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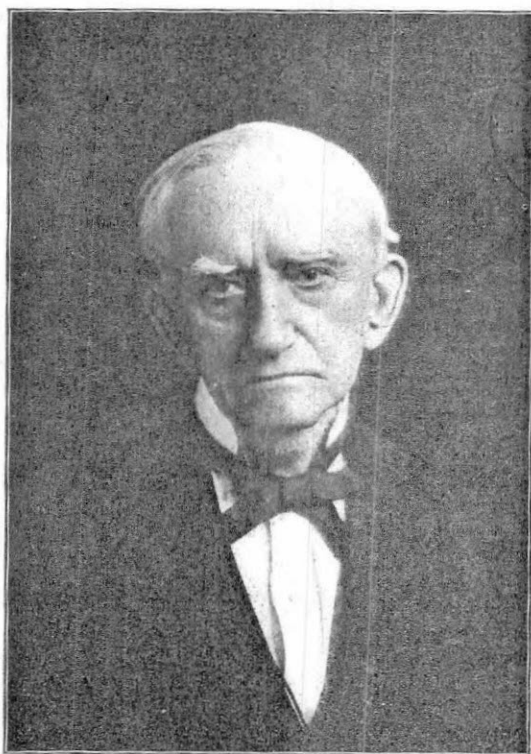
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# THE QUARTERLY JOURNAL OF INEBRIETY

*Established 1876*

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

T. D. CROTHERS, M. D., EDITOR



NOAH S. DAVIS

*First President of the American Society  
for the Study of Alcohol and  
other Narcotics*

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CONTENTS FOR JUNE, 1906

	PAGE
Unrecognized Toxic Insanities .....	T. D. CROTHERS, M. D. 1
The Relation of Alcohol to Tuberculosis.....	J. W. GROSVENOR, M. D. 9
Physiological Action of Tea as a Beverage.....	SIR LANDER BRUNTON, M. D. 19
Morbid Predisposing Causes in Dipsomania.....	W. L. HOWARD, M. D. 26
Reflexes from the Eye in Narcosomania.....	T. H. EVANS, M. D. 29
The Alcohol Cult.....	JOHN MADDEN, M. D. 32
Farmfield Reformatory for Inebriate Women, Horley, England, T. D. CROTHERS, M. D.	38
Comparison of the Effects of Alcohol and Opium.....	W. H. PARK, M. D. 42
Editorial	46
<i>Spirits and Wine at Banquets—The Journal—Two Antipodes—Reform—The Jubilee Convention of the National Temperance League—Bureau of Facts and Studies on Alcohol—Studies of the Mental Phenomena Connected with Anesthesia—Abolish the Taxes on Alcohol—The Iowa State Hospital for Inebriates—Delusions in the Study of Inebriety—Sobriety in Finland—The Physical Nature of Inebriety—Vicious Circle—Temperance and Intelligence—Inebriety and Pneumonia—The Saloon in Politics—The Revoking of Licenses—Fixing the Responsibility—Mortality of Spirit Drinkers—Total Abstinence among German Physicians—Coffee and Color-Blindness—Alcohol as a Poison.</i>	
Abstracts	57
<i>Chronic Alcohol Leptomeningitis—Study of Inebriety—Causes of Inebriety and Insanity—The State and Inebriety—Effect of Tobacco on the Circulation—The Sense of Pain—Teaching of Temperance in Schools—Insanity and Alcoholism in Rome—Tobacco as an Air Purifier—The Effect of Alcohol on the Cardiovascular System—Inebriates on the Border-Land.</i>	
Book Reviews..	66
Notes and Comments .....	68

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# THE QUARTERLY JOURNAL OF INEBRIETY

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## UNRECOGNIZED TOXIC INSANITIES

By T. D. CROTHERS, M. D.

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Recently, the term Toxic Insanity has come to represent a form of mental disease in which the exciting and predisposing causes are alcohol, opium and its alkaloids; also arsenic, lead and other minerals, together with toxins and other bacterial products formed within the body. The symptoms include deliriums, mania, melancholia delusions and hallucinations, associated with local inflammations of glandular organs and nerve fibers. During the year 1904, over 800,000 persons were arrested in this country for intoxication from alcohol and crime associated with it.

These were cases of toxic insanity with symptoms of both mental and physical disease. This army of toxic insanities is increasing and one of the prominent causes is the legal effort to cure by fine and imprisonment, which not only intensifies the disease, but makes it more incurable. The medical profession are indifferent to the influence of alcohol in the production of disease and its consequences, and by silent consent to the application of injurious penalties which are practically fatal to the victim.

My purpose in this study is to point out an unrecognized class of persons who suffer from these toxic insanities and who are not considered as mentally diseased, but whose disorders are regarded as moral lapses without medical significance. These persons are found in every community, and are not the chronic inebriates who frequent saloons, and appear intoxicated on the streets, or in police courts where they are accused of petty crimes resulting from insane conditions, but are the men and women who often occupy places of respectability in social, business and professional circles, and are active workers in many ways in the community. Their lives are irregular and not along healthy normal lines, and their pursuit of pleasure, business, or public ambition is marked by recklessness, either of morbid intensity or stupid indifference, while they startle their friends by extreme and injudicious acts.

Spirits and drugs are used by them either in so-called moderation, continually or at periodic intervals, but the practice is concealed or only

known by their intimate associates. Such persons make strange failures in business, professional and social circles, and seem beset with trouble, and are often opposed to the established order of society and its institutions. They are also continually out of harmony with their environment, and act strangely, exhibiting unaccountable suspicion of the acts of their associates, or credulous faith in impostors. Where crime is committed, it is marked by childish impulsiveness and stupidity, and their conduct and habits are often unusual and unexplainable. Such persons are called irregulars, cranks, extremists, paranoics and fast livers, and are apparently most of the time on the frontiers of insanity. They display degrees of criminality with mental and moral pauperism, although occasionally they show signs of genius, and some intellectual vigor and strength.

Often they are leaders in certain circles, and their weakness is considered a phase of the low instincts and passions of the natural man. The form of insanity is of the paretic and auto-toxic type, and clearly traceable to the special toxic drug used. The clinical symptoms are uniform and characteristic, and point to psychopathic disease. Many of this class, although using spirits and drugs continuously, carry on business and perform the ordinary duties of life, but when studied show symptoms of marked aberration of character and intellect.

They are usually unreliable and untruthful, and exhibit decided declensions from their early ambitions and purposes of life. Their view of duties, obligations and the relations to their families and society is changed. Pride in personal appearance and character is lowered. Mentally, they

are irritable, and either suspicious or extremely credulous and often unable to discriminate between cause and effect in ordinary events. They draw conclusions from the most imperfect impressions and trust implicitly to the senses, which are always unreliable. Usually they are hyper-sensitive and emotional, sometimes in the opposite state of stupor and indifference. This mental deterioration exhibits itself in delusions, hallucinations, both concealed and open, and morbid impulses which are seldom corrected or recognized by themselves. These symptoms of disease follow definite lines, either of general skepticism of the purpose and motives of others, or of extraordinary precautions taken to avoid possible injuries that would result from fancied plots of others to injure them, or of expansive delusional states with dreams of wealth, honor and aggrandizement. They are either alarmed at the treachery and dishonesty of their family and friends, or are exulting in the consciousness of personal ability to control events and turn them to their own comfort and progress.

Physically, the senses are impaired. The powers of sight, hearing, taste, smell and touch are lowered, at the acuteness lessened. The co-ordination is disturbed, and palsy of the muscles with tremors are often marked. The facial muscles are anaesthetic and do not respond to the play of thought, or are hyperaesthetic and quiver with every emotional change. The tone of voice is altered and thoughts are uttered either in a quick and jerky way or in a slow, measured manner. Their is one peculiar symptom common to these toxic insanities, namely, the person has the delusion of ability to control, and believes he has power to stop the use of spirits and drugs at

any time. This delusion of free will often grows with increasing intensity down to the last moment of life. The continuous failures of years, without a single success or instance of ability to change at will, makes no impression on the mind of the drinker or drug user. On all other topics, there may be a general recognition of cause and effect, and the value of the teachings of experience, but concerning drink and drugs the delusion of control never ceases. The failure to confirm the delusion of free will taxes the mind for explanations, which are only clear to the victim. This delusion of strength and ability to abstain at any time is encouraged by the friends of the victim or followed by condemnation for his failure. No matter what conditions or necessities may exist to demand sobriety and abstinence from the use of spirits, the patient insists that he can abstain at any moment and cares neither for the taste or the effects of spirits.

This belief is sincere and emphatic, and should a free interval occur in which no spirits are taken, this is considered evidence of the power of the will to stop at any time. The use of spirits during conditions where personal interest and that of the patient's family suffer, and where the indulgence is practically suicidal, is explained as a mere lapse which could have been prevented by an act of the will. This delusive state is unknown by the promoters of the ordinary revival movement, and temperance efforts in which the central object is to awaken the powers of the will supposed to be dormant. In many instances these efforts intensify and fix the delusion of free will, making recovery more and more uncertain. It is a curious fact that this peculiar symptom, which is seen in every day's

experiences of the failures of inebriates to abstain should not be recognized as a disease. Another symptom more apparent in the latter stages, is the frequent suspicion of the infidelity of the wife and friends, with pronounced suspicions that their conduct and acts are intended for harm. Other symptoms are present which seem to depend on the idiosyncrasy of the patient, which are significant of brain failure.

Often these are manifested in extreme credulities and strange delusions of the most absurd character without reason or justification. Deliriums are frequently preceded by sense hallucinations. These change rapidly from one condition to another and are concealed by the patient, who at first doubts their reality, then finally comes to accept them as facts. When the patient drinks steadily, the mental condition is often manifested in extreme exaltation and delusional confidence in his capacity and strength.

Where the drinking is in short paroxysms, convulsive conditions follow in which the brain acts with great intensity for a time. A steady decline in both physical and mental vigor, in conduct and thought is apparent. There are many persons in this condition, who are regarded by their intimate friends as odd and peculiar. Others in this state become bold and self-assertive and seek to attract public attention by peculiar conduct, then later become exhausted and collapse. Symptoms of mania, delirium and melancholy, are frequent; homicide and suicide may follow each other. Criminal impulses to take advantage of or injure some one bring these toxic insanities into prominence and are evidently due in many cases to the toxins arising from alcohol or drugs,

breaking up the metabolism of the body, diminishing its nutrition, favoring the growth of other toxins and centers of bacterial poisoning, and are not only protoplasmic poisons, but irritants to the higher brain centers. Such insanities are seldom or never recognized, except when some extraordinary change or conduct attracts unusual attention. These insanities, when studied clinically merge into groups in which some special symptoms become prominent; one of these groups shows parietic symptoms, another mania, melancholy or dementia, with various forms of mental disturbance.

These symptoms are often masked, though sometimes clearly seen by intimate associates, and on some unusual occasion of strain or stress. A grouping of these obscure cases in classes, according to the occupation and surroundings brings into prominence many clinical symptoms and distinct types that are practically unknown. The first group of toxic insanities which I shall describe will be those found among business men; persons known as moderate drinkers and only occasionally seen under the influence of spirits or drugs. In business circles they are regarded simply as persons who occasionally drink too much, either when in company or from some special cause. Among the first symptoms of mental change are business complications, and failures through bad judgment and want of caution with credulity in business matters and suspicions of their associates. They neglect their families early in their career and spend their evenings in clubs and theaters, showing great interest in unimportant matters foreign to their life and interests. Frequently, if able, they possess fast horses or yachts and join in out-door sports to

the neglect of their business, always craving excitement and dreading monotony. They are alternately severe and lax in their business habits, making strange friends and ignoring old companions and are boastful and arrogant in their treatment of associates; and when intoxicated are delirious and irritable. When sober, show great desire to conceal the drink attacks or explain the causes of the lapses.

After a time these men become alarmed at their condition and consult physicians, and when able employ a family physician to be with them all the time. The physician may be ignorant of the real causes and diagnose some organic disease, and minimize the effects of alcohol and the patient be injured rather than helped by the treatment. Then the personal habits change and also the appearance and manner of the man. His use of spirits increases until finally he becomes bankrupt; then is forced to begin life again on a lower position. In this condition he often becomes a criminal, frequently a defaulter and dies in prison. During all this he is suffering from toxic insanity never recognized or properly treated. Numerous examples are seen in every town and city where persons of wealth and position manifest decided change of character and become patrons of gambling houses and race courses. They neglect business, desert their families, become dissolute in habit and yet are rarely seen openly intoxicated. Some of these cases show hysterical fear of death and employ many physicians, concealing their use of alcohol beyond that of wine at the table. Two such cases under my observation were as follows: Both were active business men, of previous good

judgment and good character. Both used spirits and drugs, secretly and openly, and both pursued a course of dissipation and reckless business conduct. One was passionate and delirious at times. One was examined by two experts, who found no symptoms of insanity, yet two weeks after, without any unusual symptoms, he attempted to kill his wife and, supposing he had done so, shot himself. The other case was treated by his family physician and many experts for malaria and nervous exhaustion, and was considered competent to take care of himself, although manifesting great inconsistencies in conduct and advocating wild theories.

Finally, he died suddenly and was found to be a bankrupt. It appeared that he had been supporting two distinct families, each in ignorance of the other, and living for years a life of great deception and fraud. Speculators, whose occupation usually induces much irregularity of living and great mental strain, are often types of this form of insanity. At first they begin to drink in company for sociability, then later when depressed or unduly excited, use spirits, either to give boldness and courage or to steady the nervous system. Such persons are noticeable for their egotism, dishonesty, untruthfulness and reckless conduct also unstable judgment.

Frequently, they become gamblers, continually discounting the future and taking risks and wild chances. As plungers, their impulsive and insane conduct ends in disaster and ruin. Spirits are used with increasing frequency and all family and social relations are disturbed, and they live mainly in hotels, clubs and lodging houses. The mind is in a state of mania and delirium and in their work they are audacious, unreasonable and

uncertain, always lacking steadiness and persistency. They are not called drunkards, but are regarded as fast men living at high pressure. Paretic delusions of grandeur and power appear, giving a certain mental force that is delusive, which alternates in the extreme of success and failure, frequently ending in death from hemorrhage or acute inflammations. Toxic insanities are often seen among politicians. Their career is usually shorter than that of merchants or speculators, but it is more strongly marked with symptoms of insanity. The mania for office and political power usually appears in poor lawyers and unsuccessful business men. Usually they are beer or spirit drinkers at the table, are dissatisfied with their present condition, and therefore seek office and power. In their life marked decadence is apparent.

They associate with low bar room voters, spending their time in saloons catering to spirit drinkers, brewers and ward heelers. Like others of this class, they neglect their family and join clubs. In election campaigns they are intensely excited and are constantly engaged in intrigues and plots. The judgment becomes feeble and is always controlled by others. The moral sense of right and wrong is weakened and they only do right under compulsion. They show low cunning and delusional persistency in following lines of conduct planned by others. When given office, they are purchaseable and open to any malign influence. Their career as officeholders is short, except under peculiar circumstances where they are supported by their superiors for some particular purpose. Such men drink constantly, yet are seldom intoxicated, but always show paretic signs which are not generally recognized except



as weak, vicious impulses.

These insanities are common. Toxic insanities among professional men have also, unfortunately, many examples. The resignation of a clergyman and his disappearance in private life, after a short career of irregularity in conduct and pulpit administration, is a symptom of such cases. Strange, unreasoning conduct and defense of wild theories and credulity and skepticism are symptoms. Among lawyers, some unusual act or strange defalcation or a foolish effort to take advantage of opportunities to secure wealth by fraud, are characteristic signs.

Among doctors, who are so-called moderate users of spirits, a common symptom is a rupture of family relations with social scandal, or foolish contentions with brother practitioners, or defense of some extraordinary theories or unusual conduct. These are frequent symptoms and often indications of insanities that are seldom recognized. Many instances are on record where professional men, after a career of excentricity, suddenly develop mania and delirium, which end fatally. Later, it is found that spirits and drugs have been taken secretly for years.

The insane conduct was specifically due to the spirits and drugs taken. The following are some examples: An eminent physician died recently in a private sanitarium and the cause of death was said to have been cerebral hemorrhage. For ten years this man had been insane, although practicing his profession up to within a few months before death. Twelve years ago he began to use spirits to excess and a year later obtained a divorce from his wife, broke up his family home and has since lived in a hotel, leading an erratic life. He had de-

lusions first of his wife's infidelity, then of persecution of his family, and was continually distrusting his fellow practitioners. Sometimes slandering them with great acerbity, then would show inordinate credulity, going from one extreme to the other and at the slightest provocation, engaging in legal contests in which he was always beaten. He has been a speculator, a gambler, a libertine and a low politician at times and has been detected in trying to take advantage of his patients and forced to make restitution. During these years he drank continuously and was intoxicated at intervals. He spent a large fortune and has twice been convicted of criminal assault, when under the influence of spirits. No effort was made to restrain him, his friends regarding his condition and conduct vicious, and the community tolerated his presence and permitted him to imperil the interest of his friends and the society in which he moved.

The death certificate was accurate, but the toxic insanity was unrecognized. A doctor who drinks steadily, and shows great eccentricity of conduct and profound deterioration of general morals is always a dangerous man, not only in his personal influence, but in his inconsistent delusional mentality. Examples of lawyers, teachers and others of this class will occur to the minds of everyone. One such man, who recently died, was a violent defender of the use of alcohol as a stimulant and brain and nerve tonic. Another denounced all religion as destructive to civilization, a third was a rank socialist who would like to have society all on a level. Lawyers who have suffered from this disease have nearly always lost influence, and their career has terminated early in physical and mental bankruptcy. Occas-



ionally, a clergyman gives unmistakable evidence of toxic insanity by his strange and unreasonable theories, or his strange principles.

The contrasts in both the lawyers and clergymen of this class with their compeers are not always clear, and yet their position and conduct indicates a change which can not be mistaken. In business and social circles the means of judging of similar conditions are more difficult, hence cases are overlooked.

Toxic insanities among literary men have many striking examples, particularly among journalists. Alcohol taken continuously, even in moderation, very soon impairs the capacity to do anything but inferior journalistic work. Opium and cocaine takers frequently write books, pamphlets and sensational novels. Cocaine users particularly manifest word manias and delusions of great mental capacity, both in visionary reasoning and turgid imagination. In the opium takers the brain efforts are so erratic and peculiar as to point to the real conditions, particularly in the uncertainty and vagueness which an expert is able to trace. In all cases, the higher moral faculties of consciousness, truthfulness and sense of right and wrong disappear early. The writings of drug users, who magnify the faults and weakness of society and proclaim the hollowness of family life, indicate drug psychoses. The vague character of the writing and the grotesque and startling sensationalism are also unmistakable signs. In the lower walks of literary life there are many persons of this class who live most dramatic and sensational lives and pose as victims of wrongs done by others. Literature is full of psychological symptoms of the toxic insanity of authors; both books, pa-

pers and controversial pamphlets in political and religious circles attest this fact.

In society circles the Toxic Insane frequently appear, particularly among persons who have inherited wealth, using spirits at their tables and having wine suppers at night. Such persons are noted for strange, erratic acts and delusions of superiority. They follow fads and whims of fashion up to the verge of absurdity. Often they display conduct almost criminal in its neglect of common sense duties and the rights of others. They ignore all society but their own, grow more and more selfish, hold doubtful family relations and lose respect for right, morals and good citizenship. These victims of toxic insanities are often drug maniacs and support opium dens, and are users of highly flavored wines and spirits. Their lives are marked by great irregularity and an apparent pursuit of pleasure. They patronize physicians who humor their whims and leave them worse than before. In many respects they are a greater menace to society than persons of similar habits lower down in the social scale.

The so-called fast set, in the circles of wealth and active business life, contain many examples of toxic insanity whose symptoms point unmistakably to degenerate psychoses. The immoral conduct, the unreasonable delusions, the extravagant expectations and changeable erratic manners and habits can only come from a brain made altogether unstable by the anaesthesia of alcohol. Such persons go from one extreme to another, appearing at dinners, balls, theaters, watering places, patrons of this or that extravagance, pursuing fads, travelling from place to place, developing egotism and contemptuous superiority for persons not

in their class, and at the same time drinking steadily, often to great stupor, then making ineffectual efforts to recover, only to relapse. These are all signs of toxic insanity. Some people of this class become manical and have paretic symptoms and live on a plain of intense excitement and exaltation. Others become melancholy and have religious delusions, promote and foster all kinds of strange and extraordinary philanthropic measures. They are all interested in affairs far away and never in those near at home; others have delusions of wealth and go into the stock market with a fascination that is thoroughly insane.

A few manifest miserly impulses or deliriums for political promotion, or strive to become famous as travellers and leaders in new enterprises, starting with great expectations, but changing suddenly and unexpectedly to some other purpose of thought or action. Often these insanities are limited and terminate in violent death, only a few of them ever going to insane asylums. Some of the facts to be emphasized from this clinical study are:

1st. Toxic Insanities, particularly from spirits and drugs, are increasing. This is apparent, not only from the records of courts and hospitals and among the lower and more degenerate classes, but from the unusual conduct and acts of persons high in the domain of active life, together with strange, unexpected crime and social changes and revolutions, which startle society and disturb business. When these are studied, they are found to be largely associated with spirit and drug taking.

2nd. A closer study reveals a distinct origin, progress and development of a psychosis and progressive disease and degeneration of the brain and nerve centers, called Toxic Insanity.

3rd. The paralyzing anaesthetic action of alcohol, first on the sensory, then on the higher co-ordinating centers, is one of the most distinct of all the psychoses, because traceable from cause to effect.

4th. It is beyond question that a large percentage of all the insanities occurring in the higher levels of business, literary, professional and social circles are both directly and indirectly the result of the use of alcohol and drugs.

5th. These causes are largely unrecognized except in the later stages, and then do not attract attention beyond that of contributory conditions and accidental causes.

6th. Finally, changes of conduct, character, habits and manners in persons who use spirits and drugs can only be explained as true psychoses and insanities, which demand medical study and treatment.

7th. It is said that fully one-fourth of the medical practice in this country among the better classes of society is directed to correct the injuries which follow from the toxins of alcohol and drugs. There are medical men in every large city, and hotel physicians who are constantly employed in the care of persons in toxic states from alcohol or drugs. The actual psychopathic condition is unrecognized and unknown. While in the lower classes it is certain that the largest proportion of crime and poverty is due to the same causes.

## THE RELATION OF ALCOHOL TO TUBERCULOSIS

By J. W. GROSVENER, M. D., Buffalo, N. Y.

A conservative estimate places the annual number of deaths from tuberculosis in the United States at 150,000. So deep and wide-spread are the ravages of this disease that every causal factor in its development should receive the absorbing attention of the medical profession and the laity.

It is a truism that every human being possesses a certain amount of resistance to the attack and development of disease. The more nearly the physical forces accord with a normal condition the stronger is the vital resistance which contributes to health and life. Deterioration of organs, tissues and fluids of the body is inimical to vital resistance; it is an open door through which disease finds entrance. Alcohol is a prominent factor in opening this door; indeed, it has been aptly termed the "genius of degeneration." Degeneration is the mother of disease and death.

