an excreting gland is a great essential. Powerful sudorific measures, increasing the activity of the sweat glands, makes it an excretory organ, and thus relieves the kidneys. The Turkish bath often is the best means for this purpose. Persons who over-eat must stop, or make up for this by excessive exercise. Excessive exercise must be continued, or the man is worse off. Excessive care of the body, with exercise, Turkish baths, and diet, will relieve catarrh of the kidneys in most cases.

These views are fully sustained by clinical experience with inebriates. The gravest symptoms of organic lesions of kidneys, liver, and heart are often relieved, and sometimes permanently, by baths, diet, and daily exercise. The use of alcohol always is followed by derangements of digestion and poisonous formations, which depend on the kidneys for elimination. The Turkish bath seems to give the most pronounced benefit for this condition.

#### PRIVATE ASYLUMS HAVE CONSTITUTIONAL RIGHTS.

The supervisors of San Mateo County, California, passed laws requiring all private asylums to be constructed of brick, stone, or iron, and be fire-proof, and be surrounded by a wall at least eighteen inches thick and twelve feet high, and not nearer than four hundred yards from any dwelling or school-house; also that no asylum shall treat both sexes in the same place.

Dr. Whitwell failed to comply with these laws, and was imprisoned. The issue was: Had the county or any other

authority the right to legislate for asylums in this way? The court of last resort finally decided that these laws were oppressive, and could not be sustained. The business of conducting a private asylum was a humane one, and had for its object the care and restoration of persons whom the State could not reach or provide for; hence no laws that were oppressive or obstructive could be sustained. Local authorities could require of such asylums certain general sanitary measures which the management might not adopt, but they could not go beyond this and prescribe the kind of building and its location, or make any rules that would obstruct and impair the usefulness of such institutions. It is presumed that the managers of such asylums will, for their own personal reasons, adopt all needed means and measures for the safety and efficiency of treatment; also all means for protecting its inmates both in and out of asylums. This is the first decision on this point, and will be welcomed by many small asylums, who have been annoyed by local obstructive legislation.

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We have given elsewhere a brief report of the committee on treatment of habitual drunkards. The English law is, no doubt, very faulty, and will be changed in the coming session of Parliament; beyond this, the report shows a great advance in public sentiment concerning the treatment of inebriates. The old "bugbear of vice and sin" appears in this committee report, as usual, but in a minor role in the background, defended by weak players in a feeble way. This report is a great object-lesson to medical reformers and humanitarians of this country, pointing out facts and methods of reaching them that must be followed before any positive advances can be made. It is a sad reflection on American psychiatry that the literature of inebriety is largely opinions and theories. In England two authoritative committees have made a careful examination of a large number of experts, and reached certain conclusions as facts which has become a basis and foundation for a solid liter-



ture. Here the JOURNAL OF INEBRIETY has been gathering and grouping these facts for the same purpose, which now only lacks authoritative condensation and study. We have repeatedly urged burning enthusiasts and reformers to concentrate their efforts on a national commission to take authoritative evidence on the drink problem, and prepare the way for more practical work in this field. Already the mass of facts are voluminous, and recognized in part by a few leaders, but to the masses they are still a sealed book. This can be brought out most clearly by a national committee, similar to the one whose report we have outlined.

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THE temperance congress at Chicago in June spent seven days of three sessions a day discussing the moral and political side of the drink problem exclusively. Two of the papers by Drs. Ford and Davis were scientific, and were read by proxy, and attracted little attention. The meeting of the Medical Temperance Association attracted less than a dozen people, and was practically ignored by the officers of the congress. The interest which this subject attracted, and the large number of papers read and discussed on the moral side, showed a restless activity and movement of much psychological significance for the future. The temperance congress was a great, enthusiastic gathering of men and women, groping blindly in the dark for truth and some solution of the drink evil. That they should overlook the real facts, in the agitation and excitement of the present, is to be expected. The still small voice of science is rarely ever heard in the roar and noise of revolution. By and by all this conflict of theory urged by parties and societies will die away, and the real truth will be recognized and acted upon. This congress did a great work, but in a different way, and along narrower lines, than any of its supporters realized. The truths concerning inebriety are slowly and surely emerging from the great sea of error and superstition. Crude, mistaken efforts by earnest men and women cannot be harshly condemned,

although sadly deplored as wasted energies; yet behind all this there is a great upward movement, a widening and clearing away of error unrecognized.

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ONE of the fundamental facts in many diseases is the failure of digestion and elimination of waste products. Overwork and insufficient rest may be active causes, with exhaustion which comes from imperfect nutrition followed by formation of toxic products in the body. These compounds are taken up by the blood and act most quickly on the nerve centers, causing depression and exhaustion. These poisons are also cumulative and are in process of constant change, forming ptomaines and other compounds whose action on the body is largely unknown.

