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THE ORGAN OF THE AMERICAN SOCIETY FOR THE STUDY
OF ALCOHOL AND OTHER NARCOTICS.

T. D. CROTHERS, M. D., Editor,
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TABLE OF CONTENTS.

APRIL, 1905.

	Page
A STUDY OF THE EFFECTS OF ALCOHOL ON SCHOOL CHILDREN. DR. T. A. McNICHOL,.....	113
A CONTRIBUTION TO THE STUDY OF NARCOSOMANIA. DR. T. H. EVANS,.....	118
THE TREATMENT OF THE MORPHINE HABIT. DR. CURRAN POPE,..	125
AN OBSCURE FORM OF ALCOHOLISM INVOLVING IRRESPONSIBILITY. DR. T. CLAYE SHAW,.....	144
THINGS THAT MAKE INEBRIATES. DR. DAVID PAULSON,.....	153
HAVE DRUG ADDICTIONS A PATHOLOGIC BASIS? DR. A. E. STERNE, TA	157
WINES: ARE THEIR USES TO BE ENCOURAGED? DR. H. O. MARCY,.....	166
 ABSTRACTS AND REVIEWS:	
ALKALOIDAL TREATMENT OF THE TOBACCO HABIT,.....	174
ALCOHOL IN MULTIPLE NEURITIS,.....	175
THE LAST WORD ON ALCOHOL,.....	177
INTOXICATIONS IN CHRONIC INEBRIETY,.....	178
THE WILD OATS DELUSION,.....	181
ALCOHOL IN PNEUMONIA,.....	182
 EDITORIAL:	
ALCOHOLIC POISONING AND LITERATURE,.....	195
THE ALCOHOLIC PROBLEM,.....	196
DECLINE OF ALCOHOL AS A BEVERAGE,.....	197
MEMORIAL MEETING,.....	199
DELETERIOUS ACTION OF ALCOHOL AND TOBACCO,.....	200
POISONS IN THE BODY,.....	209
 CLINICAL NOTES AND COMMENTS:	
	210

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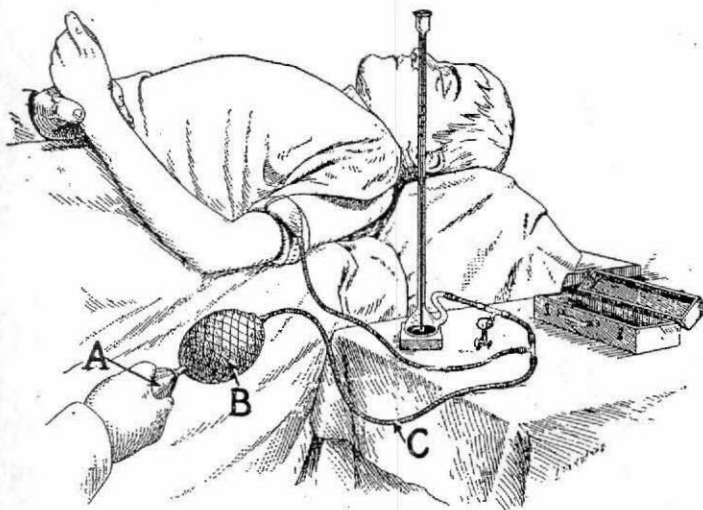
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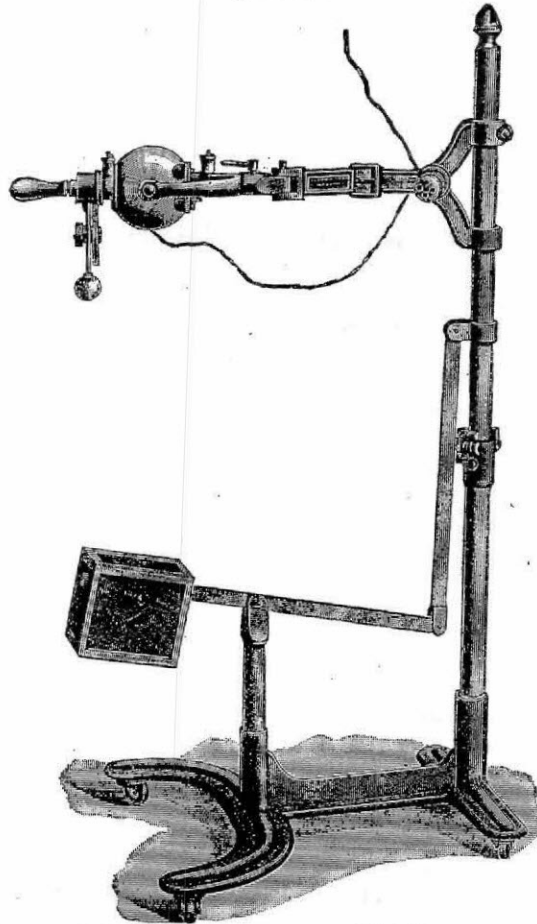
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This Journal will not be responsible for the opinions of essayists or contributors, unless indorsed by the Association.

A STUDY OF THE EFFECTS OF ALCOHOL ON
SCHOOL CHILDREN.*

T. ALEXANDER MACNICHOLL, M.D., New York City, N. Y.

In a study of the relation of heredity to the mental deficiency of children, undertaken in 1901 for the New York Academy of Medicine, I was forcibly impressed with the conspicuous position occupied by alcohol. A more extensive study verifies the facts then presented and gives added emphasis to alcohol as an etiological factor in mental deficiency.

This subsequent investigation included 55,000 school children — 10,790 females, 44,210 males; 17,422 of foreign parentage, 37,578 of American parentage.

These children represented 143 schools and 1,572 classes; 10,800 are from country schools, 44,200 from city schools. Of this latter number 13,000 are from cities of less than 50,000 population.

The conservatism of many school officials together with the

*Presented to the American Medical Temperance Association at Atlantic City, June 8, 1904.

numerous duties of school teachers made it impossible to secure an exhaustive, consecutive, and comparative study of city and country schools; however, the facts secured are sufficient and the field covered comprehensive enough to reveal the relative importance of the underlying causes of mental torpor.

The 55,000 children, classified according to their standing in studies, appear as follows: Standard, 42%; below standard, 16%; dullards, 17%; very deficient, 25%. Direct causes of dullness reported: Personal habits, 9%; environment, 11%; heredity, 65%; sickness, less than 1/300 of 1%.

Comparing city and country schools we find a preponderance of deficient in the city. Country schools—dullards, 15%; very deficient, 7%; a total of deficient in country schools of 22%. City schools—dullards, 17%+; very deficient, 29%+; a total of deficient in city schools of 46%.

The causes contributing to dullness in country towns are less conspicuous and glaring than those which obtain in more crowded and metropolitan centers. Those that do exist find partial compensation in more congenial environment and healthful activities.

The city, with its multitudinous avenues for advancement, affords unbounded opportunities for the concentration and operation of those retrograde forces which reduce the vitality and capability of children.

In city schools, the children of foreigners make a large percentage of the deficient, but their dullness is directly traceable to causes other than racial. All things being equal the children of the native present no superiority over those of the foreigner. As an instance: A class of 50, in which 90% of the children had an American ancestry of five generations, but with hereditary alcoholic taint, reported 80% dullards.

The personal attitude to alcoholic drinks, including beer, wine, and spirits, is reported in 34,000 cases, viz.: Abstainers, 73%; drinkers of beer, 23%; drinkers of spirits, including wines, 4%; drinkers of beer and spirits, 12%.

The parental attitude to alcoholic drinks is reported in 20,147 cases: Children of drinking parents, 6,624; children of abstaining parents, 13,523. Children of drinking parents reported dullards, 53%; children of abstaining parents reported dullards, 10%.

The close correspondence between the drinking habits of the parent and the mental deficiency of the child cannot be the result of mere accident.

Heredity is a very important etiological factor in mental deficiency and cannot be ignored in its bearing upon treatment.

In dealing with mental deficient we are prone to mistake some symptom for the cause, and in our efforts to remove the manifestations of disease we conceal the main disorder.

It is well for us to recognize that organic disease, tendency to eye-strain, deafness, various neurotic manifestations, and dullness, each may be the sequel of an alcoholic history. These results should not be mistaken for the primary cause of the disturbance.

One causative factor of dullness which should command close attention is the prevailing drinking habit among children. A few special instances may be noted: Four classes, having a total of 184 pupils ranging from eight to eleven years of age, were reported as "unusually dull," but 16 reaching the standard in study. Investigation revealed the following facts: 100 drinkers of beer, 9 drinkers of spirits, 51 drinkers of beer and spirits — a total of 160 drinkers (about 87%), 57 of whom drank "liquors" regularly with their meals.

In a class of 60 boys, of whom 40 are drinkers of beer and spirits, it is no uncommon experience to have one or more stagger into the schoolroom, drunk.

These juvenile drinking habits are not wholly confined to metropolitan schools. In a town of 6,000 inhabitants, 10 children under 12 years of age were found on two occasions in a helpless state of intoxication.

In a village school of 186 pupils, 30 are occasional drinkers

of beer and spirits. When searching for two absentees, boys under 12 years of age, the truant officer found them lying drunk under a shed.

A boy of eight years came into the class room in great distress. On inquiry the teacher found he had taken a quantity of pure alcohol to quench a thirst that beer would not satisfy.

The dangers and temptations from drink are not confined to the child's home.

One teacher reports that a boy of nine came into school drunk. He was induced to confess where he secured his drink. Taking a card from his pocket, he said, "This is my beer card," and explained that a hole was punched in the card every time he got a drink of beer, and that whoever got the most holes in his card in a month got a prize. A large number of the 55 boys in the class acknowledged that they had cards like it, and often bought beer so as to get holes in their cards.

Numerous instances are reported of children acquiring the appetite for strong drink through patronizing the free lunch in a barroom.

In a number of saloons rooms are fitted up with small furniture, picture books, toys, and hobby-horses, and into which children are enticed to play. The taste for liquor is surreptitiously cultivated, until the habit is securely fastened. Two boys, sons of a highly respected and honored citizen, were thus inveigled into drink and in a brief period sank into the depths of the wildest debauchery.

The immediate causes of dullness dependent upon a vicious environment, habit, etc., are not so easily overlooked as those more subtle yet none the less potent causes which, through heredity, have become implanted in the fundamental structures. Family history is of inestimable value to a clear recognition of the primary causes of dullness.

The following is a summary of the family histories of 3,711 children of 1,100 different families traced through three generations: 1,871 males, 1,840 females; 19 precocious in one or more studies, 421 excellent, 981 fair, 2,290 dullards. The personal

attitude to drink: 66% abstainers, 28% beer drinkers, 6% whisky drinkers, 14% beer and spirit drinkers. Family history in relation to drink: 2,713 had drinking parents, 2,771 had drinking grandparents, 2,530 had drinking parents and grandparents, 998 had abstaining parents, 757 had abstaining parents and grandparents.

Of the children of drinking parents but abstaining grandparents, 73% were dullards. Of the children of abstaining parents but drinking grandparents, 78% were dullards. Of the children of abstaining parents and abstaining grandparents, 4% — were dullards.

Dividing the 3,711 children into two classes, viz., those free from hereditary alcoholic taint and those with hereditary alcoholic taint, we note some very striking contrasts:

1. Those free from hereditary alcoholic taint: 96% were proficient, 4%— were dullards, 18% suffered from some neurosis or organic disease.

2. Those with hereditary alcoholic taint: 23% were proficient, 77% were dullards, 30% very deficient, 76% suffered from some neurosis or organic disease.

From these studies we conclude:

First. Alcohol at the threshold of life is a bar to success and a foe to health.

Second. Alcohol, by destroying the integrity of nerve structures, lowering the standard of organic relations, launches hereditary influences which by continuous transmission gain momentum and potency and leave their impact upon gland and nerve until the mental faculties are demoralized, physical energies hopelessly impaired, and the moral nature becomes degenerate and dies.

Third. If we are to make any material change in the ranks of mental deficient we must adopt methods of prevention as well as methods of cure.

It is a momentous problem that confronts us. The spirit in which we meet it may be a possible aid or hindrance to its solution.

A CONTRIBUTION TO THE STUDY OF NARCOSOMANIA.

BY T. H. EVANS, M.D., Philadelphia, Pa.

In offering an additional syllable to the common term of "narcomania" the writer wishes to distinguish by the new word those cases in which the substance or drug is used to relieve disagreeable, often intense, suffering. The inebriate is the physically disordered individual who has taken a narcotic or stimulant. The narcomaniac is one whose purposeful and voluntary efforts lead to an extended or habitual use of such chemic agents. The narcosomaniac is one who dislikes narcotization, even resists that which brings it about, and during long periods does not turn to it, yet in rhythmic accesses falls before its attack, because of personal or physical alterations which weaken resistive power or which bring on feelings the discomforts of which appear more formidable to the patient than the discomforts of the stimulant (or narcotic) element.

I do not suppose we can realize the number of borderland cases existing in our vicinity. The question of rhythmic deviations in individual responsibility and power of inhibition is virtually to be opened.

In minor illnesses changes of temperament are often observed, and ill humor condoned. I do not think that in criminal cases the factor of responsible control is at present justly inquired into. The whole question of punishment for crime hinges right in this. Theologic and sociologic theories must be reconstructed, and will be, as we approach the citadel of man's inhibitory power, and it is in a right knowledge of what

constitutes this that we must decide cases of drug habit or adventure.

We need perspective to be just.

Maeterlinck's *Vie des Abeilles* is an unexampled *tour de force* which, however, lacks the foundation of actual intimate acquaintance with the bee's motives. It is therefore worth just what it is: an effort to study bees in the light of human experience. Suppose the bees studied us from the bee standpoint? What sort of judgment would they arrive at?

But so society deals with the criminal, the degenerate, the drug habitué, from the standpoint and view of normal experience. This will do very well if we could have a true and definite norm to measure by.

But the normal shifts. Evolution is actual. So the degenerate of today may be degenerate because for his development the majority have given unfit circumstances. The true narcosomaniac takes to the narcosis because in the clash and conflict of intellect, emotion, and temperament he can resolve no working unity and arrive at no *modus vivendi* consonant with the demands of organism and the requirements of the community.

Yet I believe that back of narcosomania will always be found great unsatisfied emotions, sexual inversion, paresthesias, impossible artistic ideals, economic incompatibilities, or organic paragenesies.

These are not long alone in morbid influence. The descent to Avernus is easy; many of us do not hesitate to oil the way. The criminal, once branded, finds it more and more difficult to retrieve his position. The drug habitué finds other morbid currents sweeping him in their vortices. Alcohol increases the troubles of the already overtaxed metabolism. Cocaine adds many more pathologic trains of mind association. Every additional strain makes harder the regeneration of the unhappy sufferer.

It is not enough to find out the primitive false step which

dropped him into the pit. Indeed, treatment is necessarily empiric because we are only on the threshold of the secrets of the physiologic organism. In this paper I will not attempt to draw attention to the need of a physiologic cellular therapy.

But I wish to point out several things which are in place. There is need for an economic salvation. Many girls and boys may be found working at trades or in factories where they are physically unfit. They return home at night exhausted—and exasperated. Neurasthenic they may be. What is more accessible than tobacco and alcohol to bring sweet forgetfulness?

The anisometric and astigmatic drug clerk has opium at his elbow. He tries it and is astonished at the relief. The sexual degenerate accidentally attempts cocaine, and at once his mind feels the loss of an intolerable burden of irritability.

Cocaine also solves temporarily the distress of the artist of impulse—the artist of temperament who is technically a failure. Absinthe is the resort of those whose nervous organization may have been overtaxed by hereditary or constitutional excesses, emotional crises or intellectual strains.

On the other hand opium or hashish appeals to the individual of lymphatic temperament.

As many have pointed out, especially Wm. Lee Howard of Baltimore, there is a tendency of well-developed cases to show rhythm in attacks. This is in line with what I have seen from the effect of strain in cases of parasthenia. Let us omit from the discussion fairly normal or voluntary perverts through curiosity or accident. I wish to hold up just those individuals whose faulty organism presents a field of passion and intellect, whose troubles are based on abnormal needs and powers.

These fall into two classes:

- A. Those of faulty or neuropathic constitution;
- B. Those of virtually normal constitution, but in improper environment—economic, social, intellectual, sexual, or physical. These may approach or enter class A, if the storm is long continued.

Marriage, education, work, and pleasure must be rearranged away from theologic control if we are to obviate a large part of Class B.

Class A is the greater and more dangerous element in our civilization. Indoor educational methods and labor have built up a burden which heredity is quick to pass down. We cannot cure these cases because we cannot reconstruct them. They are to be pitied, and restrained, but not punished. They have the greater demand on the social organization because they have been the more greatly sinned against.

If we refuse them the right to carry on what to them seem normal and proper activities—sexual inversions, or marital irregularities, false economic ideals, decadent artistic impulses, passions, or moral delinquencies of all sorts, to us abominable—we are placing their neurotic constitutions under so much the more strain. They then, in a way, can reproach us for their physical ruin which may be consequent. The only remedy which I can see is for us to establish reservations in which they may be permitted liberties within reason. No more should we see sexually perverted individuals driven to intolerable exasperation, murdering their wives, or mistresses, and being legally murdered in turn. No more should we see husbands in prison for periods of years, because of marital incompatibility and the excesses or crimes which arose from it, and for which puritanic society visits its unintelligent hatred with cruelty of a refined but none the less primitive rigor. No more should we see degenerates confined in close and often unhygienic quarters for what their unhappy bodies could not steer clear from in the moment of passion and abnormal excitability.

Some individuals of this neuropathic nature turn to narcotics or stimulants, and perhaps in the stupor may save themselves from outer crime. It is society which should be punished for the existence of every one of these narcosomaniacs,

and it is a self-righteous society which punishes the victim instead.

What an unholy zeal, as misdirected as ever existed in the spirit of the Inquisition, or in the murder of witches and those said to be possessed of devils, manifests in the raids on places of shame and ill repute in our great cities. Those who direct these activities fail utterly to comprehend the point at issue. It is to be hoped that the future may bring better knowledge so that the unfortunates who resort to the practices, the drunkenness and narcotization, and those whose unhappy constitution leads them to further the existence of these places, may be understood. Then there will be no more raids on opium joints, but it will become possible to afford the unfortunate inmates and frequenters some honorable and sufficient mode of life which may not conflict with their innate deficiencies.

The first element of parasthenia is a rhythmic and excessive deviation of self-control. The radius may extend far in both directions in certain instances, but commonly does not reach to the side of increased inhibitory power.

When control recedes, the patient will be at the end of what I term the "period of tension." This period is variable. The accumulation of waste products meanwhile stimulates to increased care — until at last with the climax all is lost in an instant of wild collapse.

This may be momentary, but if a drug is taken the secondary excitement of the drug may prolong the descent.

After the patient stops the drug — alcohol, tobacco, cocaine, morphine, or even candy, as the case may be — he recovers, at first, an extraordinary power — also a short period — after which he relaxes and slowly reascends the normal into a succeeding hypertonic condition which leads over to the new period of tension.

If, under the excitement of some drug, a debauch of length ensues, the return stage is modified. Additional accesses of the drug will bring on climax on climax of degradation. In the

narcomaniac this degradation is not necessarily limited. Narcosomania, on the other hand, is essentially self-limited. An attack will end either in a condition of actual clarification of mind and body—when the patient has exerted some control and limited the use of the drug; or, if the use of the drug has been wild and passionate the attack may end in great prostration. In this way it may pass over to relaxation and parasthenia with hypotone, or to the normal, or to parasthenia with hypertone. Certain very extraordinary neurasthenic conditions may crop out in this latter instance.

With the feeling of strength of mind and body, business enterprises, artistic work, or other ambitious efforts may be considered and partially carried out. The stimulus is terrific. The atmosphere of the mind is fine and rare after the storm. But the strain of even ordinary labors soon breaks down the feeble neurons, whose feverish activity is nothing if not abnormal. The efforts of the patient are immature and fail to present the rounded considerate influence which works of art or business undertakings of a normal and successful type offer.

The saying is "With alcohol comes truth."