It is the author's purpose to show that in this role alcohol plays a large part in the production of tuberculosis. A brief outline of the effects of alcohol on the organs, tissues and fluids of the human system will direct our attention to physical conditions which

invite the onset of tuberculosis and will greatly aid us in deciding whether alcohol is a prophylactic of this disease or a therapeutic agent for its cure.

Alcohol taken into the human system penetrates to its every cranny and crevice. Every organ, tissue and fluid of the body feels its degenerating and destructive power. Dr. N. S. Davis has written: "When it" (alcohol) "is largely diluted with water, as in beer, wine, whisky, brandy, rum, gin, it is rapidly absorbed without chemical or digestive change, and is carried in the blood currents to every organized structure in the living body.

"It has been detected as alcohol in the blood, the liver, spleen, pancreas, brain, heart, voluntary muscles, ovaries, testicles, and in the excretions from the skin, kidneys and lungs." (Quarterly Journal of Inebriety, July, 1904, p. 217.)

Alcohol is not assimilated to any structure of the body; neither is it a nutriment which affords growth to any of its tissues. By its paralyzing power on the nervous system it retards metabolism and encourages the accumulation of waste materials. Vital resistance is weakened and the

general system is poisoned. No intelligent physician will dispute the statement that the weakened and degenerated physical organism is apt to assume disease, indeed invites the onset of disease. It is a general law that the fittest survive and the degenerate succumb.

Tissue destruction is a prominent characteristic of tuberculosis. To counteract this waste an insistent feature of the present-day treatment of this disease, as advocated by specialists, is the ingestion of nutritious and assimilable food in an amount equal to the digesting and assimilating capacity of the tuberculous individual. If alcohol interferes with food assimilation and the excretion of waste products it must be a causal factor in the production and continuation of tuberculosis.

Digestion. When taken into the stomach alcohol interferes largely with the processes of digestion and assimilation. Dr. J. H. Kellogg, after reviewing the experiments of Prof. Chittenden and others and after making a detailed statement of some of his own experiments has announced his conclusion as follows: "it is clearly evident that there can be no occasion whatever for the use of alcohol as an aid to digestion. Those with strong digestions do not need it and those with weak digestions are damaged by it."

He quotes Chittenden as follows: "We believe that the results obtained justify the conclusion that gastric digestion as a whole is not materially modified by the introduction of alcoholic fluids with the food. In other words, the unquestionable acceleration of gastric secretion which follows the ingestion of alcoholic beverages is, as a rule, counterbalanced by the inhibitory effect of the alcoholic fluids upon the chemical process of gastric

digestion, with perhaps at times a tendency towards preponderance of inhibitory action." (The Quarterly Journal of Inebriety, October, 1904, p. 381.)

Micro-Organisms. It is very probable that some kind of micro-organism is the etiological basis of all infectious diseases. Numerous experiments on lower animals have determined that alcohol is prominently influential in favoring the production and malevolence of micro-organisms. The following conclusions of scientific investigators are the result of careful study and observation.

Dr. Abbott. "Alcoholic drinks are useless as preventives of infectious and contagious diseases; on the contrary, they appear to lessen the power of the organism to resist the effects of the cause of such disease." (Quarterly Journal of Inebriety, July, 1904, p. 231.)

The following excerpt forms part of a paper written by the author in 1900: "The poisoning and paralyzing influences of alcohol lead to the conclusion that the alcoholized organism presents a lessened resistance to the attacks of micro-organisms. The detailed experiments of Abbott upon lower animals lean strongly towards the same conclusion. His experiments upon rabbits showed that the normal vital resistance to some organisms was markedly diminished.

In some cases alcoholized animals died after microbic inoculation while the control animals lived. There is but little reason for doubting that the same or similar effects would occur in the human system under the same treatment and circumstances."

Rubin, as reported in Journal of Infectious Diseases, May 30th., 1904, studied the effect of alcohol upon infectious diseases as shown in rabbits. He found that the number of leu-

cocytes was much less in the alcoholized than in the control rabbits, that as soon as the leucocytosis began to decrease the bacteria increased, that there existed a negative chemotaxis. A leucocyte count made on 60 inmates of an inebriate hospital gave as an average 5,300 which is a number considerably smaller than the normal average. (*The New Voice*, Nov. 17th., 1904, p. 9.)

Johnston. "It has been proved that many micro-organisms will thrive in a 75 per cent. solution of alcohol." (*Medical Temperance Review*, Feb., 1905, p. 57.)

Holitscher. "It" (alcohol) "interferes with the activity of the cells in their struggle against the toxins and micro-organisms of the disease." (*The Quarterly Journal of Inebriety*, Jan., 1904, p. 16.)

A. Pearce Gould: "There was a great group of fatal diseases due to the invasion of the body by micro-organisms such as consumption, appendicitis, boils, pneumonia, typhoid fever, etc. There was no doubt at all that the persistent, regular taking of alcohol predisposes people to invasion by these and they are prone to succumb." (*The Medical Temperance Review*, Jan., 1905, p. 31.)

Alcohol is a depressant. Investigation long and thorough has been made by scientists to determine whether alcohol is a stimulant or depressant. It is generally acknowledged that in large doses it is a depressant. In small doses it has been regarded as a stimulant and yet for extreme weakness large doses have been urgently advocated. Oftentimes the adopted rule has been, the greater the weakness, the larger the dose.

By long experience it has been proven that men subjected to severe muscular work possess the greatest

physical endurance when entirely free from alcoholic influences; this is the testimony of eminent military officers, Alpine climbers, Arctic explorers, athletes, cyclists and many other classes of persons who from necessity or choice engage in exhausting labors. Prof. Aschaffenburg of Heidelberg University by test found that men "were able to do 15 per cent. less work after taking alcohol." Prof. Abel of Johns Hopkins University expresses his views thus: "We have no experimental grounds for believing that small or very moderate quantities of alcohol exercise any beneficial direct action on the muscles of men and warm-blooded animals. Both science and experience of life have exploded the pernicious theory that alcohol gives any persistent increase of muscular power." (*The Quarterly Journal of Inebriety*, July, 1904, p. 229.)

Experiments of Ringer, Cerva and others with the sphyrograph found the pulse-rate under alcohol increased but its force diminished.

In 1869 Zimmerberg made a series of experiments to ascertain the effect of alcohol on blood pressure. Abel (of Johns Hopkins University) places Zimmerberg in the front rank of those who have conducted similar experiments. As a result of his experiments Zimmerberg declares as follows "In the light of these experiments one is not only justified in denying to alcohol any stimulating power whatever for the heart but, on the contrary, in declaring that it lowers the working capacity of that organ."

Nervous System. The nervous system is the basis of all human activities. All organs are under its control and dependent upon it for their functional forces. The brain, spinal cord and ganglia constitute the dynamo



which originates all the bodily movements.

Impairment of the nervous system interferes with the integrity of organic functions and weakens the resistance that contends against disease and death.

Alcohol is a Paralyzer. The truth of this proposition has been demonstrated experimentally scores of times by world-famed physiologists. Says Forel: "Through all parts of nervous activity from the innervation of the muscles and the simplest sensation to the highest activity of the soul the paralyzing effect of alcohol can be demonstrated."

Several experimenters of undoubted ability have noted the paralyzing effect of alcohol even in small doses. By the use of delicate instruments of precision Ridge tested the effect of alcohol on the senses of smell, vision, and muscular sense of weight. He found that two drams of absolute alcohol produced a positive decrease in the sensitiveness of the nerves of feeling, that so small a quantity as  $\frac{1}{2}$  dram of absolute alcohol diminished the power of vision and the muscular sense of weight.

Kraepelin and Kurz by experiment determined that the acuteness of the special senses of sight, hearing, touch, taste and smell was diminished by an ounce of alcohol, the power of vision being lost to 1-3 of its extent and a similar effect being produced on the other special senses. Other investigators, as Crothers, Madden, Kellogg, Frey, von Bunge have reached like conclusions.

Cells. Cells are the initial basis of tissues. Cell life constitutes the formation and development of tissue life. An injury to the cells strikes a blow upon the integrity and life of the tissues.

The writings of numerous investigators contain detailed statements to the effect that alcohol is injurious to cell structure, especially to the cells of brain and nerves. Listen to some of these investigators.

Robert Jones. "Alcohol in large doses has been proved to cause changes in the pyramidal cells of the brain. It destroys the fine processes of the cells which swell from degenerative changes; the nucleus is displaced or extruded." He also states that alcohol as a dehydrating agent is hurtful to protoplasm by depriving it of a proper amount of water necessary for its normal integrity.

Legrain. "Alcohol predisposes the individual to tuberculosis by means of its paralyzing action and its asphyxiating influence on the cellular protoplasm, which is no longer in a position to resist the invasion of a parasite."

De Forest. "It is a matter of daily observation in biological study that alcohol is a protoplasmic poison and no amount of vital stamina on the part of the body will enable it to successfully resist the lethal effects of this poison."

N. S. Davis. "Alcohol impairs the vital or organizable properties of the protoplasm that constitutes the basis of living matter, thereby retarding both vegetable and animal growth in the young and encouraging the degenerations of structure from higher to lower organizations, such as the substitution of fatty and fibrous for nervous and muscular structures, extending to the sexual organs of both male and female, as seen in the imperfections of their children."

Jonathan Wright. "In the cure and spread of tuberculosis the strengthening of the resistance power of the bodily cells is of more import-



ance than measures specially directed against the bacillus." *Medical Record*, May 13th., 1905, p. 746.

Andriesen. "There can be no doubt that alcohol taken in the body has a specific influence over the nutrition of the nerve cells, impoverishing and starving them, cutting off and diverting the dynamic forces, followed by a shrinking and atrophy of both cell and nerve."

The Blood. The importance of the blood to life and health cannot be overestimated; frequently it is called the vital fluid, the life of the body. Through alcoholic influence this fluid undergoes various changes as has been attested by many writers and experimenters. Without change of its constituents alcohol passes into the blood; it corrugates the blood corpuscles and thus prevents the blood from receiving and giving the normal amount of oxygen.

Says Rutherford: "The blood was poisoned" (by alcohol) "and not fortified; the white and red cells, the oxygen carriers, the vitalizers, the sanitary police and scavengers of the body were impaired."

Robert Jones. "Alcohol exercises no 'protective oxidation' over the body. On the contrary, it interferes with building-up process by forming a compound with the hemoglobin of the red corpuscles which takes up and parts with oxygen less readily than normal hemoglobin."

Crothers. "The conclusions of the London Pathological Society, which have been sustained by modern authorities, agree that the first action of alcohol in the body is checking oxidation, diminishing the oxygen-carrying properties of the hemoglobin, and retarding the elimination of carbon dioxide."

Maral Labbe. "It" (alcohol)

"diminishes the bactericidal power of the blood."

Abel. "According to Grehunt (1876) who has made hourly examinations of the blood after the slow intravenous injection of an amount of properly diluted alcohol equal to one twenty-fifth of the weight of the blood twenty four hours elapse before the alcohol entirely disappears from the blood."

A catalogue of the many diseases produced directly or in large part by alcohol would be too extensive for introduction into this paper. Alcoholic influence is especially effective on the nervous, circulatory and cellular systems. Numerous disastrous consequences besides those mentioned in the preceding part of this paper as results of the internal use of alcohol might be given; however, a sufficient number has been called to our attention to serve as a basis for further elucidation of the subject under consideration.

Twenty-five and fifty years ago our medical ancestors held tenaciously to the belief that alcoholic beverages were a prophylaxis in tuberculosis and almost a *sine qua non* in its treatment.

The medical profession of today has retreated far from that view and many of its distinguished lights believe that alcohol exercises no immune force in this disease and is a positive obstacle in its successful treatment.

Probably no physician has written and spoken more fully and emphatically on the causal relation of alcohol to tuberculosis than Dr. Legrain, senior physician to the Asylum, Ville Evrard, Paris, France. Some of his sentiments are expressed thus: "Alcohol alters the resistance of the whole living organism which it comes in contact with, and it is a classical observation that a drinker is less re-

sistant against attacks of cholera, intermittent tuberculosis, etc. Alcohol predisposes the individual to tuberculosis by its paralyzing action and its asphyxiating influence on the cellular protoplasm, which is no longer in a condition to resist the invasion of a parasite. It diminishes the powers of resistance to such a degree that we see men who drink heavily, fall victims to rapid tuberculosis, whose constitutions were originally vigorous and free from any degeneration. But alcohol does more in affecting in a baneful manner, the children of the drinker. From the drinker there can only be reproduced beings with the minimum of resistance. By creating congenital weakness, alcohol predisposes the hereditary alcoholic child to tuberculosis in youth far more frequently than is supposed.

"It is a fact that the children of drinkers are frequently attacked by pulmonary tuberculosis without being born of tuberculosis parents. Finally by continuing its action on an organism already infected by tuberculosis, alcohol aggravates that infection, and hastens its evolution. It (alcohol) alters 'the integrity of the central and peripheral nerves, of which it is a powerful poison.' It (alcohol) weakens 'the system by its action on the general nutrition.' 'It' (alcohol) produces 'all sorts of mal-assimilations.' The systematic treatment of chronic tuberculosis by alcohol, is apparently a physiological absurdity.

"To conquer alcoholism is to conquer tuberculosis." (The Medical Temperance Review, May, 1904, p. 132.)

Although some of Legrain's expressions may appear to be too strongly assertive, if we take into

consideration all the damaging ramifications of alcohol it is not difficult to realize that they approach nearly to the absolute truth.

Prof. Brouardel: "Alcoholism bears a definite relation to venereal diseases, as has been demonstrated between alcoholism and tuberculosis." (The Quarterly Journal of Inebriety, Oct., 1904, p. 365.)

Evidently the relation referred to is that of a causal factor.

Dr. Albert Brunner who has charge of a tuberculosis hospital at Trieste, Italy, makes this statement in his annual report for 1902 "Of 506 patients received during the year, 371 were inebriates, 133 moderate drinkers and only two total abstainers." (G. B. Hockhart in The Quarterly Journal of Inebriety, Oct., 1904, p. 421.)

Dr. J. Johnston: "The close connection between alcohol and consumption is shown by the large number of brewers, waiters, bar-men and publicans who despite the absence of insanitary surroundings succumb to the disease and so contribute to the unique mortality which distinguishes their class." In a foot note: "The mortality of publicans and public house attendants is 228 per cent. higher than that of coal miners." (The Medical Temperance Review, Feb., 1905, p. 56.)

Dr. V. H. Rutherford is reported as having spoken as follows in an address delivered before the British Temperance League in 1904: "It was only in recent times they had discovered there was such a thing as alcoholic tuberculosis. They heard at the London congress on tuberculosis some two or three years ago, Prof. Brouardel state that alcohol was the most potent factor in the production of tuberculosis they knew of; and they would recognize its magnitude

when they were told that 60,000 people died every year in this country (England) alone from consumption in one shape or another.

"As alcohol was one of the most important factors in consumption they would see how seriously it affected the health of the nation." (The Medical Temperance Review, Sept., 1904, p. 269.)

Dr. S. A. Knopf: "We are only just beginning in our anti-tuberculosis campaign to educate the people to the fact that alcohol never cured and never will cure tuberculosis. Alcohol does not cure tuberculosis! Used in excess and injudiciously administered, it surely retards recovery. Alcohol used in excess predisposes to consumption. Statistics in hospitals for tuberculosis and scrofulous children show that the majority of them had parents addicted to the excessive use of alcohol." (The Citizen, Jan. 11th., 1905.)

A large number of names of distinguished physicians might be added to those already given were it necessary to show more emphatically that the consensus of opinion of numerous medical investigators is to the effect that alcohol holds a large place as a predisposing agent in the production of tuberculosis.

In view of the destructive prevalence of tuberculosis throughout our country and of the causal relation of alcohol to this disease it is preeminently wise to inquire what means can be used to combat the harmful efficiency of this relationship and reduce to a minimum its antagonism to health and life.

Education. As a helpful agent in this contest education must be placed in the foremost rank. The individual citizen, various kinds of organized societies and civic authorities

have a large responsibility in this work. We shall not move far towards the desired goal until there shall prevail a more profound and wide-spread knowledge of the degenerating influence of alcoholic beverages and their intimate relation to tuberculosis etiology.

It devolves upon the medical profession to educate itself upon these subjects. It is the writer's belief that only a small minority of physicians possess more than a very limited knowledge of the qualities of alcohol and its action upon the human system.

The medical profession as a whole is ignorant of the developments along these lines which have been made during the last 25 years by scientific investigation. In view of the large place which alcohol holds in the production of disease in general and tuberculosis in particular it is the bounden duty of every physician to use every means at his command in acquainting himself with the physiologic, pathologic and therapeutic facts connected with alcohol.

The family physician as confidential adviser is able to exert a potent influence with father, mother and children. Equipped with wise counsel and sympathetic speech he can teach most effectively the scientific doctrine of temperance and its relation to the "great white plague;" he can fortify the holy precincts of home so strongly with sanitary regulations that the demon of strong drink will not seize with deadly hand even one of its inmates obedient to his will.

The medical college. The teaching of medical colleges should embrace the latest discoveries in the science and art of medicine and the newest methods which experience has proven to be practical

At the present time this is urgently

true concerning the relation which investigations of late years have shown to exist between alcohol and the production and cure of tuberculosis. The freshly graduated physician possesses only a meagre knowledge of this subject unless it has been imparted to him from the professorial chair. The leaders in our medical colleges should awake to the needs of the hour required by anti-tuberculous endeavor.

The nurse. Next to physicians nurses have rare opportunities to win the confidential regard of their patients and the public.

Intelligent and educated nurses have a correct understanding of the simple demands of hygiene and medicine. It is eminently proper that in the schools for nurses special instruction should be given on the hygiene of tuberculosis and on the exclusion of alcoholic intoxicants from the dietary of patients suffering from this disease. Nurses will not be able to use their most effective efforts in moulding the opinions and habits of their tuberculous patients until they understand the limited value of alcohol in the chamber of the sick.

The public school. The rising generation will soon be the risen generation. In a few years the children of today will reach that period of life when they will be most susceptible to attacks of tuberculosis,—the decade between the ages of 20 and 30 years in which occurs the largest number of deaths from this disease.

Comparatively few parents furnish special information to their children upon hygiene, including the dangers resulting from alcoholic beverages. Fortunately in accord with legal enactment the public schools of every one of our States impart hygienic instruction to their pupils. It is the author's firm conviction that the

teacher should conduct the child along a pathway which is strewn with the knowledge of the causal relation existing between alcoholic drinking and the development of tuberculosis. The child should be forcibly taught that this path leads to health and happiness.

Prison tuberculosis. An article upon "The Management of Prison Tuberculosis" written by Dr. Jewett V. Reed of Johns Hopkins Hospital and published in the Feb. 4th., 1905, issue of *The Journal of the American Medical Association*, shows that 13 per cent. of the inmates of the Indiana Reformatory were tuberculous. It is doubtless true that this per cent. is extremely large in comparison with the number of cases existing in the whole United States, although no accurate knowledge for this comparison is available.

In April, 1900, Dr. W. H. Blake, a member of the Board of Inspectors of Alabama, read before the Medical Association of Alabama a paper, entitled "The Need of a Separate Prison for Consumptive Convicts." *The New York Medical Journal*, in its issue of Nov. 17th., 1900, in commenting on this paper stated, that, "Dr. Blake points out that, according to the last national census, consumption causes 17 per cent. of all the deaths among our free population, while among convicts, according to recent reports, it gives rise to the following percentages of deaths: in Mississippi, 20; in Arkansas, 20; in Florida, 30; in Ohio, 31; in Michigan, 33; in the Allegheny County Workhouse, Pennsylvania, 33 and 1-3; in Virginia, 41; in Kentucky, 42; in Joliet, 70; in the Huntsville Penitentiary, Texas, 66; in the Rusk Penitentiary, Texas, 33; in Washington, 16; in Connecticut, (in 1898), 60; in



Tennessee, 65. He adds that in the year 1897 every death that occurred in the penitentiary of Connecticut was caused by consumption."

It is a fact, fully substantiated by statistics that a very large majority of prison populations have been subjects of the immoderate use of alcoholics. In this way these convicts have weakened and degenerated their bodies to such an extent that their vital resistance has been reduced almost to a minimum and the easy assuming of an infectious disease is a foregone conclusion. Of course prisons under the most favorable circumstances are far from sanitary and hence their unusual amount of tuberculosis should not be wholly ascribed to the previous habits of their inmates.

Jails, penitentiaries, prisons, all penal and reformatory institutions afford excellent opportunities for teaching tuberculosis prevention and in connection therewith the dangers resulting from an alcoholic habit. Lectures upon these subjects, at which attendance might be compulsory, could be given by attending physicians; also anti-tuberculosis literature, succinct and definite in statement, should be freely distributed. After such instruction the outcomers from such institutions would be more likely to obey sanitary laws and the tuberculous among them less liable to transmit their infectious disease.

It is in the power of employers to accomplish a great and good work by disseminating among their employees the truth concerning the damaging effects of alcohol on the human system. This can be done in various ways, among which are the use of placards containing terse and emphatic statements and circulars written in a plain, forcible and attractive style. A refusal to employ any users of alcoholic

beverages is a very effective method of inculcating the same truth. By the adoption and persistent continuance of such measures employers will not only secure increased efficiency of service but will also reduce the death rate of tuberculosis.

Sanatoria. The Feb. 11th., 1905, issue of *The Journal of the American Medical Association* contains a paper by Dr. S. A. Knopf in which he has given the names of over 200 tuberculosis sanatoria.

If the superintendents of these institutions recognize the forceful character of alcoholics in inducing and perpetuating tuberculosis they will employ their supreme privilege to impart to their thousands of patients, instruction which will be an exceedingly effective force in the magnificent crusade now in progress against the most stupendous disease scourge in the world.

Boards of health. The principal object of founding and maintaining boards of health is the advancement of preventive medicine. Doubtless by a majority of these boards efficient measures have been adopted for the eradication of tuberculosis. Through their efforts laws have been enacted for sanitation, provisions have been made for the establishment of institutions for the cure of tuberculosis, circulars containing direction for the destruction of tuberculosis sputum and the sanitary care of the person have been scattered in abundance throughout the land.

The writer has failed to learn that boards of health have placed any special emphasis on the necessity of strenuous effort for the removal of the habit of alcoholic drinking. Recently every State board of health in our country has been solicited for a copy of its anti-tuberculosis circular

published for free distribution. Twenty seven replies were received. From these replies it appears that in only 13 of the 27 States are anti-tuberculosis circulars published. In only 8 of these 13 circulars is alcohol in any form recognized as a cause of tuberculosis.

Boards of health are in a position to exercise a vast and controlling influence for the prevention and against the spread of tuberculosis. For this purpose it is their bounden duty to employ every means at their command to eliminate its causes. It must be patent to all persons who have studied the relation of alcoholic drinking to tuberculosis that the former is a predisposing cause of the latter. Boards of health should publish and scatter abroad in their communities circulars which embody this sentiment; they should provide for the frequent delivery of popular lectures and for the publication of articles in newspapers and magazines on this subject; it is in their power to inaugurate measures for the suppression of all unsanitary conditions.