Inebriety very commonly dates from conditions of bad nutrition, bad digestion, and consequently defective nourishment, and of necessity the formation of dangerous products that are not eliminated.

After inebriety is established, or even in persons who are called moderate drinkers, the use of alcohol favors and increases the growth of defective products and their defective elimination. A perfectly healthy man who begins the use of spirits deranges the natural process of digestion and nutrition, and also encourages the formation of poisonous substances taxing the system to eliminate them.

The longer spirits are taken the more injury is done, the more poisons are accumulated, and the more difficult the process of throwing them off from the body becomes. These facts are within the observation of every one, and fully explain the phenomena of many cases of inebriety. The state of poisoning from these compounds formed in the body is concealed and covered up by alcohol. Hence it is sought after as a remedy and means of relief. In reality it increases the danger by adding new ptomaines and paralyzing the centers for the recognition of the injury. The treatment by elimination based on this condition confirms these facts.

Withdraw all spirits, and direct all remedies to the elimination of waste products of the body, and the result is very startling. No treatment approaches nearer to a specific than Turkish baths and mineral waters, with proper diet and exercise. The hot air bath with its excessive perspiration and rubbing is a most powerful eliminator, increasing the activity of the skin and diverging of the blood to the surface, thus relieving all congested conditions. The vaso-motor paralysis, always a condition of inebriety, is antagonized and broken up by this means. The effect of the hot air bath is very positive in breaking stages of delirium from alcohol. We have found it more of a sedative to the nervous system than drugs. The morbid impulses to drink and the insomnia and restlessness are always lessened and in many cases broken up temporarily. If the baths are continued as often as every day or two the progress of the case is very rapid. Experience seems to indicate that no remedial measure is so positive and valuable in the early stages of all forms of inebriety.

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A TEACHER of medicine, who is no doubt a capable man, has felt called upon to condemn in severe language all efforts to establish the fact of disease in inebriety. Having cleared away this error of science to his satisfaction, he proceeds to caution his hearers concerning the use of chloroform. To make it more clear, he relates a recent case of delirium tremens in his care, where, after using various preparations of valerian, he resorted to morphia to procure sleep. He began with a fourth of a grain every hour, then increased it to one-half a grain, until finally eight grains of morphia were given with no effect. Then, following some great authority, he gave chloroform by inhalation, which speedily brought on sleep. Two hours after the patient died suddenly in deep coma.

This unfortunate occurrence conveyed a lesson to him not to be forgotten of the danger of chloroform, and of the exceedingly small quantity that would result fatally. The

morphia and its action was lost sight of in the minute study of the chloroform. Finally he gravely calls upon his readers for similar experiences and counsel.

DR. ALBERT DAY, so well known to all our readers, has resigned his position as superintendent of the Washingtonian Home, Boston, Mass., and opened a private asylum at Melrose Highlands, in the suburbs of Boston. Dr. Day is the oldest active specialist in America. For thirty five years he has been superintendent of Washingtonian Home, and has treated more inebriates than any one living. The management of the old asylum made a grave mistake in accepting Dr. Day's resignation, and we express the sincere good wishes of his many friends that his new asylum may be more pleasing and satisfactory in every way. Dr. Day, in his new asylum, will only receive a limited number of cases, but will be able to give to each special personal treatment not possible in a large place. We most heartily commend this place to all our readers as supplying a want that has been recognized for some time. Address, Dr. Day, Melrose Highlands, Mass.

THE sudden death of Dr. T. L. Wright of Bellefontaine, Ohio, June 23, 1893, removes from our ranks one of the great pioneer workers of this closing century. Born in 1823, he was for over forty years an active practitioner, medical teacher, and journalist in Ohio. Finally he retired from a busy practice, suffering from organic heart disease, and devoted his time to an enthusiastic study of inebriety. For many years his writings have attracted a great deal of attention, both in this country and Europe, particularly on the physiological and psychological action of alcohol on the brain and nervous system. Almost every number of this JOURNAL for years has contained articles from his pen. These papers have appeared in many of the leading journals of Europe, and been copied and commented upon with unusual

interest. In this transition stage of the study of inebriety, Dr. Wright's papers and book published in 1885 have been a great power, moulding and directing scientific study and inquiry. Dr. Wright was clearly a student of the highest type, continually discovering and verifying new truths, and offering suggestions that roused renewed interest to follow up the many new phases of this subject. The value of his life work will appear more and more clearly in the coming years. We shall give our readers a full biographical sketch of Dr. Wright in the next issue of the JOURNAL.

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ACCORDING to Dr. Kerr, one-fourth of the 260,000 children who die in this country before they are five years old, die because of the intemperance of one or both parents, and Dr. Edis says that "the deaths of 130,000 before they were one year old were due to the ignorance of mothers in giving wrong food, and to the pernicious delusion of nursing mothers that they require to be kept up by alcoholic liquors." A further proportion are unable to survive the first serious illness of early man—or woman—hood. Such children not only inherit tendencies, but are born into a moral environment calculated to foster in the child those very tendencies. If both parents are intemperate, alas for the children!