Under alcohol or other narcotic very often the true morbid character of the patient is observable. I have treated a sad case of sexual inversion in which it manifested only under alcohol. Curiously enough with recovery from the alcoholic influence a reversion to normal sexual influence occurs. It has the appearance, as I have said before, of a clearing after a storm. I have wondered whether in this case morbid changes in the retained spermatic secretion may be causative of reflex irritation.

Another case, of alcoholic origin, presents kleptomaniac phases in the period of tension, but never during the stadium of attack (that is, while the patient is directly under the influence of the drug), nor in the after periods, until irritation has remounted a considerable height and the second period of tension approaches.

Both of these cases realize their peculiar and abnormal state. They have learned by experience to recognize its phases. I know that to save themselves from crime they have taken to the narcotic sooner, many times, in the period of tension, than the actual physical or mental oppression might properly induce. If they can go on a moderate debauch, they claim to avoid excessive reaction, and at the same time rid themselves of a danger of committing that which would mean, perhaps, disgrace and imprisonment. This is the attitude of many parasthenics.

Consider the terrible strain such a state of mind must bring!

I feel that we have a duty to all such unfortunates, and that we must dig deeply into the causes which are responsible. With the increasing weight of civilization some segregation of parasthenics must become operative. Can we deny these, our children, that which even savages and Indians have been granted? Some reservations must be set aside for the physically or morally incompetent, I am certain.

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Superintendent Sloan of the Bridewell Prison, Chicago, in his annual report, states that 970 men, women, and boys who were sent to the Bridewell last year were slaves to morphine, cocaine, or some similar drug. That was an enormous increase over the previous year, when there were 309 slaves to these drugs. He recommends an immediate and thorough investigation to stop the careless prescribing of these drugs by doctors.

THE TREATMENT OF THE MORPHINE HABIT.

BY CURRAN POPE, M.D., Louisville, Ky.

In all countries, in all climates, in all tribes and races, certain substances classified as stimulants and narcotics are used, and so common is the practice that it may be said to be universal. These substances are poisons producing more or less profound physiological effects upon the organism and are usually taken to produce a feeling of comfort. In small doses ideation and a pseudocreative function seems to be increased and fancy, foot-free, produces a joyousness and thoughtlessness, unhampered and undepressed by the wearing cares or the warping canker of the daily grind for existence. In larger and fuller doses the narcotic influence becomes more predominant, and the correct relationship with the world at large is disturbed and pleasurable sensations engendered by retiring the individual into a dreamy, self-centered world of his own, the return from which is disturbing and irritating. Savage and civilized humanity both delight in partaking of those stimulating and narcotizing products that will eliminate pain, replacing it with pleasure, and any drug possessing the power of Aladdin's lamp becomes a menace and a danger at *all* times and under *all* conditions, for I maintain this to be true no matter how much we may repeat the contrary and how often we may observe our consciences. Particularly should this be borne in mind: that pain is real, patent, positive — an imperative call for absolution — while pleasure is purely negative as compared to pain and a resultant of negative factors. Pleasure depends so much upon perfection of functional activities of body and

mind, of surroundings, of temperamental conditions, as to place solidly before us the picture of complacent good health, while pain becomes the potent indicator of ill health, disease. It has often seemed to me that it is the desire to imitate the feeling of health and strength, the well-being and happiness of perfect functionation, the bodily strength and mental activity, that compels many to continue to use and finally abuse stimulant drinks and narcotic drugs. We cannot blame the ill when in many countries the tired, the hungry, the thirsty, the suffering, the depressed can, as De Quincy said, "carry Paradise in the pocket for a penny." Painful factors are unquestionably at the bottom of a great deal of the use and abuse of narcotic drugs. Painful conditions wear upon the reserve strength, weaken mind and body, lessen muscular power and capacity, depress the circulation, producing gloomy and melancholy mental impressions.

It should be borne in mind that pleasure and pain are not separate entities depending upon social status, upon surroundings, education, habits, or training, are not limited to any social class or financial condition, and it is a noteworthy fact that the larger number of habitués (excepting possibly the southern negro) of morphine are to be found in the middle and upper classes. Physicians, the cultured, the literary, and artistic classes yield a large percentage of cases, owing to an over-endowment of nerves or cause of neurotic inheritances. From their occupation or by tendency they are subject to uncomfortable and painful conditions, notably, insomnia, neuralgia, rheumatism, and pains of all sorts, and to these the "hypo," with its relief, is a dangerous spark that may ignite a vast conflagration. Relief is frequently purchased, but it is short and the temporary surcease from pain and sorrow by the use of morphine is nearly invariably followed by a reaction that increases the misery and intensifies the suffering. There is no more curious paradox than that of a drug, its principal value that of a pain reliever, acting as the direct cause of pain perpetuation;

and it has often seemed to me that pain relieved and soothed by morphine actually becomes worse upon cessation of the drug, largely by contrast, if I may so describe it, just as black looks blacker on a white background. It is this over-relief that constitutes one of the great dangers of morphine therapy. The character of cases in which it is frequently administered are those who suffer from functional pain, especially of a paroxysmal character and in which there is an apparent need for temporary and immediate relief. I have noticed that painful states in these people are much influenced by barometric changes and that when there is a lower change they are apt to increase the dosage. Morphine is a great obscurer, hiding real states of disease, both functional and organic, and certainly obscuring the diagnosis of the physician who administers it.

The principal action of opium and its derivatives is upon the nervous system, and those who are unfortunate enough to be addicted to its use realize fully the inevitable law of action and reaction with regard to nervous states. Upon ideation its action depends largely upon the personal equation and temperamental peculiarities of the individual. Thus the dreamer and imaginative person soars to realms of fancy, peoples them with imaginative persons, and, rising above the mean level, performs deeds of heroism and valor; or becomes a prince of good fellows around the festal board, or controls the destiny of nations. Others become placid and dreamy, and there flows through the mind pleasurable facts, irregular and disconnected. Again others are stimulated to the performance of tasks, literary or otherwise, while still others dream of far Oriental countries and strange dark-eyed houris. Still another type simply becomes a talkative and an agreeable member of everyday society. "Here was the secret of happiness which the philosopher disputed for so many ages at once discovered. Happiness might be purchased for a penny and be carried in the waistcoat pocket, portable ecstasies." (*De Quincy.*)

Upon volition morphine has a marked effect, for few pos-

ness sufficient will power and self-control while under its domination, and it were as unfair to ask the unhappy victim to call into play this attribute of the mind and free himself of his enslaving thralldom as to ask the typhoid patient to dispense with the febrile manifestation of the disease from which he suffers. Truthfulness is affected, but I have often weighed the question pro and con and have concluded that the morphinist is not one-half as bad as he is really painted. There is a large percentage of these cases who deplore the burden that they carry and who are not degenerates or inveterate liars, nor do they deserve the reproach and condemnation that is often heaped upon them, for frequently the habit has been acquired from no fault of their own, and they are unable to cease its use because they are controlled by forces beyond their capacity to resist. I should say that all statements made should be carefully weighed, not because of an inherent desire to lie, but because, in my opinion, the morphinist at times lacks the true qualitative and quantitative appreciation of his surroundings and his actions. As the habit becomes confirmed the excitation and pleasurable features diminish, and the use of the drug becomes necessary in order that suffering may be abridged, that the daily tasks may be performed, and at the same times escape the misery and suffering that its absence entails. Thus a fresh dose is taken and a fresh lift given, another fall and another lift, and so the story goes, as did the brook, until something happens to change the sluggish stream and make the unhappy victim yearn to break the entralling chains. Curiously constituted nervous systems exist on every hand, and with the increasing strain of modern life it is not surprising that these peculiarly constituted organisms sometimes acquire the morphine habit in the twinkling of an eye, and I know of a number of cases in which the addiction dates from a single painful attack of less than a week's duration. Opium and its congeners are usually solitary indulgences and taken in seclusion. It should be distinctly under-

stood that in this country solitary use of the drug is not purely to secure pleasure. I cannot believe that these cases are actuated by a desire to lie, but they are simply endeavoring, as every reasonable human being would, to keep the skeleton in the closet and to try to make as good a face in public as possible. I take it that every one is justified in self-protection, and it is a notorious fact that these people are morbidly sensitive and do not desire to lose the good will, respect, and confidence of their family and friends. Applying laws and rules to this disorder as we would to other diseased conditions, let me ask, would one publicly parade a specific or tuberculous affection to the gaze of the world at large, and would he be considered a pervert scoundrel and liar for so doing, and yet these people act simply as you or I would act under similar conditions with other diseases. There is no question but what the general opinion concerning the use of morphine has been based and framed upon that small proportion of cases who show absolute disregard for all the proprieties and ethics of life and who publicly parade their condition. They are certainly moral degenerates and perverts, and would be so regardless of their use of morphine. I have seen cases who have used morphine and whose use of the drug has never been suspected by the public, maintained self-respect, business honor, and integrity, and who were highly regarded in the community in which they lived. These cases are those who had moral character and proper raising before the acquisition of the drug. Briefly passing to the influence of morphine upon the general system, it may be said that its action is functional, deranging secretion, perverting elimination, and generally retaining poisons within the body. It has an especially pernicious influence upon the appetite, and, by depriving the system of food and the heat-generating energy that arises from food, causes tissue loss. Metabolism is lessened and tissue waste retained, and, with the absence of proper nutriment in the blood stream, failure of repair takes place, for

in the absence of sufficient nutriment the body feeds on its own tissues, and loss of weight is a consequence. By diminishing irritation they somewhat lessen wear and tear, but at a cost not to be considered.

Physicians form quite a large class of morphine users, strange as it may seem, when they know fully its dangers, both to themselves as patient and as medical adviser of others. The life of the physician is a hard one, and a large percentage are either neurasthenic or neurasthenoid one-half of the time. The incessant demands night and day, the loss of sleep, the physical strain, the mental worry, are so harassing and so burdensome that after the wear, tear, and exposure incidental to their life, acute mental and physical tire is produced. Then comes a tiny dose to "tide me over." A false and frantic endeavor to escape by this means nature's inexorable law leads to the formation of the habit. In a large experience with doctors I think I can truly say that they can stand less pain and suffering than almost any other class. Morphine is an imperious mistress that cannot be easily shaken off, for by slow degrees and insidious steps she becomes the dominant influence of the being's existence. It creates an appetite for itself, with a yearning and desire on the part of the nervous system for the repetition of its action. It is astounding to what extent, by gradual training, the system can become habituated to the large doses some patients use. It almost baffles belief at first sight.

From a careful study of case records I am constrained to believe that the most prominent of all starting points of the habit has been the medical use or the medical prescription. I cannot, in too measured terms, condemn too harshly the medical member who consents to or places the hypodermic syringe in the hands of a patient, and as the commonest demands for its use are pain and insomnia I again say that it is a fatal carelessness that would permit its use, save to open the fields of euthanasia in hopeless disease. Where is the

vaunted responsibility, the higher ethics, the plain, home-made honesty? Have they become drugged and anæsthetized under a case-hardened conscience?

There are two great classes in which, *for convenience only*, I would divide those addicted to the use of narcotics.

(1.) Those who have become habitual users through pain, suffering, etc., and have acquired the habit through medicinal use or necessity.

(2.) Those who use them purely as a means of gratification or dissipation.

This division, *clinical* in character, has much to do with treatment and prognosis. In the first class, and I am happy to say that they form the largest body, we find those who have acquired the use of this drug through the actual prescribing, advice, or sanction of the physician himself. Many patients suffering from this affection tell of the hypodermic as a starting-point for the temporary relief of rheumatism, neuralgia, neuritis, headaches, insomnia, and many others in which the use of such means were needless, valueless, and dangerous. It is to be regretted that its use is often substituted for a real diagnosis of conditions, and as a therapeutic means requiring no great understanding of the pathology of the case. Into this class most of the physicians fall, and I am constrained to believe, from a somewhat extensive experience and confidential knowledge, that physicians form about one-third of narcotic drug users. Can it be that a physician who uses morphine or alcohol learns to easily rely upon them, and upon the slightest provocation gives them to his patient, thus running the grave risk of a serious drug addiction?

The second class, which I am happy to say is comparatively small, is formed by those who love the stimulant and narcotic *per se*, who do not desire to quit, who seem to fail to recognize all that their condition means, in whom the desire does not exist to escape thralldom, but seem to revel in the pleasure and joy the drug gives and long to continue its use.

Pride, conscience, the higher mental and moral attitudes, seem to be lost and reveling in a dissipation that nothing will stop; they drift slowly down stream to the bosom of that great ocean of the "other half," to be later cast upon the shore, the flotsam and jetsam of a lost life. It is these cases that are brought to us by parents and friends who desire to escape the degradation that has been forced upon them.

Occupation and mode of life has a good deal to do with how drug addictions are borne, and influences markedly their effects. The worst results are seen in those who lead sedentary lives and take little fresh air exercise, and for this reason and others the worse cases are seen in women and those confined indoors. The day laborer using his muscles and in the open air all day can consume more alcohol and take much more morphia with less deleterious effects than the same individual under close housing conditions.

Where opium is taken per oram, that is to say, "eaten," it is much slower in its effect. My observations have led me to believe that the hypodermic administration leads to a more speedy and permanent addiction. I have never been able to distinguish much difference between the fluid and solid preparations of the drug, they being about the same in their action. The main difference in this method is the gastro-intestinal disturbance. Opium when smoked is quickly absorbed and is really less injurious, because only limited quantities can be inhaled in a given time. This method is the far Eastern one and is not generally used except in the larger cities in the country. The "popularity" (?) of morphinism has largely been due to the rapidity and certainty of the results obtained from its subcutaneous use. That modern blessing and pest, the hypodermic syringe, enables the user to carry in a small space all his needed impedimenta. It is interesting to observe the rapidity, accuracy, and dexterity obtained by users of the drug in hypodermic administration. The favorite seat of administration in men are the arms, and for obvious reason the

leg in females. Many utilize the extremities during the day and the trunk at night. While morphia is still taken by the mouth by quite a large number of habitués still the hypodermic is the commonest method now practiced. That the consumption of morphine is annually enormously on the increase is attested by the stupendous increased consumption of this drug, and this is not due to legitimate medical usage, but is unquestionably so through the purchase by laymen and those addicted to its use. It may be that the calm temperamentality possessed by the Eastern and the Indian peoples may account for the moderation found in the use of opium in these countries, but the Anglo-Saxon seems peculiarly prone to its excessive use. This abuse, if we are to believe the authorities of various countries, is greater in America than England. A ready explanation may be found in the difference in climatic conditions and the difference in the strenuous struggle that marks the lives and existence of different nations. In the Eastern peoples hereditary attenuation may possibly be a predisposed factor in preventing excessive intoxication.

No pathological anatomy of a distinct character has been found in this disorder, all observations pointing to a tissue starvation, inanition, and lack of nutritive processes. This is really the general appearance in health; and we may state that morphinism presents no distinctive pathological anatomy, but its action deals with function only. This is an important matter to bear in mind, as it influences largely the question of prognosis and restoration. What then is the essential pathology of the condition? In my opinion it is a toxæmia presenting two distinct phases of poison, each closely correlative to the other. The first is an endogenous, internal, or auto-infective process arising from the waste products in the system due to imperfect, defective, and inadequate action of the excretory organs of the bowels, kidneys, and skin; to lessened and weakened circulation, improper metabolism and defective nerve function. The second, an exogenous, external or for-

eign poison (morphine, alcohol, etc.), introduced by mouth or hypodermically daily or at short intervals, producing its own peculiar intrinsic action upon the skin, bowels, kidney, circulation, tissue change, brain, and nerves, and enhancing the action of the poison mentioned in the first class.

When we stop and reflect that in the process of digestion of food stuffs that toxic material is produced and that there arises a necessity for healthy glandular action to counteract them and by which poisons are nullified, it must become apparent that if this be true of health what must be the condition of affairs when there is superadded a poison that locks up the natural secretions of the stomach and intestines and prevents the elimination of toxic products already present. This is particularly true of those poisons that come from the albuminous foods (meats), whose tendency toward the production of toxins and catabolic waste material is well known. In my own mind I feel satisfied that with this condition as a working basis that we can remove many of the most disagreeable and dangerous symptoms, such as shock, heart failure, diarrhea, collapse by the removal of the toxic condition prior to the entire withdrawal of the drug itself. In this connection I may state very frankly that I do not blame morphinists for attempting to secure the drug, for my observation is that most of them believe that death or insanity will be their lot unless proper help is obtained. This, in many instances, is based upon a personal experience of attempted withdrawal of the drug by the patient himself or by well-meaning relatives and friends. When the drug is quickly reduced or entirely removed without sustaining an appropriate treatment we may expect the sufferer in a few hours to complain of a general and gradually increasing weakness accompanied by excessive nervousness and restlessness; in a short time great distress, accompanied by weak and constrictive feelings about the heart and chest, the latter frequently attended by cough. A gradual increase of all these symptoms, together with persistent insomnia and many hallu-

cinations and muscular twitching, ensues. A constant and disagreeable yawning, sneezing, together with a drawling voice, is usually found. At this point the prostration usually reaches such a point that the patient takes to his bed and complains of racking pains in the back and limbs, especially in the calves; many state that the muscles feel as though being torn from their sockets. The appetite is lost and the stomach becomes excessively irritable, nausea most disagreeable and persistent, to which later is added a weakening and prostrating diarrhea. The heart's action is weak, irregular, and may intermit; the pulse is small and thready. With this brief résumé of the disagreeable symptoms that attend the improper withdrawal of morphine the habitué cannot be blamed for objecting to the improper withdrawal or endeavoring to secure the drug that will alleviate his suffering. With the proper withdrawal these symptoms should not occur or, if they do, should be very mild and transient in character.

Treatment is not easy, but those cases that belong to the first division of the clinical classification above mentioned may expect complete relief and cure with comparatively no suffering. In the treatment of this condition I do not and will not accept every case brought or sent to me. I wish a case that is anxious and desirous of relief and one who will be willing to place the matter of his treatment freely, fully, and voluntarily into my hands. A frank and open talk and making the patient fully acquainted with the manner and method of relief has much to do to secure confidence and imbue hope, and this feature of the case is an essential and necessary one. Has it ever occurred to you that these people have been the outcasts of medicine, without hope, spurned and derided as lacking in all the higher mental and moral traits? To give them hope is to give them courage, and I say candidly and advisedly to not recognize them as diseased is to reflect upon the intelligence and capacity of those who make the statement. Let us give them hope, the greatest of all stimulants and a gift that

Deity has offered unto all mankind. Be not uncharitable to their faults and sufferings; deal kindly, thoughtfully, and patiently with them and you will become their anchor of hope. Rob them of this and their strength and vigor is gone; with it they fight the battle better and more gloriously. It has always seemed to me that one of the essential features of the treatment of this class of cases is the physician himself. He should not only be healthy — *mens sana in corpore sano* — but should be a nonuser of all drugs, should not use alcohol, and should preferably be an abstainer from the use of tobacco. This is a personal part of the equation that the physician should keep who treats these unfortunates.

There is a powerful and stimulating psychic factor in the presentation of the problem, "Do as I do," to say nothing of the large element of voluntary submission that inevitably falls from a contemplation of this factor. No man can truly occupy a judicial position who is a law-breaker, and no physician is qualified in this particular line of work who is a drug-taker. Under this term I include the use of liquor.

Having thoroughly understood one another and with confidence in each other, what then are the steps necessary to the management of these people? I would divide the treatment into three stages:

1. Preliminary or preparatory stage.
2. The withdrawal of the drug itself.
3. Convalescent or recuperative period.

The most preliminary examination must be made of each and every one of these cases. By a careful examination permit me to state that I mean a written record of all the symptoms, peculiarities, and other facts pertinent to the case, and which are told to us by the patient himself. This should be followed by an exhaustive investigation of the various organs *ad seriatum*. Special care should be taken to dilate the pupil and examine the fundus of the eye, as much important informa-

tion can be obtained by so doing. Each case in my sanatorium is given a test meal and a qualitative, quantitative, and microscopic examination of the gastric digestion. The blood is tested for the percentage of hæmoglobin, a corpuscular count made and the fresh drop examined. The urine for the twenty-four hours is saved and a quantitative and microscopic investigation made. By a quantitative examination I mean the quantitative study of the urea, uric acid, phosphates, chlorides, sulphates, and purrin bodies, and oftentimes a flood of light is thrown upon cases through this means. My case records show that the greater number of these cases are accompanied by markedly diminished elimination of all the solid constituents of this excretion. Albumen is nearly always present, small quantities of sugar frequently so, and, as a rule, large quantities of indican.

