

ALCOHOL IN MEDICAL PRACTICE
ALCOHOLIC POISONING AND DEGENERATION

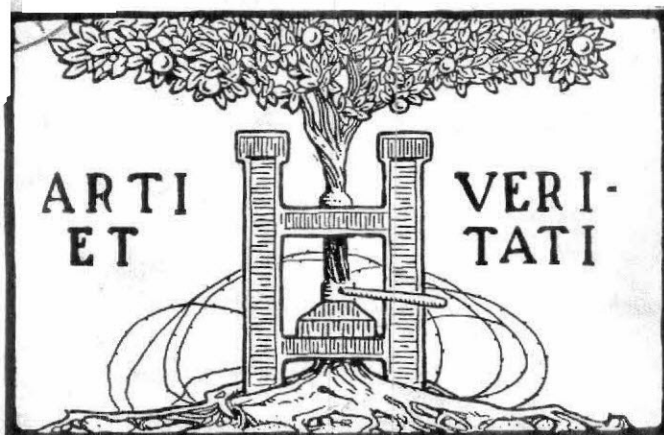
THE QUARTERLY JOURNAL OF INEBRIETY

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

Edited by

T. D. CROTHERS, M.D.

1906



Established 1876

\$2.00 a year

75 cents a copy

RICHARD G. BADGER, PUBLISHER

THE GORHAM PRESS, BOSTON, U.S.A.

Application made for entry as second class mail matter at the Boston Postoffice

THE RECOGNITION OF DRUG ADDICTIONS IN LIFE INSURANCE

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WINTER, 1906

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THE QUARTERLY JOURNAL OF INEBRIETY is published in the months of March (Spring), June (Summer), September (Autumn), and December (Winter) at 50 cents a copy, \$2.00 a year. Subscribers not receiving their copies by the end of these months should immediately notify the publisher. As it is the wish of most subscribers to receive unbroken volumes THE JOURNAL is sent until ordered discontinued.

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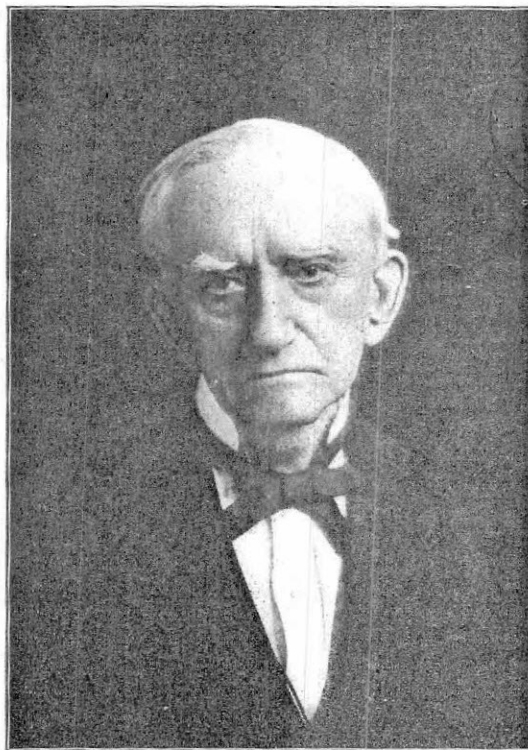
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STUDY OF ALCOHOL AND OTHER NARCOTICS

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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THE QUARTERLY JOURNAL OF INEBRIETY

Volume 28

WINTER, 1906

Number 4

THE INFLUENCE OF INEBRIETY IN RAILROAD ACCIDENTS

By Henry O. Marcy, A. M., M. D., LL. D., Boston

From time immemorial it has been declared that the physician has little or no influence when his advice runs counter to the desires and passions of man. It is claimed that this is evinced in all matters of diet especially pertaining to his preferential desires for food and drink.

If this is true why should we obtrude our opinions upon the body politic! Clearly we owe a duty to the public which we should fearlessly discharge, utterly independent to their tastes, preferences or prejudices.

The besotted man, who lives as a burden upon the public, may individually do but little harm, save to himself. His diseases may have become so fixed as to render him incurable.

Of the many-sided views from which we may study the injury inflicted upon the public by the use of alcoholic drinks, the one which I have chosen today, is the danger which may befall the great travelling public from the use of alcohol by railroad employees.

Of course, in a general way, this is well known and great credit is due the railroad commissioners of the various States, working in harmony with the railroad authorities, which govern our great system of transportation.

The net-work of railroads, which traverse the United States, has de-

veloped almost beyond belief, until now nearly every part of our great Continent is put into close touch by its civilizing influences. These lines, radiating in every direction, now number nearly three hundred thousand miles, on this continent alone, over which trains are passing and repassing in unbroken succession.

The Americans are, like the British, a nation of travellers, seemingly everywhere bent in undue haste to reach distant points in the shortest possible period. The freightage transported is beyond the comprehension of any ordinary mind, beside which we have an army of commercial travellers numbering over three hundred thousand who practically live upon the road.

All these lives, and all this wealth are intrusted to the supervision and care of the trained servants of the railroads, who for every reason, must be in the best of physical condition, with their best powers watchfully alert to avoid danger. In the light of the most extraordinary casualties of the recent past, with great loss and enormous loss of property, we may well ask ourselves if these men intrusted with such great responsibilities are our safe custodians?

We get from the interstate commerce commission another "accident

bulletin." It covers the mishances reported by the interstate railroad companies in October, November and December last, 1905.

In these three months and on the tracks of the interstate roads there were 2,077 train collisions and 1,645 train derailments. Passenger trains were in 267 of the collisions and 133 of the derailments. The total damage to engines, cars and roadbed is put at \$2,817,294. In these train accidents 38 passengers, 198 trainmen and 12 other persons were killed; 1,535 passengers, 1,286 trainmen and 185 other persons were hurt more or less seriously. Twenty-four passengers lost their lives in attempting to board or leave moving trains, and 20 in other ways. In the "miscellaneous" accidents (not collisions or derailments) of the three months 178 trainmen were killed and 3,734 were hurt. In the railroad yard accidents of the three months 108 railroad servants were killed and 2,061 were hurt. Total casualties in the three months 18,227—1,109 killed, 17,118 wounded. The commissioners remark:—

The total number of casualties to employees this quarter is very large; larger in nearly every item than during the last preceding quarter, and much larger than in the October—December quarter of the year before.

As there was an enormous amount of traffic moving on all of the principal railroads of the country throughout the time covered by this report, it is fair to conclude that the number of men employed had been materially increased, and that therefore the proportion of employees killed or injured to the number in the service was not so much greater as would appear from a comparison of the casualties alone. On the other hand, there is evidence that many of the new men, which it was necessary to employ to handle the

additional business, were entrusted with dangerous duties after but very little training; and that both new and old men were, in the stress of work, necessitated by an enormous freight business, frequently kept on duty continuously for many hours beyond a reasonable day's work.

The report as to the most fatal of the collisions discloses a green man (with only five months' experience) in one of the engine cabs. The conductor and engineer of another colliding train were both fast asleep at the time of the crash; they had been on duty 27 hours and awake 23 hours. In another case, engineer (of a forty-night's experience) had been on duty 14 hours, though not continuously. In another, an engineman had been on duty 15 hours. In another, an entire train crew had been on duty over 16 hours. Concerning another we are told that the conductor of one of the trains and the engineman of the other were asleep.

We notice that many trainmen and members of railroad-yard switching crews were killed or hurt in falls from the roofs of cars, or while trying to get on or off moving engines. It is not pleasant to read that sixteen train derailments were caused by obstructions on the rails—placed there maliciously. Until the very recent past, the medical profession believed and taught, and the great public religiously accepted as orthodox, the advantages to be derived from the use of alcoholic beverages.

Every individual subject to special strain, either mental or physical, consciously believed that the difficult or danger period might be tided over with much greater safety by the use of alcohol in some form. Even so recent as in the war of the Rebellion in which as a general medical officer, I had my first experiences with alcohol

it was believed advantageous to keep up the staying powers in the march, or on the battle field, by the administration of whiskey. Each sailor expected his grog with same regularity as his dinner.

All men, who are not lost to hope, may be confidently expected to follow a line of conduct which will lead to their selfish betterment. My own feeling is that the great advance of the temperance movement has been made by teaching the effect of alcohol upon the animal organism and showing conclusively that alcohol in any form, or any quantity, taken into the organism is, to say the least, almost unexceptionally detrimental. If administered at all, it should be under the advice of a wise physician, who may treat its effects as those of any other narcotic. In this way, at least, we may be assured that the danger of its use will be reduced to the minimum.

Twenty-five years ago the engineer and fireman upon a train, subject to their long hours of exposure on duty, oftentimes demanded for a whole twenty-four hours of service without sleep—kept the bottle handy in the cab for conscientious use. This was approved of by the authorities as beneficial to the men and adding safety to the trains in transit. Since it has been clearly shown and that by unprejudiced observers in different parts of the world that alcohol, even in moderate quantities, lessens the function of all the senses; for example—the soldier cannot march as far, or shoot as straight, or have as many hours in the year of able service, when permitted to take, even in moderation, alcohol—the good sense of the regulations is shown in the total abolition of the use of stimulants in the army. This is equally true in the navy; not alone the army and navy in the United States, but of the civilized nations of

the world. Moreover in the military and naval service such rules can comparatively easily be carried into execution.

The railroad service in Germany is a semi-military organization and therefore is more easily under discipline and control. The Prussian railway management has issued orders forbidding any engine driver, switchmen or dispatcher all use of beer or spirits when on duty.

The order closes with the statement that total abstainers will be given preference in the matter of promotion and permanency of employment. The sub-officers of divisions have issued more stringent rules requiring total abstinence of all persons holding responsible positions, stating that no one need apply unless his character, as a temperate man, can be sustained.

Dr. Emiss of the University of Heidelberg has declared that over fifty per cent of all accidents occurring on the German railroads are due to the bewilderment of the operatives, who have used stimulants and that if total abstainers only were employed, the expense of managing the road could be reduced very greatly. Such action is fundamental and far-reaching since, for generations, the German has conscientiously believed that his beer was advantageous in the development and strengthening of both his mental and physical powers.

The railroad authorities of the United States are widely awake as to the dangers to their various systems, from the monetary standpoint as also from a humanitarian point of view. As I have just shown, every railroad wreck involves a large loss. By statutory enactment every passenger killed represents a loss of five thousand dollars and many that are permanently injured obtain much larger sums. The damage to equipment and freight

is so enormous as to endanger the profits of the corporation itself. Therefore it behooves these great companies not alone to especially train their important servants, watching carefully over their physical condition, seeing to it that, as far as possible, their duties are assigned to them at regular hours, with an insistence on taking proper rest and food and then demand of them when on duty the highest type of possible efficiency. In the army no matter how fatigued the sentinel has his four hours of rest and his two hours of watchful vigilance. Neglect of duty during these two hours may endanger the entire camp. Wee be then to the sentinel caught sleeping at his post. A court martial and execution swiftly follow as a stern warning to the future.

In a large sense the engineer and trainmen are the sentinels on duty upon every one of the numberless trains traversing the country. While we may not shoot such delinquent servants we certainly should bring to bear every possible effort to secure from them the best and safest service. Hence the wisest teachings of the effect of alcohol upon the human system should be disseminated and established among these men the esprit de corps of the service.

I quote here letters from three railroads written by their general managers:

D. Henry O. Marcy,
1850 Commonwealth Ave.,
Boston, Mass.

My dear Doctor—
I have your letter of the 29th inst. in relation to restrictions upon the use of alcoholic beverages by our employees.

Rule G, in our book of rules reads as follows: "The use of intoxicants by employees while on duty is prohibited. Their habitual use, or the fre-

quenting of places where they are sold, is sufficient cause for dismissal." This same rule is in effect on the other lines of the New York Central System.

I trust this is the information you desire, so far as we are concerned.

Yours truly,
F. VanHatten,
Vice-President, N. Y. C. & R. R.

Dr. Henry O. Marcy,
1850 Commonwealth Ave.,
Boston, Mass.

Dear Sir—
Your letter of even date, addressed to President Tuttle, is received while he is away upon vacation. Included in our "General Regulations for Employees" is the following paragraph:

"No person who is incompetent, dishonest, immoral, or otherwise vicious, will be permitted to enter or remain in the service."

The following paragraph appears in our "General Rules":
"The use of intoxicants by employees while on duty is prohibited. Their habitual use, or the frequenting of places where they are sold, is sufficient cause for dismissal."

It seems to me that the above answers your inquiry but if you desire anything further and will advise me, I will endeavor to obtain what you want, or hold your letter until the President returns.

Yours truly,
E. A. Ryder,
President's Secretary,
Boston & Maine R. R.

Dr. Henry O. Marcy,
1850 Commonwealth Ave.,
Boston, Mass.