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THE children of inebriates furnish a large proportion of the infant mortality which is a disgrace to our civilization. Such children begin with an *unstable* nervous system, which may express itself as the drink-crave itself: and in addition, all the nervous ailments, *e.g.*, idiocy, infantile convulsions, epilepsy, neuralgia, hypochondria, hysteria, paralysis, insanity, or it may express itself in other ways. But even then, they suffer, though innocent. The parents' intemperance is represented in them, and will be for generations to come, by ailments which are called by respectable names: gout,

dyspepsia, nerves, and legion! But it is but seldom that the children of the intemperate thus break down the influence of the sad environment in which they have grown up. The evil that men do lives after them. The children of such persons are almost sure to be saddled with diseases and tendencies directly resulting from their parents' habits.

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THE meeting of the American Medical Temperance Association, at Milwaukee, was especially notable for the address of Dr. Davis, on the clinical aspects of the alcoholic question. Dr. Kellogg made a very interesting report on statistics, and Dr. Quimby's remarks were of much interest. Arrangements were made for the publication of a journal which would be especially devoted to the interests of the association. The name is to be *The Medical Temperance Quarterly*, and Dr. J. H. Kellogg of Battle Creek, Mich., is to be editor. The Modern Medicine Publishing Company will issue the journal. We take pleasure in welcoming this journal, confident that it will fill an important place in the literature, and aid many persons to study this subject from its popular side, and with far more accuracy than is usually found in ordinary temperance journals. This journal is simply an organ of this association, the central purpose of which will be to present the facts which come from a medical study of alcohol and its effects on the organism.

## Clinical Notes and Comments.

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### DIPSOMANIA THE PRODUCT OF CONSTITUTIONAL CONDITIONS.

Attribute the use of intoxicants to habit, or to the social customs, or to dipsomania, they are alike destructive. Whether it is mental aberration occasioning physiological consequences, or a physical disease producing psychological abnormality is immaterial. Alcoholism embraces all diseases, mental and physical. It is the bane of the individual and the curse of the state. Keeley is only one of hundreds, who, from time to time, have claimed to discover a specific for drunkenness. Only a few years ago the physician-in-chief at the head of an inebriate asylum remarked: "In twenty-five years' experience I have had but two patients who have been entirely restored from drunkenness and remained total abstainers any considerable number of years." This doctor was asked the names of the restored patients, and began by stating, "Professor Blank of Blank College," and his friend interrupted the answer by exclaiming, "Stop! do not tell me the other name, for to my certain knowledge that professor goes annually to the North Woods for a long spree." The more experience one has the less faith in the ultimate results of the gold cure. If, on general principles, there are no specifics known to *materia medica*, certainly the gold cure has not proved an exception. Hundreds of drunkards who have experimented with bi-chloride of gold have disappointed their friends and are still in the valley of despair.

While the obvious deliverance of this nation from the thralldom of excess is in stopping drunkard-making there is yet an important field of study, both from a scientific and practical standpoint, looking to the mitigation of the evil as it now exists.

Through extensive reading, several years ago, I became convinced that gluttony and drunkenness are twin evils, while gluttony itself may be considered a disease. Excessive use of stimulants is almost invariably accompanied by excessive use of flesh-meats. Induce any drunkard to abstain from meat and live upon grains and fruits, and during such abstinence he will refrain from alcoholic beverages. True, if he has no purpose to reform, he may seek alcoholic stimulants through "pure cussedness," but the fevered desire for drink will depart with his abandonment of flesh meats. I have induced a gutter drunkard to try this experiment, and as long as I could persuade him to live on the food which I provided, and refrain from the use of flesh, he was free to admit that his appetite for rum had gone.

This article makes no plea for vegetarian diet. Whether wise or otherwise, this paper does not discuss. The laws of heredity have at least given the inhabitants of North America constitutional conditions which may demand flesh meats, and the lesson this paper attempts is moderation in the use of stimulating foods as a preventive of those conditions which crave stimulating drinks.

There is probably too little attention given to the chemistry of foods. In failing to build up a normal constitution our higher civilization leaves us weak, and that weakness seeks support in alcoholic stimulants.

The Roman soldier was the best physical specimen the world has ever known, and in many of his most fatiguing military campaigns he lived upon wheat in the kernel. He ground his wheat as the American thoroughbred grinds his oats, but, unlike the American colt or the Roman soldier, the American boy has defective powers of mastication; his teeth are bad, his nerves are weak, his muscle flabby, his constitution deficient, his system unnutrified. The chemistry of his mother's kitchen has been neglected, and he has lived upon starch, and tried to make bones of sugar and blood of condiments.

Wheat possesses all the chemical properties essential to



the best physical existence, but when the miller's art subtracts the bone making material, in producing superfine flour, nature is robbed.