With the data thus obtained the medicinal and non-medicinal treatment can be mapped out with considerable accuracy. The medicinal treatment in this stage should have for its aim the correction of that condition that the gastric analysis has revealed, and as this may be either of a hyper or hypo type no definite statement can be made, though my experience has been that hyperchlorhydria is by far the most frequent condition. It may be stated that it is no uncommon thing to find this derangement associated with a dilatation and mild glandular gastritis.

A hæmatic tonic is nearly always needed and it is usually my plan to give some of the organic preparations, and I have found in this connection the peptonate to be the most serviceable form. Elimination can be much heightened by the drinking of large quantities of a pure water. I know of no mineral water that is of value in these cases. If laxative medicines are needed I generally confine myself to the well-established action of cascara sagrada at bedtime, preferring the fluid to the solid extract of the drug, as it has the added advantage of a bitter tonic. The non-medicinal treatment is very important

in this stage and consists of mechanical massage or vibration, hydrotherapy, and electricity.

The limits of this paper will not permit me to dwell upon the many advantages that are to be obtained from the application of mechanical vibration to the human body, but it has a powerful influence upon the circulation, elimination, and digestion. I have especially observed that it is valuable in the relief of the indefinite fugitive and localized pains of this disease and can be counted on as a general reconstructive of no mean power. Tonic electrotherapy is indicated and is generally applied by me for its systemic effects, using the galvanofaradic current applied with a large pad over the abdominal region and the other electrode to the nape of the neck and spinal column. The static, wave current, general insulation, and auto-condensation by means of the high-frequency current are all valuable accessories in this system of treatment. It is, however, upon hydrotherapy, in my opinion, that we must look for the most satisfactory influences in the preliminary stage of treatment and in the electric light bath, superheated dry hot air, and the various percutient hydrotherapeutic applications we have a remedy whose influence is prompt and far-reaching.

Several investigators have noted, and I have confirmed this myself, that the electric light bath is pre-eminently a method by means of which elimination may be stimulated and with the added hydrotherapeutic treatment that follows not only enhances this action, but is an agent by means of which neuro-cardio-vascular exercise is obtained. The impact of cold water upon the periphery, carefully graduated to the capacity of the patient, who must be trained to stand it, followed by a prompt and vigorous reaction, sets in operation influences that cannot be accomplished by any medicinal agent or agents at the present time known. Hyperæsthetic impressions traveling from the periphery to the center are lessened, nerve tone improved, circulation bettered, elimination hastened, appetite im-

proved, respiration increased, and the dry and harsh skin made to become succulent and eliminative in action. It is by this means that internal toxæmia is rapidly and satisfactorily removed. Note should be taken that at this time no attempt is made to reduce the quantity of the drug taken, but reduction is reserved until the patient's reactive and recuperative entities have been stimulated to the highest. A program of the plan of treatment to be adopted at this time would include a treatment by each of these measures during the day and thus the full benefits of each obtained. It is my opinion that the patient should be given at least one or two weeks of this preliminary treatment before reduction takes place, after which time reduction must be commenced. How far we shall continue the reduction until the withdrawal takes place is a matter that can only be determined by the judgment of the physician who undertakes to treat these cases, for there is no fixed rule. Suffice it to say that moderate and steady reduction should take place until under this system of treatment discomfort begins to be felt, at which time we enter the second period or that of withdrawal.

The second stage, or that of withdrawal of the drug itself, is usually accomplished by most specialists in this line by the substitution of hyoscine hydrobromate for the morphine itself. I have tried this plan of treatment and successfully, and would not hesitate to use it in certain cases, but my experience has been that hyoscine hydrobromate is a drug not to be trifled with nor carelessly prescribed, and further, that where the preparatory treatment has been thorough hyoscine hydrobromate is not required. It is my plan when I am ready to remove the morphine to place the patient in bed and keep him there, not allowing him to leave the room. A special nurse is placed with him and the medicinal and non-medicinal methods continued. The treatment of this stage is largely that of the Weir Mitchell rest cure, and involves the use of the dripping sheet in the morning, vibratory stimulation in the forenoon,

general faradism in the afternoon, and the general wet pack at night. The diet is liquid and supportive, from which all meats are eliminated. The tonics are continued and neuro-cardio-vascular support given by hypodermic administration of well-known remedies of this class. It should be noted in passing that at this stage of the game we have our patient in the most favorable surroundings and under the most favorable conditions. With practically no discomfort, with the moral help and support that a nurse and physician can give he knows that it is only for a comparatively few hours that a strain must be undergone. The continued sedation and neural strengthening that comes from the administration of the non-medicinal remedies makes his condition at this period a very pleasant one as compared with the horrors generally depicted or believed to exist, and in addition we do not have to deal with the delirium that accompanies the administration of hyoscine. The duration of this stage is usually short and with the complete withdrawal of the drug it is astonishing how quickly appetite returns, digestion improves, and the cloaca regulate themselves. It may be noted in passing that if discomfort or localized irritation arises it can be very frequently relieved by the application of a fomentation properly applied, this being especially true of the unpleasant feeling in the calves of the limbs.

The third or convalescent stage embraces a period that is difficult to estimate, but in my opinion it should *never* be less than four weeks, preferably six. The convalescent period is largely a resumption of the preparatory stage; that is to say, the use of tonics and the administration of the various non-medicinal measures with a view to the stimulating of the functions of the body and removing them from the warped habit of action that has, as a rule, constituted their condition. Before the patient is dismissed all medicinal treatment should be stopped and he should be impressed with the idea that he does not need drugs of any kind or sort, and that for him the resumption of medicinal measures is dangerous because of the

subtle suggestiveness and because of the previous association of morphine with the idea of drug taking. Upon dismissal patients should keep in close touch with the physician either by correspondence or personal interview, and I think that where this is maintained for quite a little time the "cure" is, as a rule, better and more satisfactory. The question generally arises at this point as to what per cent. of cases remain well and what percentage relapse. This is a very difficult matter to arrive at with accuracy, but the cases I am here speaking of, that is to say, those who are selected before the treatment is commenced and who belong to class one of the classifications, seven out of ten remain free from the use of the drug. I have carefully noted the causes that lead up to a resumption of the habit and have found that in nearly all the 30 per cent. of relapsed cases that the relapse is, as a rule, due to some great mental or physical strain in which the patient has been again led to use opium or its derivatives or liquor as a means of tiding over until the pressure is passed. I am firmly of the belief that many of these cases would never relapse were it not for these unusual strains in their lives. For example, a physician whom I had treated remained well for two years and relapsed upon having to nurse his wife through a serious attack of typhoid fever followed by a long convalescence. He has since recovered under my care and up to the present writing has shown no tendency whatever to use the drug, although in active practice. I think that the majority of thoughtful men will agree with me when I say that personality has a great deal to do with the successful management of these cases, probably as much so as in the management of the hysteric. Judgment, tact, patience, thoughtfulness, attention, faithfulness, and kindness are great levers by means of which we can attain the end.

I appreciate more fully than I can write that this paper is more or less fragmentary in character, but it represents the experience and results of no inconsiderable number of cases.

I have therefore reached, in my own mind, the following conclusions:

The habit is universal in all climates and in many tribes and races. In comprehending these cases it should be borne in mind that pain is real, patent, and positive, while pleasure depends much upon the perfection of functional activities of body and mind. That they are not separate entities depending upon social status, surroundings, habits or training. The classes that use them are physicians, the cultured, the literary, the artistic, due largely to an over-endowment of nerves or neurotic inheritance. The habit frequently starts from uncomfortable and painful conditions, notably insomnia, neuralgia, rheumatism, etc., cases in which morphine should not be prescribed. Its action upon the nervous system depends upon the person's particular nervous constitution, and while truthfulness is affected still the morphinist is not usually half as bad as he is painted. The solitary use of the drug is not merely to secure pleasure, but to enable these people to labor without suffering. Their endeavor to hide that is natural, as all humanity desires to avoid exhibiting the skeleton in the closet. Physicians form a large class of morphine users, it being brought about by the over-strain of their professional work. The popularity of morphinism is largely due to the rapidity and certainty of the results obtained from its subcutaneous use and the habit is more rapidly formed under the American strenuous life than in far Eastern countries. The pathology of the condition is a double toxæmia, the first endogenous, internal, and auto-infection arising from the waste products in the system, due to imperfect elimination; second, an exogenous, external, and foreign poison and morphine, both interactive. In the treatment a frank and open talk with the patient is a necessity and from this time on he should be imbued with hope. "It has always seemed to me that one of the essential features in the treatment of this class of cases is the physician himself. He should not only be healthy — *mens sana in corpore sano* —

but he should be a non-user of all drugs, should not use alcohol and should preferably be an abstainer from tobacco." The psychic influence of this is to do as I do. The treatment is divided into three stages, the preliminary, the withdrawal, and the convalescent or recuperative period. A careful examination is made orally, physically, and quantitatively of the urine, blood, and gastric juice; drugs are avoided as much as possible, and a hæmatic tonic given; elimination is stimulated by massage, electrotherapy, and especially hydrotherapy, by means of the electric light baths, both arc and incandescent, the fomentation useful for localized pains. At the time of withdrawal the patient is put to bed and given a modified rest cure and supported by neuro-cardio-vascular tonics. The convalescent stage is a resumption of ambulation and non-medicinal therapy, especially hydrotherapy; relapse generally due to a passing strain. Judgment, tact, patience, thoughtfulness, attention, faithfulness, and kindness are great levers in the treatment of these cases.

The Arlington Chemical Company of Yonkers, N. Y., is publishing a series of compilations of the fundamental legal principles governing the relation of the physician to his patients and the community at large under the title of "The Law and Doctor." This is a welcome brochure and will be very highly appreciated by all the physicians who are fortunate enough to receive a copy. Write to the company for information concerning it.

The valuable paper by Prof. Benedict on the "Scientific Aspect of Moderate Drinking," which appeared in the last issue of this JOURNAL, had originally been published in the *Medical and Surgical Reporter* of Boston, and through an oversight was not properly credited to that journal.

AN OBSCURE FORM OF ALCOHOLISM INVOLVING IRRESPONSIBILITY.

BY T. CLAYE SHAW, M.D., F.R.C.P.

Of all the causes or mental conditions which eventuate in murder or self-destruction none is so frequent or powerful as drink, whether acting directly or indirectly. The imbecile or degenerate is easily led into crime by impulse when he has had drink, but under ordinary circumstances his very stupidity makes him tolerant—or indifferent—to anger-stirring causes which would strain the balance of a higher equipoised intellect. Jealousy and revenge will hesitate for years on the brink of action, but they plunge boldly into accomplishment under the compelling force of drink. The scientific, calculating murderer is rare, and he is, as a rule, careful in his methods and patient and deliberate in his tactics; he knows that alcohol would lead him to carelessness and risk of failure, and he keeps away from excess of it. In all ways drink is the beginning of the end. It has had its good results when leading to babbling by the accomplices in unlawful enterprise, but it is the bane of secret societies, and its powers of denudation are so well recognized that no one who is a slave to it can be trusted, for henceforth the veil is torn away from the inner mind and he has lost the proprietorship of himself.

So immediate is the connection between drunkenness and crime that all the details of it should be well analyzed with the view to explaining the question of responsibility, and I propose to draw the attention of the society to one phase where the signs of inebriety are so masked (though the real loss of

inhibition is intense) that only by a special consideration can we come to a right conclusion as to whether the individual is to be held responsible or not.

The question of responsibility in criminal cases — which it is, understand, the proprium of the jury to decide — has perhaps a different meaning as applied medically and legally. The law takes no notice of a man getting drunk as long as he is not incapable or disorderly, and it holds him responsible for his actions, which seems to be logical; but the physician knows that when a man is drunk he is not medically responsible; his voluntary actions become reduced to impulsive ones; he acts upon motives which in his true character would have been restraining ones. Law and medicine are not likely to agree, therefore, upon this question of responsibility until the former recognizes that character is the ultimate cause of will, and that whatever changes the character modifies the will, and therefore changes the condition of responsibility.

In the earlier stages of intoxication we notice how the upper centers of the brain become involved, at first showing instability (which many mistake for brilliancy), then going on to incoherence, and finally to exhaustion or to coma due to toxæmia. After a time, varying with capacity for elimination of the poison, resistive power of the nerve-elements and other causes, the intellectual paralysis ceases and the parts resume function in the inverse order from that in which they disappeared in the majority of cases; but there is a class where this complete recovery does not really occur, though the individuals regain the power of the ordinary reflex brain functions in so complete a degree as to deceive those with whom they are usually in contact, while they are at the time in a state of minus inhibition and are really very dangerous persons both to themselves and others. To the ordinary observer they would pass for sane persons, but they are really unfit for responsibility, and their acts are more like those of somnambulists or of persons in the stage of recovery from an epilepsy.

Some time ago the head of a large government institution asked me the explanation of a condition which he occasionally found in some of the workmen, and which was attended with dangerous results, though the condition, which he attributed to drink, was of a character very special in its nature and characterized by absence of many of the usual indications of intemperance. The rules at this institution in question are very drastic on the subject of intemperance on the part of the officials, and it transpired that though the workmen did not (perhaps could not) indulge in drink by day, they did so exceed at night in the hope that probably the effects would not be visible the next morning, and that they would be able to carry on their duties undetected in their bad habits. On more than one occasion it was reported to the chief that men who had come in to work to all appearances in a proper condition had in the course of the day committed acts foreign to their previously understood nature, and in more than one instance of a suicidal character. In particular one man, who was an old-established servant, came in to work as usual, but after a few hours made an attempt to poison himself by oxalic acid. It was found on inquiry that the man had done his work as usual and been able to converse, though how far his intercourse with other people had gone was not stated: probably it was not much beyond slight reference to the usual work or the commonplaces of the institution. It appeared afterwards that the man had been a heavy drinker, but had always been punctual on duty in the mornings.

It has occasionally been remarked that people who have left off drinking for a short time have become suicidal or even insane when it might have been supposed that the ill-effects of the drink should have disappeared, though, as a fact, the higher centers would appear not to have regained their lost power, and in reality an impulsive state was present. I have often remarked in lunacy practice that the insane symptoms have come on after the drinking habits had been discontinued for a

few days or even longer, and though it would have been difficult to have demonstrated that these people were still under the influence of drink, and therefore impulsive and uncertain, there could be really no doubt of it in the light of subsequent events. These conditions are always very puzzling to those who meet with the victims in the apparently sane intervals, and without doubt they have been the cause of miscarriage of justice before now, because the persons so suffering have been judged to be in the possession of faculties to which they were really not entitled.

It would not be difficult to propose theories for the interpretation of these cases. It might be supposed that between the intervals of drinking and the appearance of the insane or dangerous symptoms and acts the patient had been unable to take food and rest and therefore had become weak, though possessing his faculties, because he showed no prominent signs of perturbation; or that possibly during the interval some ptomaines had been developed which caused the subsequent explosion, though pathology is as yet scarcely ripe for this interpretation.

I remember being called in to see a gentleman whose delusions (of an exalted nature) were very prominent. I suspected that the condition was of alcoholic origin, and so it turned out; but I had considerable difficulty in eliciting the fact from the friends, because they said that, though he used to take a great deal, he had recently not taken any, and therefore alcohol could have had nothing to do with it. Over and over again I have seen cases where alcohol has produced suicidal or homicidal conditions, an interval elapsing between the cessation of drink and the outbreak of the attack, nothing wrong being in the meantime noticed by casual observers. Please note that I do not mean to say that a proper examination would not detect some abnormality or impairment of function, but that to those in his casual surroundings, judging only by the way in which methodical or ordinary routine duties were per-

formed, there seemed to be no change. Minute investigation would probably have disclosed incapacity for attention to new subjects, irritability of temper, instability, and change in emotional tone, all pointing to an impulsive condition and loss of inhibition.

Clinically we note that the effects of alcohol are either immediate in producing the delirium and excitement familiarly known as drunkenness, or in chronic changes which gradually set up organic faults in the nervous and general system, leading to slow loss of normal function, or else in the condition which I am describing, and which has not hitherto received the attention it deserves. I can best describe the state as one akin to shock of a partial kind, as if, while leaving the lower centers free to act, the upper centers were for a time in a greater or less degree of paralysis, the general condition of inanition of the system with its impairment of appetite and want of proper sleep causing a depressed emotional tone, and perhaps a distorted functioning of such parts of the higher centers as may be capable of action of some sort.

A parallel course is not uncommonly seen in mental shock on the receipt of bad news, where some time after the stunning effect of the primary blow, the usual organic functions being in the meantime performed as is customary, other signs of irregular mental processes appear, due to the gradual reintegration of centers that have been profoundly, but not irretrievably, damaged.

That illegal acts are not infrequent (indeed are only to be expected) in other conditions where, the lower centers being left in action, the upper ones are partially or wholly incapacitated, is well shown in a case which came under my notice of a gentleman who was indicted for indecent exposure before some children in the street. Evidence was to the effect that this gentleman, who was said to be rather addicted to stimulants, had an attack of the nature of a fit, and that a short time after, when in the street, he undid the buttons of his trousers in the

presence of some children and passed urine publicly. I had little difficulty in showing that the act was merely a reflex one, done without premeditation, and indeed, in all probability, unconsciously. Owing to fluid drinking, the bladder had become surcharged, then came the fit and its after effects, which set up a subconscious condition, while the sensation of stress of urine put in action the usual reflex act of unfastening the dress, etc., regardless of the public circumstances under which it was done. The man was acquitted of criminal intent, owing to temporary disablement from disease.

In order to understand this class of cases we have only to consider the doctrine of evolution propounded by Dr. Hughlings Jackson. The highest brain structures are the last to be evolved; they represent the most complete development of inhibition and will. In the acquisition of habits and of business they are regulative and determining, but this coöperative function once brought about, the carrying on of the process is relegated to lower centers, which are able to perform unaided the work which has been put upon them; they are more automatic, less voluntary, more organized, than are the structures above them; they are also less liable to impairment by poison (such as alcohol) and disease, and a little consideration will show how many of the ordinary exchanges of conversation and action in social life are but the exercise of these subordinate agents.

"Man thinks little and thinks seldom," says Wundt. Were it not so the fatigue of life would be too great. Much repetition reduces the emotional tone so that we react without strain, almost without consciousness, processes which may have cost much thought and much attendant feeling to acquire.

When will power and the higher mental faculties, such as attention, are masked, the lower or subconscious faculties still react in obedience to external or internal stimulus, and this form is either of a simply reflex character or it issues an impulsive display. Action on impulse is often of a dangerous

character, sometimes it is conservative. It is the mode of action of the untutored mind of the child and of the mind which has fallen from its high estate. It is the mode of the hasty and impetuous, and it is the method adopted by nature for the safety or destruction of the individual at a crisis, issuing sometimes in the one, sometimes in the other. Certainly it is the action of the incomplete mind, and therefore connotes irresponsibility.

The routine of life is attended with so little vivid consciousness that it is often difficult to say what has transpired, so little attention do the customary processes call forth, and even in the best educational classes, where there is wider orientation of thought owing to greater range of associations, the same reduced process is at work during the greater part of the social life. In fact the higher centers are out of function for long periods of time, and the coruscations that surprise the ordinary person are but the flashes of light rendered visible when the chief part of the greater center is obscured.

To define accurately the line of margin between responsibility and non-responsibility is impossible. Men may write coherent letters, may dictate the disposal of their property and of their remains, may go about their ordinary work and social observances, and yet be meditating suicidal or homicidal acts all the time; there is no key to the inner life and motives of a man beyond his acts, and these can be only relatively estimated. When they (the acts) clash with the ordered social codes we must conclude that the actor is either criminal or insane, or of some innate mental peculiarity. In the former and latter conditions he may or may not be responsible; in the middle term he is certainly not.