The habitual drinker of alcoholic intoxicants is an unsanitary individual. He is a menace against anti-tuberculosis; he is apt to be uncleanly in person, neglectful in his personal habits, careless concerning his home and its environment. Boards of health should use their vigorous influence to suppress these unsanitary conditions as a means for the suppression of tuberculosis.

The American saloon. The liquor saloon of this country by its sale of alcoholics is inimical to anti-tuberculosis. It is powerfully antagonistic to preventive medicine; it breeds disease and plants the seeds of death; it promotes physical and mental degeneracy; its "wet goods" soak into all the physical organs and lessen their

vital resistance; its narcotic poisons prepare the system for the development and deadly work of tuberculous germs.

On the ground that it is a monumental nuisance and a colossal obstacle to health and life the alcoholic saloon should be suppressed by public sentiment and legal enactment.

General remarks. Did time permit this paper might be indefinitely extended in presenting evidence in favor of its main proposition.

The medical profession should be aroused to a recognition of its truth and to the personal responsibility which such recognition enforces. While with intense earnestness we are teaching the existence of tuberculous bacilli, the dangers of tuberculous sputum and the necessity of sanitary regulations against the onward march of tuberculosis we should not forget to teach also the relation of alcohol to the same disease.

Everywhere it is acknowledged that the force of example is supreme. If it were generally known throughout our land that the vast majority of the members of the medical profession abstained from the use of alcoholic intoxicants as a beverage, what an immense alcoholic reformatory wave would sweep through the country.

Vast sums of money are expended for the erection of anti-tuberculosis sanatoria and their equipment: it is equally important to erect and equip anti-alcoholic sanatoria.

To stamp out tuberculosis or reduce it to the lowest possible minimum we must stamp out all its causal factors, one of which is alcoholic inebriety and alcoholic inebriety is the outcome of alcoholic drinking.

The crusade against tuberculosis will be successful only when there shall be a successful crusade against alcoholics.



## PHYSIOLOGICAL ACTION OF TEA AS A BEVERAGE

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In the course of ages, experience has taught mankind many useful things whose utility science can even now with difficulty explain. One of these things is the use of certain vegetable infusions as beverages. One reason for using such infusions probably is, that experience has shown that boiled water is less harmful than water fresh from the well in places where the water supply is bad. In the middle ages, whenever an epidemic disease appeared, the cry was raised, "the wells are poisoned," and forthwith the populace proceeded to slaughter the Jews, on whom they laid the blame. In one particular the populace were right. They had noticed that those who drank from certain wells died, whilst those who drank from others escaped. They inferred that some of the wells were poisoned, and their inference was correct. But they were wrong in supposing that either the Jews or any one else had deliberately dropped arsenic, or any known poison, into the water. The wells were poisoned by the unsuspected filtration into them of sewage containing microbes, those living germs of disease whose very existence was unknown until a few decades ago. Science has shown that boiling the

water containing these disease-germs destroys its noxious properties, because the germs are killed by the heat. But experience taught people the same truth ages ago, and they acted upon it, although they did not know the reason why. I had often heard of the wide prevalence, in Russia, of the custom of drinking tea, but it was only when I crossed the great plain between Warsaw and Moscow that the reason occurred to me. The water drunk in this plain is, I believe, drawn from shallow wells containing surface water, easily liable to contamination, and probably disagreeable in taste from organic matter, even when not dangerous. At every railway station the tea-urn or "samovar" is to be seen, and the people drink abundantly of tea. But it would hardly be called by that name in this country. It is simply hot water, scarcely coloured and barely flavoured with tea. In Moscow I dined with a scientific man, and, after dinner, the samovar was placed on the table, and tea handed round. I asked my hostess how much tea she used, and she replied, "I am extravagant in tea, we are twelve at dinner, and I put in four teaspoonfuls, but most people would not put in so much."

Here, I thought, is a difference from our rule of one teaspoonful for each person and one for the pot, and a reason why tea can be drunk to such a large extent in Russia without doing harm. As a contrast to this, I may describe what I saw in a herring boat at Whitby. I had gone out to spend the night in the boat and see the catch of herrings. We had not been long on board when the master, knowing I was a medical man, complained to me of his sufferings from indigestion. I did not understand why a sailor living a healthy open-air life should suffer in this way, but in a very short time the reason became evident. They made some tea and offered me a cup. But, instead of being a pale straw color, and having a hardy perceptible flavour, as in Russia, it was as black as ink, and had a strong, bitter, and astringent taste. Judging from its appearance, I should think that tea had been put into the pot, not by the spoonful, but by the handful. A single cup was enough to cause much gastric discomfort, and several cupfuls every day were sufficient to produce any amount of dyspepsia. In other countries, where water is bad, as in Australia and South Africa, the practice of tea drinking is very prevalent.

But experience has shown mankind that the avoidance of danger from impure water is not the only advantage to be gained by drinking vegetable infusions. Safety might be obtained by simply boiling the water, but boiled water has an insipid taste, which is removed by adding to it various plants. Many have been tried, especially those having an aromatic smell, such as peppermint, &c. To a palate entirely unaccustomed to infusions, the taste of peppermint, perhaps, might be more agreeable than

that of tea, but it lacks the other property which tea possesses, namely, that of stimulating. It is very important that we should understand clearly what we mean by stimulating, and that we should distinguish clearly between foods and stimulants.

Food is something which actually supplies energy to the body, in much the same way as coal supplies energy to a steam engine. A stimulant supplies little or no energy, but enables a man to draw on his reserve stock in a way that he could not do without it. A stimulant, in fact, plays the same part in the operations of the body that bills do in the operations of commerce. In addition to his available capital, which he can use at short notice for commercial purposes, a man usually has some reserve capital which he cannot realise at once, so as to utilize it at short notice, when sudden demands are made upon him. If he cannot draw upon this reserve capital, he may become bankrupt for want of the power to utilise it. By means of bills he may borrow from this reserve, tide over a difficulty, save himself from bankruptcy, and accomplish transactions which he could not manage without them. But, if bills are too freely used, and reserve capital is too largely drawn upon, a man's bankruptcy, though postponed, is all the more disastrous. In the same way, stimulants enable us to draw upon our physiological capital, and to bring to bear upon a certain piece of work powers of body and mind, which we could not exert without their aid, and by this means we may be able to accomplish feats, bodily or mental, which would otherwise be beyond our power. But if stimulants are used too freely, all the reserves of energy, bodily or mental will be used up to too great an extent,

physiological bankruptcy will set in, and the wreck of body and mind that will ensue will be complete and deplorable.

Stimuli may be mental or physical. Amongst the most powerful of the former are love, pride, and ambition. These are not confined to man, but act upon the lower animals also. Once when racing along the road with a friend who was mounted on a horse, while I was mounted on a pony, the pony's ambition enabled him for a while to keep pace with the horse, but as the longer stride of the latter began to tell, and he gradually forged ahead, the pony bit at him savagely in an attempt to hold him back and prevent him from winning the race, I have no doubt that the pony would gladly have welcomed whip or spur, or both, if the stimulus they supplied, however painful, had enabled him to win. In the struggle for existence amongst men, competition is very keen, and they naturally welcome stimulants which will enable them to do more than they otherwise could. The use of stimulants is almost universal throughout the world. In countries where the vine grows, wine is largely used. In colder countries, where there are no vines, fermented liquors, or spirits distilled from them, are employed, and in a large portion of the world's area other plants, which have a strong action upon the nervous system, are preferred even to alcohol. Over a large part of India, opium is used, and to a less extent *cannabis indica*, but in many other countries various infusions are employed which acts as stimulants without producing either stupor, like opium or alcohol, or mental disturbance like *haschisch*. The fungi used in Kamschatka and the betel nut in India probably act on the circulation

like tobacco, but tea in China, coffee in Arabia, guarana in Brazil, mate in Paraguay, and cacao, or, as it is more commonly called, cocoa, in Central America and the West India Islands, all contain active principles very closely allied to one another, chemically and physiologically. The cocoa of Peru contains an active principle not so closely related chemically to tea as these others, but physiologically it also resembles tea in many respects, though differing from it in others. Many millions of experiments lasting on through countless ages, must have been tried by mankind with infusions of leaves of various kinds, and it must have been some useful property which has led men to select from amongst them leaves so different in kind and coming from such different plants as those which I have just mentioned, but all of which have a similar effect upon the human organism. The effect which they do produce is purely that of a stimulant, as I have already described it. They enable a man to draw upon his reserves, mental and bodily, to an extent which he could not otherwise do, and give him greater mental or bodily power to meet any sudden demands, to overcome a difficulty, or to continue exertion long after he would have succumbed to fatigue without their aid.

In order to understand how these stimulants act, it may be necessary to make another physiological digression, and discuss the subject of fatigue.

One important function of the brain is to preserve the body from harm. If the hand touches a piece of hot iron the painful impression is at once carried by the nerves up to the brain, and the hand is drawn away before much injury is done. If the

brain were narcotised by opium, alcohol, or chloroform, no pain would be felt, the hand would not be withdrawn from contact with the iron, and it might thus become so severely burned as to be utterly useless. It is the quick appreciation by the brain of danger from without that thus protects the organism. In the same way it also protects the organism from dangers arising within it. The organs of the body are rarely worked to their full extent, but are kept well within those limits which it might cause serious injury to overstep. Thus it is that ordinarily when persons are undergoing violent exertion involving the hands or feet, the limbs or body, they are obliged by pain to relax the muscles before they break under the strain to which they are subjected, and the oppression on the chest and the pain in the heart, which violent exertion brings on, usually compel the individual to lessen it, or cease it altogether, before the heart has become injured. In the same way long continued-exertion causes fatigue in the muscles which is perceived by the brain, and the person is forced to rest long before his muscles are completely exhausted. Powerful mental stimuli, such as the desire to save oneself from imminent danger or death, or even ambition to win a race, may lead men to strain their muscles until they snap, or their hearts until they stop. But short of such serious results, powerful exciting stimuli may lead men to accomplish feats, of which they would have believed themselves incapable, and which, in truth, they could not have accomplished except under the influence of excitement. The same rule appears to hold good in regard to mental exertion, and most men are capable of a great deal more mental work than they actually per-

form. Here, again, the weariness, which mental work brings on, appears to be a safeguard, and not unfrequently one finds that people who have, during periods of excitement in which fatigue was not felt, overworked their brains for months together, fall into a condition of neurasthenia from which it is very hard to recover.

The effect of tea, coffee or cocoa appears to be three-fold, (1) on the circulation, (2) on the spinal cord, and (3) on the brain. Through the effect of these substances on the circulation, the flow of blood through the brain is increased, more nutriment is supplied on the brain cells, and thus thought is quickened. The brain cells themselves are also probably affected by tea or coffee so that communication between them becomes more rapid, more complete, and more permanent than in ordinary circumstances, and thus it is that people think more clearly and speak more readily when stimulated by tea or coffee. On the other hand, these substances tend to keep up mental action when it is not wanted and prevent the sleep which ought to come on after exertion, and which is needed to restore the tired brain. But perhaps the most remarkable action which they have is that pointed out by Bennett and McKendrick, viz., that they lessen or abolish the transmission of sensory impressions both in the peripheral nerves and the spinal cord, and thus interfere with the conduction of painful impressions to the brain. Amongst other disagreeable sensations they lessen the sense of fatigue. They thus give a sense of well-being and of power, which is very agreeable, and not only do they give the feeling of power, but they actually enable men to do more and to endure longer than they other-

wise could. In Peru the Indians are accustomed to chew cocoa leaves on long journeys. These leaves contain no nourishment, and yield no energy to the body, but they prevent a person from feeling the sense of fatigue and enable him to draw upon his reserve energy until his course is finished when he may again rest, take food, and replace the energy he has expended. The qualities of tea are well put in one of the Sloane Manuscripts, dated 1686, and quoted by Dr. Tebb in his excellent paper on "Tea, and Tea Drinking." It was said "to purify the blood and kidneys, cure giddiness and pains in the head, vanquish superfluous sleep and heavy dreams, open obstructions, clear the sight, strengthen the memory, sharpen the wits and quicken the understanding." No wonder with such excellent qualities that the "cup which cheers, but not inebriates," should have become such a universal favourite, and if properly used it certainly is a great boon to mankind.

Unfortunately tea is liable to abuse as well as use, and just as the bills, which properly employed may greatly help a commercial man, will bring about hopeless bankruptcy if overdrawn, so tea and its congeners, if abused, will bring about the most disastrous results. One of these is a consequence of the power of tea to lessen disagreeable sensations, for it not only lessen fatigue but it lessens hunger as well, and thus tends to prevent nutriment being taken which would otherwise build up the organism, and restore the energy taken from it by exertion under the influence of tea. All teas, however good, have this action, but in addition to it some teas have an injurious effect upon the stomach itself on account of the tannin which they contain. Tannin when

taken along with butcher's meat hardens it and renders it less digestible, so that a meat-tea is often provocative of dyspepsia. Upon farinaceous food it has no such action, and the experience of people has shown that bread and butter, toast or rusks, go well with tea. Fish and eggs are, I think, softer than meat and do not suffer so much from the tanning action of the tea, whilst bacon is already hard and remains unaffected. But it is not only upon the food that tannin exerts its injurious action. It effects the mucous membrane of the stomach itself and lessens its digestive power. The different kinds of tea vary in the amount of tannin they contain, and according to Dr. Tebb it is somewhat less in China tea than in India and Ceylon teas. It depends, perhaps, even more on the mode of preparing the tea than upon the tea itself. When boiling water is simply poured on the leaves, and is again poured off after standing for a few minutes, only a small portion of tannin is extracted, but when the leaves are boiled or stewed a great deal of tannin is dissolved out, and is apt to produce severe dyspepsia.

It is thus evident that tea may interfere with nutrition in three ways. First by lessening the feeling of hunger, second, by rendering food less digestible, and third, by interfering with the digestive power of the stomach. At the same time that it thus lessens the nutrition of the body, it enables the person to use up much more energy than he or she would be able to do without its aid, and the consequences of this are more evident in regard to the nervous system. Although tea prevents the sensation of fatigue from being felt for a while, yet exhaustion is going on, both in mind and body, and this usually at length causes disinclination either to



mental or bodily exertion, and tends to destroy the power of doing any useful work, either mental or bodily, even when the attempt is made. Power of self-restraint is diminished and the person becomes nervous, unduly sensitive, timid, and emotional. Not unfrequently ringing in the ears is felt, giddiness, headache, sometimes very severe neuralgia and tremulousness. The tremors seem to be more readily induced by green tea than by black tea, and I have known of one case in which two or three cups of green tea were sufficient to induce marked tremor. An officer in the army, who was suffering from severe neuralgia, and who, though moderate in alcohol, took too much tea and tobacco, once consulted me. I cut off his tobacco and alcohol, but allowed him to go on with his tea. The neuralgia continued, and he consulted another medical man, who promptly cut off the tea as well with the satisfactory result that the patient quickly recovered. Neuralgia is very apt to occur in nervous people who are able ordinarily to take a great deal out of themselves, either by sheer force of will or under excitement, and are thus more liable to reduce themselves below normal than those of more lymphatic temperament. Neuralgia has been described as the prayer of a nerve for a better food and more of it, and if this is true, as I believe it to be, one can easily see how tea, by enabling these people to take even more out of themselves than they otherwise could, will render their neuralgia more severe and more continuous. It is evident that a similar result is to be expected in regard to other nervous functions, and that the stability of the brain may be so seriously impaired that the combination of starvation and stimulation,

produced by excessive tea drinking, will certainly produce a tendency to mental derangement, even if it does not actually determine its onset.

But, in addition to its action on the nervous system, tea is a powerful stimulant to the circulation, and, if abused, will tend to weaken this, just as it tends to weaken the nervous system, and will lead to feebleness of the pulse and palpitations.

All teas are not equally injurious. Ceylon and Indian tea are preferred by many people to China tea on account of their aroma and stimulating qualities, and, so long as they are taken in moderation and prepared in the right way by simple infusion for two or three minutes, and then pouring the water off from the leaves, they will suit healthy people very well. But whether it is on account of the higher proportion of tannin they contain or some other reason which we do not yet know, they are not good for weak digestion as China tea, which, especially if it is prepared in the way just recommended, by infusion for two or three minutes only, is less likely to cause dyspepsia than any other kinds of tea.

The taste of tea is much affected by the nature of the water in which the leaves are infused. Hard water and water containing iron do not make good tea, and the chalybeate water is apt to make a very dark infusion from the tannin of the tea reacting on the iron in the water and producing ink. Water in which the hardness is "temporary," depending on the presence of calcium carbonate, may be softened by boiling, which drives off the carbonic acid gas, and thus precipitates the calcium carbonate which it keeps in solution in the water. But water from which the gases have been driven off



is insipid, and water which has been boiled twice, so that all the gases it would usually contain have been removed, does not make good tea. In places where the soil is chalk and limestone, and the water is consequently hard, it is better to make tea with boiled soda-water, Apollinaris, Salutaris, or some other effervescent water free from lime. This procedure tends also to lessen the constipation which the hard water is apt to produce.

Where these waters cannot be had, a pinch of bicarbonate of soda into the tea-pot improves the infusion.

The physiological action of the tea is usually attributed almost entirely to the alkaloid, theine or caffeine, which it contains, but I do not think that this can be the case because green tea, which contains no more alkaloid than black tea, has a much more powerful effect upon the nervous system, an effect which cannot be explained by

the somewhat larger proportion of tannin, and must, I think, be due to some other constituents in the leaf. Green tea and black tea are not obtained, as many people suppose, from different varieties of the plant, but only differ in their method of preparation; the leaves which form the green tea being roasted in a pan shortly after they are plucked, while those that form black tea are allowed to undergo a form of fermentation before roasting. To sum up shortly what I have said in this paper. Tea, when properly prepared, and taken in moderation, is both useful and agreeable. When taken in too great quantity, or along with butchers meat, when too strong, when infused too long, or still more when boiled and stewed, it is apt to produce digestive troubles. When taken in excess it may produce nervous symptoms of the most serious character, and facilitate, if it does not actually produce, mental degeneration.

## MORBID PREDISPOSING CAUSES IN DIPSOMANIA

By W. L. HOWARD, M. D., Westboro, Mass.

Marandon de Montyel,\* after an experience of thirty years among people of unsound mind, dissents from the prevailing views as to the cause of mental alienation. He concludes that there are six causes which he divides into three groups, the infectious group, with typhoid fever and chronic malarial poisoning; the toxic group, with chronic alcoholism and chronic melancholy, and the physical group, with cranial traumatism, including cerebral concussion and insolation. In all such cases there must be, however, an antecedent physical defect. The author is therefore convinced that in mental pathology there must always be a predisposition. He seeks to establish two facts (1) that the conditions above mentioned create a predisposition which will sooner or later result in insanity, (2) that they will not cause insanity in an individual previously in sound mental condition until that predisposition has first been established.

These conclusions are the same as expressed in my work\*\* dealing with dipsomania and inebriety, although studied in clinical pictures of the mental pathology and predisposition involved in the periodic psychic explosions, instead of working hypotheses. In discussing the uncontrollable im-

pulses which are the distinguishing features of dipsomania it is evident that there is a rabid impulsiveness and temporary mental alienation that distinguishes dipsomania as a disease from drunkenness as a vice. Its force, fury, sudden onslaught, and periodicity demonstrate the mental disturbance. The line between the drunkard and the pseudo dipsomaniac is not an incised one, the conditions being those of correlation. The pseudo dipsomaniac is an intermittent drunkard; he will drink to excess whenever an opportunity occurs, and at no time does he have the repugnance for, or fear of, alcohol which possesses the dipsomaniac during his lucid intervals. The drunkard will enjoy every opportunity to drink to excess, but ceases with the opportunity. The dipsomaniac knows no halt, no restriction; he must, he does, he will succumb to the impulse to drink to the extent of causing total oblivion to all honor, respect, and fealty due himself, and all duties, obligations, and responsibilities due others.

As Leigh had stated, in the history of his case read by Oberea, he was the victim of his parents' neglect and ignorance. He belonged to that exceptional class born of ancestors whose central nervous systems have

been on an exhausted strain throughout life. Many men in this country, in the last generation, have not married until they have rushed through the best portion of their early life in the hurry, push, and excitement of an early business or professional career. They bequeath to their progeny the dregs of a former vital and equilibrated nervous mechanism which the heir is unable to adjust. In these cases the law of heredity prevails, but between the laws which are to act and the indefinite variety of forces and circumstances upon which these laws may operate lies a vast stretch of uncertainty.

No one can doubt the false and ridiculous methods of attempting to cure a purely pathologic condition by prayers and appeals to the superstitious elements of society.

Those who look upon criminal instincts, immorality, and moral debasement from a purely metaphysical viewpoint; who see in the criminal individual the absence of some inward, mysterious, unknown attribute, which for want of knowledge they call "divine power," or through a pseudo philosophy "will power"—both meaningless and unscientific terms—are antagonists to all useful curative and preventive methods of dealing with anthropological abnormalities. Continued immoral or dishonest acts of a man are only external expressions of the individual's diseased, distorted, or undeveloped physio-psychical organism. It is the organic, physiologic matter-of-fact condition existing through heredity, plus the environments and education, which determine the moral and immoral character of the individual, and any attempt to correct a pathologic condition through persuasive appeals to unknown powers is a humiliating exhibition of supersti-

tion and ignorance of nature's laws.

We have no desire to speak slightly of a class which honestly believes in the efficacy of a divine power; but for us the day has passed for mysticism and miracles, and we deal only with clear, demonstrable, and comprehensive physiologic and pathologic facts.

When we are struggling with the dipsomaniac, or that sad object, the woman of anti-social determination, we do so through a material, anthropologic, physiologic, and psychologic viewpoint.

All religious revivals, temperance meetings, and pulpit exhortations are only active stimulants to that class of individuals attracted by these hysteric demonstrations. This stimulant added to intense neurotic subjects is the direct cause of arousing latent immoral and sexual passions.

As all abnormal passions and criminal actions are the result of somatic disturbances, they should be left to the scientist to study and control. Such men realize the effects of epidemics of hysteria, hypnotism, auto-suggestion, *folie circulaire*, simulation, and the multitudinous and perplexing phases of the functional neuroses, some or all of which conditions have been used for centuries to arouse the masses, awe the multitude, frighten the ignorant, and rob the simple. It is through such pathologic conditions that a powerful hierarchy has been promoted and strengthened, that cathedrals have been built, and churches furnished annually with miracles. The religious masses have been purposely exposed to epidemics of sentiment, delusion, hallucinations, and morbid aberrations; while the antidote, which could only be found in a thorough training in physiologic psychology, has been denied them.

The control of criminals and the study of the prevention of crime should not be in the hands of the well meaning but ignorant—in physio-psychologic matters—religious bodies.

Early religious training and impressions of the masses, minus the resisting powers of judgment, have heretofore prevented the criminal from being treated as a diseased individual and restrained from casting into healthy society a further diseased offspring. Nature has always given us examples of how she prevents the continuous propagation of diseased organisms, yet man ignores her lessons, and himself sets up an antisocial condition.