It is the constitutional conditions which ultimate in the drink-scourge which dooms approximately ten thousand Americans to death. Nothing less than the legal inhibition of beverage intoxicants can immediately arrest the ravages of dipsomania.

H. CLAY BASCOM.

*Troy, May 29, 1893.*

#### INEBRIETY AMONG WOMEN.

Dr. Lawson Tait makes the following remarks in the *British Medical Journal*:

"My practice lies exclusively among diseases of women, and I am consulted about a large number of drunken women, especially, of course, among the middle and upper classes, and I have long since come to a conclusion, consistently supported by an ever-increasing experience, that women are not sots for the fun of the thing, as men are, but that an intelligent and educated woman never becomes a drunkard but from some deep-rooted and often carefully-concealed cause. It may be physical suffering or mental distress, but there always is a reason for it. Scores of my cases of suffering from chronic inflammatory diseases of the appendages have come to me habitual drunkards or opium eaters, or both; and they have been cured of their bad habits by the same proceedings as have cured their physical sufferings. I have no less than three such lying-in convalescents at the present moment. I always break their habits suddenly and at once, greatly to their distress, but much to their welfare. The climacteric sufferings are a fertile source of drunkenness in women, but when there is no more permanent cause for the vice than this the habit is nearly always given up when the troubles are over. I am, therefore, in a position to confirm absolutely your indication as to the influence of these special

causes in the production of drunkenness in women, but I would greatly emphasize the extent of that influence. I would urge that the physical condition of every habitually drunken woman should be carefully determined.

#### DIAGNOSIS OF INEBRIETY FROM APOPLEXY.

Dr. Mills, in a recent clinical lecture on the case of a man picked up in the street unconscious, remarked as follows :

“This man has no external evidences of fracture ; but sometimes without fracture, or with concealed fracture, a sudden fall or blow on the head will produce an extra-dural or a sub-dural hemorrhage. Such patients are usually unconscious at first, and often regain or partially regain their senses, and again lapse into unconsciousness. One dilated pupil, convulsions, and some hemi-paresis, are among the prominent symptoms of such a lesion. The signs and symptoms present do not point clearly to this lesion.

“Other diagnoses to be considered are those of drunkenness, opium poisoning, epilepsy, uremia, and embolism or cerebral hemorrhage, perhaps still others ; but these are the most important.

“Profound alcoholic intoxication can be excluded, as this patient is evidently absolutely unconscious, and suffering from profound paralysis, more marked on one side than on the other. In dead drunkenness, while consciousness may appear to be lost, the condition is rather one of extreme stupor or stupidity, and the patient by strong excitants can usually be made to respond in some way, although he may immediately sink again into his stuporous state. The smell of liquor on the breath may help, but this cannot be relied on, as a patient insensible from any cause may have been drinking. Both sides of the body are equally affected in extreme alcoholic intoxication.

“Several facts will easily exclude opium poisoning, such

as the sudden onset, the absence of pin-point pupils which will not dilate, and the peculiarities of the state of insensibility. As the man was seen at the time of and immediately after his attack, and for other reasons, the post-paroxysmal sopor of epilepsy can be dismissed."

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*The Brooklyn Home for Habitue's*, Dr. J. B. Mattison, director, has been removed to 188 Prospect Place, near Prospect Park.

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THE New York Pharmaceutical Association has placed on the market *Kumysgen*, a form of milk that is of much value in all affections of the stomach and debility of the general system. These new foods should be tried in all cases.

L. B. Grandy, M.D., Demonstrator of Anatomy and Microscopy, Southern Medical College, Atlanta, Ga., says: "Antikamnia has given me the most happy results in the headaches and other disagreeable head symptoms that have accompanied the late catarrhal troubles prevailing in this section. In my practice it is now *the remedy* for headache and neuralgia, some cases yielding to it which had heretofore resisted everything else except morphine. I usually begin with ten-grain dose, and then give five grains every fifteen minutes until relief is obtained.

*Horsford Acid Phosphate* is manufactured by the thousand gallons at a time, and its sales have reached enormous proportions. This is the best testimony of its value, especially as it is used by physicians, and is called a regular legitimate medicine.

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*Fellows' Hypophosphites* is of a class of remedies that are of exceptional value in complex nerve disorders, particularly those which spring from the poisoning from alcohol and opium. This particular remedy cannot be dispensed with in these cases. Its effects are marked and positive.

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The *Bromo Potash* of Warner & Co. has become one of the great popular remedies of the day for headache and sleeplessness and general debility. It should be tried on all occasions.

"The Granules," prepared by Dr. Abbott of Ravenswood of Chicago, Ill., are the most popular form of drugs now on the market.