Dear Sir—
Your letter of the 29th ultimo addressed to our President has been referred to me in regard to the restric-

tions enforced by this company in connection with the use of alcoholic beverages by our employees.

In reply beg to say that General Rule "H" of our Rules for the Government of the Operating Department would seem to answer your question. The rule reads as follows:

"The use of intoxicants by employees while on duty is prohibited. Their habitual use or the frequenting of places where they are sold is sufficient cause for dismissal."

This rule has been in force for a number of years.

Yours truly,
J. Higgins,
General Manager,
N. Y. N. H. & H. R. R.

These letters show a commendable spirit of watchfulness on the part of the managers of our great railroad systems and I doubt not similar rules are enforced with greater or less stringency upon all the railroads of the country. In a recent conversation with one of the railroad commissioners who in inherent capacities had been in railroad service for about thirty years, with commendable pride said: "I note the advance in temperance and the extraordinary diminution of alcoholic drinks by all the railroad men in the service. The rule of thirty years ago is now decidedly the exception and the type and character of our employees in their self-respecting manhood shows a vast improvement. To those who desire to drink, it is yet all too easy to furnish stimulants, but each year the responsibility is more and more placed upon the dispensers of alcoholic beverages, as well as those who partake of them."

Chapter 281 of the Revised Statutes of the Commonwealth of Massachusetts relates to the sale of intoxicating liquors by registered pharmacists. Section 1 of the Act reads—

"In any city or town in which licenses for the sale of intoxicating liquors of the first five classes are not granted, registered pharmacists to whom a certificate of fitness has been issued, as provided for by section 10 of this act, may sell intoxicating liquors upon the prescription of a registered physician practicing in such city or town, provided that the prescription is dated, contains the name of the person prescribed for, and is signed by the physician. All such prescriptions shall be retained and kept on file in a separate book by the pharmacist in a separate book by the pharmacist in the same, and shall not be filled the second time. Such prescription book shall be open at all times to the inspection provided for in section twenty-seven of chapter one hundred of the Revised Laws."

In the better division of knowledge for the higher training in such important service, wise efforts are being made in various parts of the world.

The London and Northwestern Company have established a Total Abstinence Union Society among its employees, which society now numbers over 12,000 members. This is a large per cent. of all the persons employed on that great railroad system, and includes the directors and officials from the President down. The central object of this society is not only to prevent more total abstinence among its members, but lessen the risk and danger of the work and diminish accidents and lessen the worry and strain. All members of this union are put on the promotion list to receive an increase of wages every five years, if they remain in the same position and are total abstainers.

The Midland Railway Co. have encouraged their operatives to form total abstinence societies and pledge themselves not to use spirits at any time or place. Preference is given to

all persons applying for promotion and larger wages who belong to these societies. The company reports less loss from accidents and more perfect work by the members of this society.

In Great Britain the consumption of beer and spirits in 1904 was less than any of the preceding years. The decline in the revenues from alcoholic liquors is taken to be an evidence of an improvement in the habitual habits of Englishmen. Mr. Chamberlain considers that the habits of the people are changing for the better, and says that they are finding other employment for the money that they used to spend in public houses. As a recent example of the emphasis which a general officer of the army places upon the injury expected to arise from the free use of alcoholic beverages I quote General Franks's first order, April 24th, when taking command of the panic-stricken city of San Francisco, three hours after the earthquake, was most significant and startling. It read thus: "Destroy every saloon and bar attached to a grocery, or other place; pour out the spirits on the ground and leave nothing that can be available for any one." This was considered a most important measure to quell the disorder following from the fire and destruction of property. A reporter says "every saloon within two miles of the fire was thoroughly destroyed and in other parts of the city the proprietors closed them, refusing to make sales for fear they would come under military rule and their property be destroyed." I quote from a recent editorial in the Boston Transcript.

Drinkards in Massachusetts.
No feature of the annual report of the Massachusetts Prison Commissioners is more deeply significant than the statistics of drunkenness. The fact that during the last fiscal year

73,972 arrests for intoxication—an average of over two hundred a day—were made in the Commonwealth, while 20,648 persons were committed to penal and reformatory institutions for inebriety, indicates the vastness of the liquor question. Translated into terms of ratio, these arrests represent 2.4 per cent. of the total population of the State, but as a fraction of the victims of the cup fell more than once into the clutches of the police during the twelve-month, the number of arrests exceeded the number of persons arrested.

The late Henry M. Boles of Pennsylvania, an intelligent student of penal problems, used to say that Massachusetts "furnishes the best example of wise laws faithfully enforced against drunkenness to be found in any country in the world." But enlightened legislation and serious administration of it have thus far failed to repress the volume of drunkenness and to head off the manufacture of drinkards. The cold-blooded logic of statistics which don't lie, and which show that between 1902 and 1905 the number of arrests for intoxication expanded from 58,235 to 73,972, and the census of commitments from 17,779 to 20,648, suggests in a large and disturbing way that the Massachusetts policy, admirable in many respects, is deficient at points. The fact that of the total body of persons committed for drunkenness last year 12,910 had undergone previous imprisonment for the same cause and that 4892 of the number had served from five to fifty former sentences reveals alike the difficulties with which the situation bristles and the insufficiency of the methods with which it is treated.

Impressively these grim figures of recurring drunkenness disclose the magnitude of the problem and demonstrate how little, with all our admin-

strative machinery, has been accomplished toward its solution. Have our efforts to block the making of followers of Bacchus been inadequately comprehensive on the one hand, and has our policy toward the habitual inebriate been inadvisedly heroic on the other hand?

Wholly apart from sentimental considerations, the unread riddle of the drunkard, as laid bare from year to year in the bald penal statistics of the State, is a matter of commanding importance. The burden which it imposes on the taxpaying shoulder, the disturbing influence which it injects into industry, the stimulus which the prog habit imparts to the commission of crime, and the part which it plays in weakening the productive capacity of the individual—in short, its varied relations to financial and social economy—are painfully familiar aspects of the momentous evil of alcoholic excess. It seems as if people had become calloused to the notion that the situation is either a truism to be taken for granted, or a conundrum to be given up.

The conclusions which Dr. Charles E. Dana draws from his recent extensive inquiries into the liquor problem and which, in part and in brief, are that inebriety begins before the victim is twenty years of age and that if a person has not indulged to excess before he is five and twenty he is not likely to do so later, are profoundly significant. They teach the vital importance of employing all available agencies to educate minors in the physical and moral perils of acquiring the alcoholic habit either in the saloon, or at the club, or in the home. Preventive effort is more fruitful and helpful than redemptive or correctional effort. Upon this phase of the problem too great stress cannot be laid.

These conclusions mark with em-

phasis the importance of educating the young in a simple, but scientific way the dangers of the drink habit. It also shows that comparatively little is to be expected in the permanent restoration to the productive class, of the confirmed inebriate. Much, however, may be done for all classes, which has a special emphasis in its bearing upon the railroad employee whose work can never be regular and at the best is exacting and very wearing upon the nervous energies. A proper supply of nutritious food is oftentimes the best remedy to take away the craving for drink. I quote from a recent paper the following statement which is suggestive and which fortunately has proved of equal value in other cities.

A Boston Substitute for the Saloon.

More than a year ago, the Episcopal City Mission established at 1063 Washington Street, a three cent lunch. It is open from 6 A. M. to 11 P. M. Patrons are coming and going continually, between these hours. It is located very near between twenty and thirty saloons, in each of which a free lunch is given with drinks.

We visited the place recently to investigate. We found the food of good quality, nutritious and well cooked. The coffee was of nice flavor, and very satisfying as a drink. The servings of food were very bountiful. We saw the cook room and the cooked food in bulk, also the ice closet where the uncooked food was stored. Everything was neat and attractive. We tasted several kinds of food, which was very appetizing. At the present time they are feeding from 1,600 to 1,900 daily. We are told that they started with \$180 capital. They fitted up the place with the returns from the restaurant, and it has been, from the start, on a paying basis. It is shown that the opportunity of getting nour-

ishing food and pleasant hot drinks at a modest price will attract people, and prevent them from putting their money into the till of the saloonkeeper. On days when the saloons are closed, the patronage is doubled.

In closing, permit me the digression from my subject, by reference to that which seems to me the most difficult of all the phases of the temperance question. To wit, namely, the social habit which still holds in great force upon the better classes of society of both sexes. A dinner without wine lacks that which has been considered an essential. A taste is cultivated, a habit formed, until it becomes strong enough to dominate many an individual, greatly to his detriment. Every physician is familiar with a very considerable class of ladies belonging to the so called upper circles, who are serious sufferers. The influences of the social custom are far reaching and extremely difficult to overcome.

A very great progress, however, is being made from year to year. My attention has recently been called to the youngest temperance society in Germany, composed of lawyers and I quote from a circular which has been widely distributed:

"Whoever," it says, "honors the truth must admit that we men with a university training are more to blame than any other class of people for the miseries connected with the use of alcoholic drinks. A thing which is con-

The conclusion reached from the statistics gathered by the Registrar-General of England, as to the average number of deaths among 61,215 persons were, that there were two deaths among drinkers and three among liquor sellers for every one among abstainers.

sidered to be vulgar taste in the higher classes of society soon loses its prestige in the lower classes; so that, at least in its worst forms, the misuse of alcohol could long since have been rooted out of Germany if the higher social strata had had the courage of its convictions to call the thing by its right name, and root it out of their own midst. That the higher classes of society have not felt called on to do so before this is the fault of an especial group among them, namely, the university men; for the compulsory drinking customs of the corps and fraternities are adhered to by almost all the men of this class during their university life. The approval which good society gives to these customs has a very destructive influence on other classes of society and prevents many from recognizing the real dangers of this free use of alcohol. The students of law had all the others in their ready obedience to these university drinking customs. Therefore, it is high time we jurists, as such, begin to atone for this crime as far as is possible. We must enter the fight against alcoholism in our capacity of jurists, a fight which, thank God, is now in progress throughout the whole German empire."

Similar organizations of the clerical profession and of physicians, as well as merchants and bankers, would go far toward the redemption of a great people.

The cocaine habit is said to have become so serious a menace to the prosperity of India that the government has formulated the most drastic regulations to check the increase of the vice. Even the mere possession of the drug by the laity is a punishable offense.

PSYCHOSIS OF MORPHINISM

F. D. Coblers, M. D.

Superintendent Walnut Lodge Hospital, Hartford, Connecticut

All writers have mentioned the general defective conception of truth and the relation of right and wrong which appears to be a prominent symptom in all persons who use morphia. It is difficult to understand whether this is a veritable paralysis of the higher reasoning centers or a defect of the senses by which distorted conceptions of facts are not recognized. In all probability both conditions exist, and what is termed moral paralysis is a symptom of some condition of degeneration which is common to these persons in the later stages. This symptom practically describes a defect in the reasoning faculties and inability to recognize the value of truth and honesty, also a disposition to conceal the facts and distort them, no matter what their relation may be.

I shall attempt to group some of these symptoms which may be termed the psychosis of Morphinism. The first is a palsy of the consciousness of right and wrong and the inability or indisposition to discriminate between the real and the false. The second is an intense anxiety and zeal to explain and to give reasons for a certain conduct and an explanation of why this or that was done.

Third, there is noted some local irritation and disorder of the language centers in which thought is expressed in the most extravagant and impulsive way, or in the most secretive, hesitating and doubtful words. A fourth psychosis is a morbid impulse to deceive, to take advantage, or a keen delight in swindling, misrepresenting and acting out new characters while under the influence of morphia. This condition was first described by me

some years ago, and has been confirmed in some marked criminal cases since then.

The first grouping, called moral paises, is an impulse to live under a mask for the purpose of concealing their exact condition, or taking advantage of circumstances that appear to be favorable to some personal interest. Many of these persons show this paralysis only in connection with the use of the drug. On all other matters they are frank, honest and exceptionally truthful, but in regard to the use of opium and its alkaloids they practice the worst kind of deception and unreasoning prevarication. They often show extraordinary childishness in denying the use of the drug and manifest indignation on being suspected. Sometimes this denial is followed by intense zeal and anxiety to explain the conduct and motives. In many instances great ingenuity will be apparent to trace it to some particular cause, generally to objective things. This I call the second symptom.

In the first the drug taker is pleased stoutly to deny the implication, that he is using drugs. In the second his denials are less emphatic, but his explanations of motives and conduct are so faulty and strained as to convict himself. Often these explanations refer to acts that are associated with the use of opium and not with matters outside. Some patients will be scrupulously honest and exact on matters of observation and in opinions concerning the surroundings, but in securing and using opium they are falsifiers of the boldest class.

There seems to be in many instances a growth, and an increase of this par-

ticular psychosis, which begins first with mild denials of the use of the drug, then going on to shrewd explanations and reasons and finally culminating in profound deception and general demoralization on every topic and subject relating to themselves and environment.