As to the auto-toxic origin of dipsomania due to an unstable inheritance of the nervous system, the inebriate is a pitiful sufferer; melancholic at times, at other moments exceedingly witty, while in conversation the mere suggestion of love or affection in animals would bring tears. He knew that the condition, the symptoms, resembled a form of insanity. His horrible restlessness, frightful introspection, morbid fear of self, and the imagined suspicion of others were recognized by the true self, but, nevertheless, these awful feelings were uncontrollable. These uncontrollable fears are the impelling forces of the dipsomaniac—the potential that drives with irresistible energy the brain poisoned individual from the fireside to the gutter.

The ravings of the typhoid-poisoned patient, the insanities and suicidal tendencies of the poisoned woman in

puerperal fever or the mental palsy of the man intoxicated with the toxins of certain bacteria, are no longer to be separated from the effects of toxins which accumulate in the faulty system of the neurotic, and which are demonstrated by a periodical insanity—the disease dipsomania. This physiologic phenomena is the baneful result of some careless, thoughtless, or sinful waste of nervous energy on the part of our ancestors. Were parents and grandparents as thoughtful of their children's physical wealth as they are of their worldly wealth, many a genius might have lived to enrich the nation with his powers, and many a wretched home turned into a happy one.

Numberless Americans who are descendants of several generations in this country are unfortunate. They are the victims of the disturbed physiologic rhythms of one or both parents or grandparents. There is little left to them of a strong, virile force. They are perforce, compelled to resort to stimulants to temporarily pass over periods of mental restlessness and physical discomforts. When they have been unable to throw off the normal poisons of the body, the disturbed nerve-cells shriek for artificial stimulants for relief, and from relief the conditions soon demand a habit; and what could have been at first physiologically adjusted becomes a psychic and somatic wreck, wallowing between the banks of drug empiricism on one side and disheartened and pessimistic periods of perversity on the other.

## REFLEXES FROM THE EYE IN NARCOSOMANIA

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

The territory of eye-reflexes has been so fiercely contended, and so bitterly disputed, that wisdom might seem the better part of valor in keeping out of it. Certainly, many cases in which eye-strain has been claimed as a responsible factor have shown up pitiable results from the lenses, which were prescribed to cure or to relieve. And yet this failure, in part or in whole, does not, so far as I can see, impair the validity of that line of reasoning which lays great stress upon the influence of the eye on general conditions affecting the body. So many things enter into the choice of proper lenses that we must always allow the possibility of improper ones being obtained. And indeed, so often have I discovered patients wearing these improper ones, and again so often within the last year, since I have had the invaluable assistance of Dr. W. L. Pyle, and Dr. S. H. Brown, of Philadelphia, to whom I refer my special work relating to the eye, does improvement follow when exact attention is given to the case, that now I have the courage which my successes warrant, to range myself with those who know that the eye must be attended to in cases of neurotic or degenerative morbid processes which involve both body and mind.

In this paper, which is a preliminary report, I shall give a brief analysis founded on my personal experience with some 50 cases.

These cases cover that form of narcotic or drug addiction which should be classified as *narcosomania*. The distinction in this should be made so that when the narcotic is desired especially for its pleasurable effects the morbid process is one of *narcomania*, or that of an excessive and improper use of a narcotic. On the other hand, *narcosomania* implies that the patient desires narcosis, rather than any specific narcotic, and is an evidence of a source of irritation against which the patient strives.

In recognizing this state of affairs it becomes immediately apparent that many cases of true narcosomania may never advance so far as the use of a narcotic. But the patient succeeds in fighting off the wrong. In such instances the irritated and exasperated nervous system revenges itself by various sorts of outbreaks, or the patient, unable to work, may become a social parasite or a criminal.

The eyes may attack the virtue of the patient by rendering him a social incompetent. After which, and in his dilemma, he chooses the narcotic to stupify and to attack his perplexities.

Or, if the patient's nervous system is neuropathically established, and the eyes are *different*, either in refractive power or in neural sensitiveness, or if the musculature of the eye or the nutrition of the mechanism of the eye differs, then on



that imperfect and unstable nervous foundation will fall such a strain as is evident will assume great proportions in the equation of personality, whether specifically diseased or not.

The question of homologous near or farsightedness is of very little moment. It is only when the case presents difficulties of physiologic or psychic coordination which are attributable to ocular or neural inequalities that the attention of the physician is imperatively demanded. Certainly, he will not expect immediate salvation as the outcome of exactly suitable lenses. When these are put on, however, the case is ready to enter the second phase of treatment, and not until then.

Another difficulty, or truly a mistake, requires warning. For if we place the eyes of the patient under such favorable conditions of sight that he really sees better and more with less effort, we must be ready to come promptly to his assistance if this visual bombardment proves too much. The effect is immeasurably greater, although similar to what would occur if our ears suddenly became able to hear many times better and we were surrounded by what would seem comparatively a region of noise.

When retinal hyperesthesia is present, besides the refraction lenses, it will be well to order coquilles.

I have seen cases of epilepsy, and of other forms of nerve irritability, which had failed to respond with satisfaction to the most carefully chosen lenses, do excellently when these were partially obscured. It is to be remembered that our efforts are simply to equalize ocular conditions, and in no wise to increase the work which the eye and the optic tracts will have to do.

These general remarks apply to the management of any nervous case, but also in cases of narcosomania, upon the treatment of which so much more than usual depends, because of the psychic and the sociologic results which are so terrible.

I am willing to assert that in nearly every case of narcosomania a very superficial examination will reveal atrocious neglect of the eyes, a neglect which in itself would unfit the patient for any long or close application to work requiring good eyesight.

When the patient comes before us for examination, the following symptoms, due to eyestrain, will be observable:

Very frequently one shoulder will be depressed as a result of scoliosis, or if the shoulders are level, there may be compensating curvatures. the treatment of which so much more patient is constantly shifting the muscles of the face and forehead. The corrugator supercilii and the orbicularis palpebrarum are often in a state of tonic contracture. This gives the patient an anxious appearance and the frequent endeavors to clarify vision result in an unconscious closing to a partial extent of one or other of his eyes. This is a good sign of neglected astigmatism.

The patient will frequently shade his eyes. And he will tilt his head from side to side, more often if the astigmatism is set at asymmetric axes. But when questioned, he will usually declare that his eyesight is very good, unusually good.

I think it is true that any difficulty of refraction which does not become so excessive as to prevent sight, acts as a direct cause of increased visual power; not more than a temporary

increase, however, because in the retinal irritability and the general hypertone of the entire optic tract will be the source of ultimate damage.

Briefly, then, to conclude, I would like to refer to the conditions which I have found in the individual cases. In narcosomania in which alcohol was the stupefying agent, I have found more frequently actual visual defects, such as central scotoma, or astigmatism at high axes. In cases in which cocain was used, I have found, in looking over my notes, that there was a preference for symmetric astigmatism and with one axis very low. And yet I do not think that any direct relation exists between the form of visual defect and the choice of a narcotic.

Some patients suffer all the pathologic troubles of narcosomania without ever having recourse to the narcotic, and in some immature or partially developed cases, or when the patient has fear of a narcotic so-called, we shall find candy, indigestible food stuffs, cologne, tobacco, and other agents play a part. It is a matter of accessibility. But I do not know that one narcotic is always more attractive to a patient than any other. The solution of this choice, as we may learn to understand it, hardly lies within the scope of this paper.

The physician who treats cases of alcoholic or drug additions must be ready to take a broader view of the eye than even the ophthalmologist can.

When suitable lenses have been obtained, and without sufficient result, it is time not to condemn the theory of eye-strain, but to go further in studying its rationale, because rheumatism of the muscles of the eye, or rheumatic retinal toxismus, or an actual strain or bruise of the ciliary muscle, or ob-

scure interferences with the nutrition of the delicate ocular mechanism may coexist. And further, the trouble may be located within the cranium. This opens the whole question of the relation of mind to matter, and the relation of brain to thought, for in certain positive but subtle damages to coordinative tracts we may find the key to unlock the troubled personality. Certainly, these difficulties may be resolved into alterations of cellular function.

Many patients do well for quite a time under hygienic treatment, which includes eye-refraction. And then fall back. The lenses may require changing, or we must order a period of shaded lenses. Again, we find that there has been an outbreak of neurasthenia, in which the nerves and musculature and nutrition of the eye has suffered its share.

Still further an element of parasthenia, cyclic nervous deviation, may come to the front. And other factors which have been latent, may assume greater proportions when the strain from the eye lessens. Indeed, the body of the neuropath is very much like an outworn vehicle and must be patched here and there with patience if it is to reach its destination safely bearing its precious freight.

I am glad to say that of the cases I have treated, which were able to remain under observation, many temporary, i.e. up to date cures can be demonstrated. No case is ever cured to stay cured while the physiologic vehicle persists in its inherent or inherited vices.

But we have the right to assure patients that will-power and sensible modes of life will result in what is the same as cure, and that is a great deal.

## THE ALCOHOL CULT

BY JOHN MADDEN, M. D., of Portland, Oregon.

The intelligent body of mankind are quick to grasp scientific truths. In these days of material progress, great discoveries are of so frequent occurrence that many of them fail to attract the attention of more than a small coterie of interested specialists, but their verity is taken as a matter of course as soon as science puts the stamp of truth upon them. The playthings of today become the servants of man tomorrow. Galvani's experiments with frog-legs led to a thousand important disclosures in the forces of nature, the importance of which can be measured only by analyzing the new and complex civilization to which they have given rise in a single century. Today Dr. Hertz shows to the world that certain magnetic waves are propagated through the ether, and tomorrow Marconi is flashing signals across the broad ocean.

Not less important have been developments in that profession which has to do directly with man's well being. Koch discovers the bacillus of tuberculosis, and immediately the world is electrified by the germ theory of disease. At once doctors set about the task of reconstructing the science of medicine in harmony with this revolutionizing discovery, and hygiene assumes a new and much more important meaning. Presently the subject of immunity and immunizing claims the attention of the world's

biochemists, and carries its investigators down into the very deepest mysteries of life itself. Sometime the subject will be as easily comprehended as are the most elementary principles given in the common school physiologies, and we look with confidence to the not remote day when the child, arriving at the age of understanding, can be furnished with a simple formula that will insure to him a hundred years of vigorous life.

Man sees these momentous developments and does not wonder. He sees the old dogmatic formula and beliefs swept away and is glad. Nor does the earnest investigator have to wait for the fruits of his discoveries until it is too late for him to be benefited by them. No longer is he contemned and reviled, and his greatness appreciated only when his bones have been gone to dust with the lapse of two hundred years, as was the case with Galileo.

So we look about us, and on every hand we see men busy, earnest, rational, determined. A few score high priests of science, wizard-like, are discovering new forces in nature, or giving new directions to and new appliances for utilizing the old. Here is a man so cunningly shaping the course of plant life that he is giving us coreless apples, shell-less nuts, stoneless plums, spineless catci, and flowers of amazing size, beauty, and fragrance.

Yonder is another in his laboratory developing and studying a bacterium which has the power to draw from the atmosphere boundless quantities of nitrogen, to nourish plants of magnificent size and vigor, upon a soil which would otherwise produce absolutely nothing in the way of vegetation. Here is another who, after a life time of hardship, self denial, and sacrifice of the fruits of his labor, who has at last realized the ambitious dream of thousands of engineers, and brought forth a rotary engine which promises to revolutionize the use of steam power.

In fact, every month or, indeed, every day has its romance in the way of scientific attainment, and as fast as the new proves the falsity or inutility of the old, the old is consistently discarded. Every progressive manufacturing establishment has its scrap-heap of machinery, not because it has been worn out, but because it has been supplanted by a more efficient kind. Every laboratory has its volumes of discarded notes, of value only because they are the material upon which were constructed working hypotheses. They, together with the investigator's wonderful powers of imagination, have led to the discovery of great truths.

Indeed, the whole world of science lives in an atmosphere as rich in imagination as the *Inferno* or *Paradise Lost*, but of infinitely more value to humanity; for it periodically gives to the material world its crystallized products in the way of new servants for all mankind.

There is, however, one exception to this universal acceptance of the truths and material fruits of science by lay humanity. This exception is in the matter of the use, by practically all of mankind, of beverages containing

alcohol. Science has been busy with this question during the past decade, more busy than ever before—as busy as it has been with any other question involving human progress and happiness. Nor has science spoken equivocally or ambiguously upon the subject. Its verdict is plain and emphatic and rests upon a broad foundation of experimental knowledge, as definite and conclusive as anything arrived at by mathematical calculation.

The verdict of science is that alcohol is a poisonous, irritating narcotic, of limited value in the treatment of disease, of a little more, but still unimportant value as an antiseptic for certain sterilization purposes, but that its introduction into the normal human body is always attended by a decrease in both mental and physical efficiency, and that this decrease is in direct ratio to the amount imbibed.

Let us try to assume the proper attitude toward this verdict. Let us try to think that alcohol, instead of being as old almost as the human race, was discovered but yesterday—what would we do in regard to it? Simply label it a poison, write an article upon it for the pharmacopeia, and have it marked "poison" in red letters, and dispensed only upon the doctors' prescription.

What is our real attitude toward it? Practically all civilized mankind drink enormous quantities of it annually, and have the utmost faith in the value of beverages containing it to keep the well from becoming ill, to make the ill well, and, as being by far the most important contributor in all the world to "the gaiety of nations."

Morality and economics have piled up testimony Himalayan in height as to the evil done by alcohol. In vain have social and moral reformers pointed out the full almshouse, the over-

flowing prison, the poverty, illness and general wretchedness of thousands on every hand, in every civilized land under the sun. Mankind has continued to poison itself with alcohol, and, being poisoned, has killed its kind, robbed it, pauperized it, and put its mark of degeneracy upon it, even upon the millions yet unborn. This is on the debit side of alcohol's account with man—with all humanity. And what is on its credit side? So far as the physical man is concerned, nothing. A few years ago, indeed only a very few years, medical men, while deploring the evils of alcoholic excess, were wont to tell us that great as the amount of damage it does, its transcendent value as a "stimulant" more than balances its evil. Exact methods of investigation have wholly swept away this fallacy, with the profession, but it still lives and thrives vigorously in the minds of the great mass of the people.

So here we have a rather remarkable sociologic (perhaps it ought to be called a psychologic) anomaly. Here is a people, quick, eager, unprejudiced, intelligent, practical, promptly utilizing the discoveries of science as rapidly as they are brought out, promptly adjusting itself to the new conditions growing out of these discoveries and inventions in all matters excepting the very important matter of alcohol as a beverage.

If we seek to disclose the cause of this astonishing inconsistency we shall meet with many facts which must lead us to the conclusion that there is an alcoholic beverage cult, that its devotees are of the great majority of mankind, of all grades of intelligence, and that their belief in the virtues of "sound, pure liquors" is as earnest and complete as their belief in the doctrines of Christianity. We may go

still further and say that evidence is not wanting to prove the existence of a wine cult, a beer cult and a cult of spiritous liquors worshippers.

We trust that we shall not be thought guilty of speaking sacrilegiously when we say that the alcohol cult has many features in common with Christianity, or any other cult which worships a supreme being. Indeed, while we do not wish to be quoted as saying that a belief in alcohol is innate, nevertheless the virtues of alcoholic beverages are taken as a matter of course, just as the tenets of Christianity are, and the one who points out the evils of alcohol drinking, who inveighs against any sort of alcoholic beverage being taken in any quantity, is promptly regarded as an enemy of society. He is put into the same category as the noisy unbeliever, the atheist and infidel, and is regarded with suspicion by his fellow men.

This is the first and the most important fact with which the student of alcohol drinking comes in contact. Formulated, the belief of the alcohol cult is that alcoholic beverages are of the choicest blessings from a wise and benevolent Creator, for the benefit of his children, and that, when used only to a reasonable extent, are always an unmixed blessing. Indeed, one frequently hears this belief from the lips of the wise and good, and any protest against it is met with impatience or a pitying, tolerant smile, as though one had protested against the notion that man has a spiritual life beyond the grave.

Said a wise man—a doctor of philosophy, a noted scientist, a model father and husband, and an honorable member of the community—a few months ago: "You may write volumes against beer drinking to demonstrate to me that it is injurious, or of



no value, but I shall continue to find an occasional glass refreshing. I know that what I drink does not harm me, and I feel all the better for having drunk it." If one had had any disposition to argue with him and had pointed out to him all that science has recently shown as to the effects of alcohol taken in any quantity, he might have had the patience to listen (very likely he would not), but he would have continued to drink his occasional glass of beer and to find satisfaction in it, and to believe in its ability to give him momentary pleasure without evil effects.

This case, however, is on the very confines of the subject. It is of interest only in showing the existence of the cult. Millions of such cases would not develop a single anti-alcohol society.

Let us take a step nearer to our subject. "We have a man at the head of one of our departments," said a young college-bred man a few days ago, "who must have his morning drink before he can do any work. Besides this, he takes many more drinks of whiskey during the day. He admits that whiskey is necessary to him; without it he is silent, inactive, morose; with it he is genial, talkative, active. He believes in whiskey, believes that it is necessary to him."

Here is a type of hundreds of thousands of the alcohol cult, the steady drinker who has made alcohol a necessity to him through years of habitual use. You cannot convince him that the very fact that he is abnormal without his drink is evidence of its harm. Your argument will fall upon deaf ears should you try to persuade him that after a period of suffering following a complete withdrawal of his accustomed "stimulant," his normal physiologic self would return and

give him a two-fold greater efficiency and sense of happiness and well being. He wants none of your temperance nonsense—has no time for it. He *knows* the value of alcohol by personal experience. Scientific data have no meaning for him when opposed to his personal experience, and he continues to be a devotee in the ranks of the alcohol cultists.

But there is something vastly more important than the personal experience of the present alcohol devotees in influencing a belief in the virtues of alcoholic beverages. This is its historical aspect, and it finds expression everywhere in literature which deals with the sociology of any civilized nation.

Before entering into a discussion of the pro-alcohol influence of literature we must first refer to the belief, sometimes expressed by intelligent men, but not often seen in books, that man has an inherent need for some sort of stimulating narcotic, something to carry him beyond the confines of his workaday existence into a temporary world of mental rest and bliss. In support of this proposition it is pointed out to us that all primitive tribes of men have or have had their narcotic indulgences. We know that the ancient Aztecs of Mexico and Peru drank to insensible intoxication their beer made from Indian corn; the Mexican of today has his pulque, fermented juice of the agave, the South American his chicha, the Arabian and Hindu their hasheesh, the natives of many parts of Africa cultivate and smoke tobacco, and tobacco was used also by the North American Indians quite universally when the western continent was first visited by Columbus.

Here again we come to the connection, the relation between the use of

narcotics and worship of the gods. The Aztec drank his maize beer to the Sun God; the North American Indian smoked his tobacco and willow bark ceremoniously to the Great Mystery, and elsewhere among savage peoples narcotics were, and are used as a sort of religious worship.

But the proposition that man has an inherent need for a narcotic, an inherent appetite for narcotic intoxication, an inherent desire for narcotic bliss, can find no support in citing the habits of savage peoples. It is quite conclusively proven that their use in the first instance was always a matter of religious ceremony, and this very use, no doubt, grew out of some sort of accidental discovery of their physiologic action by those who tested them as possible articles of diet—for the food question was ever uppermost with the savage. With the exception of some of the tribes of Africa alcoholic drunkenness has never prevailed among savage peoples to an injurious extent. Very likely this is because the distillation, the stronger of the alcoholic beverages was unknown to them. Though Professor Frederick Ratzel tells us that they have native beers sufficiently strong to produce unlimited intoxication, usually it is the prerogative of the kings and chiefs to thus indulge, such bliss being beyond the wealth of the average tribesman. That the Bolivian Indians chew the cocaine bearing leaves of the coca erythoxylon to an injurious extent, is asserted by those who have seen their anaemic, mummified appearance; but, as a rule, no narcotic has ever wrought conspicuous injury to any of the primitive tribes of men.

The North American Indian, aside from tobacco, had no native narcotic in general use. With what readiness he took to the white man's firewater

is as much a matter of history as is the demoralization caused thereby. Surely no one will infer from the Indian's ready aptitude for drink that there was in him a need for alcoholic narcotism; without it he was the most wonderful physical tribesman the world ever saw, the strongest, most enduring, the most intelligent and noble of all primitive men; with it he rapidly degenerated into the weakest and most worthless of inefficient creatures—a lying, lazy, shiftless vagabond.

So it can be safely concluded that there is no inherent need in human nature for alcoholic narcotism. To enter into an elaborate history of alcoholic beverage drinking would add nothing to this subject. We need only to point out that wine was made with the first dawn of civilization; that it was ever regarded in those days of old as something desirable, a gracious gift of the All-Wise Creator, that it was wholesome and good, and that even the cultivation of the vine conferred upon the viticulturist a sort of patent of nobility and bespoke a stability of society unknown to the earliest days of tribe-marauding, when none of the savage natives could hold their ground long enough for the development of the vineyard. Thus the production of wine was coincident with the taking of a new step in human progress.

The pro-alcohol influence of literature is seen in the Sacred Scriptures. Old Noah drank to drunkenness of the wine made from the grapes of his own vineyards. And how like the peevishness of the drunkard who is returning to the world of consciousness after a debauch was his cursing of poor Ham of Canaan who saw his father in one of the many compromising situations incident to alcoholic in-

toxication! And did not the high priest Melchisedek treat Abram to bread and wine? In Exodus we read of a fourth part of a hin of wine being given as a drink offering. Again in Leviticus we read of an offering of the same quantity, and yet again in the book of Numbers.

During the time that Christ was upon earth much more frequent use was undoubtedly made of wine as a beverage than in the days of Old Testament people. Undoubtedly this was due to the greater development of viticulture, a natural progress toward a more stable civilization, and a more populous country. Perhaps the most imaginative one among us could not conceive of the enormous influence upon wine drinking which was wrought by the miracle in the New Testament when Christ changed water into wine at the marriage feast of a daughter of Cana. In relating this miracle more than a half-chapter is devoted indirectly to the wine cult, and reading it leaves with us a peculiar veneration for wine almost as great as that we feel for its Divine Maker who pronounced his handiwork good. So we have a Scriptural record of wine being drunk at the last supper. Wine is also spoken of numerous times in Proverbs, generally in the way of warning, such as: "He that loveth wine and oil shall not be rich." "Be not among winebibbers." "Look not upon wine when it is red," and many others. A like caution is found in Hosea, in Habakkuk, Ephesians, Ecclesiastes and Timothy.

Nor shall it be necessary for us to linger long over ancient literature less known than the Scriptures, indeed, rarely read by us of the present day, before we come upon evidences of wine worship. Let us step forward five centuries after the time of Christ.