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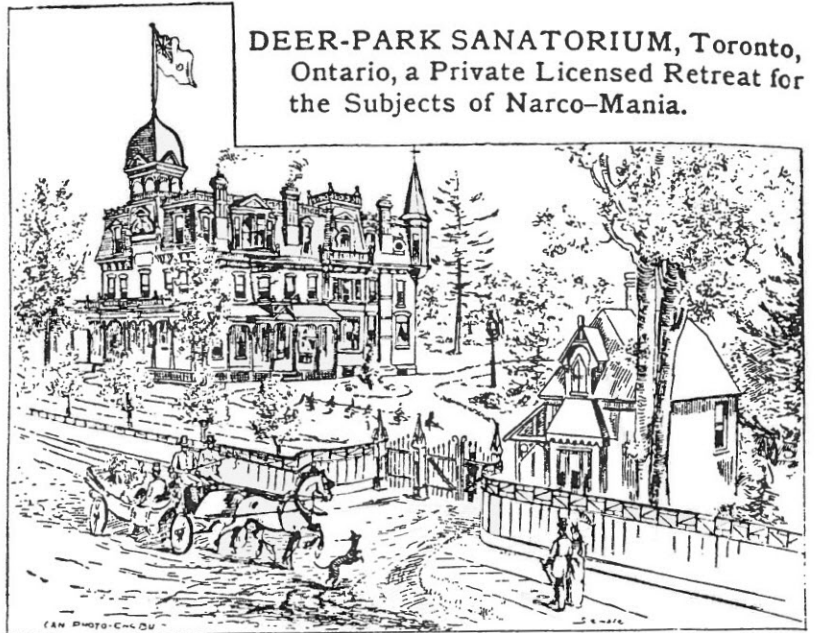
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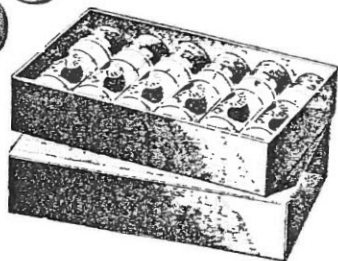
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# DISEASES OF INEBRIETY