Generally, long before this stage is reached, changes of appearance, eccentric conduct and indifference to the opinions of others with general degeneration become prominent. The stage of profuse explanation is sometimes very childish and lacking in skill to conceal the real condition. In others it is bold and ingenious, with unusual cunning and apparent frankness. Running through this is a vein of intense egotism and pleasure to convince others of great honesty and an apparent good judgment and sagacity to discriminate as to the value of certain impressions. Thus, in one case, a concealed morphine taker, who detected the slightest suspicion in other persons concerning his conduct, would drop everything and take minute pains and care to disarm this suspicion.

A clergyman, who had reached this stage of morphinism that attracted attention, spent a large part of his time in explaining to his friends that he was innocent and was misjudged. Each new explanation, by its intensity and minuteness, failed in a degree and required other efforts and explanation. This man was able to go on with his professional work in the pulpit without comment, but eventually resigned and disappeared. Often this stage is associated with a general failure of vigor and previous mentality. He is duller, sleeps in the daytime, is awake at night, blunders in business affairs, makes mistakes in correspondence, forgets proper names and neglects to pay bills, together with the great variety of marked psychical changes. In busi-

ness he may be more acute and accurate in collecting bills and contracting debts, or the opposite. A certain irregularity of thought and conduct and a suspicion of others are all typical of his condition.

In a third psychosis, marked from the beginning or only seen in the later stages, is paralysis of the language centers. The manner of the expression is changed. Whether loquacious or taciturn, the words that are used to express the thoughts are strange and unusual. Often they consist of exclamations and forcible exclamations, low figures of speech or low slang words uttered in a reckless way, or the opposite viz., formal, precise, symbolic expressions that seem rather to conceal than express the feelings of the author. This psychosis is frequently seen in literature, particularly in the variable styles noted in a single article or book, suggesting at once the influence of morphia on the language centers.

A slangy, dogmatic, jerking expression followed by a stiff, pedantic style indicates two stages of morphinism. At the beginning the effects of the drug obscure the consciousness of the value of language and the meaning of the term used. Later when it wears off, conservatism and secretiveness come on, and the language changes. Misty, high-sounding words are used to express the feelings. A great variety of peculiarities in speaking and writing and the sudden change of topics, with apparent inability to keep the mind concentrated on one subject, is very significant of this form of addiction.

DeQuincy had language exaltation, or delirium, but when under the influence of opium he was able to write good English, and careful students of his writings will discover lapses and

changes which are clearly due to this cause. One author has described these as defects of consciousness. Another has called them disorders of the sensation, such as hyperesthesia or anesthesia.

There is a marked mental change associated with these symptoms. With it is noted an exaggerated egotism and confidence in the patient's ability to understand the relation of events and shape his conduct so that the real condition may be concealed. In some instances the secret use of morphia excites some of the senses and depresses others. This may account for some of the confused states which follow. Probably taste, touch and smell are more or less affected, and the impressions from these disordered senses have much to do in perverting the reason, and lowering the consciousness. In the latter stages these conditions are apparent.

A fourth psychosis may be practically called a delirium and morbid impulse to deceive, acting out a new character, enjoying the pleasures of taking advantage of others' credulity and the ability to conceal and misrepresent.

It has been noted that kleptomania was common, and many chronic cases could not resist the opportunity to take things. In the police courts it has been noted that some of the shrewdest swindlers, pickpockets and confidence men are addicted to the use of morphia. Under the influence of morphia they exhibit an acuteness of intellect and audacity never seen in the ordinary law breaker, but when the morphia is withdrawn they display the greatest weakness and childishness of manner and conduct.

An example of this kind was that of a man very highly educated and of good social standing who became

addicted to the use of morphia and entered on a career of swindling and deception. It seemed to be his greatest delight to go about following the crowds at watering places, hotels and the steamers, making the acquaintances of strangers and securing loans on fraudulent checks, brooches, jewelry and false diamonds. He had no confidence and never mingled with anybody of the same class. To his friends he represented that he was in the brokerage business, making and placing loans. He used morphia constantly, and after long journeys would return home and remain concealed for days. He carried with him various disguises and changes of clothing, and had a number of cheap crystals set in elegant rings and pins. These he would leave as security for loans made by strangers. He had numerous letters of introduction and bill heads of prominent firms which he used on all occasions to raise money. His manner was that of great frankness and honesty, and his evident earnestness made friends wherever he went. At times he would solicit loans, giving worthless checks and references or watches and jewelry, as security. Then he would pay bills for clothes, jewelry, books or board at the hotel by forged checks, receiving in return balances of money. He would call on leading business men on various plausible pretenses and secure their signatures, which he would copy so accurately on checks that the maker was unable to detect whether they were his own or forged ones. Several times he was arrested, but his great honesty and earnestness of manner completely baffled all investigation. Finally he was detected, deprived of his morphia, and the real condition discovered.

Another man of this class was a sanitarium swindler, and for many years he visited different institutions and was apparently treated for this addiction, but in every instance swindled the proprietor in fraudulent checks and loans on false securities, then disappeared. In a short time he would enter another institution, pay in advance, secure the confidence of the manager, draw back most of the money and deposit checks as securities, then have a telegraphic call to visit a dying mother. This same man traveled on the ocean steamers for two years, making many victims, assuming all sorts of disguises, but finally was arrested and convicted.

A third example was the case of a man who came under my observation charged with larceny. I found it impossible to keep him from the use of morphia. On trial he was acquitted, but consented to remain with me. I found that he was an excellent type of the Hyde and Jekyll class while under the influence of morphia. His intelligence seemed to be of the most acute character. He reasoned quickly and accurately, was an excellent judge of human nature and adroit to take advantage of every opportunity. If accused of sinister motives, he manifested the honesty and frankness of a saint and could make his accusers regret exceedingly that they misunderstood him. When arrested by a detective he quickly convinced him that he had made a mistake, and his injured innocence seemed so clear that the detective was overwhelmed. He left me to make a visit to a neighboring city, and soon after was arrested in the act of receiving cash on a forged note. He sent for me to confirm his statement that he could not have had such a note and that he was only a pa-

tient under my care. So shrewdly did he defend himself that the judge released him.

I found that the criminal instinct to forge notes, sell gold, brace-brace to other most adroit pieces of swindling was a veritable delirium and one which he enjoyed when under the influence of morphia. The drug gave him a certain amount of confidence in himself and made him fearless of any results. Of course, he was a moral paralytic. The morphia rendered him more insensible to every consideration of duty of right and wrong, and he was able to judge of the weakness of others and to take advantage of their circumstances in the most skillful way. He received a yearly annuity from his father's estate, was independent and not engaged in any business. His swindling operations were undertaken as a pleasure, and any gains he received from them were always used to enlarge his sphere of acquaintance and help him enjoy the pleasure of his avocation. He was a total abstainer and used morphia every day, and was finally arrested, sent to state's prison and died a year later from consumption.

No doubt all such persons are moral degenerates at the beginning before the drug is taken. The use of the drug gives a certain courage and shrewdness which for the time being is an exact representation of the real condition; therefore, it is accompanied with evidence of honesty and frankness and disarms all critics. Of course, a career of crime of this class is of short duration, because the use of the drug can not be kept down to the minimum amount. The stimulating stage grows shorter and shorter and the narcotic stage longer.

One of those criminal morphinists

was registered in three different hotels in a certain city. At each place he appeared in a different disguise and could so thoroughly conceal his identity and voice that he was not recognized. In each hotel he swindled the proprietor and several of the guests, and then went away without being discovered. Later he tried the same thing in another city, but for some reason his morphia failed to help him out and he was discovered. This psychosis is fortunately not a common one, but it exists and is recognized among detectives more frequently than elsewhere.

A physician who belonged to this class for many years has done much to destroy the good will and confidence in the profession of a certain city. He was continually the storm center of slander, dishonest practices, public fibels and other thoroughly disreputable acts. His death and the complete subsidence of all discontent and conflict showed that he was the cause of all the deception and intrigue.

The moral paralysis and ethical failures of morphinists show lesions and defects of the higher centers of the brain which undoubtedly may either be inherited or acquired. A study of a number of persons suffering from this form of addiction shows that both the physical and the physical suffer alike. We have paid great attention to the latter, but the former

has received little or no study.

The gross changes seen in loss of pride and degeneration of personal appearance and sharp denials of the use of the drug are common, but the failure of the higher mentality to recognize duty and obligation to others is not studied. This contribution is along these lines. It aims merely to outline a field that is largely neglected, the study of which will enable us to apply therapeutic measures with far more exactness than ever.

A summary of what I wish to make clear may be stated as follows: The psychosis or psychical symptoms common to morphinism are, first, palsy of the consciousness of right and wrong and inability and indisposition to discriminate the ethical principles of responsibility and obligation; second, a delirious stage of profuse explanation and efforts to conceal and explain the reasons for his acts and conduct; third, a special exaltation of depression of the language centers, with a change in the manner of expression and the use of words; fourth, a veritable insanity to deceive, to misrepresent and to take advantage of the credulity of others, not for any purposes of gain, but for the satisfaction of being able to defraud and mislead, also to act in different characters and to elude the efforts of persons who would discover the condition.

Darwin said, "It is remarkable that all the evils coming from alcoholism, pass from father to son, even down to the third generation, becoming worse if the use of alcohol is continued, until the result is, sterility."

The statisticians announce that the consumption of beer in France has increased more than 40 per cent. during the past five years, while the amount of absinthe used has shown a corresponding decline.

DRINK AND DRUG HABITUÉS

By Dr. J. T. Seavey

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Those persons who "feel bad", when they ought not, are very numerous in society. They are said to be particularly numerous in the United States. They are popularly called

"nervous"; technically they are called "neurasthenic". They seem to be increasing in this country. The inherent nerve and brain condition, which occasions this complaint, and it is well called complaint, is evidently the principal foundation or predisposing cause of most of those mental abnormalities, which are included under the generic term of "insanity". Nervousness or neurasthenia frequently preceles mental abnormalities of all kinds, some of them reaching the grade of insanity. Mental aberrances in other words follow, in the individual and in his prosperity, nervousness or neurasthenia;—not always, but very naturally.

Neurasthenia means nerve-weakness. The nerve system includes the thinking brain, so that neurasthenia also includes brain weakness or cerebralasthenia, or its functional equivalent, mental weakness or instability, technically known as Physikalasthenia. Sentience, or ability to feel, is particularly the property of nerve structures, of nerve lines, and nerve centers generally. When these structures are weak they are over-sensitive. Hyperasthenia means over-sensitiveness; so that, nerve-weakness or neurasthenia has over-sensitiveness; nervous hyperasthenia, as its most prominent symptom. The principal feeling organ is the brain; it is the most conscious nerve center. A person who is nervous, neurasthenic, over-sensitive, hyperas-

thetic, has these as morbid conditions, principally of the brain; he is too conscious, too sensitive, too much given to bad feeling; and, as its consequence, to complaint.

Cerebral hyperasthenia, is the neurasthenic's principal disease. We can have local hyperasthenia, that is over-sensitiveness of some one part or other of the nervous system; but the most frequent hyperasthenia is that of the central brain; which is most frequently an accompaniment, or a sign of, general structural nerve weakness. Structural weakness of course predisposes to the other structural abnormalities. It is easy for weak structures to become otherwise abnormal; they are easily inflamed or impaired; they readily become defective and deformed; they do not readily recover a normal state after impairment; in every way, they are more easily injured or diseased. An asthenic (weak), hyperasthenic (over-sensitive), brain is the most prominent symptom in neurasthenia, and is a very frequent, individual and ancestral, predisposing cause as I have already said, of mental defectiveness and deficiencies; in their gravest grades called "lunacy," "insanity," "idiotcy," etc.

The abnormality, that most often lends the drink or drug habitue to the excessive use of such agents, is an inherent neurasthenia. In these cases, the nerve-weakness generally also includes a general brain weakness, or lack of "will-power". The neurasthenic, often, not only "feels bad", but is not able to "do good" or "do right"; he is cerebrasthenic as well as

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cerebro-hyperasthenic. He "feels bad" readily and is weak-willed, when his comfort is involved, so anodynes like morphia, the opiates, cocaine, chloral, etc., or a slowly acting anesthetic like alcohol, appears a great help to him. He calls them "stimulants", as though they increased his brain or muscle strength, which no scientific test confirms; any more than, at times, would come, by the temporary relief from discomfort or pain. The drug temporarily relieves the neurasthenic's discomfort by its chemic hardening, "benumbing" effect upon his over-sensitive nerve lines, centers, and "tracts".