In France, as we are informed by Hersart de Villemarque, the Bretons came down from the north "to provide themselves with what they lacked in Brittany, principally with wine." There were war-like expeditions into the country of the Franks, or Gauls, and the fierce Bretons took with them, not only their war chariots, spears, bows and arrows, but also appliances for harvesting the grape crop of the country invaded. If the wine were already made, very good—it was borne away. Did the Franks resist this assault upon their property rights, then the rough Breton soldier drank to repletion that which he could not otherwise carry away. Were the Franks routed and the grapes still hanging upon the vines, then did the Breton marauders pick the unharvested crop, change it into wine, load their beasts of burden with it, and, retiring into the great forests of their own country, they made its reaches echo with their songs of triumph and wine-laudation. "Better is the wine of grapes," so they sang, "than of mulberries; better is white grape wine."

"Red blood and white wine a river!

Red blood and white wine!"

"Better new wine than ale: better new wine."

"Better sparkling wine the hydrobel: better sparkling wine."

"Better wine of the Gauls than apples: better wine of the Gauls."

\* \* \* \* \*

"Wine and blood flow mixed: wine and blood."

"White wine and red blood and thick blood: white wine and red blood."

\* \* \* \* \*

"In the rough fray I have drunk wine

and blood: I have drunk wine and blood."

"Wine and blood nourish him who drinks: wine and blood nourish."

This and much more, similar in kind, is found in the old Breton wine song. Each line forms a stanza, and is followed by a chorus of

"O fire! O fire! O steel! O steel!  
O fire!  
O fire! O fire and steel! O oak! O oak!  
O earth! O earth! O waves! O waves! O earth!  
O earth and oak!"

A chorus of strength, this in which wine is put into the same class as the strongest things they knew! It was wholly in keeping that these should be mentioned by the Breton in connection with the feeling of strength given him by vast libations of the wine ravaged from his enemy! So, almost on the threshold of our investigation we meet with the fallacy of alcoholic power to increase physical strength, its power to stimulate, and after fourteen and one-half centuries this fallacious belief is almost as prevalent as ever.

(To be continued.)

### FARMFIELD REFORMATORY FOR INEBRIATE WOMEN, HORLEY, ENGLAND

By T. D. CROTHERS, M. D., Hartford, Conn.

This institution is a pioneer one, growing out of the Habitual Inebriates Act, passed by Parliament a few years ago, for the legal control of inebriates. This act gave cities and towns the power to build institutions, and confine in them persons arrested for intoxication. The London County Council for Reformatory Institutions, established a Farm Hospital, at Horley, for the special personal care of female inebriates, coming under legal notice in the city and county of London, and particularly of the curable classes.

Institutions supported by the public must be licensed by the Government, and conform to certain re-

quirements of the Inebriate Inspector, under the direction of the Home Secretary. This Farmfield Reformatory was licensed by the Government in 1901, and opened for the reception of patients. It is the only hospital in the world, where the more curable cases of female inebriates are sent by the courts for definite periods of care and treatment. The inmates come from the county and city of London, and are committed by the courts for periods of two and three years. Through the courtesy of the Hon. S. Collins, chairman of the committee of Reformatory Institutions of the London County Council, and secretary, J. T. Rae, of the Temperance

League, I had the pleasure of visiting this Institution. It is situated in the suburbs of a pleasant little farm village of Horley, about 30 miles from London, in the County of Surrey. A large and productive farm has been purchased, and a series of small cottages connected by a corridor with the main building, which is an old mansion, comprises the hospital. Each cottage is of brick and of two stories, containing from ten to fifteen small bedrooms, with sitting, dining room and kitchen, and other conveniences of a home. A covered corridor connects each cottage and extends to the main house, the general kitchen, laundry and work rooms, so that free communication can be had with all of the buildings without exposure.

Each house is surrounded by a small fruit and flower garden, and lawn. Rich fields stretch out in all directions with old oak trees, and luxuriant hedges. The services of the inmates are utilized in the care of the houses, the laundry, kitchen, garden, dairy and in dressmaking, and the manufacture of goods for the inmates of their own and other institutions. Each inmate is supposed to take her turn in the work of the kitchen and laundry, and also in the dairy and garden. A large herd of cows is kept on the farm, and the patients alternate in milking and butter making under the care of an expert, and receive special training in this work. A large garden is also managed and worked by the inmates where vegetables and flowers are cultivated. A large poultry yard is conducted by the inmates. Each cottage is presided over by a trained nurse, called a "Sister" who regulates the work of the patients and their duties in the cottages. The Supt. of the Institution, Miss Forsyth, is a most competent and capable

woman. She directs all the affairs of the inmates, regulates the instruction and work, and the discipline and duties to be enforced. A physician calls daily or when required for any special service. The supt. gives advice, and regulates the daily care and conduct of each inmate, and a chaplain reads services once or twice a week, and the "Sisters" conduct service daily under the supts. care. Lectures are given freely by volunteers at all times. At the time of my visit there were over 80 persons under treatment. The average age was about 30, some of them below 20, and others over 50. Apparently, they belonged very largely to what is called "the middle class" of English people, representing tradesmen, artisans, and decayed of gentry and orphans whose parentage was unknown. The largest number of them were described as having no occupation, and untrained for any kind of work. Nearly half were single women, others were married and widowed. The inmates of 1904 showed that about one-fourth had an academic education, and all but one had some elementary schooling. The exciting causes of the inebriety were stated as bad company and surroundings in two thirds of the persons, and domestic troubles in the other third.

An unusual classification referred to conduct which in half of all the cases were put down as manageable. A smaller portion were recorded as unmanageable, and this was farther explained as patients having frequent outbursts of temper. About one sixth were recorded as mentally weak. The majority of them were blonds of the neurotic type. Some were degenerate in appearance, evidently, from a low grade of ancestors and a dying race stock. Others had marks of an-



cestral vigor and of a nervous erratic brain type. Others were clearly paranoics and high grade imbeciles. Many of them appeared to be of a strong vigorous type equal to the average, but were unable to rise above their surroundings. Lacking independence of spirit and character. In the faces of many there was unmistakable evidence of moral paralysis, the higher brain sense of right and wrong had never been developed and probably it was a retarded growth from ancestors. These women had been arrested for repeated intoxication in public places, and had become a nuisance to their friends and associates, and were sent to this institution as curable from the fact of their age, fair degree of health, and absence of chronic symptoms. The special work of the institution was not only to break up the drink craze and restore them to health, but to fit them for some useful occupation, and secure situations for them in the country, and in families free from temptation where they might outgrow the drink disability. This training attempts to make them proficient or at least, useful, as cooks, waitresses, laundresses, dressmakers, housewives, dairy maids, and nursemaids. Where situations are secured which prove to be unsuitable they return to the institution and are kept until proper places can be found. So far the work has been very promising, a number of inmates have secured good positions, and have proved to be permanently restored. The general health of the patients in the institution is good, but the extreme emotional and nervous susceptibility to all sorts of influences both within and without, requires rare tact and judgment to manage. Hysteria and emotional nerve storms are very common, and the influence of the

weather is very marked in their mental stability.

Good food, excellent rooms and surroundings with quietness and care are very marked influences in building up the brain and nervous system. During the year 1904, 7 patients were transferred to the State Reformatory as violent and refractory, and 2 were sent to an insane asylum.

The managers seek to confine their work to the most curable of these cases, and make a separation of the degenerate and physically incurables who are sent to other places. The records show fully 20 per cent. who leave the institution as cured. Others relapse and are returned or sent to other institutions. The cost per week is about \$5.00, and this in the opinion of the superintendent can be lowered in the future.

The impression one gets is that this is the beginning of one of the most practical and economic charities in the world for a class of persons who without this treatment and by the present methods are made more incurable and hurried rapidly down to the jails and almshouses, increasing the burdens of the taxpayers and fostering centres of degeneration with untold misery. It is a pioneer work along lines of prevention, housing and treating persons in the early stages of their disorder, and making it possible for most of them to be restored.

The Farmfield Reformatory for Inebriate Women is not only saving a few from becoming submerged, but it is teaching the world the possibility of rescue and relief along rational and economic lines and thus becoming an object lesson for scientific philanthropy in every civilized country.

The enthusiasm of the chairman of the committee, Hon. S. Collins, to develop this great charity, should re-

ceive the warmest endorsement and assistance. There is no other work in the neighbourhood of London of greater promise and more vitality than this.

The efficient supt. Miss Forsyth is conducting one of the most difficult reformatories, at great disadvantage, and in spite of obstacles that would overwhelm any other work which did not meet a great want.

This institution needs more medical study of its inmates, and more psychological treatment. Each inmate has possibilities which could be developed to a far greater extent, if the medical side of the work could be made prominent. But this will come in the near future. We shall have in America many such institutions, and they will follow many of the lines pursued at Farmfield. We urge all our friends who visit London to make a study of this institution, and its work.

The "Ideal" Farmfield home is coming, and is not far away, when drinking women from all conditions and circumstances of life will come under legal restraint, as diseased and irresponsible.

A medical commission presided over by a judge will decide the question of the excessive use of spirits and drugs, and the disability which follows. They will all be consigned to public and private hospitals, for periods of years, according to their condition. Perhaps the first recognition will have a deterrent effect for the time, and sentence and be suspended, and the patient will be allowed to go out on parole.

Such hospitals will be farm colonies in the suburbs of large cities, or in the interior, graded according to the class of patients to be treated, and furnishing detail work, and surroundings

that will stimulate healthy brain and nerve growth. Some of the hospitals will be adapted for women in the chronic stages, who come from the lower walks of life, and are practically degenerates.

Other hospitals will provide accommodations and surroundings for a better class, less chronic and degenerate and susceptible of great improvement and permanent restoration. The first group of hospitals should consist of cottages grouped about central buildings where outdoor occupation such as gardening, dairy, laundry work and other coarse muscular employment can be provided.

Hospitals for the better class should be of the same character, and of cottages where classification can be made, and duties and occupation can be suited to their station and conditions of life. Dressmaking and fancy work together with garden and flower culture, poultry raising, and light industrial employment requiring some mental judgment and skill, can be provided.

Cooking in its chemical aspects should be taught as a high art, also horticulture, together with painting, decoration and branches of art and science which appeal to sensitive nervous persons. Outdoor occupation should be a very large feature in both classes of hospitals.

Each hospital should be managed by an expert physician who will make a careful study of the causes and conditions of each inmate, and if possible try to adapt exact means, both medical and physical, also psychical remedies to overcome the brain and nerve exhaustion, and promote increased vigor and restoration.

Physical training along the line of practical development with military exactness of the ordinary duties and

conditions of living. Each woman should be given a certain physiologic training and culture fitting her for independent work in the future, and this work should be so arranged as to yield a certain profit, not only to the woman, but the institution. Women inebriates are more susceptible to this kind of training than men, and they can be cultivated and trained to normal life and living in proper surroundings and conditions with greater promise of permanency.

After a year or so of training in which the natural inclinations of the inmate is cultivated and developed together with certain amount of vigor and nerve rest, they should be permitted to go out on parole in proper situations and surroundings.

If relapse occurs they should be returned at once, and in this way prevented from becoming chronic and incurable cases. These are by no means ideal intimations or possibilities, they are already demonstrated in many ways, in sanitoriums, and hospitals in the country, and by the rest cures, and hydropathic homes, and health resorts in the country.

Every woman who uses drugs or spirits to excess should be taken out of her surroundings at once, and sent to some industrial hospital of this class, and treated and trained to live a normal healthy life.

This is a reality only needing a masterful organizer to put into practical force. The "Ideal Farmfield Homes" are in sight and await materialization by public or private charity.

## COMPARISON OF THE EFFECTS OF ALCOHOL AND OPIUM

By W. H. PARK, M. D.

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The following paper has been very widely circulated in China, and has some interest to our readers:—

1. Of the millions of regular users of alcohol a lamentably large number become slaves to the alcohol habit.

1. Of the million of regular users of opium all become slaves to the opium habit.

Alcohol, 2. Numbers of people boast of their "personal liberty," and claim that they can drink or not just as they choose. All moderate drinkers (people who never get drunk, and yet who take wine or beer daily with their meals and social glasses of some-

thing stronger as occasions arise) claim that they are not slaves to alcohol, that they are not weakened by it physically, and that its withdrawal entails no special inconvenience; and they would be highly insulted if any one should intimate that they are being thereby morally or socially degraded.

Opium, 2. A few Chinese, who only smoke occasionally, in transacting business or on meeting a friend, claim that they can smoke or not just as they choose, but no one who smokes daily, be the amount ever so small, makes any such claim. When a man

admits that he "smokes a pipe or two" he knows, and his friends know that he is a confirmed opium smoker and he also knows that he is weakened physically and that he cannot give it up without inconvenience—nay, even suffering—and he is not insulted if you tell him he is being thereby morally and physically degraded.

Alcohol, 3. Nevertheless, every one nipping alcohol occasionally is in danger of forming the alcohol habit, and if one takes it daily for any length of time the danger is increased. The only safe rule is never to touch it. The slavish appetite is developed gradually in most cases, and, in strong willed people its confirmation may be a matter of years.

Opium, 3. Every one "hitting the pipe" occasionally is in danger of forming the opium habit, and if one daily smokes for any length of time the danger is not simply increased—it becomes absolute. The habit is certain and the confirmation thereof sure. The habit is formed quickly. Not one in a thousand, be the will ever so strong, can smoke opium daily for a year (I might almost say for three months) without forming the opium habit.

Alcohol, 4. People take to drink on account of trouble and sorrow, and sometimes for pain and disease, some claiming that it is prophylactic against certain diseases.

Opium, 4 and 5. People take opium on account of trouble and sorrow, and as for pain and disease it is the greatest earthly soother. That opium will relieve pain and may be prophylactic against certain diseases is no argument in favor of allowing its unrestricted sale among any people. On the contrary, the opium habit being so much worse than the diseases it may alleviate or prevent, this is the strongest

possible argument in favor of its restriction. If it permanently cured all pain and prevented all diseases all would be tempted to take to it and the human race would be in danger of extermination.

Alcohol, 5. I had a class-mate who said his father told him he might take a little whiskey whenever he felt ill, and he had not experienced a well day since.

Alcohol, 6. A sailor once told me how he alone of a whole ship's company escaped yellow fever in a certain South American city by lying ashore "dead drunk" the whole time the ship was in port.

Opium, 6. How would one's parents and friends at home feel if he should write that he had rendered himself proof against all the deadly diseases of the East by becoming an opium smoker!

Alcohol, 7. The claim is constantly made that a moderate amount of alcohol consumed daily can be reckoned as food and that it is only excess that is injurious. Some recent French authorities have set one litre of wine per day as the maximum amount a healthy man can imbibe without injury.

Opium, 7. Opium can never be reckoned as a food. It is true that the opium smoker eats less, but this is because his secretions are diminished so that he becomes constipated, and as it were uses his food over and over again. Ugh! It makes me sick to think about it. No wonder he suffers from auto-toxæmia, and becomes yellow, weak and emaciated. The amount of opium a healthy person can consume daily without injury is absolutely nil. There is no room for the comparative degree in opium smoking. Any amount is already too much.

Alcohol, 8. "All excess is injurious. North pole voyages, military expeditions (experiences in India and the Ashantee march), and the diminished power of resistance to the cold shown by drunkards, have conclusively demonstrated that alcohol does not supply the place of other foods; and that those habituated to its use, damaged as they are in their vital organs, do not possess the same endurance of fatigue and the same power of resistance to external morbid influence as do the healthy. Furthermore, clinical experience has amply proved that toppers do not bear chloroform well, that they succumb more quickly to injuries and surgical operations, and that they possess much less power of resistance than the temperate to the inroads of acute disease." — Bartholow.

Opium, 8. All opium smoking is injurious. An opium smoking soldier is not worth the powder and lead it would take to kill him. The weakness and the diminished power of endurance shown by opium smokers have conclusively demonstrated that opium does not supply the place of the food it supplants; and that those habituated to its use, damaged as they are in every fibre, do not possess the same endurance of fatigue and the same power of resistance to external morbid influences as do the healthy. Furthermore, clinical experience has amply proved that opium smokers do not bear chloroform well, that they succumb more quickly to injuries and surgical operations, and that they possess much less power of resistance than non-smokers to the inroads of acute disease.

Alcohol, 9. That the drunkard wastes his time is no small indictment against the alcohol habit.

Opium, 9. Many rich Chinese

smoke all night and sleep nearly all day. Artisans, coolies, etc., waste from one to four hours at the pipe, and this waste occurs not once or twice a week but every day in the year without curtailment and without fail.

Alcohol, 10. In this country if a drinker falls ill as a rule, he stops his allowance, and if the disease proves a chronic one, he never goes back to it.

Opium, 10. If a smoker gets ill, except in some acute violent sickness such as pneumonia, he smokes more and more, and the more chronic the disease the more firmly established the habit.

Alcohol, 11. A physician can direct his patient to abstain from drink with a fair prospect of being obeyed.

Opium, 11. A physician directing an opium smoker to stop smoking is only wasting his breath—he might as well talk to the winds.

Alcohol, 12. Persons who give way to drink, and become inebriates, are in these days regarded by some as moral imbeciles who if they did not drink would take up some other vice just as bad or perhaps worse. Banish the saloon, however, and in my opinion the majority of them would become respectable citizens.

Opium, 12. In this country nearly all moral imbeciles are opium smokers, but it by no means follows that all opium smokers are moral imbeciles. Without opium in China 80 per cent. of the present smokers would in all probability, be respectable citizens.

Alcohol, 13. We look down on saloons and underground places where liquor is sold and gambling allowed, and often refer to them as "hells."

Opium, 13. A friend of mine once asked a beggar, who slept next door to an opium den, where he lived, and he replied "Next door to hell."



Alcohol, 14. In most drunkards there still seems to be some spark of manhood left, still something to which we can appeal, still some hope of reformation.

Opium, 14. In the opium smoker there does not seem to be one spark of manhood left, nothing to which we can appeal. In pleading with him we feel utterly helpless and hopeless. It is well for Job's reputation that he never had to deal with opium smokers.

Alcohol, 15. Alcohol is not often used for suicidal purposes.

Opium, 15. Opium is the handiest of all suicidal agents. Mr. Bourne, acting chief justice of Shanghai, says, in speaking of Yunnan:—"Another bad result of the opium being so ready at hand is the frequency of suicides, especially among women. We heard of a case in which a mother and daughter-in-law both took opium and died, because of a quarrel over the breaking of a teacup.

Alcohol, 16. The drunkard neglects wife and children, pawns their clothes for drink, beats, and on occasion murders them.

Opium, 16. The opium smoker neglects wife and children, pawns their clothes for opium, drives them to commit suicide and on occasion sells them, it may be into something worse than slavery.

Alcohol, 17. The drunkard is aggressive, quarrelsome and ready to fight.

Opium, 17. If the smoker can get his allowance he is quiet and retiring,

but an opium-smoking chair coolie or boatman will out-quarrel creation to get the wherewithall to fill his pipe, and no greater sharks disgrace the earth than the yamen runners of China, who are all the time "raising the autumn wind" to get the money to buy opium.

Alcohol, 18. The drunkard becomes befuddled and loses all the money he has on his person, or grows generous and gives it away, or wastes his substance in riotous living.

Opium, 18. The smoker keeps a clear head in regard to money matters, and except for wasting it for opium he is often more careful in spending it than non-smokers. Rich, stingy fathers, whose sons are spending money fast and furious with wine and women, sometimes hire parasites to lead them into opium smoking with a hope to saving money.

Alcohol, 19. Alcoholism tends to beggary, and nearly all beggars, thieves and tramps are given to drink.

Opium, 19. Opium smoking tends to beggary, and in China nearly all beggars, thieves and sharpers are given to opium.

Alcohol, 20. Alcohol has been used all over China from time immemorial and yet drunkards are comparatively rare.

Opium, 20. Opium has been used all over China for only about sixty years and yet, according to the Encyclopædia Britannica, one-fourth to three-tenths of the people are already opium smokers.

## EDITORIAL

### *Spirits and Wine at Banquets*

A LEADING literary man, who wished to return favors received from a number of London friends, invited them to dinner. The company was distinguished, and a choice menu was served without wine, and only mineral waters. The host, who acted as toastmaster, explained in a very delicate way that he was an innovator by nature, and that he realized that his guests were all leaders of thought, familiar with the new conditions and new perils, which the new century brought. Hence, he assumed that they would appreciate his efforts to break away from the old spirit drinking customs and delusions of the past. Many of them had been placed to a great disadvantage at dinners where the past century habits of the free use of wine were continued. All such occasions left sources of regret, due exclusively to spirits. His guests applauded heartily, and voted that his evolution was the first sign they had seen of a new age in banquet customs.

In another city a centennial dinner was given, in which a large number of eminent men were present. The spirit part of the banquet began, with mixed brandies and bitters, followed by different kinds of wines and champagne. A large proportion of the banqueters became hilarious, and made maudlin speeches, and were practically intoxicated before the evening was half spent. The occasion ended in much confusion and disorder. The guests leaving early, and in a dilapidated state.

The toastmaster became ill and had to be taken out. The leading speaker became so prolix that he was called down. Another eminent man repeated the same story until he was drowned out by a song. A few insisted on singing doubtful college songs, at every lull in the exercises. General disgust followed, in which the toastmaster was considered responsible. The account given afterwards in the papers, was very brief.

During the past winter a gathering of very eminent and scientific men was marked by the absence of wine and cigars. The literary part was exceedingly choice, and nothing was said about the absence of these banquet accompaniments. For sometime past a distinct reaction has been noted in intellectual circles and a disposition to break away from the custom of using wines and spirits at dinner. The number of persons at banquets who turn down their wine glasses are increasing, and this is considered no disrespect, but rather evidence of intellectual independence. A noted English physician suggested to a gentleman, who invited him to attend a dinner in his honor, "That if there were no wines or spirits, he should be very happy to accept, but he had long since given up accepting invitations to public dinners in which wines and spirits were considered necessary." The theory that wine at dinner increases digestion and assimilation and is followed by pleasurable emotions is not sustained by experience. The excitement and apparent stimulation and good feeling from its use is quick-

ly followed by depression, irritability and stupor. The custom of preceding food by a dose of spirits, is a dietetic blunder that is always punished. Increasing the flow of gastric juice by irritating then paralyzing the muscular coats of the stomach and bringing in new ferments, and new and more favorable soils for the growth of bacterial products, is a most dangerous proceeding contradicted by all scientific studies. The continuous use of spirits with foods precipitate pepsin and other digestive fluids, which are absorbed by the blood, producing toxins which effect cell and plasma through all parts of the body. The brain cells are starved, and poisoned, and the oxygen is diminished, and the elimination of Dorid is checked.

The flow of blood to the brain and other parts of the body is irregular and spasmodic. Practically, the use of alcohol at meals is most reckless and unscientific, and is contradicted by all studies and experiments. Each banqueter who uses wine and spirits with foods destroys and lessens the power of the stomach to separate and appropriate foods from this source. Nothing is more clearly proven than the error of mixing spirits with foods. It is a dietetic barbarism which should be given up at once. The frequenter of banquets always complains of disturbances and nameless diseases, ascribed to some other causes. Nothing can be more certain than that the paralyzing effect of alcohol on the foods in disturbing digestion and arranging the metabolism of the body, is the source of very serious derangements and diseases.