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

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

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

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

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

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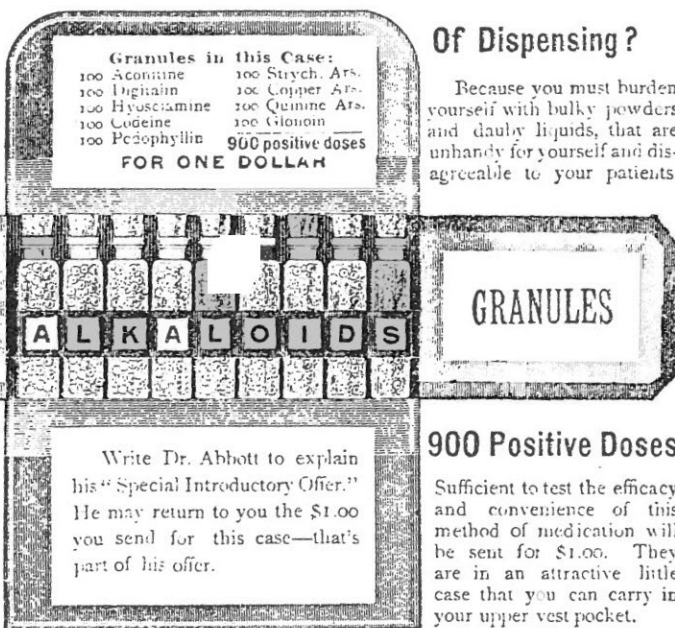
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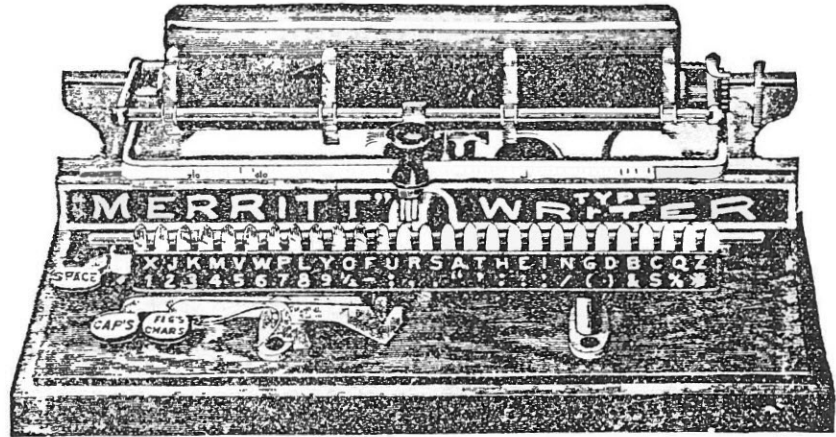
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
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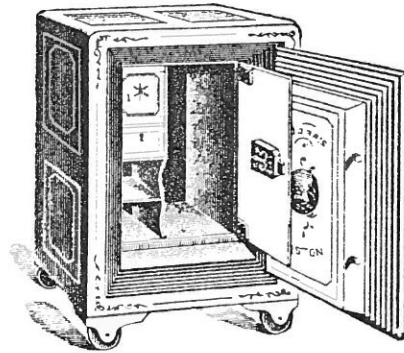