These agents seem to have special chemic affinity for the "sensory" prior to the "motor" structures. When, however, the chemic combination of the agent is removed, the structures are left weaker (more neurasthenic) and more sensitive, (hyperasthenic); the man is less mentally capable and "feels worse", so he resorts to the drug again; in this way, by frequent repetitions, he "drugs a lengthening chain of hyperasthenic neurasthenia and cerebrasthenia". The whole brain of the drink and drug habitue sometimes becomes so impaired by the chemic action of the drug as to bring him within the cognizance of the law, not only because of his cerebral hyperasthenia, which renders him a constant complainer, but because some other latent predisposition to mental abnormality has been brought out by it. As he is predisposed, he has been rendered, by the drug, maniacal, melancholic, demented, hysterical, delirious, grossly irritable, pugnacious, offensive, or otherwise mentally aberrant. It is generally, "bad practice" to treat neurasthenic with anodyne or anesthetic drugs, in repeated doses. If the maniacal or delirious, be sure to be steadily increased by them. It is par-

ticularly bad practice for him to treat himself in this way; he increases by the chemic action of the drug any tendency to mental defect he may have and his general "malaise" is always made worse. He consequently becomes less and less able to stop himself.

In the State Legislation for the restraint, care and treatment of chronic alcoholics and drug habitues, when they have reached such a degree of mental defectiveness that they become insane, that is, offensive, troublesome, or dangerous to others, it is best to recognize, in the expression of the law, that they are objectionable members of society and proceed against them in the same way as against offending criminals. It is best to have for them special legislation, to have them tried by jury, and sentenced to an institution for their care and detention for a definite term, not less than three months, often six or twelve months, or longer, according to the grade of their alcohol or drug habit; with an increased term of detention if they relapse after liberation. Their own safety and the welfare of others demand that such persons be removed from society; they are often as offensive, troublesome or dangerous as the worst maniacal insane. The fact that they apparently return to a normal mental condition when sent to the insane hospital in a few days after the withdrawal of the drugs, does not prove, as experience shows, that they are cured of the neurasthenic hyperasthenia (bad feeling), which the alcohol or opiate has produced, or that their cerebrasthenia weak will-power is sufficiently restored for them to resist the relieving of their discomfort by a resort to the use of drug again. It generally takes months to restore their damaged nerve centers, lines and tracts. Of congenital neurasthenics,

who have become drunk or drug habitues, it is almost impossible to make complete cures. Their "born-tired" feeling and weak "will-power" have been transmitted to them through neurosthenic parents or ancestry. When a congenital neurosthenic becomes a drink or drug habitue, his cure is very difficult, often impossible. When sent to the insane hospital under the usual committing certificate by the Judge of the Probate, in the majority of cases it is impossible to detain inebriates, or drug habitues, long enough to make a cure. They demand to get out, and then they, as a rule, prove very objectionable patients to associate with the others. Under the liberal method of management and of restraint, that insane hospitals now have, they easily escape. Separate provisions ought to be made for them, and special legislation ought to be obtained for restraining them. The present law for the insane does not cover their cases. Every day experience in the management of an insane hospital exhibits the necessity for additional legislation respecting the drink and drug cases.

PATHOLOGY OF THE MORPHINE HABIT AND TREATMENT

By S. Greer Burnett, M. D.

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The interest by the profession in a former paper by me on "Burnett's and other Methods of Treating the Morphine Habit" prompts me to reiterate much of the method which I have worked out in detail with the idea of meeting the pathologic status of these cases, as well as placing them ultimately in as high degree of restoration as nature is able to make.

After considerable thought on this point it is my humble opinion that nature is not only deprived of the chance

The so general use in society of the milder anodynes, such as nicotine and caffeine, and the by no means infrequent use of the opiates, cocaine, and the alcoholics, is developing in civilized society, a particular kind of cerebral hyperaesthesia and cerebral themia, until the wonder grows, how it comes about. "Dope" is being dealt out at the soda-water counters in popular patent medicines, and on all sides in attractive insinuating ways, not to mention the tobacco and alcohol stands at every corner, until we are having society filled with crying babies, nervous girls, irritable, wayward boys and neurosthenic women and men, a most natural hereditary sequence of the drug-made neurosthenia of their parents. There is a very ready explanation, in this way, for the widening prevalence of the kind of neurosthenia, popularly called "nervousness". The so general use of such agents has begotten a particular, peculiar, neurosthenic weakness and "bad feeling", calling for "dope" or "drink", as a hereditary diathesis—very abundant in society.

to assist in repairing the damage done to the ganglionic cell elements of the brain in the immediate withdrawal and hyosine methods of treatment, but, instead, further damage is done to the delicate structures by added shock and starvation changes which are sudden in onset and seriously of a deteriorating character before any possible time has been given nature to transfer the habitually drug palsied cell back to a physiological working basis. Palsy any member of the body, by putting it

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into perverted or complete disuse and attempt to restore it to normal by a sudden transformation and see what tenderness, soreness, pain, stiffness and disease results. Imagine, if you can, these resulting symptoms taking place in the psychic producing structures of the brain, and then imagine the mental output to be anything but that of a lunatic, for the time being and frequently longer.

No skill is required to take the morphine from the patient; any quack, ass or fool can do that; but, the question is, how can it be done with the least possible shock to the ganglionic brain structure? Any method used should be directed first and last to the preservation of the brain power of the present, and the full restoration of the physiologic status gradually ultimately without, at any time during the treatment, interrupting, or perverting nature's attempts to repair. In other words, meet nature's demand—whether it means days, weeks, or months. Physiologic restoration must be made and without it the patient is thrown on his own resources weak, frail, mental equivoise gone, with relapse inevitable. Any method which can not be varied to meet the demands in individual cases is not practical in its application and reason will condemn it.

The different methods have been given in my former paper, and I only refer to them now to condemn them later. First, the acute hyosine poisoning method, attended by coma, delirium and reactionary prostration of both mental and physical forces.

Second.—The abrupt disuse of the drug as is enforced in jails, penal institutions and asylums, where the patient lapses into hives and expectorates huffer fumes, while the physiological glow of his burning brain illuminates the strand where the fire boats put to sea.

Third.—The rapid withdrawal during four or eight days.

Fourth.—The so-called slower reduction method, requiring fourteen to twenty days.

To me the foregoing methods can only be applied to selected cases if we rely on reason to guide our best efforts, and the patient's future is a consideration. The individual who is naturally strong physically and mentally, who is not sensitive or hypersensitive or hypersensitive psychically, and free from neurotic soil, one who has accidentally acquired the habit which is of short duration and is not taking large doses—such a patient can stand having the drug knocked out of him by most any method; but it is safe to say that his future mental stability would be more conserved by less drastic measure.

Patients of frail fibre, neurotic by inheritance, and who have taken large quantities for considerable time, can be taken, many of them, off the drug by the radical method, but they are left, to say the least, with an unstable mental apparatus, and they remain psychic cripples or revert to the habit.

Therapy hazards are not tolerated by the brain tissues in this class of cases; bad results must follow bad methods, and when we wake up to the realization that there must be as much delicacy and painstaking judgment exercised to preserve the mental and brain tone as is necessary to prevent peritonitis in abdominal operation, the prognosis will be better and the long list of relapses and wrecks will be materially abolished. A united profession to insist on the friends keeping the patient out of the hands of the ignorant and unscrupulous, and compel him to submit to competent treatment early will save every case of this army of transgressors, unless they take the drug to cover up an underly-

ing insanity—such cases are not curable.

My reasoning for the delicate technique in the treatment of the morphine habit is based upon limited but acceptable knowledge of the pathology as found post-mortem in these cases:

Case I.—Age 45 years; addicted several years, using hypodermically sixteen grains daily; suffering severely, the typical general symptoms of the habit. Took no food one week before death. After a large injection quantity unknown, he died in a few hours from typical morphine poisoning. Autopsy.—Fatty degeneration of the heart muscles, liver and kidneys; pulmonary edema and venous congestion of the viscera; atrophy of the pancreas, replaced by fat; considerable edema of the brain.

Microscopically, most all the cells of the central nervous system showed a marked absence of the normal amount of the chromatic substance. In the cells of the cord, medulla, cerebellum and cerebrum these bodies were deficient in size and number, or entirely absent. In the medulla these chromatocytic bodies were retained by some cells, but they had undergone marked subdivision, and the nuclei were shrunken and eccentric. The granular, yellow pigment was increased in all the cells of the central nervous system.

Case II.—Age 24 years, addicted some months; died from overdose, with typical symptoms of morphine poisoning. Autopsy.—Extreme pulmonary edema and venous congestion of viscera with no other gross lesions. The striated muscle nerve cells stained fibrous and unexcitable, and were very irregular in outline, the chromatic bodies were enlarged and markedly and irregularly subdivided. The cells of the cortex and medulla were extensively altered, showing clots of the cell bodies, uneven loss of the

minute subdivision of the chromatic bodies. In area these bodies were missed and fused together. The greatest loss was about the nuclei, but about some nuclei the chromatic substance was heaped in irregular masses and rods. The irregularity of the chromatocytic process, the ragged cell borders, the cleft of the cells and the frequent central chromatolysis with the extruded or eccentric nuclei were distinguishing changes in this case.

Case III was identical in all important respects with case II. Re-create the pathological changes in case I; fatty degeneration of the heart muscles, liver and kidney and atrophy of the pancreas; a slow, insidious degeneration of the vital somatic organs, resulting from chronic systemic poisoning. Organs residing in a state of functional paralysis under the drug restraint. All natural secretions suspended with all possible opportunity for toxins, mal-assimilation and sub-oxidation processes. With this picture before us it requires no strain of the imagination to see why every morphine addict has albuminuria part of the time, and many of them have it all the time; why indicanuria is common and glycosuria is not uncommon. Add to this a general acid condition, present in these cases, and compute the systemic results if you can. All these pathological factors must be met in some degree in addition to the histo-chronic lesional state of the ganglionic cells of the brain and nervous system generally. These can not be ignored in the treatment process without disastrous results to the patient.

Cases II and III were addicted less than a year, still the brain cortex cells were extensively altered; they contained debris, had ragged borders, had undergone a general chromatolysis, especially in the center around the

nucleus, and the nucleus was frequently displaced to one side, shrunken and practically out of business.

It is not reasonable that acute hyosine poisoning, producing shock and coma for three to six days, will cure any morbid condition. It is a fearfully deteriorating process, and whatever repair nature makes afterward it is done under the greatest possible disadvantage. Also, hyosine is a dangerous drug, and many patients have been killed by its use. Only the ignorant and unscrupulous would dare use it so hazardingly or miscellaneously.

Do you expect the coma or the insane delirium, produced by the immediate withdrawal method, to promote the reparative process by the destructive ravages on the brain?

What degree of the restoration do you expect nature to make in four to eight days by the rapid withdrawal method? A method that fills your patient with substitute drugs as bad as the morphine; a method that extinguishes his mental lights and thrusts him into a tophetic crucible that would make hades a paradise and the accepted purgatory without candles an oasis in Sahara! With any method that adds further deterioration, a short circuiting, fusing and burning out of the brain ganglionic cells and gives no time or aid to the process of restoration, what can you intelligently expect? Why treat the subject so seriously? Because any morbid condition jeopardizing the mind demands delicacy of skill in removing it in a gentle and effectual manner. Death is a blessing as compared to a lost individuality due to a mind gone wrong. Notwithstanding all this the medical horizon is dotted with unoccupied sanatorial shakes where inexperienced and ignorant men tamper with these delicate threads of mental life to our

profession's shame—shame because of the royalty interest they have in sending their patients to such places. These, with that other class just within the ragged boundary of medical ethics, capitalized on the pronoun "I," are future ethical problems. The patient had much better be at home in an isolated room under the care of an intelligent physician who has the personality to make his word law, study his method well and carry it out.

I accept every morphine addict as a scheming, unrelievable sort of a devil—a red, white and blue devil with surprises to be added; no plea or promise from him can change my judgment in managing his case. I trust nobody, and the average trained nurse least of all. No liberty and no untrustworthy visitors are allowed till the morphine is discontinued. Every avenue of obtaining morphine must be obstructed. If in doubt, when ready to begin treatment, remove the patient without notice to another room and examine all defects left behind him. I have found morphine in face powder, toilet lotions, liniments and cocaine in catarrh snuff, boldly arranged on the patient's dresser. One patient had enough morphine sewed in the tucks of her white skirt to last her all summer. These precautions cannot be successfully overlooked. In treating each case I reason that the pathological or crippled cell base is to be repaired, but the patient's condition as a whole must be reckoned with. The physical and mental vigor, the inherent stability and recuperative powers; and above all, be sure that the morphine is not the covering of an underlying insanity.