#### *The Journal*

This issue of THE JOURNAL comes

out promptly, and henceforth, we shall hope to greet our readers on the day of publication, all over the land, with a fresh installment of matter that will have increasing interest to every reader. A very large issue is sent out, and we feel sure that our friends will appreciate our efforts to gather up the literature, now becoming so voluminous, and give them a bird's eye view of a new continent that is coming rapidly into notice.

We have received some excellent papers from distinguished men, both at home and abroad, for future publication. A few sets of back numbers can be had, and all persons interested in securing the most complete literature of the past should send for back copies, and thus gather what will become very important as the years go by.

#### *Two Antipodes*

Two recent events bring out very clearly the wide difference in the medical sentiment of today.

The anniversary and celebration of a distinguished physician was marked by the presentation of a loving cup, and speeches by eminent men. The committee used lemonade in the cup, and no wine was given at the banquet. Some very interesting remarks followed, which appeared in the daily press, and the occasion was noteworthy.

In a neighboring city soon after a similar anniversary to a more distinguished physician was celebrated by the giving of a loving cup. This was passed about several times, and the audience became hilarious, shouted and sang, and at the close of the evening were in a state of semi-intoxication. Several persons had to be carried home, and, altogether, the

occasion was regrettable by most of its participants. Later it was found that some practical jokers had ordered a form of mixed champagne with the purpose of making the guests intoxicated. This was considered a joke to be laughed about afterwards. The daily papers gave only a brief account, and the story went round that it was simply a wine dinner, from which everyone suffered.

These two incidents represent ancient and modern medicine, and medical thought and theory, at least, half a century apart.

The first was the advanced profession of today, the other the stupid conservative Borbons who have never learned anything, or never forgot the teachings of their forefathers.

#### *"Reform"*

An eminent alienist in a recent study of insanity and heredity makes the following statement:

"I discourage the admission of habitual drunkards as voluntary patients, on the grounds that they are so frequently vicious persons, who require reformation, rather than treatment." This is a most lamentable confession of his lack of knowledge of the inebriate. He would not use the word "reform" as a curative means for the insane, but why should he consider reform curative for the spirit and drug insane?

The theory that the spirit and drug takers are vicious and have the power of being otherwise, but from low impulses prefer to continue their insane conduct, has no support from any scientific study, and its mention has a medieval sound. It is true that the chronic insane, and the inebriates are not easily managed in the same wards, but no effort expressed by the word

"reform" can be applied to either class with success. Every court of law in the world have been and are yet trying reform measures on the supposition from a false theory of the nature of the trouble, and all statistics show that it is most fatal and dangerous to the victim. Psychical measures through the pledge and prayer have done something, but they, too, are most crude efforts to utilize unknown forces indiscriminately.

#### *The Jubilee Convention of the National Temperance League*

A jubilee convention of the National Temperance League is announced to take place in London from Oct. 21st to the 28th, 1906.

It is proposed to have a special celebration lasting a week, consisting of public meetings each day, with lectures, addresses and conferences, and thus make prominent the 50th anniversary of the organization of this society. This would seem to be a practical international congress in which all organizations and public bodies who are studying the temperance question, are invited to be present and take part. There are to be four sections, presided over by a chairman. One, on "Science and Education," the other on "Religion and Morals," the third on "Commerce and Industry," the fourth on "Sociology and Economics."

The Temperance League have been and are the most liberal in their studies of the alcoholic problem. Taking up all phases of the subject, and inlisting in their ranks some of the ablest medical men in the country. Under the direction of the late Dr. Robert Rae, and latterly his son, J. T. Rae, this society has held a commanding place in public opinion, and while not antagonizing those who dif-

fer from them, it keeps the great principles ever prominent and forces conviction along higher lines of ethics and practical living. We urge our friends who contemplate a journey abroad to arrange it, so as to be present in October and hear what is being done in Europe.

*Bureau of Facts and Studies on  
Alcohol*

The late Mrs Mary A Hunt, formerly a science teacher in Boston, and for the last quarter of a century superintendent of the Department for Scientific Instruction of the W. C. T. U., has made one of the most remarkable collections of facts and pamphlets on the Alcoholic Problem in the world.

For over a quarter of a century she has been a most industrious collector of facts, statistics, pamphlets, transactions of societies, books, laws and statements, concerning alcohol, its influence and diseases, from all civilized countries.

This collection of literature has now attained a magnitude and completeness unequalled, and is practically the most complete library in the world, for every printed and written statement on this subject.

Foreign literature has been studied, and translations as well as original papers, have been collected, bearing on all phases. The student who would wish to know anything of the subject will find here a history of all that has been said and done through all past centuries.

The increasing interest and activity in the alcoholic problem, has turned the attention of literary and scientific men to the importance of some collection and library that would help to understand what has been done in the past.

A movement is now being made to raise an endowment fund, and perpetuate this work. The committee has been appointed to solicit money to place this collection in some secure position available, and provide a fund for its continuation in the future. A century hence, the value of this collection will exceed its weight in gold, and we appeal most urgently to our readers to contribute to an endowment fund for this purpose.

*Studies of the Mental Phenomena  
Connected With Anesthesia*

Professor Jastrow, of the department of psychology of the University of Wisconsin has addressed a circular to the profession, making inquiry as to data, concerning the operations of the brain, during the anesthetic period. He wishes to study the analogies between the lighter stages, of anesthesia and hypnosis. Is the person in this condition more suggestible? Will he carry out automatically trains of thought from the operator, or conceptions previously realized? Do they react, to the conversation about them? Or manifest some knowledge of the surroundings and what is done? Are the experiences reflexes of the present or of the past? Does the brain act automatically? Is it possible for it to record at this time the sensations passing? Is it possible with the pencil in a patient's hand to secure by questioning answers or drawings that will throw light on the condition of the mind? Also indicate conscious or subconscious impressions?

The second study is the analogies between lighter states of anesthesia and dream life. Does the memory retain distinct conceptions of the surroundings, and internal conditions up to the point of losing consciousness?



Then on retaining consciousness are these impressions still vivid? Or do the previous impressions fade away into dream like impressions? Is it possible that details are remembered up to the time of receding consciousness, and that a second anesthesia will bring into prominence the events prominent during the first state? As in hypnotism the events occurring in one condition is recalled with vividness of the second hypnotization.

He thinks that dreams and the action of drugs show similar phenomena. What are the different types of mental states during the period of anesthesia, and what are the degrees of susceptibility? And are these controlled by the conditions of the persons? This range of inquiry is exceedingly complex, and the data on any one point would be very imperfect, unless supplemented by associative facts. A study of the mental operations of persons under the influence of drugs indicate not only temporary disturbances, but organic changes and states of degeneration which are exceedingly difficult to trace back to their sources. At one time the drug taker is very seriously disturbed by medicines, at another he is practically immune. His mental condition varies widely. The personality is greatly disturbed, and memory at one time is acutely vivid, then obscure. It would appear that this is due to some central disturbance which alters the rythme of brain life or disturbs the activity of certain coordinative centres. We most heartily welcome Professor Jastrow's inquiries in this direction, and would suggest that he make studies in surgical hospitals of persons who are to be operated upon, and are given anesthesia. He will secure data here that will enable him to make inquir-

ies along special lines with far more accuracy than in attempting to tabulate all the phenomena which preceded and follow anesthesia.

#### *Abolish the Taxes on Alcohol*

There are several bills now pending in Congress to make alcohol free of taxes. Curiously enough, these bills are supported and opposed by many good temperance people. The main opposition comes from the distillers of wood alcohol.

One of their arguments is, that free alcohol means a larger consumption as a beverage, and a more reckless use of it by the blenders, and those who make different forms of drinks. Those who defend the bills, claim that the process of denaturing, which is simply mixing it with some of the basis from coal-tar products, increasing its value for all purposes of the arts, and making it repugnant, as a beverage.

It is claimed that the removal of the tax will increase the uses of alcohol, particularly as a fuel, and in the arts, enabling us to compete with German manufactures in the products of new forms of drugs.

Its most prominent use, will be as a fuel; it is said that it can be manufactured, and sold at retail for 20 cents a gallon, this would make it, a very powerful competitor to gasolene in motor wagons.

Its heat and power producing qualities are far superior to that of any other known, and when boilers and machinery are adapted for its use, it must become the great fuel power of the future.

The American Chemical Society and a large number of scientific organizations, have warmly endorsed this effort, to make alcohol free, and

thus increase its power in the arts. The denaturing process is inexpensive, and most practical in its application, increasing the value of the spirits, as well as its safety.

Our association is in deep sympathy with this movement.

*The Iowa State Hospital For Inebriates*

This institution opened at the beginning of the year, at Knoxville, Iowa, for the reception of patients, has been rapidly filled, and now has over 200 patients under treatment.

It is located in a town, of a country district, and comprises two separate buildings for patients, with an administrative building, power plant and other appointments.

The superintendent, Dr. Wilhite, is very enthusiastic over the prospects and practical working of this new institution. By act of the Legislature all persons addicted to the excessive use of spirits and drugs, can be sent to this institution and legally held for a term not exceeding three years.

The commitments are made by applications to the Judge of the District Court, by the relatives, guardians or any one that the person complained of is a dipsomaniac, inebriate, or excessive user of morphia, cocaine, or other narcotic drugs.

An order is issued by the judge to an officer, directing him to bring the accused person for examination. The judge shall hear all evidence, touching the accusation, and the person may be represented by counsel to assist in ascertaining the facts. Should the accused person demand a formal trial, the judge shall transfer the case to the docket, as a civil procedure to come in the order, and the accused shall remain in care or custody until such time as the trial which may be

before a jury, shall be reached.

The expenses of this procedure will be paid by the county, and collected from the estate of the accused. If it is found that he is not an inebriate, he shall be discharged.

Patients committed to this institution shall be required to do some labor, according to the opinion of the superintendent, and the refusal to do so will be punished as a misdemeanor. Persons who bring in spirits to the patients, or narcotic drugs, are subject to a fine of from three hundred to one thousand dollars, and will be committed to the county jail, until the fine is paid.

Patients who violate the rules of the house, or are guilty of misdemeanors can be sentenced to imprisonment in the County jail, of from thirty to ninety days, and lose all privilege of parole.

Parole patients who have apparently recovered, may go out, but must report every month to the clerk of the district court, their exact condition. Should they fail to do this, the superintendent may order their return.

Should they relapse, it will be the duty of the peace officer to arrest them, and return them to the institution.

These very interesting rules will be watched with great interest, as they are largely new, in institutions of this class.

It is estimated that there are from ten to fifteen thousand chronic inebriates in the state. This is undoubtedly an effort in the right direction, and is certainly a most economical one.

*Delusions in the Study of Inebriety*

So-called temperance literature meaning statements of inebriety, alcohol and the various causes which

culminate, and produce the drink evil, and the remedies offered, and thought to be effectual, are found to be most confusing, and difficult to understand.

There is a startling positiveness of theories and conclusions which suggests a simple solution of the various problems, and the wonder why they have not been solved before. Explanations of inebriety and its causes and remedies, are stated so dogmatically as to create suspicion of their accuracy.

Precise scientific knowledge is always declared with modest conservatism, and as probable from the facts and evidence so far gathered. In exact proportion to one's ignorance will be his assertiveness of facts and conclusions.

Theories, opinions and conclusions concerning alcohol, its diseases and remedies are proclaimed without the least doubt or question, by almost every one who is called on to give an opinion, either in the printed page, in the lecture room or in private conversation.

Persons who drink, or have used spirits to excess are most assertive in proclaiming the nature of this evil, and its remedies. Clergymen and physicians come next, then lawyers, teachers and reformers, all assuming to understand, and point out the remedies for this evil, and all feel competent to advise and direct what should be done.

A curious delusion exists, that common sense, and a form of general intuition is a safer guide in the study of alcohol than elaborate studies. Also that any extreme presentation of the truth which antagonizes the prevailing opinions is to be shunned. Common sense observations of an inebriate in different stages gives little or no conception of the causes and laws

which control. The common sense man, and reasoner who trusts his own impressions is very superficial.

No clergyman, lawyer or judge or even a doctor can form any clear conception of inebriety, unless he has been an accurate student, making precise observations and examination of the facts.

No personal experience of the effects of spirits can supply facts and conclusions, without bias, and misconception. Like problems in geology, accurate observation and accurate reasoning and deductions from the facts, will reveal the exact condition and the laws which govern them.

Partisans who are often moderate drinkers, and who believe this to be a qualification for exact study are always misleading.

The chemist who drinks wine and beer, while making researches concerning the effects of alcohol, always finds inexact conclusions.

The drinking man who makes researches concerning the prevalence of secret drinking, is always a bad guide.

Inebriety is a most complex condition which cannot be known by superficial study and haphazard observations. A convention of clergymen and business men can do nothing more than talk about matters of which they are unacquainted.

Law makers and laws attempting to regulate and suppress the evil on theories that are wrong, do little more than please the authors and increase the confusion of the subject.

Institutions and methods of treatment developed from unfounded theories fail, and the inebriate is made worse.

Highly educated men and editors of papers who lay down the laws, and decide what should or should not be done with the inebriate, all increase

the confusion of fact.

What is needed most is thoroughly honest scientific study of the laws which govern the rise and progress of inebriety. We must drive out the partisan, the advocate, the egotism and the common sense delusionist from the scientific camp of study, before any great advance can be made.

#### *Sobriety in Finland*

*The Temperance Record* gives a very interesting note of the sobriety in the country of Finland. This little province of Russia is distinct in many ways. It is practically a country of rivers and dense woods. The sale of intoxicants is absolutely forbidden, outside of a few towns, and even there should anybody wish to celebrate any event by a festival, and give spirits and wine to his guests, he must obtain a police permit. Anybody living in the country may secure a small bottle of spirits, but he must go to a distant town to do so. Spirits are counter-brand at the custom house, and if retained, must pay a large duty.

In the management of inebriates there are three conditions to be considered. First, what drug means and measures can be used to relieve the present symptoms. Second, what natural means and measures are indicated to restore and help the patient back to health.

In this class are included water, heat, electricity, light and special surroundings. Third, the mental measures which can be applied to rouse up the mind, and secure its co-operation and assistance. These three divisions are inseparable, and must be used in every case to secure permanent results.

#### *The Physical Nature of Inebriety*

The physical nature of inebriety is very clearly brought out in this statement, by Dr. F. R. Lees.

The physiologist who understands the nature of man, and the nature of alcoholics or other stimulants, knows that the drunkard's appetite is no disease of the heart is no natural appetite at all, but purely a physical condition, a physical disease of the stomach and the nervous system, generated by the moderate, and consummated by the excessive use of the physical stimulant. No other doctrine is true; no other doctrine will bear examination. The drunkard's appetite is just as much dependent for its existence on external agents, and is just as truly a physical disease as ague or fever.

To say that "nature" makes drunkards is simply to blaspheme.

#### *Vicious Circle*

This term describes the change from one symptom to another in the progress of degenerative diseases. At one time the symptoms point to rheumatism, at another rapid or very greatly depressed heart action, suggesting some organic change. Disturbance of nutrition of the most serious character or symptoms of acute inflammation of the lungs, liver, bowels or sexual organs, which suddenly pass away. Degrees of irritability and delirium with unusual exaltation of the emotions or melancholia depressions that become almost suicidal in their manifestations. Neurasthenia and neuromimesis are quite common conditions in this circle.

Of course, inebriety both of spirit and drug taking are manifestations of this peculiar nervous organization,

whose abnormalities move in this circle. It is a very important fact to determine in the history of the case how far these spirit and drug symptoms are acute causes, and if they are but symptoms of conditions which might manifest themselves in some other way. The removal of the drugs is so often followed by the appearance of some other degenerative symptoms. When they pass away other serious troubles come on, and so the term "vicious circle" has a general definite meaning. The patients who suffer are degenerative neuro-psycho-paths, whose whole life will be a struggle with some form or other of apparent disease.

The nerve centers are defective, and the nerve energy is perverted, and the rythmetic flow of energy is broken up.

#### *Temperance and Intelligence*

A distinguished president of a university in answering the various invitations to be present at the alumni meeting of the old students in different cities, has this last year taken advanced ground in the following request: "I shall enjoy the honor of being with you, and esteem it a personal favor, if wines and spirits can be dispensed with on this occasion." He remarked to a friend: "That where this request has been welcomed and the committee has thanked me for relieving them of the responsibility of following the old time custom, I have found the strongest members of our alumni. Also where my wishes were very coldly complied with, and regarded as an insinuation that the members were unable to use wine as gentlemen would in moderation, it was evident that the association was not strong or representative."

#### *Inebriety and Pneumonia*

Hospital statistics show that in every 100 cases of pneumonia among alcoholics or persons who have used spirits to excess the mortality is over 70 per cent., and where there is no history of spirit or drug taking, and the patients are abstainers the mortality is less than 20 per cent. It is not well known that the greatest mortality is from pneumonia in certain sections, and that this disease appears in the last days of nearly all inebriates.

Hence, the mortality statistics from pneumonia is a good index of the death rates from alcohol. In the little town of D. where 100 cases of pneumonia was reported last year, 94 of them represented inebriates or moderate drinkers. There is a distinct relation between the mortality from pneumonia, and the sale and use of spirits that will be recognized in the future.

#### *The Saloon in Politics*

The following very significant statement by a prominent U. S. senator indicates a tremendous revolution of sentiment already begun.

"The activity of the saloon in politics is of tremendous interest to every person. I am weary of the present condition of things, where the man whose business it is to make laws must hold his office by the consent of those whose business is to break the laws. I am weary of the insolent dictatorial spirit which comes from the alcoholic interests, and from the saloon, allied to all that is low and bad, and contempt of the law. The assumption that the right to sell spirits carries with it the right to violate the law in every direction, that license



mens right to encourage every form of vice, and destruction of citizenship."

#### *The Revoking of Licenses*

The following recent decision by Justice Young of the Supreme Court of New Hampshire, is equally significant of the change of the alcoholic question.

"The right to sell intoxicating liquor is neither a natural nor a constitutional right. The state may absolutely forbid or may license such sale. The license when granted is not a contract or vested right, but a mere permission which may be revoked at any time. *State v. Holmes* 38 N.H. 235. The manner in which such permission may be recalled and the consequences attending thereon are mere limitation upon the privilege. The statute confers a privilege which the citizen is at liberty to accept by becoming a licensee, or not, as he pleases. Having accepted the privilege he can not object to any conditions which have been attached thereto by a grantor with power to entirely withhold the privilege. *Dow v. Electric Co.* 68 N. H. 59, 60; S. C. 166 U. S. 489, 490."

#### *Fixing the Responsibility*

When explaining to the law students of Laval University of Quebec, recently article 336 of the Civil Code referring to the interdiction of habitual drunkards, Mr. Justice Mathieu, dean of the faculty, mentioned the necessity of adopting all possible means to suppress the vice of intemperance. He suggested the establishment of special asylums for drunkards and the adoption of a law rendering liable to a fine and imprisonment hotel keepers allowing any one to become intoxicated in their premises. "When you become legislators,"

said the learned judge, "adopt laws that will render hotel keepers responsible for the damage caused by drunkards having obtained liquors in their bars."

#### *Mortality of Spirit Drinkers*

Professor Guttstadt, of Berlin, publishes investigations regarding the mortality of men engaged in drink trades, and compares these deaths with the mortality statistics of men engaged in legitimate occupations, and insured in the Gotha Life Insurance Company. According to these statistics a bartender has six times the chance of dying before 40 that a clergyman has. Then as to diseases. The deaths of 1,000 men over 25 years are taken as a standard. In Prussia, of every 1,000 deaths 161 are from tuberculosis. But of every 1,000 deaths among bartenders 556 are from tuberculosis; among brewery employes, 345; school teachers, 143; physicians, 113; and clergy, 76. In the statistics of accidents among the 134,753 miners in Ober-Schlesien, the sum total was 12,145, or 90 accidents to the thousand. Among the 100,904 brewers and malsters of Germany there were 11,968 accidents, or 118.6 per thousand. This is a higher average than in any other trade, even the most perilous, and gives point, as Professor Guttstadt remarks, to the grim jest, which ascribes to these men the name of "bier leiche" (beer corpses). It is accounted for by the fact that six to eight litres of free beer daily are allowed all the hands.

#### *Total Abstinence Among German Physicians*

A very marked advance is noted in the German society of physicians for

the promotion of total abstinence. This society has been organized over ten years, and holds annual and semi-annual meetings in which the question of total abstinence from all forms of spirits are urged as matters of science. It has been decided to issue quarterly reports and addresses to the medical profession to be sent out as "Korrespondenz-Blatt." One of the reasons for this publication is to counteract the false statements of a Brewer's Journal which endorses alcohol and claims to give scientific reasons for their faith. The first number presents a strong summary of the injurious effects from alcohol in any form also supported by statistics, and personal experience. The editor complains bitterly of the dishonesty of the pro-alcoholic journals who publish articles of prominent authors so altered as to make them strong endorsements of the value of alcohol as a beverage. The American physician has not gone on far enough to unite in any distinctive organization with total abstinence as a special object. But the time is coming when the average doctor will be proud of his faith and practice as a total abstainer.

#### *Coffee and Color Blindness*

Color blindness is very common in Morocco, the one principle reason given for it is the excessive use of

coffee. All Moors are usually inveterate coffee drinkers, especially the merchants, who sit in their bazaars and sip coffee constantly during the day. Many of these people after 40 or 45 lose their sight, and many of them become blind before 50. A physician practising in the city of Fez asserts that the direct result of coffee drinking is not only color blindness, but paralysis of the optic nerve, from which they never recover.

#### *Alcohol as a Poison*

Alcohol is a poison to plants. When water with alcohol is used in a weak solution to water it, the leaves turn yellow, and the plant soon dies. Even when the proportion of alcohol is so small as one part to one-thousand parts of water. Prolonged exposure to air saturated with vapor of alcohol destroys the life of the plant.

Fowls seem to enjoy the effects of alcohol given in their drink, and will make great efforts to procure water that is mixed with spirits. But they don't live long, its effect is cumulative, and in 5 or 6 weeks almost any fowl to whom small quantities of alcohol in water is given, will die. Usually from exhaustion and paralysis. Some strong fowls live 2 months or more, where the quantity given is very small, but all die about the same way.

## ABSTRACTS

### *Chronic Alcohol Leptomeningitis*

**D**R. Laurie, writing in the Australasian Medical Gazette for Nov. 20th., records three cases of chronic alcoholic leptomeningitis. The patients all seem to have been pretty heavy drinkers, and, though syphilis could not be excluded absolutely, no evidence of its having occurred was obtained in any of the three. The first patient was taken suddenly ill with headache and giddiness; he had some retching and a tendency to fall to the left side. Four days later there was well-marked paresis of both hands and arms, but there was no other evidence of nervous disease.