Post mortem examination of any brain would show imperfection. It is a fact that microscopic exploration shows defects and deteriorations in what have been considered to be thoroughly healthy minds, and if so, who shall determine the effects of these intimate, if minute, lesions upon processes of

mind? To me they account for many of the shortcomings of which we are ourselves conscious, but of which the outside world is ignorant and refuses to condone.

A well-known present-time actor said to me the other day that the greatest difficulty connected with the stage was having to perform a part when under the stress of worry or anxiety, and yet the audience would know nothing of this inner mental state obscured to public gaze by the function of subordinate centers, which they are all the time mistaking for the higher processes, which are in reality very differently occupied. If men would only recognize how uncertain their responsibility is, how incapable they often are to form correct judgments where their own interests are concerned, and how vital it is for the community that they should seek the advice of others whose higher centers are unimpeded by personal considerations, there would be less crime and fewer mistakes. He who goes to his lawyer, his doctor, his priest, or his friend obtains relief because he is substituting for a limited and untrustworthy hierarchy the judgment of an unbiased mind, free to act because cognizant of the conditions involving responsibility.

It is the knowledge of the imperfect integrity of brain structure in the highest regions which often causes conflict between the lawyer and the physician; the former sees the codes transgressed or evaded, and would make the individual responsible because there is apparently nothing wrong in the ordinary reflexes of social life; the latter knows that the highest and most delicate centers are rarely complete and able to function regulatively, and he therefore hesitates before allowing responsibility.

Incomplete function in any other viscus than the brain is every minute before our eyes, but as it rarely leads to anything beyond inconvenience to the individual it is not of so much importance to the community; but when the brain is impaired no one can forecast what will happen to the individual or to society.

I look upon the law list as evidence more of disease than of wickedness, and the lawyer and the physician as allies in the corporeal and spiritual treatment of the infirmities of crime and insanity. It may be objected to the above interpretation that punishment often prevents the repetition of crime.

This I quite admit, but it has nothing to do with the question of responsibility. The conditions of punishment often act medically and enable a disordered or impaired organ to recover its equilibrium. In some cases punishment comes as a relief, the individual feels that his debtor and creditor account is balanced, stress is relieved, and the overburdening of a paralyzed center is cast off; but to proceed to the ultimate resort of doing away with the individual for all time is a process which should only be carried out under the most particular circumstances. In my opinion the extreme penalty of the law should rarely be visited on women; they are too delicately organized, their mental integrity is too easily destroyed, their impulses and emotions are beyond our ken, and therefore we can only judge them by an inadequate standard.

Is it not for medicine to determine the conditions of responsibility at the time, and for the moral physician, the lawyer, the toll to be paid? — *Medical Press and Circular.*

A committee of physicians in Berlin, Prussia, have arranged for a popular scientific course on subjects connected with alcoholism, which are to be held gratuitously during Easter week in Berlin. Professor Rubner will be the chief lecturer, with a staff of assistant lecturers to support him. The subjects selected are: "History of Alcoholism in Scandinavia," "Alcohol and the People's Budget," "Alcoholism and Mental Disease," "Alcoholism and Nervousness," "Alcoholism and Prostitution," "Alcoholism and the Working Classes," "Alcoholism and Aid to the Poor," "Alcohol and Childhood," "The School and Its Duties as Regards Alcoholism," "Alcohol and General Traffic."

THINGS THAT MAKE INEBRIATES.*

BY DR. DAVID PAULSON of the Hinsdale, Ill., Sanitarium.

We can expect to make but little more advancement in the great battle for temperance until we recognize some of the immediate causes for intemperance. Dr. Brunton, the eminent English physician, tells of a drunkard who complained because the temperance people were forever telling him about his drinking, but none of them told him how to get rid of the thirst that *compelled* him to drink. What would we think of a farmer who spent his time trimming the tops of his troublesome weeds instead of pulling them up by the roots?

There is cause for the drunkard's thirst just as there is a cause for the fever patient's temperature. Divine writ declares the "curse causeless shall not come." If our modern dinner tables could be cleared of those things that create a craving for liquor there would be more vacant places at the bar table, for the saloon, instead of being the first step in the drunkard's career, is frequently the devil's hospital sought out by those who already have had abnormal tastes created within them by a fond mother's cooking.

Our high-pressure life is developing a class of people who have weak and sensitive nerves. The mucous membrane of the stomach is as delicate as the lining of the eyelid. Many of those who are fed on veritable mustard plasters in the form of condiments and highly-spiced food have aroused within them a thirst that the town pump cannot quench, and a certain

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number of these unfortunate mortals soon discover that the saloon keeper and the patent medicine vender dispense the stuff that satisfies the craving that is created at the table.

Francis Willard once said that the kitchen is often the vestibule to the saloon. When a boy's delicate nerves are irritated by a dietary composed of juicy beefsteaks, doughy bread, and pasty mush that is almost certain to ferment before it can be digested, is it any wonder that he instinctively craves the temporary felicity of the cigarette or the paralyzing influence of alcohol? That fond mother who prepared such food for her boy is unconsciously the best friend of not only the cigarette dealer but also of the saloon keeper, for she is developing business for both of them. How useless it is for her to implore Providence to deliver her boy from the curse of the cigarette evil and liquor traffic while she is daily placing before him a dietary that must physiologically create a demand for their effects just as a large quantity of salt would develop in him a strong and almost irresistible desire to patronize the water bucket. The divine declaration, "Whatsoever a man soweth, that shall he also reap" is as unerring in its operations as the law of gravitation.

Our experience in dealing with multitudes of drunkards in our Chicago Life Boat work has thoroughly convinced us that the partaking of an extensive variety of vile and indigestible foods saturated with substances that blister, burn, and sting as they are swallowed, that are added for the purpose of giving the palate a twist, also twist the nerves and even the temper and character, and almost drag the poor struggling victim of the drink habit into a saloon when he passes its doors.

We have not done our duty for these sad wrecks of humanity until we have shown them how to sow for temperance instead of intemperance, for the axe should be laid at the root of the tree. Feed such a man upon a simple, nutritious, non-irritating, wholesome dietary gathered from the lap of nature, properly prepared, and fully half the battle is already won.

Scientific cookery should be regarded as an important part of the education of our young people; indeed, some one has said that cooking should rank highest among the fine arts. Yet the enterprising business man who demands an accurate stenographer, a well-informed lawyer, and a discreet manager, is fully satisfied that the woman in his kitchen is a competent cook if she can flavor and put together half a dozen food ingredients so that they will satisfy his taste, even though she may have no intelligent conception as to whether they will build up or destroy the brain, blood, or other tissues.

Frequently children have the seeds of intemperance sown within them by being doped with patent medicines in their infancy. A widely advertised soothing syrup, which has undoubtedly killed more children than Herod ever slew, contains one-half grain of morphine to every two ounces of the drug, and infants are particularly susceptible to the influence of narcotizing drugs.

It has been estimated that there are a million morphine and cocaine fiends in this country. This is not surprising when so many children are introduced to the bewitching effect of these drugs and their nervous systems are trained to demand this unearned felicity even before they are old enough to ask for it. "Train up a child in the way he should go, and when he is old he will not depart from it" is just as true when it is trained in the wrong habits as when it is trained in correct habits.

In recent years disguised intemperance in the form of the patent medicine evil has become a formidable rival to the saloon itself, and it is astonishing that clergymen, statesmen, and other eminent men who protest against the use of beer, containing from two to five per cent. of alcohol, will furnish glowing testimonials of well-advertised patent medicines containing in some instances more alcohol than ordinary whisky, evidently forgetting that the alcohol sold over the drug counter is just as harmful as that sold over the bar.

Dr. Osborne of Yale College in his paper read before the last American Medical Association spoke of one patent medicine firm that was reported to be using five hundred barrels of whisky each week.

The idea that alcohol is a food is a thinly coated scientific sophistry which has furnished a desirable excuse for thousands of moderate drinkers. It is true that a small quantity of alcohol will burn or oxidize in the body, but it ruins the body while it is burning, just as a quantity of gunpowder could burn in a stove, but it would blast it to pieces while it was burning. Professor Kraepelin of Heidelberg, Germany, one of the world's greatest authorities on experimental psychology, has recently made two thousand experiments with instruments of precision in which he has scientifically demonstrated that as little as one-third ounce of alcohol will appreciably depress sight, hearing, feeling, and the various mental operations.

The best men in the medical profession are beginning to recognize that genuine and permanent healing cannot be put up in bottles and bought and sold at so much an ounce. It is primarily the result of coming in harmony with nature's laws and the intelligent use of such physiological remedies as exercise, air, proper food, hydropathic measures, electricity, and a simple confidence in an all-wise God.

The physician who intelligently and skillfully brings these influences to bear upon his patients uses less and less of drugs and has the least use of all for the paralyzing influence of alcohol.

The English Lunacy Commissioner's report shows that inebriety is stated as the cause of insanity from eight to fifty per cent. of all persons admitted. In some sections alcohol is used more freely than in others. There the percentage of insanity from this cause is greater. There is something very significant in these figures.

HAVE DRUG ADDICTIONS A PATHOLOGIC BASIS?

ALBERT E. STERNE, A.M., M.D.

Superintendent Norwood Sanitarium, Indianapolis.

In studying the pathology of drug addiction it seems to me we have a threefold problem to solve. First, there is the hereditary abnormal aspect—the psycho-cellular pathology; second, the acquired abnormal conditions of the individual, which lead to the use of drug stimulants—the pseudo-pathology; and, third, the effect on the system of the particular drug used—the true pathology of the addiction.

I am perfectly well aware that good authorities deny the influence of heredity among drug habitués, but I do not believe that this ground can well be maintained. First of all, it is a matter of record in the study of the histories of a large percentage of habitués of all kinds that we find taints of varying degree among the ancestors of these individuals. It is a matter of very common occurrence to learn that either one or both parents, or some immediate ancestor, had been the victim of chronic nervous or mental affections, or had been addicted to the habitual use of alcohol, morphine, or some other narcotic. When we consider the especial meaning of heredity, it should become apparent that the influence on the individuality and innate characteristics of the nerve cells of the offspring should be distinct.

In all probability, in the light of modern research, we must admit that there is no such thing as hereditary disease, but it is equally certain that the conditions, characteristics, and environments of the parent cell may be conveyed to the fetal cell

to a disproportionate degree. True heredity must reach back to the very initial fertilization of the male and female cell. It must exist in the primary conception of fertilization. The particular development of this individual fertilizing cell undoubtedly modifies, either in the one or the other direction, the manifestations which may be, at the beginning, inherent in this cell. After fetal life, conditions of environment and education, and the development of associations, further serve to modify for good or for evil the inherent characteristics of the primal cell. On this basis of reasoning, it seems to me that it would be impossible to conceive of malignant disease as existent in the primal fertilization, else would the ovum never develop into maturity. This would not necessarily obtain where we were dealing merely with tendencies of the parent cell, which might later develop through circumstances or environment into a nervous diathesis, resulting finally in a state of atavism. It is a well-known fact that the progeny of chronic invalids, of epileptics, or of alcoholists, and mental and moral wrecks, develop the tendencies of ancestry to an augmented degree. The annals of criminology, as well as of the great charitable institutions of the world, reveal this to a remarkable degree. It is my belief that the same thing can be demonstrated in the peculiarities of the offspring of those addicted to the inordinate use of the various drugs.

We will all of us grant without question, I believe, the effects on the mental and moral sphere of the progeny of drug habitués, yet the mental and moral determination of these cells must be dependent on the healthy organic conditions of these cells, on their ability to exhibit the normal characteristics of brain cells, especially as regards their motility—that is, their power to alternately become active and to fall into repose.

In the histories of those drug habitués who take up the, so to speak, inherent tendency to the use of the drug, it is remarkable to find the constantly recurring fact that either one or both parents or immediate relatives were also drug users.

The occasional causes for the acquirement of drug habits are too numerous to classify, but, taken as a whole, they may be subdivided into, first, the use of drugs purely as a stimulant; and, second, their use to efface some physical or mental distress, whether this be in the nature of pain, worry, grief, or shock. Ultimately, the main factor in the causation of all drug habits, whether they be based on hereditary influences, on physical or mental weakness, or on physical or mental pain, is always the same, namely, the weakness of the nerve cell and the lack of vital force, which make the individual powerless to combat the strenuousness of existence. In the one or the other direction, the victim seeks to fortify his failing mental or physical power through the aid of a stimulant.

Unless the individual be burdened by extremely strong hereditary taints, or be the subject of innate, vicious moral principles and of the lowest and lower grades of intellectuality, there is usually some element of physical weakness in play, which he endeavors to overcome by artificial means. A study of the individual histories of such persons will almost invariably show that there has been some definite cause which has brought about a physical incapacity to deal with the problems confronting him. It is not at all unusual to find that a previous illness has resulted in bodily prostration, not infrequently associated with a greater or less degree of insomnia, to overcome which the patient has had recourse to alcohol in some form to sustain the physical vigor, and to opium in some form to bring on sleep. It is almost as frequently true that mental or psychic pain has been the source of the drug addiction.

In this connection, it is but just to say that members of our own profession have often been derelict in their attitude toward their patients, in that they themselves have thoughtlessly prescribed stimulants of the alcoholic variety and used narcotics of the morphine variety in a careless manner, and in individuals whose resisting power was so low that they readily became the victims of a habit which had been found to bring such material

relief. I take this occasion to condemn the practice, wherever it may exist, of using opium to induce sleep. Opium and its derivatives should be used only for the definite purpose of relieving intense pain, and then only as a last resort and under circumstances which warrant the physician in the belief that his patient will not become addicted to its use.

To the ever-increasing army of alcoholics and drug users, men and women of the higher social strata are bringing a vast contingent, certainly as large, if not even greater, than the total number of recruits from the lower classes. The reason for this is not hard to find, when we consider for a moment the vast amount of intellectual and vital force necessary to keep up with the advance and demands of civilization. While it is equally true of lawyers, clergymen, and social idlers, perhaps the best example and the one which appeals most to us, is that of a physician who himself becomes a drug habitue. Unfortunately, a greater and greater number among our profession are seeking assistance and solace in that direction. We are especially unfortunate in that our knowledge of medicine and of the various drugs, and the readiness with which we find them constantly at hand, make the physician the easiest victim of all.

The physician with a large amount of work and worry, with the ceaseless mental strain, often associated with physical hardships and loss of sleep through the demands of his professional duty, who misses this week one night of sleep and the next week two or three, feels that he needs something to stimulate and keep him in professional harness. He says to himself that he knows all about the drug he is using, that he knows its influence, that he knows its effects and its side effects, that he can stop when the latter show themselves; but it is for all the world like getting on a toboggan slide and determining to step off when you are half way or three-fourths down the course. It is a very easy thing to determine to do, but an extremely hard one to accomplish. It has always

seemed strange to me that physicians who need such stimulants do not seek the safe refuge of strychnia, instead of the dangerous solace of opium and alcohol.

In considering the third problem before us, namely, the effects on the tissues of the system as a whole, and on various organs, notably the central nervous system in particular, we have a peculiar difficulty to overcome.

It must be remembered that most users of drugs have been addicted to the habit for longer or shorter periods of time, during which processes other than those induced by the drug used may have concurrently been in play. To arrive at the true pathology of any addiction, therefore, it would be necessary to exclude all factors other than that of the drug employed. Unfortunately for the solution of this particular problem few persons, relatively speaking, die from the effects of drugs used in habitual wise. Intercurrent diseases usually bring on death. In acute poisoning, as in cases of suicide, the effect is so rapid on the vital centers that cellular changes have had no opportunity to occur, and in those cases rescued by immediate efforts, presumably few, if any, develop; at least, we are unable to study them.

We must, therefore, confine our inquiry into such pathologic conditions as may be found in individuals who have been habitues for periods of time, and here again we are confronted with a universal difficulty, for the ultimate effects on chronic users of the common drugs, like alcohol and opium, is that the entire system becomes highly acid. This really in itself constitutes a true pathology, and, in my opinion, it is the true pathologic basis. Just in this feature, however, we encounter another problem. We know that acidity of the organism, if that state exist through a space of time, in itself induces cellular changes within the various organs. So far as the minute and even the gross alterations of tissues are concerned, these are very similar in all conditions of an acid character, no matter what particular factor may have produced the hyperacidity.

This is as true of the use of opium as of alcohol, the effects of which have been well studied and are clearly understood.

It has been claimed that the pathology of chronic morphinism differs materially from that of chronic alcoholism. On this ground it has been claimed that the effect on the offspring of morphine habitues is in no wise similar to that of the effect on the offspring of chronic alcoholics. To this doctrine, I am absolutely opposed. If it be granted, as it undoubtedly will be, that addiction to any drug through a long period of time brings with it a deterioration of cellular activity in the higher nerve centers of the user, then we must also admit that the character of the fetal cell would be determined in analogous wise to that exhibited by the cellular deterioration in other affections. This is especially manifest when we consider the development of the ovum in utero of a mother whose system is impregnated by the physiologic effect of opium. Examples of this malignant and characteristic effect have repeatedly been found in new-born infants of mothers who, during the period of gestation, had been using morphine, either alone or in combination with other drugs, constantly. Such infants, immediately after birth, differ from ordinarily healthy children in that they are very apt to be inordinately drowsy, refuse to nurse, and have been known to sleep steadily for twenty-four hours. After the period of somnolence, the stupor disappears and those infants show excessive irritability, have colic pains, and are liable to become very cyanotic. These are the so-called "blue" children (Happel). The cyanosis is probably due to a lack of closure of the ductus arteriosus and foramen ovale in the heart. The administration of opium in those instances where the development of the child has not been irreparably arrested, promptly relieves not only the irritability and the colic-like pains, but also the cyanosis, and, moreover, the opium must be administered constantly and the child must be weaned away from it, in the same way as in adult narcotism.

It must be understood that the foramen ovale is never

closed until after the birth of the child, that it is the very last remnant of fetal existence which remains to be completed. If so malignant an organic defect can result from habitual use of morphine, then I cannot conceive of any valid ground on which to dispute the effect on nerve cells in the brain, notably in the presence of the evidence which is manifest in the relief of the symptoms through the administration of opium in any of its forms.

In many instances, we are dealing with the finest, most minute details of the anatomic and physiologic structures of the body. The effects of the alcoholism in this respect are well understood. "We know that alcohol, used in constant and varying quantities, exercises an extremely deleterious influence on the vascular system throughout its entirety. Secondly, we know that it extends its pathological effect to the various cellular tissues of the body, notably that of the nervous system. I am referring here especially to the individual who is denominated a "steady drinker," the man who always drinks and who prides himself on the fact that he never becomes intoxicated. It is just this man in whom the effects of the stimulant are most manifest. The occasional or periodic drinker — unless these occasions become so frequent as practically to form a continuity — comes to little or no grief, but the steady drinker is the one in whom the delicate regulatory mechanism of the vascular system becomes early impaired. From this point onward the pathologic process is constant and destructive, and ends in a hardening of the blood vessels, which predisposes to tissue inanition and faulty metabolism. In consequence, we note the general disturbance of the emunctories, with disease of the kidneys, liver, and the other organs of the body. In the nervous system, the effect is especially bad. Here we note not only vascular changes with degeneration of the blood vessel walls, but we have characteristic cellular changes in the brain; disarrangement of the chromophyl-granules, with distortion and dislocation of the nuclei and nucleoli, and vacuolization of the cells.

If the process does not go too far, we find in such cases manifestations of the disturbance of the function of the nerve cell, with a loss of power for activity and repose, which is indicated by a general neurasthenia and cerebrasthenia. If, however, the process passes beyond this point, which I should designate that of "recoverability," then we have exhibited the paralysis of power of the cells in whatever field of function they may represent.