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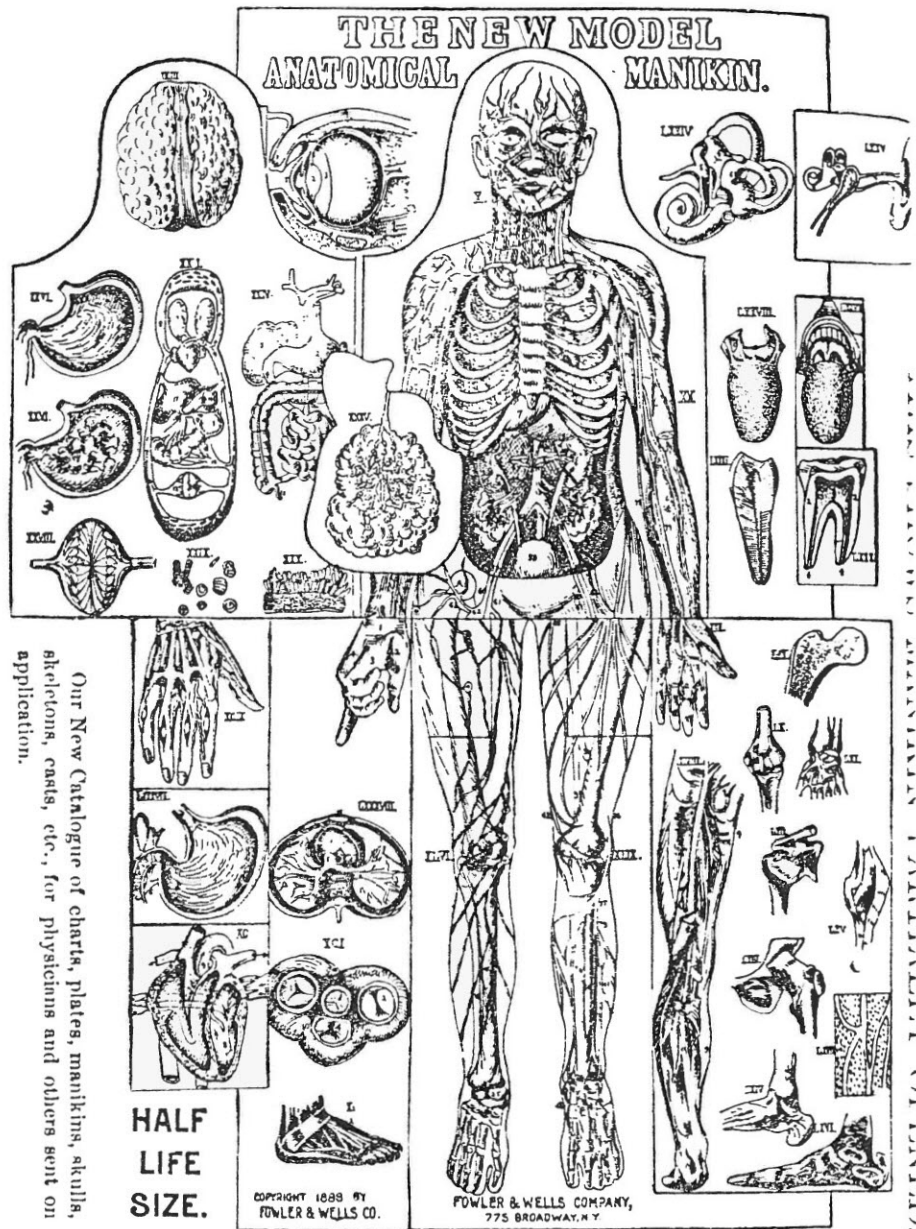
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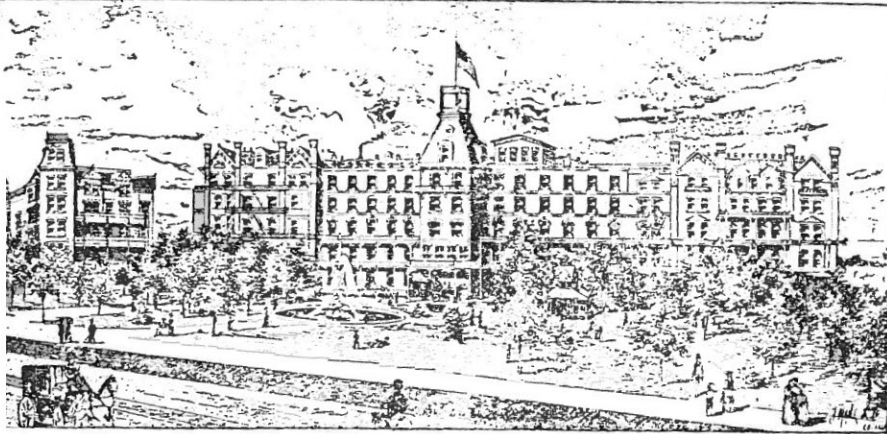
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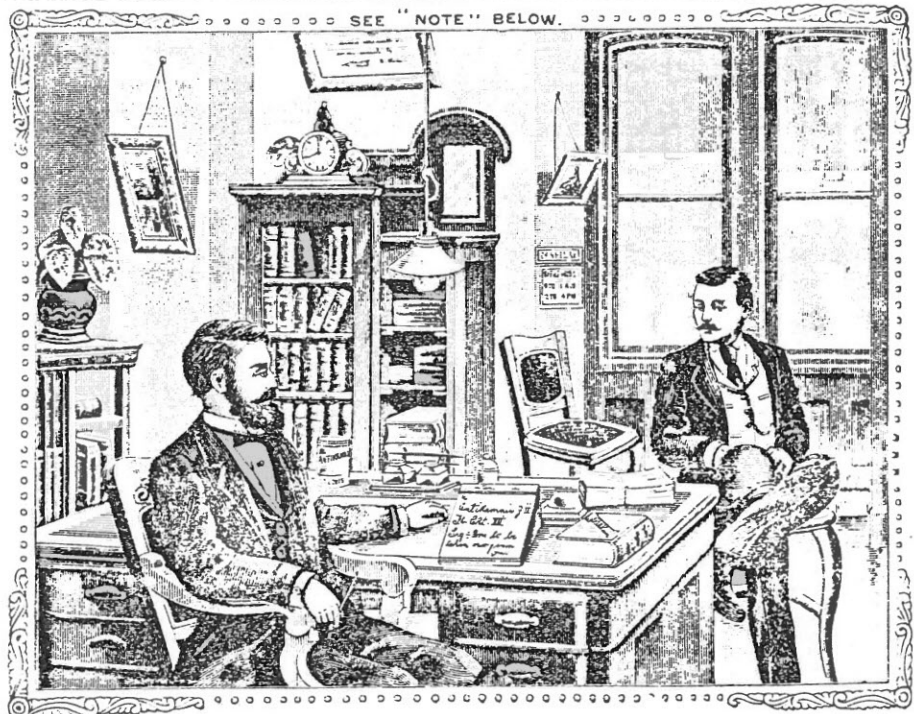
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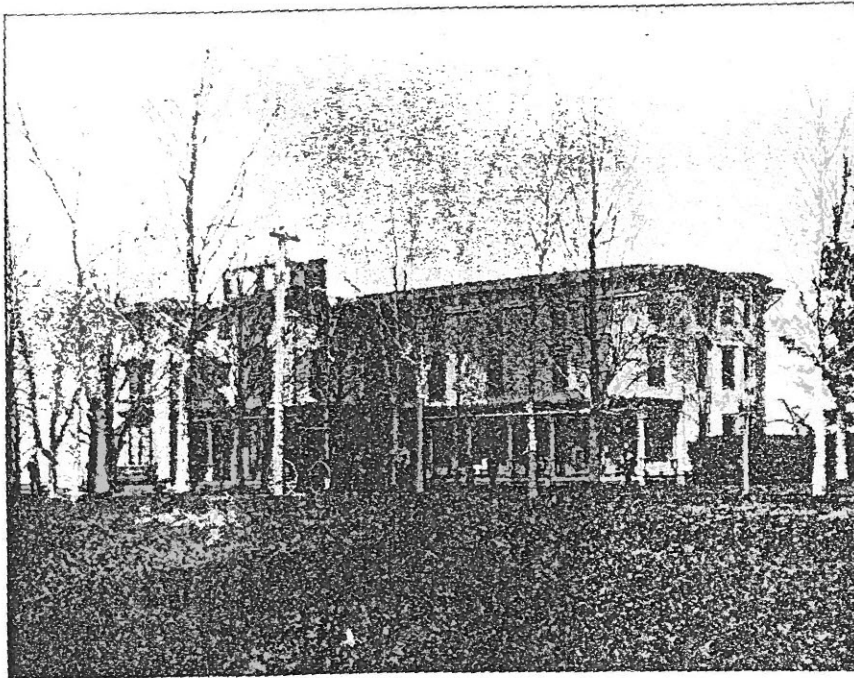
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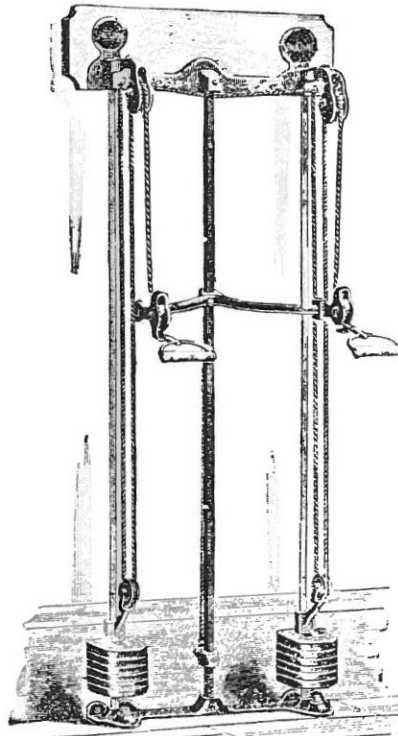
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*A Sanitarium on the Hudson River.*