After slight improvement under potassium, iodide and mercury, he became rapidly worse, with headache and giddiness, and died three weeks after the first seizure. Post mortem, no lesion was found, but thickening of the arachnoid and pia mater over the frontal lobes. The second case was one of eight years' duration. The illness began with twitching of the right hand, which was followed five years later by similar symptoms in the left. Three years subsequently the lower limbs were affected with formication and "pins and needles," and gradually the power of walking was lost. Stupor then supervened, accompanied by coarse tremor of the hands, lips and eye-lids. Post mortem, the brain was oedematous and its veins were engorged, but the skull and dura mater were healthy. The arachnoid and pia were much thickened over the rolandic area on both sides and slight-

ly over the frontal lobes. The last patient, a heavy drinker, was attacked with left hemiplegia and rapidly became comatose. He died in two days. Besides recent hæmorrhages in the right lateral ventricle, the pia and arachnoid were thickened and slightly opaque over the frontal and rolandic areas. The author points out that his cases are instances of a rare condition, and each differed from the usual described type in that the dura, which is generally implicated in alcoholic meningitis, was free, the thickening being confined to the pia and arachnoid and no part of the brain substance involved. He then discusses the differential diagnosis from paralysis agitans, general paralysis of the insane, and tumour. He shows that the special points to look out for are headache, vomiting, jacksonian epilepsy, tremors, paresis, incoordination, optic neuritis, delirium, loss of memory, and mental failure. Any or all of these may occur according to the extent of the pressure of the brain.

### *Study of Inebriety*

Prof. John Punton who is superintendent of the Punton Sanitarium at Kansas City, Mo., in an analysis of 976 cases of nervous and mental diseases treated during the past five years makes the following interesting statement concerning spirit and drug takers:—

Forty cases of alcoholism applied for admission. Only 26, however, were received. The majority of these

were acute in character, which included 9 cases of delirium tremens and 4 cases of dipsomania, while the remainder presented all degrees of tipping. Out of the 26 cases, 12 recovered, 8 improved, while the remainder merged into chronic alcoholic insanity. The majority belonged to the male sex, there being 20, but there were also 6 women. One of the latter had been a drunkard for twenty years; had taken the Keeley cure three times; was a woman of fine literary attainments, a good linguist, splendid pianist and vocalist, and was well educated in many ways. She was discharged over three years ago and during this entire period has remained sober, which is a better record than for the previous twenty years.

Another case is that of a young married woman who, prior to treatment, went on periodical drunken sprees, but is now living a sober life. Both these cases claimed inherited weakness as the responsible agent for their misconduct.

No less than 47 cases of drug poisoning were admitted for treatment, of which 35 recovered, 6 were discharged improved, and 6 left the sanitarium after remaining under treatment but a few days. The large majority of these persons were suffering from morphinism, although cocaine, sulfonal, bromidia, chloral, camphor, atropia, heroin, and similar drugs were used by others. One patient was taking as much as 60 grains of morphine daily. Another took as much as 1 pound of bromidia each week for months, taking it in tablespoonful doses every hour until eight doses were taken. The average duration under treatment was seven weeks. Only 2 of the entire number applied for readmission, although it is more than possible that others have re-

lapsed. The male sex furnished 34 cases and there were 13 females.

Among the victims were many physicians, as well as dentists and druggists. The method pursued in the treatment was the gradual withdrawal, combined with the liberal use of hydrotherapy and special nutritional agents.

#### *Causes of Inebriety and Insanity*

Dr. Easterbrook in his annual report of the Ayr District Asylum in Scotland, has given a study of the causes of the insanity of the inmates of this asylum. In the 151 admissions during the year he found that 14 per cent. came from previous neurosis, tuberculosis was noted in 14 per cent. Paralysis from apoplexy in 12 per cent., alcoholism in 9 per cent., heart disease and cancer 6 per cent., rheumatism in 5 per cent. In the tables he shows that neuro-insane constitution was a most prominent factor in producing insanity in fully 58 per cent. of all the cases. The neurotic diathesis was present in 29 cases. In others it was made prominent by emotional strains, and the physiological crises of life. The following is a quotation from this report:—

The question of the relation of alcoholism to mental disease is always of interest, and we note that in the experience of Ayr asylum it is a less potent factor than is held by some. Alcoholic excess was manifested by 33 patients, in 14 of whom it was symptomatic of insanity, and in 19 the essential causal factor. These figures show a slight increase over the preceding year, which may be co-related with signs of revival of trade. Dr. Easterbrook divides cases of alcoholic insanity into three groups:—(1) The true dipsomaniac, in whom the dis-

ease consists, not in the effects produced by constant excessive indulgence in alcohol, but in a periodic intense craving for the mental state induced by alcohol morphia, or similar drugs, which, acting on the higher functions of the brain excite or calm the mental functions. The dipsomaniac seldom finds his way into an asylum, may occasionally be induced to go into an inebriate retreat, but usually is screened by relatives, who knowing his weakness, if wise do all in their power to help him, to fight against it. (2) The careless or ignorant drinker who constantly takes more than is good for him, but manages to keep more or less respectable, until some day a breakdown occurs. This type forms a large proportion of the alcoholic insanity in asylums. They often, though not always, recover, and seldom return, one lesson, the dernier resort, has been enough. (3) The chronic inebriate or alcoholic deteriorate who as the result of prolonged habits of vicious indulgence, he may have begun as a dipsomaniac or careless drinker, has spent his money, mind and morals in drink, and is left as a derelict for the asylum beyond redemption. To all these the dipsomaniac, the drinker and the deteriorate, the only safe guard, is total abstinence.

#### *The State and Inebriety*

Under this heading appears this "Leading Article" in the English Medical Press and Circular.

The acts relating to the restraints that should be placed on chronic drunkards are lamentably defective both as to scope and powers and thought there is little or nothing to repeal there is much to be done in the way of extension and consolidation.

The modest little Act which the late Lord Ritchie guided so skilfully through parliament is simply an instalment of a wider and more far-reaching measure designed to abolish, or at any rate materially to lessen, the scandal of inveterate drunkenness with all its tales of misery and degradation. It is thoroughly recognized by the medical profession that the chronic drinker is far more than ne'er-do-weel, he is as great an enemy to himself as to his fellows, and he is incapable after a certain stage, of reforming his habits. In fact, his complaint is one of the mind, and should be dealt with as such.

In speaking of the drunkard as "he" we do not lose sight of the fact that in the even sadder and more hopeless cases the victim is a woman. If a vote were taken among practitioners as to which class of patients they found themselves most powerless to help, we fancy it would be pretty generally given for the female inebriate. Degrading and demoralizing as is a drunken husband, it is impossible to compute a tithe of the evil wrought by a drunken wife and mother, and, as the law stands, while either the one or the other fails to make frequent public exhibitions of their vice in the street, no relative or official can do more than use moral persuasion to induce them to put themselves under medical treatment or restraint. If legislators would clearly understand that the disease is of the mind, they would not hesitate to consent to treat such patients as the other classes of mentally diseased persons are treated at the present day, namely, by compulsory detention in properly organized establishments under public control and government inspection. As it is, they fear to trench on the sacred principle of individual lib-



erty. It is, then, much to be desired that a royal commission should be appointed at an early date to gather evidence and recommend legislation. The feeling in Scotland on the subject is already running high, and the municipalities of the leading towns have now before them the draft of a bill which it is proposed to promote in parliament with a view to giving extended public control over inebriates. In this bill, among other things, it is provided that a near relative of the drunkard may, with the consent of two magistrates, call upon a sheriff to institute a public trial before a jury of the party complained of, and if the jury find the accused to be an habitual drunkard, and by reason of his habits and conduct a fit and proper person for treatment in an inebriate reformatory, the sheriff may sentence him to a term of detention not exceeding three years in duration. It is surely obvious that a bill making such a decided inroad into personal freedom has not the slightest chance of passing into law except as a government measure, and the procedure recommended is open to the gravest criticism. The publicity of the process as proposed would act as such a deterrent with relatives, especially of the well-to-do classes, as would make the act a dead letter. Moreover, there would be opened up channels for persecution and blackmail which should not be possible.

A royal commission could take all circumstances and factors into account and produce a report on which official action would be based, and based authoritatively. Such a commission would probably find the method least open to objection would be one fashioned on the analogy of the lunacy proceedings, namely; either by medical certificate and magistrates' order,

or by inquisition as in the case of chantery lunatics. The latter, if the expense could be rigidly cut down, would present advantages, especially in the case of drunkards with important responsibilities or property. Legislation on temperance questions is generally strongly opposed by "the trade," but the licensed victuallers recognize the inebriate as their own enemy as well as that of society, and more than one leading member of the trade has spoken approvingly of the principle of the Scotch Bill already mentioned.

We believe that the House of Commons would present no difficulties to the passage of a well-thought-out and authoritative scheme, and such a measure would be one by which the government of the day would gain credit and gratitude on every hand.

#### *Effect of Tobacco on the Circulation*

"The effects of tobacco on the circulation, denied by some and admitted by others, is still *sub judice*. However, in smoking 50 grammes of tobacco, 10 centigrammes of nicotine pass into the smoker's mouth; about half of this is condensed, so that in reality about 5 centigrammes are absorbed. Nicotine affects the nervous system, the pons, the pneumogastric and the cardiac ganglia. It has, however, marked predilection for the muscular system. It causes tetanic convulsions of the muscles and contraction of the blood vessels, and is the "strychnine of the vascular system," to use Dr. Huchard's expression. It is almost hæmostatic in its effects. In a word, nicotine increases the arterial tension, and this hypertension augments diuresis in man, causes slight disturbances, like fatigue, vertigo, cephalalgia, and serious symptoms, hæmianopsia, temporary aphasia,

angina pectoris. Patients with beginning arterial sclerosis, those affected with hypertension, whether from hetero or auto-infection, should be forbidden to use tobacco, nor should they be allowed to remain where there is smoking. Patients who will not or cannot abandon smoking had better use tobacco from which the nicotine has been removed."

Dr. Renon in the *Journal des Praticiens*.

### *The Sense of Pain*

Dr. J. Ioteyko, in one of the chapters of the First Belgian Congress on Neurology and Psychiatry, considers pain according to sex, age, race, profession, pathologic conditions and in animals. By a series of experiments the author proves what Mantegazza has said about sensibility, high intelligence, superiority of race, and high degree of civilization, feminine sex, childhood and adolescence, and marked degree of heat, use or abuse of coffee, and a sudden transition from pleasure to pain. There is some controversy among authors as regards the meaning, and degree of responsiveness to pain by man and woman respectfully. According to some authors woman is more sensitive to pain and is looked on as being inferior to man in this respect. According to others, on the contrary, woman is less sensitive than man and this is pointed out against her. The unit of comparison is the lowest animal form which appear to have no sensitive pain centers. The author demonstrates that woman resists pain better than man, but Dr. Ioteyko says that woman resists pain because she has more will power than man has in this respect. Woman can resist the discomfort caused by a current of 250

volts whereas a current of 20 volts is the medium supportable quantity. Man, however, cannot stand more than 10 volts no matter how much will power he invokes to help him stand more. The superiority of woman's will power is also indicated, according to the author, in the fact that woman commits suicide much less than does man, because that woman stands physical pain more bravely than does man.

According to Richet, the sensibility to pain of idiots, imbeciles, and senile demented, is stunted. According to Ley, sensibility to pain caused by electric currents, is less marked in feeble minded, than in normal children. Dolorific sensibility is also below par in general paralytics. In normal subjects heat causes pain at a lower temperature than in prostitutes (at 64 degrees C.) criminal women (at 61 degrees C.) and especially in criminal men (at 76 degrees C.). According to Nardelli there are two distinct paths for the transmission of heat and of pain, but there are no different nerves for this transmission. The latter author thus formulates the conditions of sensibility to pain in various pathologic conditions. Paranoid subjects present, augmented sensibility to heat and decrease and sensibility to cold. In melancholic women sensibility to heat is decreased, pain being perceived (at 145 degrees C.) while initial sensibility to cold is markedly increased. According to the author the thermic hyperesthesia is due to the mental pre-occupation of these patients. Paralytic demented presents similar thermic hyperesthesia, but dolorific sensibility remains almost normal. Dr. Ioteyko considers the above dissociation as an indication that is a special dolorific sense.

In three subjects with hemiplegia,

the sensations of pain and heat was retarded on the paralyzed side, while the same test showed an increased reaction on the healthy side. Experiments on animals show that reaction to pain does not depend on consciousness (a decapitated frog reacting as vigorously as a live one) as there may be a reaction when consciousness is abolished. The main reason of the reaction being that of self defense. As the function of pain is that of self defense based on reason and consciousness, the author concludes, pain is intimately connected with the higher-psyche manifestations. The difficulty of supporting pain makes us consider its duration extremely long as compared with that of pleasure, and the mental impressions left by pain are, therefore, better ingrained in our minds than are those of pleasure. The roll of physical pain as an educator is self evident.

#### *Teaching of Temperance in Schools*

In an appeal to the public to assist the teachers in their efforts to make the facts clear to the children, the distinguished author of this movement, the late Mrs M. A. Hunt, calls attention to the following facts:

The common theory that alcohol in moderation was a safe beverage has been practically destroyed. The latest declaration on this subject is by one of the great surgeons of England, Sir Frederick Treves, who says, "alcohol is always an insidious poison, in that it produces effects which seem to have only one antidote, namely alcohol again."

This verdict of science is not generally known to the voters, but the legislatures of this country have

provided laws by which the children can be taught these facts. It now depends upon the people, whether the laws put on the statute books of every State in the Union, and the National Congress, shall be enforced which require that all public schools shall teach the nature and effects of alcohol and narcotics as a part of physiology and hygiene. The enforcement of these laws have started up a fierce opposition which asserts that the books and the teaching is unsound. To enable the teachers and school officials to answer this charge, the school Physiology Journal has been going out for years filled with facts and statements and references which can be verified. The value of this work is appreciated in many parts of the country where philanthropists and business men subscribe for hundreds of copies to be sent to every teacher in their neighbourhood. In several states every teacher and every school receives copies of this Journal, and its influence is very salutary, giving the teacher facts and hints about the best way of presenting the topics of the school book, particularly the facts concerning alcohol.

Some of the results of these efforts are apparent in the report of the department of education for the State of New York, in 1905.

There were registered during the year in the public schools of that state 1,313,283 children. The law requires that all these children shall have at least two oral lessons in the first three primary grades per week, for the ten weeks of each school year.

One-fifth of these lessons must be on the temperance subject. From statistics it appears that there is an average attendance of 68 per cent. of the whole number registered, so that in New York State there were 892,000

children in constant attendance. If every one of these primary children received twenty lessons as the law requires, during the past year, the aggregate would have been nearly 18,000,000 lessons. Of this number between three and four million warning lessons of the evil nature of alcoholic drinks and other narcotics were given. In the higher or grammar grades on the same basis more than 12,000,000 lessons were given on the physiological reasons for obeying the laws of health including the reasons for abstinence from alcohol and other narcotics. Here is a grand total of temperance lessons given to children with reasons and facts supporting them, not only impressing their minds, but diffusing through them to their homes. The tremendous importance of this work cannot be overestimated, and the value to the State by these temperance lessons which come along educational lines and fall into receptive soils will grow up to enormous proportions in the future. This teaching as a part of the educational work of 45 States and the central government is an evolution in the temperance work that should have our heartiest support.

*Insanity and Alcoholism in Rome*

Dr. Giannelli, a physician to a hospital for insane at Rome has recently published some interesting statistics extending back 74 years of the admissions of insane persons to this hospital. Some of his conclusions are very interesting. Under one heading of the distribution of insanity in the province of Rome, he makes a very interesting comparison of the forms of insanity, particularly general paralysis, alcoholism, and other psychosis. For a period of 20 years general par-

alysis and alcoholism were more frequent than other forms. Mania and epilepsy were also common. The melancholic and neurasthenic varieties were less common. He concludes that alcoholic insanity has decreased in Rome during the last ten years, particularly among women. In Paris for this period the increase of alcoholic insanity among women has been very large, and out of all proportion to other forms of psychosis. In Rome alcoholism is the most common cause of epilepsy and idiocy. For this period of 20 years the percentage of insane admitted was 5.26 per 10,000. Among the Jews there was a larger number of insane compared with that of the Catholics. The number of Jewish epileptics and alcoholics were smaller than that of the Catholics. He makes the significant observation that nations of the blond and light complexions are more predisposed than those of dark complexion. The increase in insanity from all causes seen to follow the stress and strains of life.

*Tobacco as an Air Purifier*

A little book in a dusty paper cover inclosing twenty pages was lately sold for 51¢. The title was as follows: "A Brief Treatise of the Nature, Causes, Signs, Preservation from and Cure of the Pestilence." The author is given as "W. Kemp, Mr. of Arts." The passage about tobacco which came among a list of devices for purifying the air, is as follows:

"The American Silver-weed, or Tobacco, is very excellent for this purpose, and an excellent defense against bad air, being smoked in a pipe, either by itself, or with nutmegs shred, and rawseeds mixed with it, especially if it be nosed; for it cleanseth the air,

and choketh, suppresseth and disperseth any venemous vapor; it hath singular and contrary effects; it is good to warm one being cold, and will cool one being hot.

"All ages, all sexes, all constitutions, young and old, men and women, the sanguine, the choleric, the melancholy, the plegmatick, take it without any manifest inconvenience; it abates hunger, and yet will get one a good stomach; it is agreeable with mirth or sadness, with feasting and with fasting; it will make one rest that wants sleep, and will keep one waking that is drowsie."

*The Effect of Alcohol on the Cardiovascular System*

Professor H. C. Wood and Dr. D. M. Hoyt, of the University of Pennsylvania, have conducted a series of experimental researches upon the action of alcohol on the circulation. The main experimental facts which they consider to be established are the following:

In the normal dog alcohol does not usually, either in small or large doses, distinctly increase the arterial pressure, although occasionally such an effect is manifested. The action of alcohol upon the circulation in dogs suffering from an infective fever, at least so far as the blood pressure is concerned, is similar to its influence upon the normal dog. But when the spinal cord, of normal dogs, is severed in the cervical region and respiration is artificially maintained, alcohol distinctly and consistently increases the arterial pressure; in other words, alcohol increases arterial pressure after the general vascular system has been separated from its dominant centres.

In another series of experiments the influence of alcohol upon the rate

of blood-flow through the large arteries was measured by means of Ludwig's strohmuhr. It was found that the exhibition of small doses produced a very marked increase in the rate of flow. The increase was consistently maintained for some time, on repetition of the intravenous injections of alcohol; later on, the rate of flow gradually lessened under the paralytic influence of the toxic dose of alcohol upon the heart and blood vessels. The increase in the rate of flow was not found to be dependent upon or related to any elevation of the arterial pressure; in some experiments it occurred without the pressure being sensibly affected. The action of alcohol on the isolated reptilian heart was also investigated. It was observed that when from  $\frac{1}{4}$  to  $\frac{1}{2}$  per cent. of alcohol was added to the nutritive fluid feeding the heart, there was a marked and persistent increase in the heart in a given length of time. Larger percentages of alcohol decreased the heart's activity. The main conclusion which the authors draw from these experiments is that the action of alcohol is simultaneously to stimulate the heart and, by depressing the vasomotor centres, to widen the blood channels. The fact that the influence of alcohol upon blood pressure is not constant is explained by supposing that these two concurrent actions of alcohol are not always equally balanced; whenever the balance between the heart power and the resistance offered by the blood vessels is disturbed, an alteration in blood pressure is the necessary result.

*Inebriates on the Border-Land*

In a recent address before the southeastern branch of the B. Med. Asso. Dr. Savage described



some of the Border-Lands of Insanity, and the dwellers. He drew a distinction between insanity, and unsoundness of mind, saying that there were many persons who were of unsound mind, who should not be treated as insane, and while all insane are of unsound mind, there were a very large number of mentally unsound who lived in the border land. A certain number of this class had criminal impulses, the result of nervous defects, others have a tendency to vice, either against the individual or society. These classes were in the criminal border-land, or on the vicious frontiers, dangerously near the insane regions, and yet not practically in them.

Some persons are temporarily over in the border-land, suffering from nerve storms, depressions, excitements and various auræ which come and go in distinct cycles. Among these classes he has the following to say of the

inebriate. There are no cases that require more control than the inebriates, and for which there is inadequate provision. Most of this class suffer from the tyranny of their organizations. The laws so far are of little use. I would make it possible for every person who should be sent, or required asylum treatment, to be certified as suffering from a form of mental disorder, which depended upon drink, and instead of allowing him to be discharged, would insist that he be detained under control for at least a year. This would give him a chance for recovery, and at least would enable the victim to outgrow some of the nervous defects from which he suffers. The present method of discharging patients by certificates, while logically correct, is medically wrong. The French law, which permits the family to tie up the money and prevent any member who is an inebriate, from spending it, to the damage of others, is most practical.

## BOOK REVIEWS

*The Management of a Nerve Patient*, by A. T. Schofield, M. D. Author of the "Force of Mind" Etc., P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa. 1906.

This is another contribution to one of the most important topics of the day, by an author who has become distinguished in his very suggestive studies, and appeals to the profession to take up the study of psychotherapeutics.

This book describes the general facts in the diagnosis and treatment of neurotics, which in the author's opinion gives the greatest promise of success. He makes prominent the unknown force called "The Sub-conscious Mind," and would have the physician appeal to this force with all the means used rather than to the conscious or organic activities. His reasoning is very clear, and much of it appeals at once to the practical physician, especially in sanatoriums.

We commend this book for its practical teachings along new lines, and believe the author is opening up a field of practice that will be very common in the years to come. Every hospital and sanatorium physician should read this book, and come in touch with the author's most suggestive studies.

*The World's Anatomists. Concise Biographies of Anatomic Masters from 300 B. C. to the Present Time*, by G. W. H. Kemper, M. D., Prof. of the History of Medicine in the Medical College of Indiana. P. Blakiston's

Son & Co., Publishers. Philadelphia, Pa. 1906.

This is a short sketch of nearly all of the great masters who have studied anatomy and taught it to others. It puts in a convenient form, a great variety of most interesting facts in medicine which cannot be found except by long research and is therefore a very handy compendium.

*The Alcoholic Problem in its Biological Aspect* by T. N. Kelynack, M. D., M. R. C. P., Hon. Sec. of the Society for the Study of Inebriety, and editor of the *British Journal of Inebriety*. R. J. James., Publisher. London House Yard, London, E. C. 1906.

This little work of 150 pages aims to present a popular view of the effects of alcohol on the brain and body.

The author has given very extensive reference notes to every topic studied, and this makes it a very useful book to all who would wish to make more exhaustive studies of this subject. Such books are very useful for the lay public, and are valuable for their clearness and accuracy of statement. We predict a very large sale for this work among temperance workers, and all who would like to know something of the teachings of science along this new study. Our American societies should republish this work and scatter it widely. The author is a graphic writer, and a very prominent student of this subject, and no doubt such a book will reach a much larger audience than if he had addressed it exclusively to the profession.

*Hand Book for Attendants on the Insane.* Published by the authority of the Medico-Psychological Association, London. Bailliere, Tindall & Cox. Chicago, W. T. Kenner, & Co.