What has been said of the pathologic effect of alcohol is, I believe, equally true, though probably in far less degree, of other drugs used to excess. While many good authorities contend that this is not the case and that morphinism and its sister vices are purely diseases of the moral and mental sphere, it seems to me that they forget the essential power of motility in brain cells. It seems to me that it makes no difference whether we are dealing with a brain cell of motor function, or moral function, or intellectual function, the same principles must hold good in any or all of these cases. I am an adherent of the doctrine of the motility of the nerve cell, which in its normal condition has the power to change somewhat its form by withdrawing its dendritic processes from contact with other processes, but in no wise has the power of changing its concrete location. If, therefore, for any cause this loss of motility in the nerve cell, which is a structural thing, becomes impaired beyond the power of recovery, then we have a pathologic basis of a structural nature in the cell itself. I believe, therefore, that not only chronic alcoholism, but also chronic drug addictions of every kind have a physical basis. We must not lose sight of the fact that structural changes of the cell, heretofore beyond our limits of vision, are now known to be possible of study by means of intense lateral illumination, which has increased the power of our microscopes many hundred-fold.

In the near future we may justly hope to acquire definite knowledge of pathologic cellular and other changes, of which at the present time we have no adequate conception.

Just as the fundamental factor for the necessity of all stimulation by drugs lies in the innate loss of force within the nerve cells, so the universal ultimate pathologic effect of almost all drugs used to excess is to render the entire organism highly acid. Certainly this is true of alcohol and of opium, the most common addictions. Whether or not many of the pathologic tissue changes do not depend directly on the hyperacidity of the system remains as yet a matter of doubt and study.

While this is undoubtedly true, it seems to me that we may even now assume that drug addictions have a pathologic basis, expressed as follows:

1. By the hyperacidity of the system.
2. By minute structural changes within the cerebral cells in particular, and probably also alterations in the vascular tissue.

In addition, we must admit that hereditary influences and the presence of faulty conditions — physical, mental, and moral — play a most important rôle in the development of narcotic habits, but that, while they may have a pathology all their own, this must in no wise be considered an intrinsic feature of the true pathology of drug addiction itself. — *Reprint from Journal of American Association.*

Dr. T. H. Evans of Philadelphia has published a series of articles in the *Medical Times* on "Narcosomania," with reports of many cases. Under this term he includes inebriates from alcohol, opium, cocaine, and other well-known drugs. He makes it very clear that the central object is narcosis and that all these drug addictions have a pronounced physical basis and should be treated as diseases. We shall quote from these papers largely in the future, and congratulate the author on the advanced position he has taken in this new field.

TABLE WINES: ARE THEIR USES TO BE
ENCOURAGED?

HENRY O. MARCY, A.M., M.D., LL.D., Boston, Mass.

I suppose the preacher of even a lay sermon is expected to select some text more or less befitting the subject of his discourse; therefore, I have chosen I Timothy, v, 23: "Drink no longer water, but use a little wine for thy stomach's sake and thine often infirmities."

In these days of biblical exegesis the reverential respect of the fathers has become badly shaken, and with perfect complacency we now revise the revision of the revised word until, like the boy's jackknife, the new handle, fitted to the new blade, is still claimed to be the same old knife.

The first revision was in the earlier day, when the crusaders of the new temperance faith openly absolved allegiance to King Alcohol, and declared that public tipping at the house of the tapster should be abolished. The temperance lecturers dwelt on the evils and the doom of these open enlisted followers of the King, and the pictures of the physical, financial, and moral ruin of these men was so graphically depicted that every listener would have had a delirium of nightmare had he not conscientiously believed that the photographic vision was of the "other fellow" and not of himself. These same moral temperance teachers, for the most part, accepted it as orthodox that whisky, brandy, rum, gin, etc., were excellent medicines, and that when the tides of life ran low they were indispensable to tone and brace up the general system.

After having shown that the rôle of these so-called remedial

agents was founded in a misconception of a conservative prejudice descended from the fathers, it was asserted, and abundantly proven, that strong alcoholic drinks were injurious as medicines, and rarely if ever to be administered for the good of the patient. Still further revision showed that when these stimulants were taken, even in small doses, but in daily repetition, certain chronic changes of the tissues ensued; that such individuals, although seemingly well, often added unduly to their weight by the lack of elimination of waste material, and that they became subject to certain chronic diseases affecting especially the kidney and liver.

Then it was demonstrated that the resistant power of the organism to disease was lessened. As an illustration, an increased tendency to tuberculosis.

A still more careful analysis of these revisors demonstrated that the experience of the centuries was all wrong; that the witness, who in January most earnestly testified that he drank alcohol and it warmed him, was considered prejudiced, especially when it was shown in evidence that the same individual claimed that after taking his favorite beverage in July he was cooled thereby.

The physiologist who became a member of this investigating committee, after a prolonged and profound research, showed that the especial monitors — God's sentinels at the inner gate of our consciousness — had been more or less narcotized, and, therefore, did not correctly report the state of the weather. Following this new lead of investigation, it was demonstrated that in perfectly healthy young individuals, selected for the test, moderate doses of alcohol lessened the special senses in an almost uniform ratio, so that vision, hearing, smell, taste, touch, muscular force were all appreciably lessened; therefore, it followed that the endurance and fighting qualities of the soldier and sailor are impaired; that the soldier cannot march so far, endure hardship as well, or shoot as accurately, and that since each soldier of the United States represents an average annual

cost to the government of \$1,000, therefore the economics of the equation demanded that as a fighting machine his ability should not be impaired by the taking of alcohol.

The revisors of the revision were even now not satisfied, and by further scientific investigation attempted to prove that alcohol in all its different forms of drink is alcohol still, and that it does not matter whether it represents a weak solution, as ale, beer, cider, or light wines. In other words, that an ounce of alcohol taken in a quart of beer or in a pint of light wine is just as injurious as if diluted in the same amount of water; that it is a poison, and exerts its influence on the tissues in a directly relative manner.

Now, if this is the modern, scientific explanation of the effect of alcohol on the animal tissues, where will we find the truth of our text as announced by the great Apostles? And why should we not accept the teachings of our fathers, fortified by the experiences of the centuries that the discomforts due to a defective digestive process might be speedily relieved by a dose of hot toddy? Our physiologist says the sensation of discomfort is relieved as by a narcotic, but the digestive process is retarded rather than enhanced by the remedy.

Some scientists stoutly affirm that a small quantity of alcohol may be safely oxidized in the tissues, and have even gone so far as to state that the average healthy adult may thus dispose of two ounces of alcohol in twenty-four hours, transposing it by a process of oxidation into heat units. But the same opinion is carefully qualified by the statement that the temperature of the individual may be more easily and safely maintained by the transposition of ordinary food products.

If this brief résumé of the physiologic effect is correct (and in the support of this opinion it is easy to quote a long array of the best modern scientists), what can be said in favor of the uses of wine as table beverages?

Even from the remotest antiquity, in every generation and among all peoples, the vine has been cultivated and its products

held in the highest esteem. Poets have vied with one another in singing its praises, and the grape in its many varieties has justly held a high place in public favor. Inasmuch as it was impossible to supply this fruit in perfection in general use, except for a brief period of the year, it was perfectly natural that some measures should be devised for better preservation, and it was easy to determine that this was not possible, except through the processes of fermentation, which modified their juices, and by the addition of a considerable amount of alcohol under favorable conditions rendered permanent their keeping qualities.

Very modern science has taught the causes which produce in great variety the flavor or bouquet, which renders wines so desirable and causes them to be held in high esteem. The general public has been taught for the most part only the injurious rôle of the bacterium, so that, indeed, it is often stigmatized as deadly. The fine flavors of the high-priced creamery butter are now very commonly produced by the introduction into the cream of a special variety of bacteria cultivated for the purpose. Cheese owes its flavor to certain forms of these organisms, and of more recent demonstration is the proof that in the fermentative process of wine-making certain bacteria may be introduced which produce the much-desired flavors of the high-cost vintage which was supposed hitherto possible to obtain only in certain especially favored cellars.

The wise custodians of these establishments had for many years religiously believed, not alone in the even temperature and dryness of their cellars, but had insisted on the advantage of letting them from year to year remain absolutely uncleaned. In this way certain ferments were readily preserved indefinitely, and were thus accidentally introduced into the ripening wine. Profiting by this, selected varieties of bacteria are now cultivated with the assurance of an annual product of high-grade wines. Thus it is demonstrated that it is not the percentage of alcohol which causes these wines to be so high-priced and much

sought after, but something else. And we may well ask ourselves if modern science may not give us this something else in even more desirable form and eliminate the alcohol.

We are all singularly creatures of habit, and become so wedded to certain tastes and flavors that the deprivation of the same is held by the individual as a more or less positive detriment; and this brings us to a subdivision of our subject, to which I can only allude, the so-called flavors, condiments, relishes, etc. The physiologist will tell you that there is a reason why every man requires salt in his daily food, but he will be troubled to explain the almost equally universal demand of the Mexican for the extraordinary use of pepper and of the Italian for garlic.

It would be hardihood on the part of any scientist to advocate the adoption of the universal ration, although he can demonstrate most definitely that a healthy individual of a fixed weight requires certain given amounts of starch, fats, and proteids. When we add to these fundamental elements of nutrition the thousand and one various modifications of food, we recognize that we are doing it chiefly for the purpose of making our daily diet more attractive and giving a better relish for food.

The modern miracle of the preservation and transportation of food stuffs renders it possible to place on our tables in excellent condition the products of all climates at reasonable cost. The banana, a generation ago a rare and expensive tropical fruit, has become of almost daily use, even in homes of those in limited circumstances. Preservation by use of cold storage has worked a wondrous change in the continuous supply of fruits. At a slight increase of expense apples in good condition are abundant in the market for the larger portion of the year. This is also true of oranges and lemons, etc. The strawberry, from its first fruiting in Florida until the end of the season in Nova Scotia, furnishes an abundance of delicious fruit at moderate cost. These are selected as illustrations of the wonderful modern progress which permits the table of those even of limited income to be supplied with healthful accessories to

diet which serve as relishes to the appetite rather than absolute necessities for the preservation of existence.

That which is true of fruits is also true of modern beverages, which in a still greater degree are classed as relishes or aids to appetites. Pleasant, refreshing drinks in daily use are made from these fruits, as lemonade, fruit sherbets, etc. Scientific processes are yet to greatly lessen the cost of fruit juices and proportionately wisely increase their use. Modern processes render it perfectly feasible to concentrate the juice of a lemon into a quarter of an ounce of fluid and render its preservation indefinite, thereby reducing the cost to the consumer with equal profit to the grower by three-quarters. That which is true of the lemon is true of many other fruits, especially that of the grape. The large expense of light wines lies in the hitherto necessary bottling and handling of its large factor in bulk, which is only water. By the careful abstraction of water, claret is easily reduced in bulk by three-quarters. These condensed wines keep much better and are ready for use by the simple addition of water. This process is already in use in France and has been enthusiastically recommended. The abstraction of the water without damage to the wine, by any of the heat processes, has proven to be impossible since the delicate aroma which is the chief attraction of the wine is thrown off even more rapidly than its alcoholic contents. Although every housewife delights in the preservation of fruits which add so materially to her table delicacies, she is painfully aware that despite her utmost care, a large part of the delicate aroma of the fruit is lost in the heat processes necessary to the preserving.

Somewhat recently advantage has been taken of the fact that the water in fluids submitted to low temperature under favorable conditions became ice crystals, entirely free from admixtures which the fluid contained. Therefore, wines submitted to this process parted with a large share of their bulk without loss of their alcoholic or other essential qualities.

172 *Table. Wines: Are Their Uses to be Encouraged.*

Fruit juices submitted to the same process are easily concentrated in the most remarkable degree, and there is every reason to believe that in this way very many additions can be made to our table delicacies. Most delicious beverages which many think are preferable to our most costly wines can be manufactured in this way, preserving without detriment the exquisite flavors and colors of the carefully ripened fruit. That such beverages are beneficial, no one can question, and they may be destined, in a degree at least, to supplant our enormously excessive use of tea, coffee, and alcoholic stimulants.

A brief description of the process may be instructive. The fluid to be concentrated is subjected to a temperature below freezing, and the ice crystals as formed are mechanically broken up. The resulting product may be considered an unsweetened fruit sherbet. This is transposed into a centrifugal machine of high power, and the ice crystals are driven out so forcefully that they resemble snow ice, and require breaking up with a hammer. The uncongealed concentrate, diminished 60 to 80 per cent. of its original bulk, is ready for preservation. Such a process is not an expensive one and can easily be installed at places convenient of access at the cost of a few hundred dollars.

The quality of the product will necessarily depend on the quality of the fruit used, as defective flavors are as much intensified by concentration as desirable ones. My attention was first called to this process many years ago, in its application by the farmer to late-made cider. He purposely exposed his cider in casks to low temperatures, freezing it as much as possible, then draining off a concentrate reduced to a fifth or even a tenth of the former bulk. The processes as above outlined have passed the experimental stage, so far as the economy of production and quality of product are concerned. Applied to milk, 60 per cent. of its water is easily extracted by a single freezing, its keeping qualities greatly enhanced, so that the family supply of milk can be purchased weekly instead of daily, with immense saving of cost alike to the producer and consumer.

Table Wines: Are Their Uses to be Encouraged. 173

It is not too much to believe that revolution in the drinking habit may be expected, with an almost limitless profit to the consumer. In the place of table wines, as now used by the comparative few and now believed to be demonstrated of positive injury when habitually taken, there will be furnished to the many the fresh juices of the grape and other fruits, which, constantly used from youth to old age, will be found healthful and invigorating.

When a man may be better clothed, better housed and better fed, he is no longer satisfied with his former estate. When he may drink freely without being intoxicated, when he may have more delicious drinks which appeal to his appetite without detriment to his physical and moral well-being, he will as readily make choice of his new beverages.

Another step in the progress of civilization has been made, and a new era is opened up to him. Modern science is the magic transformer of the centuries.

The tenth annual report of the State Commission of Prisons for the year 1904 is a volume of great interest. Statistics of all the prisons and prisoners confined in the state are given, together with many other interesting facts concerning the tramps, vagrants, and inebriates arrested for intoxication during the year. About twenty-three thousand were arrested on the charge of intoxication and nearly ten thousand as tramps and vagrants. A large part of this number were inebriates, so that in reality over thirty-three thousand persons came under legal notice as inebriates for 1904. Among the criminals charged with other crimes, numbering thirty-four hundred, less than ten per cent of this number were total abstainers. About sixty per cent. were practically inebriates, and fully thirty per cent. were termed intemperate, using spirits at times, then abstaining. These and other most interesting facts make it possible to study the criminal population with more exactness than ever before.

Abstracts and Reviews.

ALKALOIDAL TREATMENT OF THE TOBACCO HABIT.

Strychnine has a remarkable efficacy in the nervous troubles arising from the tobacco habit, as well as during the period while the patient is stopping the use of the narcotic. In a number of acute cases of intoxication with tobacco strychnine was given in doses of three to five milligrams (gr. 3-67 to 5-67). In chronic cases of tobacco poisoning strychnine acts as a stimulant to the system and as a general tonic to combat adynamia, depression, and neurasthenia. In certain conditions the remedy will have to be continued for a certain length of time, giving a milligram dose after each repast.

According to Dr. Zalackas eserine is an excellent antidote to nicotine. The antagonism is peculiarly marked. A non-toxic dose of nicotine neutralizes a fully toxic dose of eserine, but on the condition that the nicotine had been administered before the eserine. But on the contrary a fully toxic dose of nicotine does not neutralize at all a fully toxic dose of eserine. And yet, though neutralization in this case had not taken place effectively, it is nevertheless of considerable importance, since the nicotine completely masked the effects of the eserine. Hence the consequence is that we come here to be in the presence of the curious fact so well demonstrated by Martin-Damourette, to wit, that nicotine possesses two opposite properties, the one excitant and the other paralyzant. Now, it may sometimes happen that the paralyzant effects, which are probably but a minority of the other and total effects of the eserine, join themselves to the paralyzant effects which are principal in

nicotine, and it comes about that two agents which in one case are antagonistic to each other become auxiliary to each other in another case. This fact is a warning never to use eserine in acute tobacco poisoning of an adynamic form. It is for the same reason, says Dr. Petit, that he prefers in cases of arteriosclerosis to employ alkaline iodides associated with the antispasmodics cicutine, hyoscyamine, and digitalin. Sulphate of sparteine, too, gives excellent results. It helps to sustain the organism in the privation of its accustomed excitant (stimulant) and prevents heart failure. We know that sulphate of sparteine is a dynamic and heart-regulating medicament, which elevates the movement of both heart and pulse.

Sulphate of sparteine is indicated in grave cardiac affections, in atonicity with irregularity and slowness of movement, when the heart is tainted with an alteration of its tissue, or when it becomes insufficient to compensate any obstacles in the circulation. When the pulse is feeble, arrhythmic, sulphate of sparteine will restore it to normality. The knowledge of the two capital actions of sparteine, viz., elevation and regulation of the heart's functions, must lead to its employment to combat the various neuropathic conditions which accompany heart weakness and irregularity. This is just the case in tobacco poisoning.

Should there be a palpitation, accompanied with congestion, and angina pectoris, it will be best to use caffeine and veratrine, and with all there must go a hygienic and dietetic régime, together with intestinal antiseptics, for which calcium sulphide is a valuable auxiliary. — *Alkaloid Clinic.*

ALCOHOL IN MULTIPLE NEURITIS.

By far the most common variety of multiple neuritis is that due to alcohol. This was described by Samuel Jackson, Sr., of Boston, in 1822, as alcoholic paraplegia, but it has only been

since the researches of Ross, Buzzard, Hun, and others that the paralysis resulting from the excessive use of alcohol was known to be due to inflammation of the peripheral, motor, and sensory nerves. Alcoholic multiple neuritis is a comparatively common disease and may result from the excessive use of any beverages which contain alcohol. It was formerly thought that only spirits like brandy, whisky, and gin were capable of causing it, but it is now a recognized fact that even beer and light wines, if taken in sufficient amount, are capable of causing this affection. It is likely that persons leading a sedentary life are more liable to alcoholic neuritis than persons actively employed. This may account for the relatively greater frequency of alcoholic neuritis in women. Granted that the proportion of women who drink to excess is small as compared to the number of men who do so, there is a much greater number of cases of alcoholic neuritis among women than in the other sex. Starr says that of the 250 cases of alcoholic neuritis which he has collected, there were 89 women. It is evident, therefore, that this is a large proportion compared with the ratio of drinking women to drinking men. It is most important, therefore, to bear in mind the fact of the comparatively frequent occurrence of alcoholic neuritis in women, especially in those who would not be suspected of the use of alcoholic stimulants. There is no doubt, however, that the habit of tipping in women exists to a considerable extent and one should always consider the possibility of alcoholism as a cause of neuritis in women.

One sometimes meets with cases in which there is only numbness of the extremities with a certain amount of impaired power, which must be considered as a mild form of multiple neuritis, and these cases are often observed in drinkers. They do not progress to the point of complete loss of power nor to very great sensory disturbance, but would undoubtedly reach a serious degree if unchecked.

The enormous consumption of various patent medicines, which are advertised as "nerve tonics," "health restorers,"

"blood purifiers," etc., is a much more frequent cause of alcoholism than is generally realized. Most of these preparations contain a larger percentage of alcohol than is found in wine or beer. In a recent number of the *Ladies' Home Journal*, the able editor, Mr. Edward Bok, points out in a straightforward way the dangers of using patent medicines, and shows that many of them contain alcohol, cocaine, opium, and other dangerous drugs, and quotes the Massachusetts State Board analyst in furnishing a list of patent medicines, with the percentage of alcohol each contains, ranging from 14 to 47 per cent. — *Dr. Sinkler in the Journal of the American Medical Association.*

THE LAST WORD ON ALCOHOL.