The first two to four days are devoted to the secretions, excretions, mucous membranes and skin, thoroughly waking up the vasomotor

apparatus. This is the therapeutic secret; tend to them first, last and all the time, and there will be no diarrhea or dysenteric attacks. If they do occur your method is faulty. The first day give a hot bath. I then stand the patient in hot water and shower him with tepid or cool water, rub well and put to bed for two hours. Give a grain of calomel divided in eight doses one hour apart and enough phosphate of soda one hour before breakfast to flush the bowels the next morning. Continue the hot bath at 10 a.m. daily, being guided by the vasomotor reaction never to exhaust the patient. Just enough calomel (two to four one-eighth gr. tablets) at intervals, followed by the phosphate of soda, to regulate the secretions will suffice. Never make the blunder of purging the bowels. If acid fermentation disturbs much, a few doses of bicarbonate of soda will correct it. This with the hot baths will do away with the aching morphine pains. Use the electric light bath followed by the shower or spray, as superior to any other form of bath. It gives the heat, chemical and light rays, thoroughly arousing the metabolic processes, increasing secretions and excretions—the secret in restoring the normal function processes without any reactionary depression and underdone of the nerve and vascular mechanism which will follow in many cases from the high degree heat baths with their humid atmosphere. The bath will raise the body temperature from a half to a degree and a half, a necessary awaking process to purge and arouse the drug paralyzed cell elements and coax them to natural responses. High degree moist baths sufficient to raise the body temperature and repeated as it is necessary in the treatment of these cases requires good judgment to prevent exhausting the

patient and increasing the terminal neurasthenia which comes, in some degree, to all drug convalescents.

The only originality I claim is the delicacy in applying the method to meet the actual therapeutic demand of each case. The idea is to allow nature time to rally to the extent of taking full charge of and to be able to control the function of every cell, as fast as the morphine shackle is removed from it. By doing this carefully, religiously if necessary, nature receives home every integral liberated function, and at the finish there have been no destructive clashing-tissues at war with themselves, as it were, but recuperation, rest, saving and building up from the start.

Finding the required amount to keep the patient comfortable for twenty-four hours to be, say eight grains, make up a three, four or six ounce solution accordingly as the study of the patient will justify a shorter treatment (three ounces equals 48 grs. to last six days) an intermediate treatment (four ounces equals 64 grs. to last eight days) or a longer treatment (six ounces equals 96 grs. to last twelve days). These solutions contain two grains of morphine to each teaspoonful. Mark the bottle M., meaning morphine, and give a teaspoonful at 8 a.m., 12 o'clock, noon, and 4 and 8 p.m. A second bottle is filled with a simple solution and marked "S.S." Each teaspoonful dose given from the M. (morphine) bottle is replaced by taking the same amount from the "S.S." bottle. In this close mathematical manner perfect touch can be kept with the systematic demands. Also, deception by the nurse can be detected; each bottle has a plate record of the "S.S." refill will reveal variations. With the foregoing, use a solution containing 1-30 gr.

nitrate of strychnia and 1-100 gr. of sulphate of atropia to the teaspoon. Give this at 6 and 10 a.m. and 2 and 6 p.m. Decrease the atropia if necessary, but get its effect and continue the drug while the morphine lasts. The strychnia should be gradually increased to as much as 1-20 gr., as the morphine is decreased, and continued for a time, as indicated, after the patient is off the morphine.

When the patient is free from morphine continue the regular dose of the simple solution for a week or two. Never tell the patient when the morphine is discontinued for he will get restless and insist on going out too soon. He will not know when he quits it if he is not told. In a series of forty cases treated by this method not one of them knew when the drug was discontinued, and there was practically no suffering. One of these cases sent to me by Dr. Robert Sloan had an organic heart lesion with an enormous cardiac hypertrophy. He took sixty grains of morphine daily still he never knew when he quit taking it, never lost a single night's sleep, and in ten weeks he walked out a perfect picture of health.

The dose of the ingredients of the solution varies from one-half to the full official dose. There is nothing new in it and no quack mystery. It is simply to know the physiological action of the drugs, their indication, and to combine them accordingly. This differs from the ordinary "bitter tonic" bluff offered to disguise the ignorance of many writers.

Each drug of the solution is given with a business intent toward undoing what mischief the morphine has done to the skin, mucous membranes and the glandular apparatus; with the intent of flushing every channel and restoring normal assimilation. Here they are in a general way: Hydrastis for its action on the mucous mem-

branes and portal system, as an opener of glands and as a diuretic; pulsatilla for its action on the skin and mucous membranes; prickly ash, or santhoxylum, as a pungent, heating stimulant, aiding absorption and acting as an arterial awakener; evina sativa, as a sedative for the brain and nerve centers and to reduce morphine craving; capsicum, to allay the tendency to pain, and the hyperesthesia of the whole alimentary tract, due to being released from morphine anesthesia, lessening irritative reflex phenomena from the abdomen to the nerve centers and to force absorption; nux vomica, as a bitter stimulant and tonic to the nerve terminals of the mucosa and muscular fibers of the bowel; red cinchona, which, in addition to its well known effects, is a good bitter and provokes considerable intolerance for both liquor and drugs.

The foregoing, in various modifications, enter chiefly into the formation of the solution in which the morphine is incorporated. I always dissolve the morphine in a minimum amount of hot water to insure solubility. This combination is very different from the so-called "bitter tonic," and contains harmless drugs, though they are all individually playing cascreters with morphine—that is working while the morphine sleeps.

The only objection that can possibly be offered to this method of treating the morphine habit is the time consumed and compelling the patient to give up his liberty and submit to discipline. The same can be said of the treatment of a broken leg; but the question is one of repair, and this requires time; any old helper can remove the splint (the morphine) but a wise head is required to correct the deformity (mental perversion) and to judge as to the perfection of repair (mental restoration).

While I am not yet ready to say

that all opium eaters of six months or more duration are insane persons, still from the standpoint of associated judgment acts, they are, in a degree, both insane and criminal. For this reason I am opposed to harsh methods of treatment which will add further chemical deterioration to the ganglionic brain cells, as quoted in the pathological study.

Note.—The last forty cases, with one exception, have either been physicians, members of physicians' families or nurses. Also, that many physicians

using morphine will make addicts of their wives or others where their professional position allows close association. Great cunning is enacted by some in making addicts, of others for the sole purpose of surrounding themselves with companions in debauchery. They become centers for the habit sowing. For this reason they are dangerous associates, socially, morally and professionally, and our medical boards should be empowered to perpetually revoke their license to practice.

PHYSICAL EFFECTS OF ALCOHOL IN SO-CALLED MEDICINAL DOSES

By G. E. Benton, P. H. C., M. D., Chester, Va.

All along the line of the special study of alcohol by the leading scientists of the day are being sounded notes of warning relative to the action of alcohol in so-called medicinal doses, especially when frequently repeated and more or less continued. Just what amount of alcohol may be considered a medicinal dose has never been satisfactorily determined so far as the medical profession is concerned. Some insurance companies, however, have adopted the limit suggested by an English physician, Dr. Anstie, who in 1864, declared that one and one-half ounces of alcohol to be the largest amount that could be taken without ill effects in twenty-four hours, and this limit is today used as a dividing line between moderation and excess by many of the leading insurance companies of the country. More recently Dr. J. J. Able, of Johns Hopkins University, set another standard and says that there is a moderate or per-

missive quantity of alcohol. I conclude from the opinions of medical authorities in many fields, from the writing of economists, explorers and military authorities, and lastly from my own observation during a long period of residence in European countries, and this moderate quantity I believe to be represented by one, or at most two glasses of wine, ten per cent. alcohol or one pint of beer, or their equivalents in terms of alcohol in twenty-four hours. It is thus seen that Dr. Able's limit is about one-half that of Dr. Anstie's, or not to exceed one ounce of alcohol in twenty-four hours.

Mr. S. P. Beebe, Ph. D., who presented a very interesting and scientific paper to the New York Academy of Medicine last March on the alcohol question says that "that in view of the influence of alcoholic beverages, physical, economical and moral, upon society it is of vast importance that the

truth in regard to their physical effects be known and taught." His paper was chiefly concerned with the so-called moderate use of alcohol, and states that the maximum quantity of alcohol which might be classified as a moderate quantity has been steadily decreasing during the last fifty years, and at present an amount corresponding to about six ounces of whiskey (two or three ounces of alcohol) was considered to be the near or upper limit of a moderate drinker. Thus we have three standards from three different sources by men of unquestioned ability, who have studied the effects of alcohol on the structures of the body from an unbiased standpoint, these standards having a range only from one to three ounces of alcohol to be consumed within twenty-four hours, and the larger amount admitted to be near the upper limit of a moderate drinker.

Professors Krapelin and Kurz, of Heidelberg, have shown that the effects of so small a quantity of alcohol as one ounce diminishes the acuteness of all the special senses; sight, hearing, touch, taste and smell, and also retards the mental processes of reason, judgment or sense of propriety, and of memory. And, also, that if a single dose of eighty grains (two and four-fifths ounces of alcohol) be given, the effect does not pass off quickly or perfectly, but leaves behind an after effect which lasts more than twenty-four hours, while if this dose is repeated within twenty-four hours a gradual increase of effect is produced.

The human body is capable of eliminating alcohol pretty completely if taken in small quantities at a time properly diluted and adequate time allowed to elapse between consecutive doses; but the tendency to add a second dose in the first as soon as the feeling of so-called stimulation begins to wane is paramount in individuals who believe in the use of alcoholic liquors.

All will assert that pernicious effects of alcohol result from excess; whether or not they admit of pernicious results from its use with so-called rational limits. All must also recognize the personal equation in the matter of amount in different individuals; therefore, the medicinal dose for one might be a toxic dose for another. Especially is this so in reference to the frequency of repetition. Every sane man or woman has probably the ability to decide what a medicinal dose of alcohol may be for themselves, especially after a little experimenting, but they many times seem to lack the ability to determine as to the time limit of safety for repetition. This also applies to all other narcotic drugs; anything short of a lethal dose is not so pernicious as the too frequently repeated medicinal dose. Therefore, there must be much less importance attached to the permissible quantity of a single medicinal dose of alcohol or any other drug than there is to the time allowed to elapse between doses.

All of the scientific study of the effects of alcohol on the physical being is the result of observations and experiments conducted under favorable conditions, and by administering medicinal doses of alcohol at varied intervals and a careful account of the results taken. The unscientific study from which we hear so many quotations of the effects of alcohol on the human system consists only of the casual observance of moderate drinkers who, after some years indulgence present outwardly little or no signs of physical degeneration, while if a close account of all of the physical conditions of the tissues and organs were taken many defects or degenerations might be detected.

All of the scientists who are giving special attention to the study of the alcohol question now are arriving at much the same conclusions as the re-

sult of their investigations. There is still some dispute of minor points between those who would favor the use of alcohol and those who would forego its use altogether, especially in reference to its possible food value, its possible expenditure or saving of the proteids, its effect on the circulation in both normal conditions and in fever, etc. But all agree that very much harm may result from its use. As to the food value of alcohol, both sides are ably argued and evidence cited to show that it has and also that it has not food value. Some believe that it may be an aliment, but all assert that it is not a good aliment. It has been compared, and fitly I think, to the furniture and fixtures of a ship, that they are fuel, and that they certainly may be! But no captain would be considered sane who used such as fuel, excepting under the most pressing extremity.

That there are many other drugs which would much more advantageously take the place of alcohol where it is usually prescribed is the conclusion I have formed from my personal experience, and also that much of the promiscuous prescribing of alcohol both by the medical profession and otherwise, is the result of habit or routine rather than an expression of good clear judgment.

The knowledge of the effects of any drug on the physical tissues and organs of the human body is the first requisite essential to rational prescribing; and alcohol is a drug, the knowledge of the action of which has had very little close study by the majority of practitioners. Its use is the outgrowth of custom and routine rather than knowledge or discretion. Therefore, it is evident to me that the true knowledge of the action of alcohol by physicians generally will restrict its promiscuous use to a very large extent.

Now, in relation to the action of

alcohol on the tissues and organs of the body, I wish to refer you to some conclusions of the leading students who are engaged in the study of the alcohol question.

I have already referred to some of the results ascertained by Professors Krapelin and Krutz, of Heideberg, and I only need add that these two eminent gentlemen, alienists, of the highest repute are most thoroughly equipped for the study of the action of drugs on the human or animal economy by virtue of their extensive study and experience of both normal and pathological physiology, and the possession of many delicate and intricate instruments of precision, most of which have been invented by them which are used to determine the effects of alcohol and other narcotic drugs on the brain and other tissues of the body.