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For NERVOUS DISEASES and OPIUM CASES mild mental and select alcohol cases. A Home for Invalids or Convalescents. Strictly on the family plan. Hour and half from New York. Charming scenery and healthy location. For circulars and terms, address, RIVER VIEW HOME, Fishkill-on-Hudson, N. Y., W. S. WATSON, M.D., C. M. KITTREDGE, M.D., Proprietors.

*"Keep only thy digestion clear:  
No other foe my love doth fear."*

— MARK TWAIN.



PAIN and discomfort after eating is seldom calculated to make "the course of true love run smooth," and acid eructations constitute true foes to equanimity of temper. The most frequent cause of these distressing symptoms is the failure of the several digestive juices to perform their allotted work because of a diminution in the amount of or the inefficiency in the action of the digestive ferments.

In order to promptly remedy this condition, this missing link in the digestive chain must be supplied.

#### LACTOPEPTINE

will supply this link, as it furnishes the digestive function with the ferments which it lacks, combined in exactly the same proportions in which they exist in the normal human economy. The operative cause is thus abolished, and the disorder is relieved.

We advance this reasoning as a rational explanation of the action of Lactopeptine. There may be other reasons to account for its beneficial action, but these we leave to physicians, who are better informed on such matters.

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Each fld. dr. contains 15 gr. *each* Pure Chloral Hydrat. and Purified Brom. Pot., and  $\frac{1}{8}$  gr. *each* Cannabis Indica and Hyoscyam. Dose—One-half to one fld. drachm in water or syrup

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The Anodyne principle of Opium; the narcotic and convulsive elements being eliminated. Dose—One fld. drachm, represents  $\frac{1}{8}$  gr. morphia in anodyne principle.

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A combination of active principles of Stillingia, Helonias, Saxifraga, Menispermum and Aromatics. Each fld. dr. contains 5 grs. Iod. Potas. and 3 grs. Phos. Iron. Dose—One or two fld. drachms as indicated.

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

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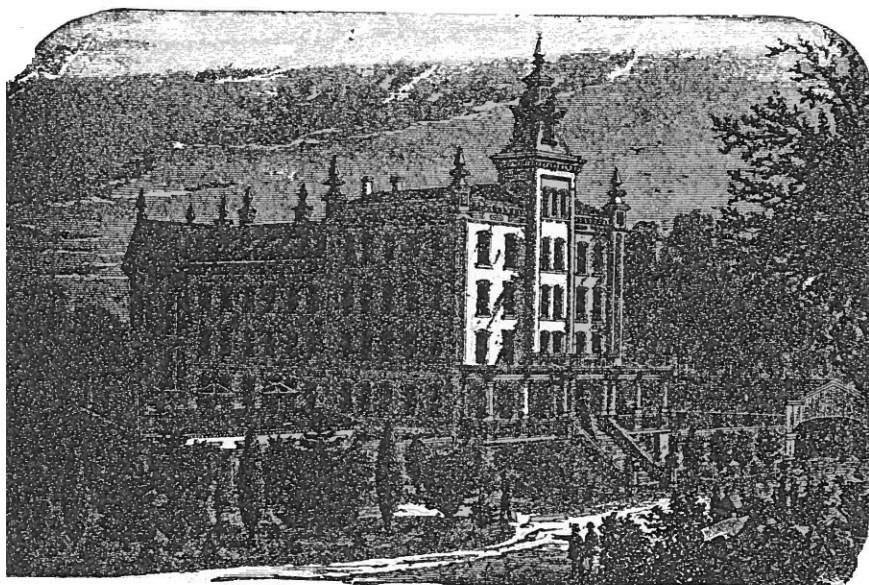
As a further precaution, it is advisable that the Syrup should be ordered in the original bottles: the distinguishing marks which the bottles (and the wrappers surrounding them) bear can then be examined, and the genuineness — or otherwise — of the contents thereby proved.

*Medical Letters may be addressed to—*

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

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

INCORPORATED 1866.



## A HOSPITAL for the TREATMENT of ALCOHOLISM and the OPIUM HABIT

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**THE MANAGEMENT** is systematic, thorough and adequate. There has been no change in the staff of medical officers since the inauguration of the Home.

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