Prof. Chittenden of Yale College in an article on alcohol as a food writes as follows:

"It is true that alcohol in moderate quantities may serve as a food, i. e., it can be oxidized with the liberation of heat and work. It may, to some extent, take the place of fat and carbohydrates, but is not a perfect substitute for them, and for this reason: alcohol has a pharmacological action that cannot be ignored. It reduces liver oxidation. It therefore presents a dangerous side wholly wanting in carbohydrates and fats. The latter are simply burned up to carbonic acid and water, or are transformed into glycogen and fat, but alcohol, though more easily oxidizable, is at all times liable to obstruct, in some measure at least, the oxidative processes of the liver, and probably of other tissues also, thereby throwing into the circulation bodies such as uric acid, which are inimical to health; a fact which at once tends to draw a distinct line of demarcation between alcohol and the two non-nitrogenous foods, fat and carbohydrate. Another matter must be emphasized, and it is that the form in which alcohol is taken is of importance. Port wine, for instance, has more influence on the amount of uric

acid secreted than an equivalent amount of alcohol in some other form. To conclude: As an adjunct to the ordinary daily diet of the healthy man alcohol cannot be considered as playing the part of a true non-nitrogenous food."

Evidently the defense of alcohol as a food is a thing of the past and its defenders are like the echoes in the bugle song, "dying, dying."

INTOXICATIONS IN CHRONIC INEBRIETY.

The fundamental character of the psychic disturbance is psychic weakness and the progressive insufficiency of the ethic and intellectual functions.

(a) As a rule, the first symptoms manifest themselves in the ethic sphere. The drunkard has manifest lax principles in regard to honor, morality, position, and indifference to moral questions, to the ruin of his family, and the contempt in which he is held by his fellow citizens. He becomes a brutal egotist and cynic (drunken degeneration of moral feeling and temperament; *inhumanitas ebriosa-clarus*).

(b) With this there goes, hand in hand, an increasing emotional irritability, a true tendency to violent anger! The slightest causes induce dangerous effects or outbursts of rage, which, owing to the advanced weakness in the ethic sphere, are uncontrollable and present the features of pathologic effects (*ferocitas-ebriosa*).

(c) At times, especially in the morning, there are states of profound mental depression and bad humor that may reach the degree of *tedium vitæ*, and which temporarily disappear under renewed indulgence in alcohol (*morositas ebriosa*).

(d) An early manifestation in the psychic domain is a remarkable degree of weakness of the will toward the fulfillment of the duties of occupation, and especially those of citizenship. These show themselves most clearly in the impossibility of carrying out good resolves, of giving up the vice, which

find their most striking illustration in those rather frequent cases of alcoholics that ask to be placed in an institution; for they are still intelligent enough to notice the abyss at the brink of which they find themselves, and are at the same time conscious of the weakness of will and moral feeling that makes it impossible for them to avoid indulgence.

(e) With these symptoms finally there is a progressive diminution of intellectual power in toto, which early shows itself in weakness of memory, difficulty of thought, and dullness of apperception, which may even progress to complete dementia.

(f) A striking symptom in the majority of cases is the delusion of chronic alcoholics that stand in sexual relations of being sexually deceived, whether it be by the wife (delusion of marital infidelity) or by a mistress (delusion of jealousy).
— From Krafft-Ebing's "Work on Insanity."

The following is a very sensible editorial in *Journal of the American Medical Association*: "As a people we are slow to learn certain facts. The recent murder in cold blood of a helpless and innocent wife and mother by a maniacal husband, whose insanity was of that type which regularly occurs in the alcoholic, reminds us that these frightful tragedies recur with distressing frequency. The relatives of those who abuse alcoholic beverages ought to be taught the danger signals. Whenever a drinking man begins, without cause, to suspect the virtue of his wife and the honor of his friends it is time to confine him where he can do no harm, at least until the poison is out of his brain. Failure to do this is to invite murder in its most revolting forms. All this is well known to the members of the medical profession, but the physician is seldom asked for advice in such cases, and if he were his counsel would only rarely be followed. No man in the community is more dangerous to his

family and to the public than the heavy drinker when he reaches the stage of alcoholic delusion that is marked by unfounded suspicions as to the conduct of those whom he naturally and in fact should most trust. When a man begins to harbor such delusions it is the instant duty of his friends to put him where he can do no harm and can get no more liquor."

With reference to the differential diagnosis of this condition and an ordinary state of drunkenness, the following points are to be considered:

1. There is a want of relation between the amount of alcohol consumed and its effect, because inner organic conditions or accidental influences induce a cumulative effect.

2. The association of cause and effect in time is not that observed in the ordinary state of drunkenness. The progressive increase of alcoholic symptoms is wanting here. The pathologic state of intoxication occurs immediately at the beginning of the relative excess, or later with the appearance of some intensifying influence (emotion) which increases the latent alcoholic congestion.

3. There is also a qualitative difference from an ordinary drunken condition. There is developed a more or less coherent delirium, apperception disturbed by hallucinations, maniacal symptoms, with impulsive acts, outbursts of rage, and destructiveness. The movements are not awkward and ataxic, as in drunken persons, but have maniacal features — sure, powerful, and energetic.

The profound disturbance of consciousness corresponds with a complete absence of memory for the period of the paroxysm. The paroxysm is initiated and accompanied by symptoms of cerebral congestion — flushing, headache, hyperesthesia of the sense organs. — *From Krafft-Ebing's "Work on Insanity," noted in this issue of the JOURNAL.*

THE WILD OATS DELUSION.

The following graphic presentation is from Dr. Lydston's work on diseases of society and degeneracy reviewed in this issue. "The lie of wild oats is the reef on which many a life has been wrecked, founded on the delusion that every strong boy must sow his wild oats before he can become a man. Nothing can be more false than that any man is better for wild oats sowing; that he has more character and is more manly is a terrible delusion. Almost every boy hears that some very good elderly man has had a period of sowing wild oats from which he has recovered, but he rarely hears of those who have been wrecked morally, physically, and eternally. Drinking alcohol and frequenting bad houses are terrible experiences which are never outgrown. Here are some pictures which are only too familiar:—Picture one. A health resort, a sanatorium, where hundreds of pale, exhausted-looking men and women go to prevent the harvest of their wild oats.—Picture two. A hospital, groups of ataxics, deformed children, haggard men and women. More wild oats.—Picture three. An asylum. General paresis cases, melancholic and maniac, wandering around. Wild oats a plenty.—Picture four. A police court full of tramps, inebriates, criminals, and degenerates. Wild oats again.—Picture five. A jail. Here are wild oats of the striped, short-haired variety in abundance.—Picture six. A foundling asylum full of children born into the world unknown. Poor little wild oats.—Picture seven. A doctor's office. The waiting-room full of anxious men and women looking for relief with intense longing expressions. Wild oats growing up here in the dark.—Picture eight. A brothel. Around the reception-room is a collection of poor beings who are sacrificed to enable youth to sow their wild oats. Down on the river bank is one dead. What was she doing there? Washing the wild oats out of her life.—Picture nine. A pistol shot. A man falls dead. A bank cashier disappears. The gun was loaded with wild oats. The bank cashier is looking for a

market for his wild oats. — Picture ten. A wife surrounded by hungry children, deserted. Her husband in jail. Orphan children on the streets. — These are all wild-oats products. The doctors know these wild-oats crops. They know the harvest that comes from such seed, and inebriety, syphilis, paresis, and a host of other names tell the story of wild oats. The lie of wild oats is terrible, and the long train of immorality, vice, disease, crime, inebriety, and insanity which follows cannot be mistaken.

ALCOHOL IN PNEUMONIA.

In a paper on the prevalence and prophylaxis of pneumonia, read by Dr. Wells of Chicago and published in the *Association Journal*, mention is made of the influence of alcohol in producing this disease. In the discussion which followed Dr. Kober believed that there was some relation between the increased consumption of alcohol and pneumonia. He asserted that statistics indicated nearly eighteen gallons of spirits was consumed per capita in the United States and that with this was a decided increase of all diseases, which he believed was caused or at least influenced by alcohol. He concludes as follows:

“At all events the general statistics clearly point to an increased consumption of alcohol, and he believes that it is not only a question of alcohol, but a question of the purity of the alcohol. The heavier alcohols are toxic and affect the tissues of the body, lowering the vitality to a great extent, first destroying the moral, intellectual, and physical sensibilities. One of the most common effects is, perhaps, an impure blood supply and degenerative changes, because alcohol, apart from increasing connective tissue, favors the conversion of albuminoid tissue into fats, and therefore there is an increase of chronic affections of the kidneys, cirrhosis, hepatic diseases, heart disease, and all other diseases caused by alcoholism. The vital statistics of 1900 give an increased death rate from these

diseases, and Dr. Kober believes that the secret, after all, lies in the increased consumption of alcohol in the United States, and possibly in a general tendency to adulteration of liquors. While Washington is exempt from an increase of pneumonia, it is, perhaps, due to the fact that it has a large negro population, and there seems to be among them a racial distaste for alcoholic liquors; at all events the negro is not a drunkard. The ratio of diseases believed to be caused by alcohol among the negroes in Washington is infinitely less than among the whites, and yet in all other diseases the death rate among the negroes is very much higher than among the whites. They seldom have a death from cirrhosis or from arterio-sclerosis. Indeed, all of those diseases that are influenced by alcohol are scarce among the negroes, and yet their general death rate is far in excess in all other diseases."

TEXT-BOOK OF INSANITY BASED ON CLINICAL OBSERVATIONS. For practitioners and students of medicine. By Dr. von Krafft-Ebing, late professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorized Translation from the latest German Edition by Charles Gilbert Chaddock, M.D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of Medicine, Medical Department of St. Louis University, St. Louis, Mo., etc. With an Introduction by Frederick Peterson, M.D., President of the New York State Commission in Lunacy. Pages xvi-638. Royal octavo. Price, extra cloth, \$4.00, net; half-russia, \$5.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The translation of this great text-book into English is a marked event in the study of insanity. We are now able to understand why this work has passed through so many editions

in the original language, and is still called for as if just published and not the work of years.

The first thing which strikes an American reader is the original and graphic divisions of the subject, also the numerous short chapters presenting particular phases of the subject, illustrated with histories of cases, and the author's liberal comments, which are particularly interesting and fresh, always suggesting ranges of facts that stimulate the reader. Another most pleasing feature to readers and others interested in the drug and spirit intoxication is the unusual prominence given to the degenerations and injuries which follow from the use of alcohol.

The neurosis and psychosis which extend in the next generation from alcoholic ancestors are described more minutely and clearly than in any other work. For this alone the volume has a special interest to every student of this subject.

In book third, part second, there are four chapters on psychic degenerations, of the greatest practical value. In part third, five chapters are devoted to mental diseases growing out of constitutional neurosis. In part fourth there are eight chapters on chronic intoxications and the arrest of psychic development. This part of the book is very largely new to English readers — new in the sense of its suggestiveness and pathological significance in treating ranges of causes and states of degeneration which are not clearly stated in other works. Like the famous work of Grisenger which was an authority for fifty years, this book has summed up all the general facts and given their pathological meaning so fully that it will be regarded as conclusive for a long time to come. The first edition of this work appeared in 1879, and, notwithstanding the many volumes by other authors which have been published since, this volume has been in demand, edition after edition, up to the present, and is still the leading authority in German on insanity and allied mental states.

The translator has been particularly happy in his English

rendering of many of the chapters, giving an impression that the work was originally written in English, particularly in the lucid, exact words and expressions in many chapters.

The publisher has given this excellent work a fine setting and good dress. We have marked many passages and parts of chapters for publication in the *JOURNAL*, confident that our readers will appreciate it and become owners of this volume of which these are selections.

INTOXICANTS AND OPIUM IN ALL LANDS AND TIMES. By Dr. and Mrs. Wilbur F. Crafts and Mary and Margaret W. Leitch. The International Reform Bureau, 206 Pennsylvania Ave., Washington, D. C.

This work is a grouping of reports, statements of missionaries and travelers, together with tables and extracts from authors and official documents on the prevalence and condition of the spirit and opium traffic in all parts of the world. It is profusely illustrated with photographs of the authors quoted and is literally a very interesting book. Its special value is for reformers and persons engaged in the promotion of means and measures to reduce this great evil. The reader will be startled at the widespread alarm manifest in all countries of the dangers following the indiscriminate use of spirits and drugs. The significance of this work and its influence points clearly to the oncoming revolution and the direction of public opinion, which will grow more and more each year. The authors are to be congratulated for the work done in giving an outline view of the opinions and efforts of advanced thinkers all over the world.

This work will have a special value to every reader and we urge them to send to the publishers to procure a copy.

GENERAL PARESIS, PRACTICAL AND CLINICAL.

By Robert Howland Chase, A.M., M.D., Physician-in-Chief, Friends' Asylum for the Insane; late Resident Physician State Hospital, Norristown, Pa.; Member of the American Psychological Association; Fellow of the College of Physicians, Philadelphia. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1902. Price, \$1.75 net.

General paresis is a very vital topic to all students of inebriety. One of the earliest delusions manifest by the inebriate is supreme confidence in his ability to abstain and control the use of spirits. No experience teaches him anything, but rather confirms this parietic delusion in his own strength. Hence this little book has a special value in the study of drink and drug psychosis. In about three hundred pages the author has concentrated a very important study illustrated with cases of this great topic. It is one of the few works that both a general practitioner and a specialist will consult frequently. In chapters 3d, 4th, and 6th, a very clear description of the different stages of the disease are given. Chapters 9th and 10th contain many new facts on the particular symptomology. The chapter on etiology is very suggestive and points out clearly the great variety of physical causes which lead up to this disease. The chapter on pathology is interesting. The treatment is very satisfactory, and gives general principles rather than minute directions for the use of remedies. The author does not advance any original views, but appears to have had in his mind to group all the general facts with some of the theories entertained by leading authorities of this strange disease. The book on the whole is very satisfactory, and is written by a thoroughly practical man, whose clinical knowledge and experience is apparent in every page, as well as his wide reading of the literature along this subject.

The illustrations add much to the value of the work, and we heartily commend it as a valuable addition to the literature, and one that should have a very large sale.

The publishers have issued an attractive volume, with fine type and in their usual artistic setting.

SURGICAL TREATMENT OF BRIGHT'S DISEASE.

By Geo. M. Edebohls, A.M., M.D., LL.D., Professor of Diseases of Women in the New York Post-Graduate School and Hospital, Surgeon St. Francis Hospital, New York, etc. Frank F. Lisiecki, Publisher, 15 Murray St., New York, 1904.

This work is confined to the surgical treatment for the relief of Bright's Disease. It is founded on the experience of seventy-two patients, who have been treated by the author by new and daring operations which, in his opinion, are successful enough to warrant their repetition. The following conclusion is stated: Of the seventy-two patients who were treated surgically for this disease, thirteen received no benefit, while fifty-nine were improved all the way up to complete cure. In nine cases the operation was life-saving by rescuing the patient from impending death. Seventeen were markedly cured of the disease, and in the author's opinion this proportion fully justifies the operation. Among the several operations which he uses renal decapsulation seems to have been original with him, and, at all events, it was a very bold and daring procedure. The work as a whole is interesting and is well sustained by a great variety of clinical histories of cases which seem to support the author's claims.

To the general reader this work is a surprise in showing how far surgery is extending its domains in operations on the internal organs. From this point of view it is intensely interesting. We congratulate the author on the advanced position he has taken, and the tone and character of the evidence which he presents to support his claims. The work is well

printed and is a great contribution to the subject, which must be tested by further experience and time.

MANUAL OF PSYCHIATRY. By Jorgues De Fursac, M.D., formerly Chief of Clinic of the Medical Faculty of Paris. Authorized translation by A. J. Rosanoff, M.D., Assistant Physician, Long Island State Hospital, King's Park, N. Y. Edited by Joseph Collins, M.D., Professor of the Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School, etc. New York City: John Wiley & Sons, Publishers, 1905. Price \$2.50.

In this well-printed work of over three hundred pages, the author has given an excellent summary of the well-accepted facts in psychiatry. The general practitioner will find great pleasure and profit in the graphic brevity of the presentation of many of the topics. As in all other modern works the psychosis of intoxication from alcohol and other drugs occupies a considerable space. The descriptions are generally clear, and in some instances give greater prominence to certain mental disorders than others, but on the whole are well balanced as to space and treatment of topic. The translator and editor have done good service in the presentation of this volume in a strong and clear English dress, which commends itself particularly to the busy physician who cannot study at length many of these topics. The chapters on Pathological Drunkenness, Chronic Alcoholism, Morphinism, and Cocaine Delirium, are very interesting. The psychosis of auto-intoxication and constitutional psychopathy group many startling facts, and the scheme for the study of the history and of the mental and of the physical status of cerebral disturbances are also of great interest to every physician. We commend this book most heartily.

THE OPHTHALMIC YEAR BOOK. A Digest of the Literature of Ophthalmology, with Index of Publications for the year 1903. By Edward Jackson, A.M., M.D., President of the American Academy of Ophthalmology and Oto-Laryngology, etc. With 45 Illustrations. Denver, Col.: The Herrick Book and Stationery Co., 1904.

The author, Dr. Jackson, has made a most successful digest of the important and valuable advances in the literature of this subject during the year. The plan of the work and its practical materialization indicates more than usual skill, showing the author's familiarity with the subject and ability to discriminate concerning the practical value of the new advances along these lines. The work has a double value, not alone to the specialist but to the general practitioner, who will find many very practical indications which could not be easily separated from the literature of the day. This book outlines a new departure in medical literature, and suggests the possibility of putting each year's work on other lines in a similar well-considered work. A summary or digest written by an expert with a distinct object would approach nearer the ideal already in demand by the profession. Dr. Jackson has accomplished this in a most satisfactory way, and we commend the book, not only for its value but as an object lesson of what should be done in other fields.

STUDIES IN THE PSYCHOLOGY OF SEX — SEXUAL SELECTION IN MAN. I, Touch; II, Smell; III, Hearing; IV, Vision. By Havelock Ellis. $6\frac{3}{8} \times 8\frac{7}{8}$ inches. Pages xii-270. Extra cloth, \$2.00, net. Sold only by subscription to Physicians, Lawyers, and Scientists. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

This is an attempt to describe the psychology of the sexual relation along scientific lines and to bring out the physiological

factors which are influential in the formation of this part of life. Five chapters describe the influence of the sense of touch. Six are devoted to the relation of the sense of smell to this faculty. Two chapters give studies of the relation of the sense of hearing, and five chapters are devoted to the influence of the sense of vision in forming this faculty. Some of these chapters are remarkable studies of facts practically unknown in the realm of science and intensely suggestive. The realm of the æsthetic and the imagination which has accumulated about this instinct is explored by the cool calculating work of physiology and psychology, and the author shows that the same exact laws of cause and effect act along these lines as in the operations of the seasons and the growth of animal and vegetable life. The reader is astonished at many of the wonderful facts and forces which regulate and control sexual association and growth and decline of this instinct. The author has done great service to science in clearing away superstitions and delusions and grouping scientific facts unsuspected before. This work throws much light on some of the mysteries of the spirit and drink problems where the morbid sexual impulses are the most prominent disease symptoms present. We commend it to all our readers as a valuable work.

THE DISEASES OF SOCIETY ; (The Vice and Crime Problem.) By G. Frank Lydston, M.D., Professor of Genito-Urinary Surgery, State University of Illinois, Professor of Criminal Anthropology, Chicago-Kent College of Law, Surgeon to St. Mary's and Samaritan Hospitals, etc. Philadelphia: J. B. Lippincott Company, Publishers, 1904.

Our readers will remember Dr. Lydston's paper on the nature and character of inebriety which appeared in the *Journal* last year as a selection from advanced sheets of this book. The same stirring, graphic, emphatic style of this selection

appears in the fourteen chapters extending over six hundred pages of this work. The author's aim has been to present a physical and medical study of the nature, character, and growth of the modern evils which threaten society. Each chapter has a peculiar setting that gives it a special interest, more or less complete and exhaustive. Many of the facts are grouped in a form that would indicate that the subject is concluded and the last word said beyond any possibility of further study. This gives a genuine interest to the reader, stimulating inquiry to know whether the author's facts exhaust the subject or only partially indicate exact conclusions.

One of the very interesting chapters is the Chemistry of Social Diseases. This takes up toxæmia, alcoholism, narcotic inebriety, and auto-intoxication.