Also, Dr. J. Barr, of Liverpool, England, in a very meritorious paper published in the British Medical Journal for July 1905, under the title of "Alcohol as a Therapeutical Agent," summarizes the result of his study as follows: "The effect of repeated medicinal doses of alcohol on the circulation is to produce dilatation of the arteries and all of the arteries well supplied with muscular fibers owing to its parietic effect on the vaso-motor nervous system, and its direct action as a protoplasmatic poison on the muscular fibre. It has a singular though less marked action on the cardiac muscle. From these causes the systolic blood pressure is lowered. The systolic output from the heart is diminished; the large bounding pulse with short systolic period is due to large waves in the dilated vessels. The venous pressure and the diastolic pressure within the heart are also temporarily increased. A long continued use of the drug leads to fatty degeneration of the

cardiac muscle and chronic mesoarteries with the permanent loss of the elasticity of the arteries. Alcohol lessens phagocytosis, diminishes the resistance to acute and specific diseases and interferes with the action of immunity. Alcohol has a predisposing effect to all forms of tuberculous disease; it lessens the resistance of the patient to the toxic effects of the bacilla, weakens the cardiac muscles and impairs assimilation and nutrition, and hastens protoid destruction; it also leads to bronchial and laryngeal catarrh, and hastens the demise of the patient.

Personally, Dr. Barr does not know of any specific fever in which alcohol can do any good. Because of the affinity of alcohol for the nervous system, its use should be interdicted in all chronic nervous diseases.

Pierce Gould, M. D., M. S., F. R. C. S., surgeon to the Middlesex Hospital, England, after a careful clinical study of the effects of alcohol in surgery and comparing the conclusions with the reported results of the experiments of Dr. Abbott, published in the Journal of Experimental Medicine, New York 1896, which exactly corresponds with Dr. Gould's clinical experience, says: "For many years I have dispensed almost entirely with alcohol as an aid in surgical treatment. As a student I saw it used almost as a matter of routine for every kind of surgical malady excepting head injuries and in my early years I naturally followed the practice of my teachers but as I made trial myself of the effects of withholding alcohol I found how entirely overrated its value was and how gravely mistaken had been the teachings. It was commonly held, I believe, that alcoholic stimulants were of special value in all forms of septic inflammation such as erysipelas, pyæ-

mia, septicæmia and hectic fever. I believe that this belief is founded solely on tradition unsupported by any trustworthy evidence and untested by experiment or experience. Where alcohol is always given, its value cannot be estimated; a right judgment can only be arrived at by the comparison of cases in which it has been withheld, those in which it has been withheld. Having made this experiment, I have no doubt whatever, that not only are there no cases which require alcohol so little as the septic cases, but there are few in which its influence is so wholly harmful. It has seemed to me, that its effect is to dry the mouth, furt the tongue, cloud the intellect, lessen the ability to take, digest and assimilate food and do nothing to lessen tissue waste, to increase the elimination of poisons or to maintain the strength of the heart, or to arrest disease.

Dr. Aschiffenburg, one of Prof. Krapelin's pupils, reports the result of an experiment conducted in his physiological laboratory, which furnishes some proofs of the influence of alcohol on practical work involving mental processes by administering one and one quarter ounces of alcohol in the form of Greek wine, each to four typesetters. The subjects were all accustomed to the use of beer but were required to abstain during the experimental period, and every detail was arranged so the test was scientifically accurate and simultaneously adopted to every day life of the men, with the one exception of enforced abstinence. On the second and fourth day each man was given the one and one quarter ounce of alcohol fifteen minutes before the regular working test began. The results showed that there were no more errors than usual, but the amount of work done with alcohol was 15 per cent. less than that done with-

out it. Here we have a scientific demonstration of the effect of an allowable medicinal dose of alcohol a little less than Dr. Anstie's limit, administered but once in twenty-four hours and reducing the output of labor involving mental process to the extent of 15 per cent.

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

Every one is thoroughly convinced of the dissipated effects of alcohol in excessive quantities on both the stomach and digestion, but this we have been taught is due to the excessive use only, and that a little alcohol was good for the stomach and aided digestion. This dogma has been prevalent for centuries and while there has been seemingly an almost futile effort on the part of a few hundred physicians and scientists who have realized not only the fallacy but the danger of such dogma, to impress the profession and the laity with the necessity of recognition of the truth and the teaching of it, and who have, I am sorry to say, been rewarded for the hard and conscientious labor by being dubbed with the title of "cranks" and "fanatics." I am also sorry to note that the laity was first to be convinced of the truth about alcohol and its dangers rather than the medical profession.

Therefore, just a few words relative to the action of alcohol upon digestion. Dr. J. Kellogg of Battle Creek, Mich., in a very extended paper read before the American Medical Temperance Association at Atlantic City, at the meeting of the A. M. A. in June, 1904, reviews the subject and quotes the opinion of numerous authorities from both observation and experiments conducted within the stomachs of human beings, stomachs of dogs and within a test tube from the gastric secretions of human stomachs and from dogs, which ultimately furnished corresponding evidence of the facts which I will quote,—while alcohol is capable of increasing the amount of the flow of the acid gastric juice it limits its proteolytic properties, as is well known, the secretion of pepsin depends upon the stimulation of the peptic glands by certain elements contained in the food stuffs, alcohol

does not possess the power to stimulate these glands but is capable of reducing or destroying these proteolytic properties. Experiments show that an ounce of water will increase the flow of gastric juice without any reduction of the proteolytic properties to just the same proportion as will the same quantity of alcohol, consequently it is same to conclude that the water in the alcohol is that which increases the flow of gastric juice and that the alcohol destroys its activity. And again, Hamm proves that the effect of alcohol to increase acid secretion is not permanent, but that the temporary increase in acidity is followed after a few doses had been administered by a decrease both in the amount of secretion and also in the acidity.

Dr. Kellogg reports the average result in from thirty to fifty stomach fluids obtained from patients to determine the degree of proteolytic activity, both with and without alcohol, employing the method of Mett, filling small glass tubes with egg albumen which had been hardened by dipping them in hot water, then submerged in the gastric fluid twelve hours in an oven maintained in a temperature of 100 degrees F. The degree of proteolytic activity is estimated by the length of the column of coagulated albumen which has been dissolved out of the tube. This is measured in millimeters, the average for normal stomach fluid is 4 mm. The following is a summary and some of the results of some of these experiments.

In the first series of observation the average of proteolytic activity of the stomach fluids employed was six mm. after the addition of one per cent. of absolute alcohol the activity was reduced to two mm.; under the influence of five per cent. of absolute alcohol

the proteolytic activity entirely disappeared.

In the second series the average proteolytic activity is found to be 6.5 mm.; the addition of one per cent. absolute alcohol reduced the average to 1.2 mm.; with a five per cent. solution of alcohol the proteolytic activity was reduced to zero.

In the third series Rye whiskey was employed. The average proteolytic activity of the gastric fluids was 4.25 mm.; the addition of one-half of one per cent. reduced the activity to 2.3 mm.; of one percent, to one and eight hundredths mm.; and of five per cent. to 0.2 mm.

These tests demonstrate the action of alcohol on the proteolytic activity outside of the body.

Now, allow me to record just two experiment by Dr. Kellogg, in which he uses alcohol in connection with an ordinary Ewald test breakfast.

First, Mr. P., nurse, age 24, in excellent health the following figures were obtained:

	Fixed meal.	2 oz. Brandy.
Total acidity	108 gms.	204 gms.
Total Chlorin	572 "	602 "
Free hydrochloric acid	150 "	162 "
Fixed combined chlorine	421 "	440 "
Fixed chlorides	148 "	162 "
Maltose	3,028 "	2,676 "
Dextrin	1,382 "	3,912 "
Pepsin coefficient	4.00 "	0.00 after 2 1/2 hrs.

Comparison of these figures shows that activity of the gastric juice formed under the influence of brandy was not materially increased, the difference being only .006 gms. free hcl. was diminished, the amount later being less than one-half that without brandy. The total chlorin was very much increased, but this was due to the large increase in the fixed chlorides. The

smaller quantity of Maltose in proportion to Dextrine shows an interference with salivary digestion. But the most marked difference is the total arrest of the proteolytic activity. The Mett's tubes showed no digestive action although left in the stomach fluid 32 hours, more than double the usual length of time. The amount of alcohol introduced with the test meal by the addition of two ounces of brandy was sufficient to constitute a proportion of ten per cent., of the total stomach contents. This proportion must have been considerably reduced by absorption by the end of the hour, when the gastric contents were removed; nevertheless, there was still sufficient alcohol present to absolutely inhibit proteolytic activity.

In the second case, Mr. H. _____ the following figures were obtained:

	<i>Facult. test meal with 1/2 oz. brandy.</i>	<i>Facult. 150 gms.</i>
Total acidity	200 "	150 "
Free hydrochloric acid	100 "	375 "
Acid combined albumen	138 "	108 "
Neutral albumen	616 "	610 "
Fixed chlorides	666 "	610 "
Pepsin coefficient	210 "	212 "
	1,000 "	1,000 "

A glance at these figures shows that the total activity of the stomach is diminished to a remarkable degree. The total secretion of chlorin was decreased more than 20 per cent., by brandy. The amount of free HCl. was diminished more than 22 per cent. The pepsin coefficient was reduced from 4 mm., Mett's tube, to 1 mm., which means an actual reduction of

digestive vigor in the proportion of 16 to 1.

In another case the pepsin coefficient was reduced from 4 mm. to 2.25 mm., which means a reduction in the proportion of 16 to 5.

The comparison of these figures shows that the acid of the gastric juice formed under the influence of Brandy was not materially increased, the difference being only 6-1000 gms., free HCl. was diminished.

The conclusions which I wish to draw from all the evidence which has been quoted here from authorities who furnish their evidence both from clinical experience and from laboratory experiments and the proof of which we cannot forego and which is intended to impress on the minds of the profession the actual effects of alcohol in seemingly permissible medicinal doses and not repeated frequently, in fact, all of these experiments were conducted with only one dose, none of which exceeded in amount Anstie's limit. Equip any sensible physician with the truths about the effects of alcohol on the tissues and organs of the body and I am convinced that just as soon as he recognizes it as truth there will be no question in his mind as to a rational medical dose or the rational medicinal use of the drug.

Every day's record shows added evidence of the pernicious effects of alcohol on the human race that are many times more than appalling, yet there is not an instance on record where total abstinence has resulted in anything harmful.

THE ALCOHOL CULT

By John Madden, M. D., Portland, Oregon

(Continued from page 115.)

So we have the evil of drinking set forth as faithfully as that which appears good in it, and in every chapter of this work of the great master, drinking—of wine and ale, or beer or spirits is the most essential part of life he portrays, gives to his characters their highest possible delight, or indeed happiness, their deepest depths of degradation, gives to the personages of his creation their dearest element of social intercourse as well as their most disgusting element of brutality. Does not our reading of these things strangely exemplify the truth of the stanzas quoted in the beginning of this paper?

"A Christmas Carol" is, without doubt, the greatest Christmas story ever written. Nothing in all our literature can equal it in its intense humanity, its generous charity, and broad, deep spirit of peace and good will. It is beautiful, perfect, an epic in prose which has to do with a feat greater than anything that may be accomplished in diplomacy or war, greater than anything that may be accomplished by the keenest, most comprehensive of intellects,—the subduing, softening, enlarging of the human heart. The intensely selfish, grasping, miserly grinding, squeezing old money grabber is made to see the emptiness of such a life when he is shown what lies just beyond the screen which separates him from the spirit world. A miracle is wrought. Scrooge becomes an ardent philanthropist. Despised, hated, shunned, feared for his repulsive, brutal selfishness, he becomes a lover of his kind, the smiling, happy

optimist, the generous giver to the poor.

We will not stop now to interpose any objections based upon heretical or environment to show how improbable is a sudden conversion of this kind. Let us accept it, enter into its spirit, the very spirit of Christmas cheer. Let us examine one of the many delicious moments with which the characters of the story are concerned. This is the dinner, the Christmas feast in Bob Cratchit's house. All the family is assembled. Martha has come from the place of her employment to partake of the Christmas dinner with her parents, brothers, and sisters. Poor, poor to poverty, overcastness, shabby, in clothes so old and rotten that they are all but ready to drop from him by their weight and tenderness, a laborer at fifteen shillings (—three dollars and a quarter—) per week, Cratchit is upon this blessed day the happiest of men. Tiny Tim, the crippled child, wise for his age, as cripples often are because their infirmities force their normally active bodies into an unusual quiet, and correspondingly increase the activities of their normal little brains, gives the humble feast a sense of holiness, as though, indeed, the Christ Child Himself were vicariously present. It is a wonderful feast, wonderful goose, wonderful pudding, wonderful potatoes mashed by Peter, wonderful apple sauce sweetened by Belinda, wonderful everything about it, the combined handiwork of the happiest, simplest family alive.

But the best of all is yet to come. It is the apotheosis of the Christmas feast—the inevitable bowl of punch. This is served in "two tumblers and a custard cup without a handle. These held the hot stuff from the jug, however, as well as golden goblets would have done; and Bob served it out with beaming looks while the chestnuts on the fire sputtered noisily."