This little work has reached its fourth edition, and has already exceeded fifty thousand (50,000) copies, and is considered the most popular and best authority for asylum attendants that has been published. It has been compiled by a committee of very eminent specialists, and gives general facts necessary for the attendant in the pursuit of his daily work. It is arranged in the form of chapter followed by questions, and illustrations as to duties and responsibilities. Every nurse should have a copy of this work.

*Christianity and Sex Problems,* by Hugh Northcote, M. A. Crown Octavo, 257 Pages. Bound in Extra Cloth. Price, \$2.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry St., Philadelphia, Pa.

This is one of those peculiar studies dealing with the psychology of the sex problem, which has a peculiar fascination for many students, and is practically a continuation and special study of some of the topics which Havelock Ellis has grouped in his epoch-making works.

The author is remarkably temperate in his studies, and while expressing himself strongly is calm and judicial in his statements. The following are titles of some of the chapters which give a fair idea of the scope of the work:—

The Battle of Chastity in the Adult. Spiritual Sexual Love. Sex-

ual in Art. On the Nature and Ethics of Impure Language. Sexual Perversions. The Gospel and Sex Relations. Fornication. Modesty. Sexuality in Childhood. Etc. We urge our readers who are interested in the new scientific studies of this direction to procure and read this volume.

*The Natural Laws of Sexual Life, Medical-Sociological Researches* by Dr. Anton Nystrom, of Stockholm. Translated from the third Swedish edition, by Carl Sandzen, M. D., Prof. Physical Therapeutics, etc., University of Kansas. Burton Company, Publishers, Kansas City, Mo.

This is a very good translation of a Swedish work that has been very popular, and passed through three editions. It had also appeared in German and French. The purpose of the book is to study the sexual problem, its laws and nature from a strictly scientific point of view. While aiming to be exact in fact and statement it is presented in popular language so as to be a text book in some measure for all classes. The information which it imparts is of a very practical character, and will be very helpful to every physician and teacher and to all readers. Practically this work has a great interest to students of mental diseases, particularly the psychosis, and throws many side lights on obscure facts that are unknown except when seen by the student in this field. We most heartily commend this book to our readers, and feel sure that they will derive a great deal of information from its perusal. The publishers have issued a very attractive volume of 260 pages bound in cloth, and sent prepaid on receipt of the price, \$2.00.

## NOTES AND COMMENT

The British Journal of Inebriety for April, contains a rich table of contents. Dr. Hyslop's article on the "Vitality of the Nation" is a philosophic study with special reference to the degenerative influences and the vital resources of the nation, and suggests many very interesting studies along the lines of alcoholic degeneration. Another article on the effect of alcohol on the feelings, has a far off sound of the discussions of 20 years ago. Dr. Hare, the superintendent of the Norwood Sanitarium, describes medical treatment in that institution, showing that they are doing very good work. The book's reviews and notices are very full and rich.

\* \* \*

Dr. Jesse A. Hunter, of Lockland Station, Cincinnati, Ohio, has issued a journalette, called "Deed and Double." It appears to be a scientific temperance journal, with the special object of popularizing science, and teaching the masses the great facts known to the students of this subject. There is no doubt, a field for such work, and we shall look forward with great interest to the future of this novel work. The editor will send copies to anyone who is interested.

\* \* \*

The Review of Reviews, The World's Work, and the Literary Digest, have recognized that the literature on the alcoholic question has attained a degree of prominence which calls for special notice. Recent issues of each of these excellent journals have noted some of the papers going

through the press. In a clipping bureau 260 items concerning the "Drink Problem" were gathered in the Daily Press in one month. This is another indication of the prominence the subject is attaining.

\* \* \*

The enterprise and courage of the members of the San Francisco drug trade were clearly exemplified during the recent disaster. Before the fire was extinguished they placed large orders with the manufacturing chemists. One house ordered 30,000 pounds of Antiphlogistine, and altogether over 100,000 pounds were shipped to the coast upon order within a week.

On a steamer from New York, running up the California coast at the time of the earthquake, were 35,000 pounds of Antiphlogistine, and upon orders from the home office, the emergency hospitals were liberally supplied free of charge.

\* \* \*

Dionin is gaining wider and wider recognition as an extremely valuable agent in a large number of external and internal diseases of the eye, says John Green, Jr. In subconjunctival injection it was found by Blanco (Arch, de Ophtalmol.) to cause resorption of a severe intraocular hemorrhage, with restoration of vision to normal.

\* \* \*

Ludwig Stein, chief of the Purkersdorf Sanitarium, in Vienna, thinks that the chief value of antithyroidin lies in the fact that by neutralizing

the toxic substances secreted by the thyroid, it will prevent the development of real anatomical lesions in such organs of the heart. But even in cases of long standing, the serum will sometimes accomplish very much. The author goes so far as to recommend a course of treatment to clear up the diagnosis in obscure forms of the disease. It is best to begin with small doses, 15 drops to be repeated in eight hours, but in severe cases it may be necessary to increase the dose to 40 to 50 drops twice a day. The heart action should always be carefully controlled, as the heart will promptly react upon too large a dose. He has found that the taste of the carbolic acid added as a preservative is disagreeable to many and, therefore, advocates that some adjuvant be added. The serum should never be given upon an empty stomach. In cases of medium severity, a decided effect is usually seen in eight hours, this effect continuing from eight to ten hours. After-effects were not seen if care was exercised in increasing the dose.

The author lays stress upon some symptoms of Basedow's disease not often described, namely, diarrhea, edema of the eye-lids, and increased activity of the sexual glands.

\* \* \*

C. L. Cook, of Clingman, N. C., relates, in *The Medical World*, the case of a male, 65 years old, good habits all his life, uses tobacco, but not excessively, has no pain except rheumatism in his hip and shoulder occasionally. May be perfectly free from all pain when retiring, but can't sleep. He will get what he calls "the fidgets" and can't sleep a wink. The doctor can only make him sleep with morphine or some other preparation of opium, but does not think opiates are indicated, for the reason that pain

is not the cause of his restlessness.

The editor of *The Medical World*, appealed to for advice in the case, advises against morphine, and points out that veronal will give the patient sound and refreshing sleep, without subsequent nausea or deleterious effect, with no danger of inducing a habit, without baneful effect on any organ or function, and is easy of administration. He states that he knows from personal prescribing of veronal that it is superb where the trouble is simple insomnia, but it is useless in the presence of pain. But, he cautions, don't depend permanently on medicine. Get all that can be gotten out of hygienic management. A glass of hot milk before retiring will frequently cause sleep.

\* \* \*

In view of the prevalence of blank cartridge wounds in all American cities at this time of the year, consequent upon the celebration of Independence Day, the writer's experience in dispensary practice may prove of interest.

The wounds (generally in the palm of the hand) as they came to us were dirty and sometimes had been neglected for a day or so. After trying various procedures we finally settled upon the following:

The wound was laid open, the cartridge wad removed if present, the wound cleansed with peroxide and bichloride, a rubber drainage tube (not a wick of gauze) inserted, and a wet dressing of bichloride applied. After twenty-four hours, the wound was again cleansed with peroxide and a dressing of Antiphlogistine was applied. In using the Antiphlogistine the drainage tube was brought up through it so that the discharge, if any, should be received in the overlying absorbent cotton.



At first bichloride was tried for the redressing but it was found that the surrounding tissue was quite apt to take on a severe inflammatory reaction.

In many cases it was found advisable to make a counter opening on the other side of the hand so as to run a drainage tube through from front to back. The Antiphlogistine dressing was changed once a day, was always applied hot and was covered with a goodly amount of absorbent cotton. Our results were excellent, all the cases recovering without loss of function.

\* \* \*

Pankreon (tannin-pancreatin compound) is a dry, grayish, odorless powder, of a slightly acidulous taste, obtained by the action of tannin on the pancreatic substance. It is unalterable in the gastric juices, its action being developed rapidly in the alkaline intestinal fluids. It is a strong tryptolytic, amylolytic, and emulsifiant.

Originally intended as a specific in pancreatic affections, Pankreon has been shown to have a far wider field of usefulness, particularly in disturbances of digestion due not only to pancreatic defects, but to other causes as well. Good results are reported from its use in diarrheas, dysentery, marasmus, membranous and catarrhal colitis, achylia, nervous dyspepsia, gastritis, hyperemesis, jaundice, and in the digestive disorders accompanying carcinoma of the esophagus and stomach, and strictures of the intestines.

Pankreon is marketed in powder form and in 4-grn. tablets, the dose for adults being from 4 to 8 grn. three times, daily, and for children 1 to 2 grn. t. i. d.

Pankreon-Sugar Tablets ( $\frac{3}{4}$  grn. of Pankreon mixed with milk-sugar)

are intended for nurslings, in disturbances of nutrition, particularly diarrhea. The dose is 2 to 8 tablets, crushed and stirred with lukewarm milk or water at every feeding.

\* \* \*

Ecthol contains in each fluid drachm twenty-eight grains Echinacea and three grains thuja. It is put up in bottles holding 12 ounces and any physician who has not used Ecthol, can get a twelve ounce bottle for experimental purposes by sending 25 cents to Battle & Co., to prepay express charges.

\* \* \*

*The Bloodless Phlebotomist* occupies a unique position in journalism. It is original, liberal and exceptional. There is no other journal like it. It is not wedded to one idea, nor is it hidebound nor prejudiced. It says what it means and means what it says and circulates 208,000 copies each issue, reaching practically every English speaking physician on the globe.

It is a journal worth cultivating. The June issue contains, among other interesting matter the following original articles:

How May Pathology Become of Importance in Routine Work of Actual Practice, By Louis Faugeres Bishop, M. D., of New York.

Treatment of the Drink Habit by Hypno-Suggestion. By John Duncan Quackenbos, M. D., of New York.

Some Questions in Medical Deontology. By A. H. Ohmann-Dumesnil, A. M., M. E., M. D., Ph. D., of St. Louis.

Osseous Resection, Prosthesis, etc., as a Means of Obviating Amputation. By the late Thomas H. Manley, Ph. D., M. D., of New York.

\* \* \*

Some time, says Dr. B. B. Ralph of Kansas City, ago my attention was

called to Pas-Avena, the new Soporific, Sedative and Anodyne, since which time, I have given it a thorough test in a number and variety of cases, and find that it fulfills all the claims made for it by the manufacturers.

As a nerve sedative and calmative, it possesses a pronounced specific action, with none of the objectionable features of morphia, chloral, bromides, etc., nor does it depress the heart's action as do the coal-tar derivatives.

I will mention only two of the many cases in which I have used Pas-Avena with excellent results, which I think justifies me in my above remarks.

Case 1. Male, age 58. Banker. Troubled with insomnia, and stated that he was compelled to use a hypnotic every night in order to obtain any sleep at all. Had been using morphia,  $\frac{1}{8}$  grain each night and later was compelled to increase the dose to  $\frac{1}{4}$  grain in order to get the desired effect. He feared the morphia habit, and wished to discontinue the use of the drug entirely and called upon me for advice.

I prescribed Pas-Avena and instructed him to take a teaspoonful at 3 P. M., and the same amount every two hours until he had taken four doses. Saw him next day and he stated that he enjoyed a good night's rest and arose in the morning feeling more refreshed than for years. He continued the use of Pas-Avena gradually decreasing the dose until its use was discontinued entirely, and he is now able to enjoy a good night's sleep without the use of any hypnotic and his general health is much improved.

Case 2. Male, age 26. Clerk. Had been drinking hard for about a week, and was on the verge of delirium tremens, when I was called to see him.

I administered a tablespoonful of Pas-Avena and followed in thirty minutes with another dose of two teaspoonfuls. In a very short time after taking the second dose, he became perfectly quiet and soon fell asleep. He slept about twelve hours and awakened with his mind perfectly clear, but he was somewhat nervous. I advised him to take a teaspoonful of Pas-Avena every three or four hours, which he did, and on the third day he was back at his desk feeling none the worse for his spree.

\* \* \*

The following "pointers" were taken from *The Bloodless Phlebotomist* and will doubtless interest many of our readers.

In infants with summer complaint, enterocolitis or cholera infantum, narcotics are so dangerous as to be almost prohibited.

When spreading ointments upon gauze or line, cut holes in the fibre to allow escape secretions.

In placing an infant with convulsions in a mustard bath to secure relaxation, do not fail to support the head on cloths dipped in the coldest water obtainable. This tends to prevent the augmentation of the hyperemia of the brain already present.

The painfulness of withdrawing packings that have dried in a wound may be avoided by soaking them with peroxide of hydrogen.

Many so-called rheumatic pains are in reality the lancinating pains of early tabetic manifestations.

Gonorrhoeal peritonitis is often mistaken for appendicitis. Many cases recover under medical treatment.

Heat relieves the pain inflammation but increases that of suppuration.

For ingrowing toe nails apply a solution of caustic potash, 3 drams to

1 ounce of water, twice a day, until the granulations recede; then raise the nail and insert a wedge of cork.

When scissors become "catchy" their edges can often be surprisingly smoothed by carrying each blade repeatedly from lock to tip between the firmly pressing thumb and forefinger.

\* \* \*

As has been frequently stated, says Dr. W. T. Marrs, of the St. Louis College of Physicians and Surgeons, the special province of the physician is to relieve pain. To do so without producing a drug habit, or in some way jeopardizing the patient's life, has always been a problem. I looked askance until I began prescribing antikamnia and codeine tablets a year or so ago. They produce only the most benign results and there is no tendency whatever to produce a drug habit. I now regard antikamnia and codeine tablets, as the ideal pain-reliever. Headache and neuralgia are not their only field of usefulness. I find that in chronic and malignant diseases where pain is a marked factor, they relieve pain and make the sufferer more comfortable. I have also had pleasing results from these tablets in both acute and chronic rheumatism. All physicians know how intractable is sciatic rheumatism, but the last few cases I had, I prescribed these tablets and I am sure they lessened the duration of the disease. To relieve pain in its incipiency will often abort an inflammatory disease. This preparation certainly has quite a large field of usefulness.

\* \* \*

#### *The Morbid Phenomena of Habit*

Dr. J. Crocq, discussing this subject in *The Journal of Neurologie*, insists upon Dr. Brissard's statement that in certain patients the nature, intensity and seat even of the difficulty

are far less important than the tendency of the pain to manifest itself at the fixed time without appreciable external influence, or at some moment under the sway of an invariable circumstance, extremely insignificant though it be.

In each case the disease seems to obey the law of habit. Dr. Toulouse advances the theory that there exists in the psychic nature a veritable unconscious cyclic rhythm, and this rhythm once established it is very difficult for a neuropath to escape from it. The writer agreeing demonstrates that habit is one of the most common phenomena of the nervous system, the functioning of which constantly tends to become automatic. Thus every hour that strikes brings its habitual idea suggesting acts in which consciousness has little or no part. In a complex habit the succession of acts is explained by the succession of ideas which at first produced them. Frequent in physiology, habit is still more so in pathology, for if a normal system allows itself to be governed by external circumstances, an abnormal system more suggestible, more automatic, less restrained by the conscious ego, becomes the slave of habit, its higher psychic functioning subjected to the inferior psychic system. Drs. Nierge and Feindel have shown this truth in tic, which is nothing else but an abnormal motor habit, the desire for which the subject is incapable of subduing. The morbid phenomena of habit are almost infinite in number and variety. Even the passage from any acute condition to the chronic stage is an example. The diseased organ the nutrition of which is vitiated has a well marked tendency to present definite perturbations which are only defective nutritive habits. Change this morbid rhythm suddenly,

favoring a sharp new process, and the organ disturbed in the new functioning which had become habitual can after the healing of the new condition resume its healthy normal activity. In nervous affections habit plays a still more important part. In neurosis all is habit, pains, obsessions, morbid fears "grow by what they feed upon." A first impression, striking a feeble nervous system in which exists the weakness of the higher psychic centers has an unconquerable tendency to repeat itself spontaneously or at the suggestion of some trivial cause. By way of examples a young neuropath treated by Dr. Crocq one day acquired the fear that he would be run over by a vehicle in the street, since which time he cannot cross the street even when deserted. The idea of danger aroused by sight of the streets inhibits the motor power, and this inhibition his will cannot overcome.

Dr. Crocq dwells particularly upon the two morbid habits of insomnia and fits. As to the habit of pathogenic treatment of insomnia he insists upon the fact that in many cases the cessation of the cause of insomnia is not immediately followed by the return of normal sleep. For example, an hysterical woman, a good sleeper naturally, under the influence of intercostal neuralgia became unable to get more than two hours rest because of the pain. After six days siege the pain totally disappeared, but sleep refused to return. Dr. Crocq upon being consulted gave her two consecutive days an hypnotic in a moderate dose. Normal sleep was then re-established.

Another case, a man of nervous temperament was a good sleeper until he experienced a heavy financial loss. For fifteen days he slept but little

when a sudden turn of the wheel retrieved his losses. The physical condition, however, did not respond to the changed financial conditions. After eight days of continued sleeplessness an hypnotic, administered for four consecutive days, sufficed to restore the natural sleep. Many similar examples go to show that the nervous system is a veritable automatic machine, the functioning of which once disturbed must be regulated anew to recover its normal balance. In the habit of insomnia a well chosen hypnotic for some days sets up sleep at the habitual hour, and the system momentarily perturbed persists in its regular activity after the suppression of the hypnotic. This method of therapeutics succeeds in a large number of cases of circulatory insomnia. The second phenomenon of habit alluded to is that of seizures, a habit common in hysteria, indeed the writer believes that everything in hysteria is automatism more or less conscious.

Several cases are cited as follows: Marie L. consulted the author January 15, 1904. She had an hysterical mother, an alcoholic father and a brother subject to fits. Thursday, November 12, she was frightened by a dog that leaped suddenly at her. Running to her home, upon her arrival she fell immediately into an hysterical attack. It was then three o'clock. On Sunday, at 2:30 she had another seizure and then regularly between two and three o'clock every Thursday and Sunday she had a convulsion. Hydropathic treatment had no effect. Dr. Crocq upon being consulted prescribed three grammes of bromide of potassium upon Thursdays and Sundays at one o'clock. The attacks ceased and after a three weeks' treatment she was considered cured. Jules A. consulted the writer Febru-

ary, 1904. His father was an alcoholic, his mother nervous, two sisters hysterics. He had typhoid at the age of 11. He was very sensitive to tobacco, a cigarette produced toxic troubles, nevertheless, he wished to smoke a cigar, but upon finishing it he immediately felt nervous and uneasy and after ten minutes experienced a hysterical convulsion. This happened February 2 at three P. M., the next day about the same hour he had another attack, the day after another at eleven A. M., and then one every day between eleven and three P. M. Examination revealed no trace of organic trouble and no intoxication.

A two gramme dose of bromide of potassium at nine A. M., stopped the attacks. This was continued for nine days. Patient has totally recovered.

In all these cases it is a question of an attack which created by trivial cause continues to occur although the ethiological cause has disappeared. Of course the cure is not always as easy as in the instances given. There are types showing the continuation of the convulsive phenomena in spite of the suppression of the cause, and this, because the morbid habit has become strongly entrenched in an impressionable nervous system. Such is the case in tics which although phenomena of habit can present an unconquerable resistance to treatment. But it is not only in hysteria that one recognized the attack habit. This occurs even in certain epileptics though it is evident that constitutional epilepsy accompanied by mental troubles is not here referred to, only occasional epilepsies prompted by the action of some trivial etiological agent upon a neuropathic temperament. Then follow two instances:

Louis V. a farm laborer, 35 years,

mother nervous, brother and sister very nervous. Habitually sober, he had on January 15, 1904, indulged in very heavy drinking and dead drunk slept for fifteen hours, when upon awaking next day toward noon he was seized with a characteristic epileptiform attack. The seizure occurred again on Monday about the same hour, and then on Friday, and finally every Monday and Friday between eleven and twelve, up to the time he consulted the author. Dr. Crocq perceiving no appreciable cause for the attack and finding the digestive passages and general nutrition intact prescribed three grammes of bromide daily, and then two grammes on Mondays and Fridays at 10 A. M. The attacks ceased immediately and have never returned. The treatment was continued for 15 days.

Paul L., 19 years, enjoyed perfect health to the age of 18 when he was attacked with dyspepsia with intense auto-intoxication. It was after a digestion more painful than usual with very marked auto-toxic troubles that he had the first epileptic convulsion. The attack reappeared upon the recurrence of digestive troubles, until after three months it appeared regularly twice a week without the concurrence of any gastro-intestinal disturbance. The author hoping to reach the exact etiology of the case gave bromide of potassium in six gramme doses. This increased, not only the digestive affection, but the number of attacks as well. A light regime was then employed with the use of alkaline drinks and the regulation of the bowels. The dyspeptic troubles improved, and at the same time the attacks fell in number from five and six per week to the original two a week. Some months later the digestive system had become normal



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convulsion which continued at fixed times until the patient was subjected to the treatment pursued in the preceding cases, then he made an equally speedy recovery.

The author concludes that these facts and cases go far to prove that phenomena of habit are very frequent in nervous pathology, and that the habit of insomnia and that of convulsions are as common as the habit of pain.

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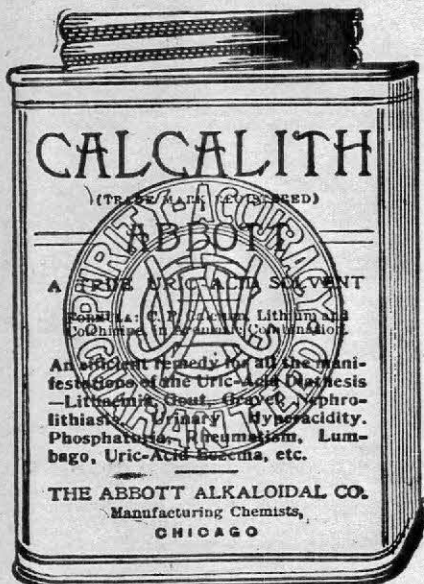
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Many so-called "uric-acid solvents" have been tried and found wanting as to practical results, because, although they dissolve uric acid in a test-tube, they do not do so in the body fluids. Elimination of residues and prevention of deposit is the essential thing and Calcalith does this more positively and more potently than any other preparation of this class.

Use Calcalith with Salithia, the Sulphocarbolates, Bilein or other hepatic stimulants and you will have no further dread of the "uric-acid diathesis."

Calcalith also works "Magically" in Urinary Troubles.

From Dr. Toland down in Texas we have the statement that:



"There's nothing surpasses Calcalith. I gave it a fair test two weeks ago in a patient who has cystitis, prostatitis, urethritis and gonorrhoeal rheumatism and was passing matter (pus and blood) with his urine. He surely was in a bad condition, but Calcalith and Salithia with other alkaloidal remedies, soon brought him around all right."

Per dozen, 200 to each package.....\$ 9.00  
In less than 1-2 dozen lots, each package. .80  
Bulk, per 1000..... 3.50  
per 5000..... 15.00

NOTE:—One can each of Calcalith (80c) and Salithia (55c) once only as "sample" prepaid on receipt of \$1.00. Enclose this advertisement. Money back if not satisfied.

Literature and Samples mailed on request.

**THE ABBOTT ALKALOIDAL CO.**

Headquarters for  
Alkaloidal Granules, Tablets and Allied Specialties

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