Two chapters are devoted to Sexual Vice and Crime, and are of intense interest to every reader, pointing out new avenues and new lines of treatment. The chapter on Anarchy and Its Relations to Crime could be expanded into a volume which would be of most absorbing interest. The chapter on Genius and Degeneracy is another grouping of facts which should be developed into a volume. Chapter XII, on the Physical Characteristics of Criminals, and the last chapter, on Therapeutics of Social Disease, are the most suggestive and original studies of the subject. The author has succeeded in grouping a great wealth of facts in a popular semi-scientific dress, which both laymen and physicians can read with great pleasure. The claim that this discussion is of the evils most prominent in this country gives it a special interest, and the author's efforts to expose the delusions and point out the actual causes and remedies of the evils of the present are thoroughly pioneer work which will be appreciated by a grateful public.

The authoritative, dogmatic style of the author attracts and impresses the reader with the validity of the statements. It is literally a new discussion of degeneration along higher and more practical lines than Nordaus' work on the same topic.

It differs from Nordaus' work in the mass of facts grouped to support the conclusions, but the setting is the same, and we predict an immense sale for this epoch-making volume. As a text-book on Social Science and a suggestive guide to further and more accurate studies, this is one of the most important and valuable works in the English language. We shall make some selections from it in the near future.

POLITICS IN NEW ZEALAND. By Frank Parson and C. F. Taylor, M.D. Price 25 cents. Published by *The Medical World*, 1520 Chestnut St., Philadelphia, Pa.

This is an exceedingly interesting story of political problems and efforts in the science of government in that far-off country. It sounds very strange to us and is practically an object lesson which will be watched with great interest. Many social and economic problems are supposed to be solved in a different way, that is very startling. New Zealand is about twice as large as New England and has about the same climate, natural resources, and is settled by about the same class of people. It has had troubles and strikes, but in 1890 a new plan was adopted, which seems to be far more practical, with better results and, as the author says, it has resulted in industrial peace and the rule of good men with equal justice. The story is very well told and has many valuable lessons. The editor deserves great thanks for compiling this excellent review, and every reader of the JOURNAL will prize this contribution as most interesting and valuable. Send for a copy.

Professor Ventra describes cocaine psychosis as follows: Toxic psychoses form a special group of affections in psychiatry. These psychoses are characteristic of themselves and vary

only with the individual characteristics. Cocaine psychosis, properly speaking, is rather a rare manifestation. Most frequently one meets with morpho-psychosis. This form of psychosis is far more difficult to cure than is the pure cocaine psychosis. This is due to the fact that in morpho-cocaine psychoses the poisoning of the system is complex. An example of this may be seen in cases of morphinization that is preceded by chloroformization. Cocaine acts principally by altering the nutrition of the nervous cell. The psychic, sensory, and intellectual disturbances are due to these nutritive disturbances. It is possible to obtain complete recoveries in cases of cocaine psychoses. Recidivism is far more rare in cocaine psychoses than it is in morphinism. Cocainism is due, in the majority of cases, to indiscriminate administration of cocaine in cases of morphinism. — *Journal of Mental Pathology.*

The *Scientific American* is a weekly that comes in very close touch with a large class of readers who are struggling to look out into the future and discover the latest advances of science.

The World's Work is a journal of increasing value and deserves a place in every home as a broad, generous outlook of the march of events in science and literature which every intelligent person should have at his command.

The American Journal of Surgery, so long and pleasantly known under the guidance of Dr. Lanphear, disappears from St. Louis and starts again in New York, under the editorial care of Dr. McDonald. Evolution and growth appear on every page and we predict a bright future for this journal.

The Columbia Battery Co. of Columbus, Ohio, has put on the market a small hand massage electrical machine which has a great value, both from the electric current and the massage action which it produces. As a domestic battery it excels anything we have seen.

There are four journals, or rather magazines, which we take pleasure in commending to our readers. First the *Arena*, of twentieth century review of public opinion. This is a radical, stimulating journal, making its readers think. The *Homiletic Review* is a monthly magazine of current religious thought that is equally good and strong. The *Review of Reviews* is a history of events, discreet, impartial, and graphically put. The *Popular Science Monthly*, as its name implies, puts us in close touch with the latest news from the frontiers of science.

ALCOHOL AND EPILEPSY.

Chronic alcoholic intoxication severe enough to cause epilepsy is rare before the twentieth year. After adulthood is reached in males, alcoholism as a cause of epilepsy is not uncommon. Of 1,000 individuals 990 may be capable of moderately indulging in strong drink for years without inviting nervous disease, but the remaining ten will be sure to suffer, while the proportion may be much larger.

Among the first 1,550 cases admitted to the Craig Colony there were 508 males over 20 years of age at the time of their admission. In 50 of them, or 10 per cent., alcohol was a positive factor in the causation of their disease; in many cases it was the sole cause. Alcoholism in the parents was noted 99 times (equal to 20 per cent.) in the same 508 cases.

Again in these 1,550 cases there were 359 females more than 20 years of age at the time of their admission. Alcoholism was the cause of epilepsy in 3 of them only, but it was present in their parents 57 times.

While alcoholism is rarely the direct cause of epilepsy in women, it is frequently an indirect cause through its presence in the parents — nearly always in the father. — *D. Spratling in Report of Epileptic Colony in New York.*

Editorial.

ALCOHOLIC POISONING AND LITERATURE.

Critical readers of scientific and general literature frequently note a wide variation in the strength and weakness of the author's thoughts and his manner of expression. All persons who write unconsciously portray in their work the degree of mental and physical health which they possess. The state of the mind and general vigor or the absence of it is particularly prominent where spirits and drugs are used. This is seen in some of the popular fiction of the day, where the current of the story is abrupt, whimsical, full of startling effects, and either delirious in exhilaration or morbid in its melancholy tone. Some noted works show this irritant action or supposed stimulation of thought, followed by the reaction period, with a very different tone and treatment of the subject. This unevenness of thought, plot, and manner of expression is the result of some mental condition. Thus a physician noted for his clear thought and artistic style of expression who suddenly shows great changes is evidently suffering from some distinct physical causes, whose effects are apparent.

In a recent address these two extremes were marked: the first was flippant, startling in style and slangy in tone, with extravagant expressions and theories; the second part dignified, rational, along the accustomed levels of vigorous thought carefully expressed. In this there were two personalities — the first was decidedly alcoholic; the last was written after the narcotism passed away and the brain recovered its rational, healthy vigor. Many authors are exceptionally forcible and clear either at the beginning or at the end of their work. The intervals are confused repetitions and seem the product of

entirely different mental conditions. Addresses and lectures often show this unevenness in vigor and style, and the suggestion to the reader is that this confused period was the direct result of alcohol, morphine, or other drugs. No doubt the alcoholic delusion that the mind under its influence is more vigorous and brilliant explains this unevenness of work. Medical literature with these variations and changes is often a sad reflection on the author's mental health.

THE ALCOHOLIC PROBLEM.

This term, used so freely, is made to describe very confusing conditions, which are interpreted in many ways to support theories which antagonize each other. In the public mind it is simply the effects of the excessive use of alcohol which constitute the phenomena of the alcoholic problem. Many very energetic efforts seek to determine the uses and abuses of this drug and assume that this is the solution of the problem. Driving out alcohol and increasing the difficulties of procuring it appeal to a large number of persons as a measure of relief. One society assumes that remedial measures directed to the moral side of the victim will be most effective. Another appeals to the mental condition by force, causing suffering and loss of character. A third, through drugs, aims to produce antagonism and thus overcome the desire for spirits. Another effort aims by muscular and mental activity to overcome the desire for spirits. These varied theories all claim to be supported by the history and study of cases and yet, practically, they throw no light on the phenomenon of inebriety, or even furnish any working theory which promises curative results. The alcoholic problem, which is best described by the term inebriety, comes into prominence only in the chronic stages after the culmination of a long train of exciting and predisposing causes. The real question is not the present condition of the victim, but the

defects and degeneration which began long before and led up to this stage. It is the recognition and removal of the early causes that furnishes the key to the situation. It is a study of the favoring conditions which demanded the anæsthesia from spirits and drugs and deceives the senses with the impression that alcohol was harmless and helpful. It is the long early stages passed by unobserved where the real work of prevention and cure must begin. It is not a question of what the alcoholic is after long years of excessive drinking, or the best measures to house, protect, and care for the victim, but a question of what causes, what neurotic conditions, the outgrowth of heredity, disease, and environment, develop the inebriate. To the medical man a study of the inebriate from his present condition backwards to the causes and conditions which produced his state will furnish a solution of the great problem. The alcoholic action as an anæsthetic explains the fascination which this drug has and accounts for its prevalence and use in all times and places, and that part of the problem is perfectly solved, but the physical conditions that call for this drug are largely unknown. Very little progress can be expected except from the study of the early causes. Hospitals which seek to restore the victim to health again can do very little except from an exhaustive knowledge of the conditions which made the inebriate. The study of alcohol is not only interesting but full of surprises and unexpected effects, but an examination of inebriety covers the entire field of which alcohol is only a small factor. An exhaustive study of the first is only the beginning of a knowledge of the phenomena and laws which govern the rise and progress of inebriety.

DECLINE OF ALCOHOL AS A BEVERAGE.

In the legislatures of thirty-six of the forty-five states of the Union there have been presented this winter from one to five

prohibitive and restrictive bills to become laws relating to the use of alcohol. Never before have the lawmakers of the country been confronted with so many different measures directed to stop or control the use of alcohol. This is evidently the beginning of public recognition of the dangers which come from its indiscriminate use in all parts of the country. A feeling of alarm is growing up among the common people and extending to church and state at the dominance of the delusional theories concerning alcohol. Silently and surely this is spreading through all circles of society, and the more alcohol is studied in the laboratory and sociologically the stronger the evidence appears against it as an evil to progress and civilization. In a recent article on this subject in *The School Physiological Journal*, Mrs. M. E. Hunt, the editor, makes the prediction that the child is born who will see the last legalized saloon, brewery, and distillery disappear from the land. She asserts "that the time came when slavery had to go. Its time was up on the calendar of the centuries, and although it was abolished in the storm of war it could not go on any farther." Another similar period is coming on. The slavery from alcohol and the bondage and losses which its delusions produce must disappear in obedience to the moral sense of public opinion, which is now beginning to assert itself. The teaching of the dangers of alcohol in the public schools is beginning to be felt, and, notwithstanding opposition, will grow more and more every year. Wherever the subject is known the evils and physical causes will indicate the means of relief, which cannot be stopped, but can only be guided and directed. Alcohol as a beverage with all the places for its manufacture and sale are doomed, and this fact is more than ever apparent. Every physician owes it to himself, to his family, and the community he lives in to take up this problem and become the teacher and director of a movement that is to occupy a very large place in the near future.

MEMORIAL MEETING TO THE MEMORY OF THE
LATE DR. N. S. DAVIS.

The Society for the Study of Inebriety and Alcohol will hold a memorial service to the life and work of Dr. Davis at Portland, Ore., on the evening of July 11, 1905.

Dr. Davis will be remembered as one of the founders and presidents of the American Medical Association, and also as founder and president for fourteen years of the American Medical Temperance Association. His numerous friends and contemporaries from both societies will unite on this occasion to commemorate his great services to both medicine and science.

The memorial address will be delivered by Dr. Henry O. Marcy of Boston, Mass., ex-president of the American Medical Association. Other addresses will be delivered by Dr. G. W. Webster, president of the Illinois Board of Health, also by Dr. W. S. Hall of the Northwestern University, and Dr. T. D. Crothers of Hartford, Conn.; Dr. John Hollister of Chicago, Ill., and Dr. Henry D. Didama of Syracuse, N. Y., also and others will contribute memorial notes of the work and personal influence of Dr. Davis in American medicine.

The annual meeting of the American Society for the Study of Inebriety and Alcohol will be held at Portland, Ore., July 11, 1905. A memorial service to the life and work of Dr. N. S. Davis, who was president of this society for fourteen years and one of its most active promoters, will be held in the evening. Addresses will be delivered by several prominent persons. The annual meeting next morning at 9 A. M. will be marked by the address of the president, Prof. W. S. Hall of the Northwestern University, and important papers by Drs. Kellogg, Mason, Crothers, MacNicholl, and others; reports of the committees and the annual election of officers will follow.

Recently one of the leading orchestra managers and musicians of this country announced that he would discharge everyone in his service who used tobacco or any form of spirits.

A protest followed, and his reply was: "Smoking diminishes the hearing and the control of the vocal cords in all singers, and no one can do good work who cannot hear clearly, or control the muscles of the throat. The control of the facial muscles and lips are lessened in smokers and the power of execution diminished. The beer and wine drinkers have confused brains and lack discrimination. Their sense of time is impaired and their accuracy of execution lowered. I should not pay for first-class services which these persons cannot give. One who insists on smoking and drinking, even to a great moderation, reduces his capacity to do good work from a third to a half, and yet he is unconscious of it." This is supported by all scientific studies.

Both instrumental and vocal musicians whose poor and faulty execution is the subject of continual comment, is very largely due to this cause. Singers and performers who use beer and tobacco to remove nervousness, before and during the performances, are simply dulling their senses and destroying their power of appreciation and rendering them more and more unfit for the work.

Voice culture requires the best possible control over the nerves and muscles, and instrumental execution requires a high grade of sense perfection and training, as well as muscular co-ordination. This the tobacco user and spirit drinker are continually destroying,

A noted orchestra was severely criticised for the unevenness of its work. After a long time the leader discovered the real cause and discharged every member who would not promise total abstinence while on the road. This is in accord with practical experience, although it has not been applied along these lines except in a limited degree.

Artists of all classes can never hope to do good work unless

the brain and body are kept up to the highest standard. Work depending upon the senses betray the habits and faults of living more quickly than anything else.

A conference meeting held by the National Temperance League in London and presided over by the Lord Mayor, last month, was an event of more than usual interest. It was a gathering of business and professional men at the Mansion House, the civic building and home of the mayor of London, to discuss the question of "Alcohol in Relation to Commercial Efficiency." The mayor presided, and with him on the platform was a number of the leading men of the city, members of Parliament, bankers, physicians, and city authorities. Among the several addresses those by Sir Victor Horsley and Dr. Hyslop, the former an eminent surgeon, the latter a superintendent of an insane asylum, were most prominent as scientific efforts to popularize the subject. Other remarks by business men were notable for the deep interest and recognition of the dangers from the use of alcohol. All the dailies and medical journals gave full reports of the conference. This was a temperance meeting on a broader plane, calling for a recognition of the injuries following the use of alcohol and the practical means of cure and prevention.

It is estimated that the per capita yearly consumption of spirits and wines is eighteen gallons, of beer fifteen gallons. It is also asserted that over fifty per cent. of the adult population are total abstainers. If this is true, the remainder must consume an enormous quantity of alcohol. A recent authority claims that all drinking persons are using more spirits every year. The same authority concludes, from various hospital studies, that the average spirit and beer

drinker in this country dies in ten years. It has been recognized as a fact that American drinkers seldom use beer, wine, or light drinks long, for the reasons that they fail to give relief from the pain and discomfort for which spirits are taken. The moderate drinkers or persons who use spirits in small quantities are very largely foreign born. They also are the largest patrons of beer gardens. The native born American is a neurotic whose brain and nervous system is constantly strained to adjust itself to the changing surroundings, conditions of living, and ambitions of the present. Hence he is more susceptible to the narcotism of spirits and drugs. He cannot drink moderately, but drinks to excess, at times having free intervals of sobriety. In the commercial world the rule is growing more and more emphatic that no wines or spirits shall be used in business hours. The strain and stress of business demands the clearest intellect and fullest control of the brain and nervous system, and this cannot be had from any use of spirits. If the demand for beer and wine is increasing it must come largely from the foreign population and the muscle workers of the lower classes. If the number of total abstainers is increasing the consumption of spirits must decrease, or else the amount consumed by drinking men must be greater. This is probably true. It is very evident that a great revolution is going on, the exact direction and force of which are not apparent at present.

It has been frequently noted that physicians and others who become prominent by their severe criticisms of the theory of inebriety as a disease, or by their extravagant defense and dogmatic assumptions of disease and its prevalence in inebriety, are not by any means reliable or safe guides to the student of this subject. They represent two extremes of contention, and curiously enough these extreme partisans frequently turn from one side to the other with a suddenness that is startling.

Some special experience or outbreak of inebriety in the family or person himself will make the critic a defender of the disease of inebriety, or else from being a defender he will suddenly denounce all disease theories, and believe that it is a moral disorder. All such persons are either unusually severe and harsh or extremely sympathetic and credulous in their conceptions of inebriety, and the proper methods of control. Many of these persons have been excessive users of spirits in early life and recovered, and of course they judge all men from this experience. Thus, a police magistrate was noted by his severe sentences of inebriates. On all other matters he was kind and reasonable, but he had been an inebriate in early life. The opposite extreme not infrequently appears, in the most extraordinary tenderness and interest to care and protect drinking men. A noted judge was frequently known to receive intoxicated men and care for them personally in his home. Often clergymen manifest intense solicitude for persons suffering from excessive drink. There are many reasons for supposing that some bitter experience is the inspiration for this conduct. The well-known fact that many inebriates who, on recovery, manifest intense desire to help others, going into the lecture field, opening homes for their care and treatment, or going down into the streets and rescuing the comatose cases, is often urged as evidence of their superior knowledge and ability to understand this class. Much of the popular literature of this subject comes from these sources, and is sadly lacking in breadth and exactness. There is clearly a paranoiac turn or mental twist away from the common sense levels of clear recognition of the forces and pathologic conditions which concentrate into inebriety. While much of the work and study of these persons are very commendable, and their intense energy and faith attracts attention, there is another side and an absence of a clear psychological comprehension of inebriety and its origin and development. In contrast with this is the contemptuous sneering tone of a few nerve specialists concerning

the work and literature of this subject. These persons, unfortunately for themselves, regard the whole subject as a fad, unworthy of scientific inquiry, and their teachings and writings are even more uncertain and doubtful than the extremest teachings of the most radical students. This is evident in some recent English literature and American text-books where the psychological side of inebriety is entirely ignored. Inebriety as a disease and the possibility of its prevention and cure are becoming more and more a reality every year, and no field of medicine promises greater results than accurate studies along these lines.

The following is a letter sketch of the plan of treatment and diet in a sanitarium for inebriates in Denmark, in which it appears that work, regular habits of life, and plain food are considered most important. All inmates rise at six o'clock in the summer, and at seven in the winter. Prayers are said one hour later, then breakfast is served, consisting of oatmeal, bread, tea, and some vegetables with milk. At nine o'clock all persons are required to begin the duties of the day, unless excused on account of sickness. These duties consist of work in the garden, on the lawn, in the fields, or in the shops, laundry, or kitchen. At a quarter past ten coffee and bread are served to the patients in the field or in the workshop, and fifteen minutes are allowed for a rest. At twelve o'clock each one returns to his room, washing and preparing for dinner. This meal consists of soup, two courses of meat, with bread and vegetables, after which a rest is taken until two o'clock. Then all business is resumed again. At four o'clock coffee and bread are served again, and at six o'clock every one returns to the rooms. At 7.30 supper, consisting of cold meat, bread, and tea is served. At nine o'clock evening prayers are held. At ten o'clock everybody retires. No one can remain in their rooms during the day unless by order of the physician, and for

good reasons. Any leisure moments may be spent in the library, parlor, or smoking room. All games are allowed except cards. Exercise in inclement weather is provided in the shops and gymnasium. No patient is allowed to have money, and the physician examines each patient twice a day to determine the necessity for drugs or other remedial measures. No one is allowed to go off the grounds except for special purposes. When the patient is discharged arrangements are made to secure a position by which he can keep up his regular living.

The cost per year amounts to from four to five dollars a week. This is for board and medical treatment.