Now the feast partakes in character of a religious ceremony. Simple Bob solemnly proposes the health of Scrooge, "the founder of the feast," whereat his wife flushes angrily and protests with indignant right.

"My dear," said Bob "the children, Christmas."

But Mrs. Cratchit is not to be so easily placated when the character of old Scrooge is so vivid before her. Bob has to repeat that the children must be considered, and that it is Christmas Day, and for her husband's sake she drinks long life, a merry Christmas, and a happy New Year to Scrooge. Thus the climax of the feast is reached when cups of hot punch are held in their hands, while words of forgiveness and good will are on their lips and in their simple hearts!

We should like to dwell a while longer upon this wonderful Christmas story. We should like to linger a while over the Christmas Eve celebration in the office of Mr. Fezziwig. We should like to point out many other incidents of the story into which wine enters, but space will not permit. Let those who are interested in the subject carefully read "A Christmas Carol" and try to recast it without wine or punch or any other alcoholic beverage; let him then compare his expurgated edition with the story as it is, then try to formulate what it has lost in that subtle spirit of human gregariousness, good fellowship, good

will—in short, every influence which brings men together to be happy in common cause.

A writer's own personality is invariably reflected in that of the characters he creates. He unconsciously emphasizes that which is important to him, that which stirs his emotions, be they pleasurable or the reverse. Love is a universal emotion, therefore love finds its way into every romance. Dickens undoubtedly made conspicuous those things which appealed to him; condemned, ridiculed, satirized those that were hateful to him; praised, commended, dwelt lovingly upon all that seemed good to him.

There is no doubt that he was a convivialist, no doubt that he was fond in no ordinary degree of the good things of the table, both as to meat and drink. His pages are literally filled with good cheer, with the eating of kidney-pies, beefsteak-pies, pork-pies, with tripe, with stews, of all sorts, such gastronomic horrors as might well be calculated to give one of less vigorous habits and digestion a chill of dyspeptic nightmare fright, were his chief delight. No wonder he found relief in walks of from ten to twenty miles in length! A vast amount of physical activity must have been necessary to make such a bearable.

We do not need, however, to get at Dickens' convivialism through inference. We have his direct testimony upon this matter. His "American Notes" is a true record, no doubt, of his trip to America in 1842. Almost on the first page of this volume we find the following: "I have not inquired among my medical acquaintances whether turtle and cold punch, with hock, champagne, and claret, and all

the slight etcetera usually included in an unblended order for a good dinner, are peculiarly calculated to suffer a sea change." A formidable list, surely, calculated to do violence in time to the most robust constitution. Nor shall we pass beyond the limits of justifiable conjecture if we suggest that the constitution of the great master may have suffered from the good cheer which shines forth from every page of his vivid portrayal of English life. The greatest modern novelist died at the comparatively early age of fifty-seven, from a rupture of a cerebral vessel. It is only a short step, a step naturally and justifiably taken, to picture a condition of the arterial coats brought about by a deposit of incompletely oxidized waste from an excessive meat diet, combined with a lowered power of oxidization because of the alcohol imbibed. Are we not justified in concluding that one of such vigor of natural constitution should have given us much more from his wonderful pen? We are well aware of the high pressure at which he worked; but hard work alone, done voluntarily, does not shorten one's days.

There is still another consideration that presents itself to us in connection with Dickens' convivialism. Was any part of his wonderful imagination influenced by alcohol? Were the grotesque shapes, scenes, language—the thousand and one eccentricities of the Dickens times, places, and people, in any degree the result of alcohol indulgence? Surely we do not desire to insinuate anything which could be construed as a belief in habits of alcoholic excess, but only that many great writers have seemed to need their narcotic stimuli in order to be at their best. Johnson, it is said, wrote his best poetry when he had a pipe filled with a certain kind of tobacco.

Hawthorne was a contemporary of Dickens but as unlike him as it is possible for one man to be unlike another in character, mental attainments, in personality. Indeed, they stand at two extremes of the social world. Dickens was pre-eminently sociable, a gregarious man, whose love was confirmed to his fellows, who thought only of them, of their concerns, their joys, sorrows, loves, hates, wealth, poverty, wisdom, foolishness, and the thousand and one little peculiarities and mannerisms of each never ceased to excite his active imagination and to set in motion his ready pen. A very Bacchus he was, or more properly, a Gambrianus, for it is not at all certain that he did not find his greatest pleasure in the marked liquors and the easily made brew of punch. No one could write with so much gusto as he wrote of Mewber's peculiar genius, and of the "best London stout" who did not have a personal acquaintance with them of a most intimate and loving kind. Contrast with him, Hawthorne, the mystic, who took a thousand times more delight in the airy spiritual creations of his own genius than in the flesh and blood. Hawthorne the silent, solitary, irritable ascetic, whose dreams were the only realities of his life. You would certainly expect to find that the instrument upon which he plays at the pedestal of the wine-god is very different from that of Dickens. His, indeed, if we judge him correctly, must be the lute, or the spiritual, soft-tuned flute, playing in the moon light—a ghost of an instrument making music to a ghost of a divinity upon a ghost of a day. His wine song is no more like the choruses of Dickens than is the reel of Phauldron than is the summer's moonlit night, like the full-voiced

press hand playing in the pit, the square on exact day.

You expect that Hawthorne will make an improbable, momentous thing of wine when he treats of it, and so he does. Take up the Monte Beni and turn to the last chapter of the first volume. It is called "Sunshine" and Sunshine is a wine. Donatello is describing the fact that his friends no longer live to so ripe an age as once they did, and he says:

"The cause, however, of the longer and healthier life of my forefathers, was that they had many pleasures, customs and means of making themselves glad, and their guests and friends along with them. Now-a-days we have but one."

And what is that? asked the sculptor.

"You shall see," said the young host.

Refreshments are then set before them, an omelet, cold fowl, and some trout. Donatello then gives to the white-haired butler this surprising order:

"Tomaso, bring some Sunshine!" Tomaso did not fling open the shutter to obey the order. He brought instead a straw-covered bottle. From this he extracted the cork, inserted a little cotton wool to absorb the olive oil that kept the precious liquid from the air.

"A glorious name, too," said the sculptor.

"Taste it," said Donatello, filling his friend's glass and pouring a little likewise into his own. But first smell its fragrance, for the wine is very lavish of it, and will scatter it all about.

"Ah, how exquisite!" said Kenyon.

"This invaluable liquor was of a pale golden color, like other of the rarest of the Italian wines, and if carelessly and carelessly, quaffed, might be mistaken for a very fine sort of champagne. It was, not, however, an effervescent wine, although its delicate pungency produced a somewhat similar effect upon the palate. Sipping, the guest long to sip again; but the wine demanded so deliberate a pace, in order to detect the hidden peculiarities and subtle exquisiteness of its flavor, that to drink it was more a moral than a physical enjoyment.

There was a deliciousness in its that eluded analysis, and, like whatever else is superlatively good, was perhaps better appreciated in memory than by present consciousness. One of its most ethereal charms lay in the transitory life of the wine's richest qualities; for, while it requires a certain leisure and delay, yet, if you lingered too long upon the draught it became disenchanted, both of its fragrance and flavor.

"I feel myself a better man for that ethereal portion," said the sculptor.

"We have a tradition, signore," said the butler, "that this rare wine of our vineyard would lose all of its wonderful qualities if it were sent to the market. The Counts of Monte Beni have never parted with a single flask of it for gold. At their banquets in the olden time they have entertained princes, cardinals, and once an emperor, and once a pope, with this delicious wine, and always, even to this day, it has been their custom to let it flow freely when those whom they love and honor sit at their board, but the Grand Duke himself could not drink the wine except that it were under this roof."

"What you tell me, my good friend," replied Kenyon, "makes me venerate the Sunshine of Monte Beni even more abundantly than before."

"You must not wait for Tomaso to end his discourse about wine before you drink off your glass," observed Donatello. "When once the flask is uncorked its finest qualities lose little time in making their escape. I doubt whether your last sip will be quite as delicious as you found the first."

"The effect of the wine was a gentle exhilaration which did not so speedily pass away."

We have quoted all of this from Hawthorne's greatest romance, not for the purpose of showing how he spiritualizes everything he touches, but to point it out as a very fine example of an important part of the wine-culture. Scientifically speaking, it is, of course, the sheerest nonsense. Wine is only the components of which it is constituted. So much water, so much alcohol, so much chylitic ether, sugar, and inorganic salts, separate the ingredients chemically, put them into different receptacles, smell, taste, feel them, and the romance of this, or any other wine's peculiar, god-like qualities, will disappear as completely as do the ghost-like characters of

the thousand and one things seen by the timid at night, when examined a few days in the light of the sun. Nor is it difficult for the imaginative mind to believe that certain wines affect him peculiarly, are "gently stimulating," or otherwise different from the effects of the coarse drinks; the fact remains that, what he considers something divine, is only plain alcoholic intoxication. It is by the subtlety of such indirect playing upon the impressionable mind unconsciously that a belief in wine is perpetuated and spread abroad. This that we have taken from Hawthorne is, indeed, a description of wine-worship as sincere as any Christian worship within cathedral walls, and its pearls pass as completely unchallenged as do the songs of cathedral organ.

Hawthorne celebrated no bacchanalian revels. His works contain no banquets of beefsteak-pie, kidney stew, wonderful roast goose, with four or five kinds of wine and unlimited foaming 'n'. Coarseness in eating, as in all other things, was repulsive to him, and mere materialism was coarseness to Hawthorne. He extracts the spirit of Mythology and makes his burnt offerings before this spiritual nothingness. The Monte Beni wine would have been a base fluid to him but for the mysticism with which he was able to surround it. If meant much to him that this ambrosia was too refined to stand contact with the vulgar air without being debased thereby; that the secret of its making had been kept in the house of Monte Beni centuries upon centuries; that only the consecrated ground (consecrated because it could produce such wine) of Monte Beni could produce the grapes from which it was made; that "one of its most ethereal charms lay in the transitory life of the wine's richest quali-

ties"; that it was "surely the wine of the golden eye, such as Bacchus himself taught mankind to press from the choicest of grapes."

Wine in itself had no sacred meaning for Hawthorne. For him there were wines and wines. You recall that afternoon when Kenyon, the sculptor, after his rather surprising efforts to model a bust of Donatello, strolled about the place with senses alert for matters of interest.

"Unexpectedly, in a nook close by the farm house, he happened upon a spot when the vintage had actually commenced. A great heap of early ripened grapes had been gathered and thrown into a mighty tub. In the middle of it stood a hasty and jolly contadino, nor stood, merely, but stamped with all his might, and danced amain while the red juice bathed his feet and threw its foam midway up his brown, shaggy legs."

Disgusting, indeed, must have been this picture to the refined soul of Hawthorne! It was nothing to him, or little to him, that this "was the very process that shows so picturesque in scripture and poetry." "The memory of the process does not make the Tuscan wine taste more deliciously."

Indeed it does not, and when the good natured, animated owner of the wine press offers the sculptor "a sample of the new liquor that had stood fermenting for a day or two," he had small inclination to put it to his lips. "He had tried a similar draught in years past," and "he knew that it would be a sour and bitter juice, a wine of woe and tribulation, and that the more a man drinks of such liquor, the sorer he is likely to be!"

Wonderful, wonderful, with what properties a vivid imagination may invest plain fermented grape juice!

Ambrosia, the drink of the gods, may be, or a base distillation unfit for human consumption. Yet when the man of science brings his light to bear upon the subject in the way of chemical analysis, all of these differences are dissipated as mists are dissipated by the morning sun. Think, however, how ineffectual would be the calm, cold voice of science crystallized in some society report and read by one-tenth of one per cent., or less, of the whole people (and those who do not need the information)—think how little the effect of such report compared with that mystic panegyric, in the beautiful style of Hawthorne, and read with pleasure by impressionable millions!

Much that is written in the present deals with that which is long past. To hold the mirror up to nature for us, perhaps, a task not beyond the possibility of accurate accomplishment. It is generally believed that the world now takes less of alcoholic poison per capita than it did one and one-quarter centuries ago. Statistics, however, do not confirm this opinion. Very likely we are improving in our ethics of drinking. If we are to believe certain ancient chroniclers, to get very drunk on good wine was a gentlemanly habit a matter of a hundred years ago—not only a habit, but an accomplishment bearing the sign manual of gentility.