A correspondent sends us a picture of the patients' life in American institutions for inebriates. After preliminaries of admission, and a bath followed by active purgation, he is permitted to have the liberty of the hall and grounds, where he can walk, play croquet, ball, or pitch quoits. In the evening he plays billiards or cards in the smoking room. Retires at ten o'clock. Once a day a singing service with prayers is held, but is optional to the patient. Occasionally the Superintendent gives a familiar talk in the parlor. Baths are given twice or three times a week, and medicines two or three times a day. Visits to the city or neighboring towns are permitted, where patients can be trusted, and otherwise with an attendant. The food is generally good both in variety and quantity, and the patient is supposed to spend his time in any way most agreeable to himself, the central idea being nerve rest. After a while the monotony creates discontent, and the patient considers himself cured and insists on leaving. This is probably a fair average account of many institutions, although mental treatment is prominent in some; in others baths are considered of great value, in others drugs occupy a leading place in treatment. Some institutions resemble insane asylums in their

attempts to apply rigid discipline, in others the discipline is by chemical means. It is very evident that the ideal institution has not been organized, although some hospitals are conducted with great skill, and approach the ideal treatment.

The projected plans to establish bureaus in every town and city in the country for the reception and distribution of temperance literature is a great advance over the old time lectures, and is decidedly a most effective way of breaking up the delusions concerning alcohol and its value. The literature is already very ample, but the great objection will come from persons who assert that anti-alcoholic literature is deceptive and extravagant. This objection is very quickly overcome by appeals to local statistics and records. All that is needed is to popularize and make clear the facts concerning the action of alcohol, and public sentiment will be changed immediately. This movement should have the assistance of physicians, not only as to the literature, and its endorsement, but its practical teachings and application. If this is done under the guidance of medical men, it will revolutionize the sentiment and practice of every community. The delusion that alcohol is a food and useful as a stimulant and tonic, and the toleration of the gilded saloon in the most attractive parts of the city, equipped with the most fascinating furnishings and surroundings, is as destructive to public health as a contaminated spring poisoning the water supply of the town. The poisoned water is recognized, and the evil corrected, while the saloon and its influence is tacitly supported by public sentiment, and its evil influence unrecognized.

The movement to promote total abstinence, and make prominent the injuries resulting from the use of alcohol, is far more intense and exciting in Great Britain and on the conti-

ment than in this country. Placarding the billboards in and about Paris with startling sentences showing the damage of alcohol has been imitated by temperance associations in other large cities, and handbills full of warnings and appeals to abstain are circulated in public places, and eagerly read. Crusade movements, far more vigorous than such efforts in this country, are reported by the temperance papers as growing and becoming more and more popular. Societies are organized and the watch-word is "War on Alcohol." "War on the Scourge that is destroying the race." The following is a paragraph from the French Blue Cross Almanac which gives some idea of the intensity in which the subject is pressed on public opinion: "The greatest scourge of France today is alcohol. Our beautiful country is attacked on all sides and we have to confess that France is the greatest sufferer. We can see it and feel it. This should fill every citizen with anger, for alcoholism is the synonym of physical degeneracy, intellectual enfeeblement, and the moral declension of our race. Alcoholism predisposes to tuberculosis. Dr. Brouardel asserts, and gives the evidence to sustain this assertion, that without alcoholism there would be a saving of from eighty to ninety per cent. of the hundred and fifty thousand lives that go down to the grave annually from consumption. Crimes are multiplied; authorities agree that over sixty per cent. of all offenses and crimes can be traced to alcoholism. Dr. Lannelon in his discourse before the Chamber of Deputies asserts positively that unless this evil is arrested the future of France will be ruin, disorder, and disintegration." The railroad companies in Germany and France have ordered equally sensational warnings posted in all places where railroad men frequent. The following are some of the sentences: "Railroad workers, you have the lives of many persons under your care every day, and you realize the need of a lucid brain, a clear eye, and a constant presence of mind. This is not possible unless you abstain from all intoxicating drinks. Alcohol never gives strength, it only

excites, the same as the whip to the horse increases the power of action. The apparent increase of strength is followed by greater exhaustion. There is no means of repairing strength except by taking food, and alcohol is never a food. If you would increase your endurance and aptitude for service, diminish the risk of accident, and preserve your health, become a practical abstainer." The church has taken up this work, and together with the state is trying to build up a sentiment that shall demand total abstinence and abolish the sale of spirits as a beverage. In Great Britain a number of very large societies having this as their special purpose are appealing to the public through sermons, lectures, and tracts far more energetically than any similar efforts in this country. The medical journals that venture to express opinions reflecting on this work are vigorously attacked and denounced, and this is but the beginning. The oft repeated statements that the alcoholic subject in this country is presented in a more hysterical way than abroad is untrue. Some of the leading medical men of Europe are pronounced advocates of the abolition of alcohol as a beverage. Men of world-wide reputation have no fears of entering upon this great crusade. In this country there are only a very few eminent men who are pronounced abstainers and defenders of such views in public. There is a singular timidity about taking up this problem, although its evils are more and more apparent in the accidents, diseases, and criminal statistics of the country. Societies which are formed in large cities and towns to promote knowledge of the dangers of alcohol are almost entirely officered and managed by laymen and persons unfitted to be teachers, while the medical men, to whom the work belongs, are indifferent and reticent about assisting. There is something strangely inconsistent in this attitude, which happily cannot last long. The medical men will be forced to take sides in this great struggle which is rapidly coming into prominence.

POISONS IN THE BODY.

Few persons realize how many poisons are formed in the body, and when imperfectly removed how dangerous they are. When food is retained in the stomach and is not rapidly changed, either from too great a quantity or complexity of substance or degree of indigestibility, it becomes a poison. If to this is added alcohol in any form, the gastric juice may be increased, but its solvent power is diminished. Nothing can be more irrational than the use of strong liquors or wines at banquets, where the qualities and varieties of the foods are numerous. Symptoms of giddiness, confusion of thought, diminished sensibility, or irritation are due to the gases formed and the pressure on the nerves from the distension of the stomach. The irascibility, despondency, and pessimism, with indecision of character, and other forms of mental perversity, can all be traced to gastro-intestinal disturbances which come from poisons in the stomach intensified and increased by alcohol. The man who is more happy and generous after using alcohol is so simply because of the narcotism which covers up other states of poison, and not from the drug itself. Using alcohol with foods is adding to the poisons of the body and diminishing the power of elimination of waste products. If alcohol is to be taken it should never be with food, because it stops digestion, and indirectly acts on the brain and nervous system by increasing the poisons and their sources.

Dr. Michels says: "Fifty grains of opium to every man, woman, and child is consumed in the United States annually. In China but twenty-seven grains to every man, woman, and child, and in Europe, South and Central America, twelve grains."

Clinical Notes and Comments.

THE INSANITY OF INEBRIETY.

In Krafft-Ebing's work on "Insanity" occurs the following significant statement:

"Drunkenness is really nothing more than an artificial insanity, and we find in it two fundamental psychiatric facts, namely: that, in accordance with constitutional conditions, the common cause may induce disease-pictures that are entirely different, and that the conditions of the psychic paralysis as presented in the stage of senseless drunkenness and in terminal dementia consequent upon insanity are preceded by states of excitement. In the majority of cases the first effects of alcohol are manifested in slight maniacal excitement; the physical and mental activities are increased, and the flow of ideas is facilitated. The silent become talkative, the quiet, lively; an increased sense of self leads to assertiveness, brusqueness, and joyfulness; an intensified desire for muscular movement, a true impulse to movement, expresses itself in singing, crying, laughing, dancing, and all sorts of emotional and purposeless acts. At this stage, still conscious of the laws of propriety, the forms of politeness are observed, and a certain degree of self-control is manifested. With the increasing influence of alcohol, however, just as with the maniac, esthetic ideas, as well as normal judgment, which in the normal condition are at the command of the ego and inhibit and control, disappear. Now the drunkard gives himself rein, shows out his frailties of character, discloses his secrets (*in vino veritas*), and rises above propriety. He becomes cynical, brutal, self-assertive, and violent. Now he has lost power to judge of his own condition; he is as far from thinking himself drunk as the insane

man is from thinking himself insane, and he flies angry when told his true condition. Finally he passes into a state of mental weakness, to complete clouding of consciousness. Phantasms of the senses occur (illusions), confusion comes on, and at last a state of deep stupor, following stumbling speech, staggering gait, and uncertain movements, exactly those of a paralytic, closes the repulsive scene.

“The similarity of this artificial insanity and the actual is further shown in that sometimes, but always as a result of peculiar predisposition, drunkenness takes the form of acute delirium or transitory mania, so that now and then intoxication becomes the immediate cause of a lasting insanity.”

The Chattanooga Vibratory Co. is doing a great service to modern medicine by sending out literature and holding clinics for the education in the use of vibratory medicines. The following are some of the physiological effects of vibratory stimulation which this method of treatment produces:

1. Increasing the volume of the blood and lymph flow to a given area or organ.
2. Increasing nutrition.
3. Improving the respiratory process and functions.
4. Stimulating secretion.
5. Improving muscular and general metabolism, and increasing the production of animal heat.
6. Stimulating the excretory organs and assisting the functions of elimination.
7. Softening and relieving muscular contractures.
8. Relieving engorgement and congestion.
9. Facilitating the removal through the natural channels of the lymphatics of tumors, exudates, and other products of inflammation; relieving varicosities, and dissipating eruptions.
10. Inhibiting and relieving pain.

The New Voice is something more than a class journal; it is a distinct organ of a movement that will occupy a very prominent place in the future. With all its so-called radicalism, there is a breadth of tone and conception of public sentiment that places it above many of the journals devoted to a single idea. It is coming to occupy a place in literature unique and alone.

ACTION OF VERONAL.

Veronal has been tried recently by D. Kress in severe agrypnia of neurasthenia and hysteria with good result. The remedy is to be preferred to other hypnotics, since very prompt in action and not followed by any unpleasant after-effects. Certain precautions are, however, in place, the author thinks, as in his observation *Veronal* has a cumulative action, which manifests itself in continued sleepiness and inability to take food. If the average dose, 0.5 gm. (8 grn.) is given he thinks it best to intermit after two or three doses. — *Therap. Monatsh.*, Jan., 1905.

Merck's 1905 *Manual of Materia Medica* is a compact little volume with a great deal of information about drugs and their doses and many practical things which the physician would like to have available for ready reference. No other pocket reference book will be found so useful, and the publishers, Merck & Co., deserve the gratitude of the profession for presenting this volume.

The *Journal of Nervous and Mental Diseases* publishes a directory of private institutions and sanitariums for the treatment of nervous and mental diseases which should be on the desk of every physician. Great care and discretion is used and only first-class institutions whose management is along the best scientific lines are represented.

Sir Michael Foster is a very noted physiologist who teaches at Cambridge, England. Recently he was tempted to express himself very freely on the scientific side of school physiology, particularly the value of teaching the dangers from the use of alcohol. His views were so disingenuous and pro-alcoholic that he was sharply called to account. His position and reputation did not save him from what would be considered in this country savage, libelous criticism. A dozen eminent men denied the position and conclusions which he had taken, pronouncing them absurd.

The *New York Health Food Co.* are doing great service to invalids in the many very excellent preparations which they have put on the market. They deserve the warmest support of the profession for their efforts to provide vegetable substitutes for the meat element. Sanitariums and hospitals will find their product far more valuable and effective than the beef extracts which are often thought to be valuable in case of emergency. This company will send samples to all institutions which apply for them.

The *Battle Creek Sanitarium* is practically a laboratory where the great topics of diet reform, hydropathy, electricity and other great remedies are tested and examined with scientific skill and clinical tests. Some of the great questions of the treatment of drug taking are tested and demonstrated at this institution along exact lines. We urge our readers to visit this place and examine for themselves some advanced work that is done in this direction.

A recent author makes it very clear that the neurosis so prevalent in American life is one reason why a remedy like *Fellows' Hypophosphites* is such a valuable tonic and is so popular in the profession. It supplies a want for more force and endurance than other remedies; hence its demand is constantly increasing. In many respects it is an ideal proprietary

medicine, giving the name of its constituents and appealing frankly and boldly to the profession to support it.

The *Todd Electrical Static Machine*, made at Meriden, Conn., and *Bovinine*, the headquarters of which are at 75 West Houston St., New York city, are two very indispensable things in the practice of medicine. The former commends itself because it is simple, very efficient, and powerful, and rarely gets out of order, and the latter because it supplies the place of food and is a most valuable constituent of foods which cannot be dispensed with. The one acts on the nervous system, the other on nutrition, and together they are a very happy combination. Both bring to the body new force and new life with promise of greater longevity.

The great German house of *Farbenfabriken* of Elberfeld Co., with a branch office in New York city, are the great dealers and manufacturers of synthetic drugs. Several of their narcotics, of which *Hedonal* and *Heroin* are very prominent, can be relied upon as exact in their effects. They have lately issued a new preparation of strychnine which seems to be more of a tonic than other forms of this drug. A catalogue of their products will surprise the reader as to the extent and scope of these new drugs.

Wheeler's *Tissue Phosphate* seems to have a great demand, and is sold very largely to persons in the incipient stage of consumption. In certain cases its merits are very highly extolled by those who have used it.

The proprietors of the well-known antiseptic *Listerine* have put on the market a dermatic soap which combines the properties of *Listerine* with that of purified soap, and is claimed to have unusual value in the ordinary diseases of the skin. A sample of the soap will be sent to any one who would care to try it.

The *Journal of the American Medical Association* is perfectly correct when it states editorially in its issue of April 8, 1905, that its own observation of medical literature indicates that echinacea is being used far more than formerly, as *Ecthol* (formula: Each fluid drachm contains 28 grains echinacea *augustifolia* and 3 grains *thuja occidentalis*) has grown into almost universal use among physicians of all countries since it was first introduced to the profession some five years ago. Discussing echinacea in a recent issue of the Louisville *Monthly Journal of Medicine and Surgery*, Dr. C. S. Chamberlin of Cincinnati writes as follows: "In my own experience the results attending the use of echinacea have convinced me that there is no remedy of so great value in the treatment of cases of septic infection, and I have repeatedly used it in the cases of septicemia following wounds of the extremities, which I am confident, by any other means of treatment, would have resulted in the loss of the limb and possibly of the life of the patient." He further recommends it to eliminate toxins and to alter conditions which favor suppuration and inflammation, as in the case of abscesses, ulcers, gangrene, bites of venomous insects and reptiles, tonsillitis, the exanthemata, eczema, and psoriasis.

Medical literature on inebriety is becoming more and more prominent every year. The *English Journal of Inebriety* is publishing some excellent papers, which are widely copied. The *Medical Temperance Review* is especially devoted to anti-alcoholic papers and is very stimulating reading. The three French journals, as well as the German, Swiss, and Swedish journals, are directed specifically to correcting abuses and educating both physicians and laymen concerning the influence and dangers of alcohol and drug taking. It is doubtful if a journal of this class would have a large patronage in this country. While the medical profession encourage the scientific study

of the facts relating to alcohol, there is much hesitation and morbid fears of over-statements. In reality, all medical writers familiar with inebriety and alcoholism must continually tone down and minimize the facts to prevent harsh criticism. An authoritative statement sustained by statistics would provoke bitter condemnation in any medical circle where it was made. The fear of over-statement is unfounded.

QUININE WITHOUT EBRIETY.

When two such well-known drugs as antikamnia and quinine are offered to the profession it hardly seems necessary to indicate the special classes of affections which call for their use. Antikamnia is unquestionably a perfect substitute for morphine for internal administration. It has complete control over pain, while it is free from the undesirable after-effects of the alkaloid of opium. In cases of malarial fever the combination of antikamnia and quinine should be given as a prophylactic and cure. For all malarial conditions, quinine is the best remedy we have. But, associated with this condition, there is always more or less pain, and antikamnia will remove these unpleasant symptoms and place the system in the best condition for the quinine to do its work. There are a number of ailments, not closely defined, which are due to the presence of malarial poison. All such conditions are greatly benefited by the use of "*Antikamnia & Quinine Tablets*," each tablet containing $2\frac{1}{2}$ gr. antikamnia and $2\frac{1}{2}$ gr. sulph. quinine. The antikamnia in these tablets not only relieves the pain, but prevents the ebriety or ringing sensation produced when quinine is administered alone. In headache (hemicrania), in the neuralgias occurring in anæmic patients who have malarial cachexia, and in a large number of affections more or less dependent upon this cachetic condition, the regular administration of these tablets is indicated. — *Medical and Surgical News*.

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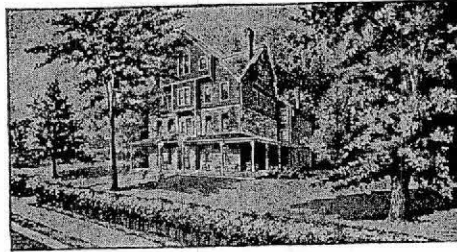
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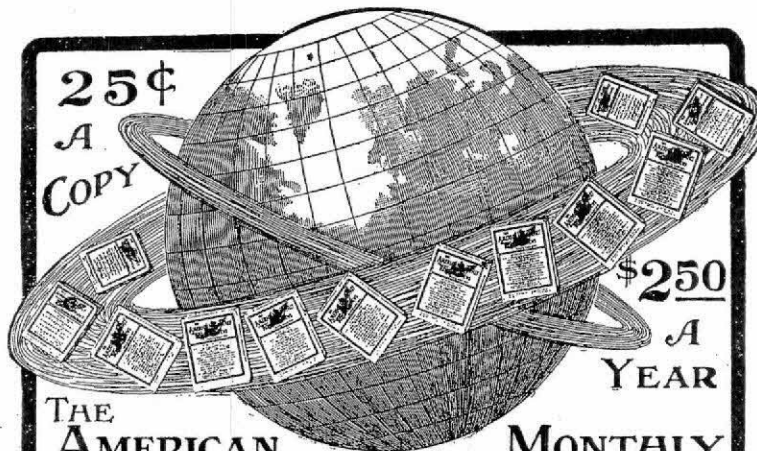
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MEDICO-LEGAL RELATIONS

BY

THOMAS D. CROTHERS, M.D.

Superintendent of Walnut Lodge Hospital, Hartford, Conn.; Editor of the *Journal of Inebriety*; Professor of Mental and Nervous Diseases, New York School of Clinical Medicine, etc.

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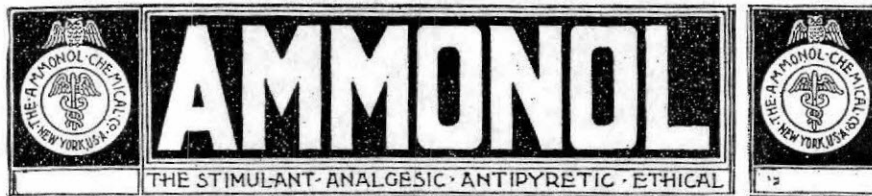
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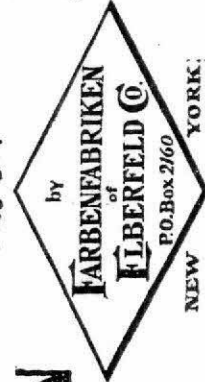
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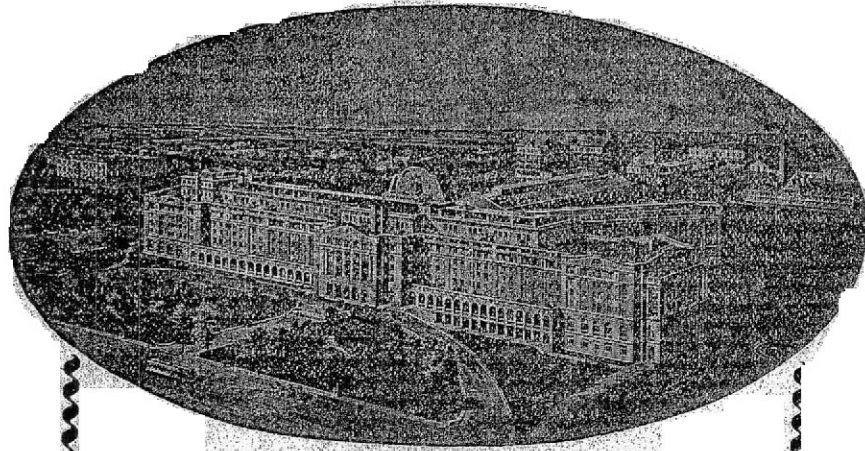
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