Let us return again for a moment to Dickens for light upon the subject of drunkenness in England during the reign of George III. "Those were drinking days," says the great novelist in "A Tale of Two Cities," and most men drank hard. "So very great is the improvement time has brought about in such habits, that a moderate statement of the wine and punch

which one man would swallow in the course of a night, without any detriment to his reputation as a perfect gentleman, would seem in these days a ridiculous exaggeration." Then is cited the peculiar capacity of the legal profession in general for absorbing alcoholic drink, and the capacity of Sidney Carton, in particular, for putting away beneath beneath his own skin, unlimited quantities of the genial poison. You recall that day in the Old Bailey when Darnay was tried for treason. You remember that he took Carton, part of his counsel, out to dine with him, and that this proficient and ornamental member of the British Bar, already quite drunk, imbibed unlimited wine at Darnay's expense, went to sleep with his head on the table, a drunken sleep, from which he left orders to be awakened at ten o'clock. You remember that he was awakened with much difficulty from the drunken stupor into which he had fallen, and that he then repaired to the office of his associate, Striver, where he sat until morning, with a whole series of wet towels bound about his head, preparing cases for the morrow, and incidentally, almost unconsciously, consuming still other unlimited quantities of wine and stronger drink.

"Sadly, sadly the sun rose: it rose on no sadder sight than the man of good abilities and good emotions, incapable of their directed exercise, incapable of his own help and his own happiness, sensible of the blight on him, and resigning himself to let it eat him away."

We have not quoted this so much for the purpose of calling attention to the old question, the old puzzle, as to whether want of capacity for directing one's life is responsible for the drink habit, or merely its effects.

Very likely there are instances of both kinds, or that even in the same individual cause and effect may change places at different times in his life. What we do desire is to call your attention to the implication that one may do any sort of useful mental labor while in a state of alcoholic intoxication as Sydney Carton was that night. This is another familiar popular fallacy, slightly disguised, that there are some drunkards who are presently capable while intoxicated.

And this case of Sidney Carton as a heavy drinker; surely he was no worse, according to his own creator's testimony, than scores of gentlemen in good society touching elbows with the author even as he wrote of the hard drinkers of three-quarters of a century before.

This paper, already too long, after the examination of only a half-dozen books from two writers, will gain nothing in force from increased length. In a previous paper (read at Atlantic City, 1904), I gave the results of a mere cursory examination of near a score of books and present day periodicals in promulgating the creed of the alcoholic cult, and found an abundance of proof that the belief in the virtues of alcoholic beverages is just as strong as it ever was, and that their commendation by indirect statement in literature, in the greatest products of the greatest minds, past and present, has an enormous influence in perpetuating all the popular beliefs held concerning alcoholic beverages which science has demonstrated to be fallacious.

Men hold to the doctrine of the alcohol cult, to the belief that "sound pure wines, also beers and distilled liquors, are wholesome and good when used in moderation." Indeed, this cardinal tenet of the alcohol cult

is often coupled with some sort of thanksgiving prayer to the wise and beneficent Creator to whom man is indebted for these most precious gifts.

The generality of mankind will not believe that alcoholic beverages are not a vast use to humanity. Everywhere the frightful ravages of alcoholic excess is an open book which even those who run may read; but those who read, fold hands, pious hands, it may be, and declare that "this is not use, but abuse." This is not the fault of the beverages themselves, but of those who indulge in unwise excess in their consumption." Having said this the alcohol cultist considers that you are utterly confounded and put to rout, and will not listen to any argument or explanation from you, tending to show that it is because of this weakness in humanity that the results of alcohol are so dreadful, that every one is first a user before he becomes an abuser of alcoholic drinks. Moreover, it would seem that practically the whole of intelligent mankind is an attorney for the defence of alcoholic drinks. He eagerly seizes upon every scrap of pseudo-evidence which will bolster up his creed. No Christian of early times more ardently defended his faith, more warmly proselyted among his unbelieving companions, than did the entire enlightened press a few years ago commend the works of a man who, speaking with only the apparent authority of science, declared that under certain circumstances, and in certain quantity, alcohol is a food. Last autumn the lay press sent a thrill of terror through the entire body of worshippers before the alcohol shrine by showing that some hideous criminal, by mixing wood alcohol with the liquor he sold, was guilty of killing seven-tens of his fellow men. How

the populace cried out for his blood! Yet at this very time, in that same city, seven times seventeen thousand victims were in various stages of ethylic alcohol poisoning, a hideously sorrowful looking procession of alcohol degenerated humanity, one end of which is a gay company, sipping and receiving all sorts of inspiration from the divine juice of the grape, the other end a pine coffin and an open grave in the Potter's Field. Did any one think of comparing these with the insignificant seventeen? It would seem, indeed, that a part of the creed of the alcohol cultist is a belief in human sacrifice, so coolly and comfortably do its devotees see the thousands of their fellows yield up their lives for the greater glory of the wine-god!

This is a truly colossal task that we have before us—this task of making practically the findings of science in the people against alcohol. Do not underestimate it. It must necessarily begin with the medical profession, but only a part, perhaps less than a majority of the doctors, are actively interested in the anti-alcohol side. It is true that in certain quarters of vast influence there is a movement to eliminate alcoholic indulgence as a possible cause of public harm, in so far as those performing quasi-public functions may do harm when inebriated through indulgence in alcoholic beverages. Employees of some railroads and telegraph companies must be total abstainers from alcohol in order to get their places or to keep them. Here it is, of course, a question of dollars, a means of avoiding actions for damage caused by incompetency in those quasi-public servants. This is, of course, an individual recognition of the alcohol evil, and it will not be

without some good effect. But it will not change many religionists of the wine cult in their belief in wine. Great Britain abolished certain barbarous customs which were part of the religious worship of the natives of India. She prevented sacrifices to Juggernaut, and the funeral pyre for widows. She did not, however, change a *belief* in the terribly destructive parts of the Hindu's creed. Nor will a recognition of the harm alcohol may do when taken by those who often hold the lives of hundreds in their hands, do much to abolish a belief in the cardinal tenets of the alcohol culturists.

If we would do the most effectual work possible in ridding the earth of this one stumbling block in the way of the greatest civilization, the greatest material prosperity, the greatest real progress possible for it to attain,

the greatest happiness, the highest possible spirit of altruism, of humanness—let us go down to the root of this dreadful tree, this horrible religion which blights whosoever it converts. Let us teach the truth about it. Let us not shrink because the task seems so great. It is not hopeless. We have only to teach that which is capable of scientific demonstration. Let us stir philanthropists to activity. Let us first make converts of them, not by appealing to passion or prejudice, but only to the simple love of truth. Then let us ask them to spend some of the millions which they are so lavishly spending—it may be for libraries honeycombed throughout with indirect pleading of the alcohol cause. Let us ask them to give us but a modicum of this to found a school or schools which shall destroy this terrible belief in the divinity of wine!

EDITORIALS

Inebriety a Medical Problem

EVERY physician should be a temperance reformer in the broad sense, and a teacher and leader in the study of these problems in every community. Inebriety from alcohol and opium and the sale of spirits as a beverage, is a sanitary problem of enormous proportions, which the medical man of all others, is trained to study, and his neglect to do so is not only criminal, but evidence of profound ignorance.

The medical man who would be indifferent to diphtheria, yellow fever, or any other contagious disease, and assume the attitude of sneering contempt at the efforts of clergymen, lay-

men, and women to prevent these diseases, would merit the severest condemnation.

This position of the medical man today toward this tremendous medical problem, will be a source of wonderment and surprise in the future. There is no disease of evil whose entailment of physical suffering and mortality is so great, and so intimately related with the homes of every community, as the alcoholic problem. There is no physical conditions so influential in the growth and life of civilization, which a medical man is so well trained to understand, and to prevent.

The medical man of all others, should be a total abstainer, and tem-

perance man in the broadest meaning of this term, one whose personal life and conduct approximate and sustains his work and teaching. A moderate and excessive drinking physician is a diseased man, who advertises to the world that he has lost control of himself, and is unable to adjust himself to conditions of rational living.

A physician who becomes intoxicated, is an insane man, more so, because he should know the effects of spirits, and the danger from its use. The medical man who has no other knowledge about alcohol, except that which has come from the prejudices of the past is dangerous, and a physician who defends its moderate use in his own life is badly warped and unsound.

Of all men, physicians, should be the leaders in the temperance work to understand the evils, which follow from alcohol, and point out their destructive influence, and the means of prevention and cure.

Dr. Lagrand, an eminent specialist and supt. of an asylum at Paris, makes a very strong arraignment of the medical profession for their failure to take up the alcoholic question.

In a recent lecture, which has been widely published, he asserts that it is the express and paramount duty of every physician to take up the fight against alcohol, and enter actively as a student and teacher of the causes and conditions which govern the origin and growth of this great modern evil. First, because, he is a citizen, and cannot be indifferent to the evils which affect the well being of himself and every other person. Second, because he is a physician and the alcoholic problems are purely questions of laws of dissolution. Third, because he is a scholar, and scientist, to whom the problems of life and growth

are of the very vital and intense interest.

Under each of these heads he groups a great variety of reasons, and concludes that the Dr. who is not a leading temperance man in his community, and who does not lead all efforts to break up, and destroy the evils which follow from alcohol, is criminally negligent of his highest duty.

The reasons are reiterated in the following.

First, because, he is more familiar with the operation of causes, controlling human life, and human suffering, causes which entail miseries, sorrows and degenerations. He knows them more thoroughly, and can appreciate results not clear to any other person without medical training.

Second, the Dr. should be authority on all questions of health and disease in his community. He should know the facts of longevity, and recognize the poisons of contagious and other diseases, and point out their means of prevention. He should act from his knowledge, and command the respect of the common people, who turn to him on all questions of this kind. Third, his training and opportunity give him peculiar fitness to study the results from ignorance of alcohol and its effects, far more clearly than the reformer or clergyman, and it is his duty to point out the dangers and means for their correction. It is his duty to teach by precept and example, how the evils of life can be prevented and removed.

It is his duty to recognize the disease of inebriety, and the means of treatment, either at home or in public institutions. It is his duty to warn the public of the danger of permitting the culture and growth of inebriates in the community, and their toleration

as sane and responsible persons.

He should, of all others, be the first to recognize the poison centers of saloons, and the danger from indiscriminate and reckless sale of spirits and drugs. He concludes that all medical men must take up the alcoholic problem, and that it is far more practical than any studies of consumption, typhoid fever, or other diseases. We have repeatedly urged these views in the Journal, and are confident that the final solution of the alcoholic problem will be solved, when the profession take it up as a purely medical subject.

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Inebriety Among Auto-Drivers

Manufactures of Automobile Wagons are making inquiries as to the causes of fatal accidents occurring with their machines, for the purpose of determining how far the driver, or the machine itself through some faults of construction, is responsible for the accidents.

The inventor is constantly striving to perfect the construction of the machine, so that it can be halted quickly and respond instantly to the control of the driver.

The conclusion reached is that the faults and dangers are almost altogether due to the driver. No matter how good a mechanic, unless his brain is clear for instant thought and perfect control of his muscular system, the danger element cannot be eliminated.

The work of guiding a machine requires accuracy of sense, judgment, and muscular power, with continuous concentration of mental activity. This kept up for any length of time is followed by exhaustion. The driver who seeks relief in alcohol makes a fatal mistake; while covering the feel-

ing of exhaustion he depresses the senses, and mental activities below the danger line.

No matter how skillful he may be as a machinist, or how large his experience is, the use of spirits even in moderation lowers his ability to see and think clearly, also his control over his muscles. As a result his skill is lessened, and his incompetency increased. Compared with the engineer of the steam railroad, his work is infinitely more hazardous and depends more exactly on the accuracy of his mental and sensory powers. A mistake on a steam road is often neutralized, where the engine is held by the rails, but with a motor wagon on a common road, the consequence of failure is instant and positive. The machine obeys the mind with mathematical certainty. No one but a total abstainer should ever be allowed to guide a motor wagon. A moderate drinker is a very dangerous man, and the driver who carries a bottle of spirits is inviting disaster and accident which is sure to come in a large proportion of cases.

A New York physician concludes from a study of a large number of accidents that 90 per cent. are directly due to the confused mental condition of the drivers from the use of alcohol.

The following examples came under my notice. A moderate and occasional drinker was touring the country with his family in a motor wagon. Complaining of fatigue, he accepted the advice of a friend to take with him a bottle of spirits. The first effect was very pleasing, but in the secondary stage he lost his caution, and made the attempt to cross in front of a passing train. He miscalculated, was killed with two other members of his family.

Another man, who overcame with fatigue, drank spirits, and while running at high speed, turned the lever in the wrong direction, and of course a steep embankment, and of course, was killed, and all the occupants of the wagon. These are common examples, and show beyond question that no drinking man or inebriate should ever attempt to guide a motor wagon, unless he wishes to commit suicide, and have his friends join him.

* * *

W. C. T. U. at Hartford

The annual convention of the W. C. T. U. at Hartford, Conn., in October, was marked by a new feature, namely, "Medical Lectures" on "Alcohol and Inebriety."

Mrs. M. A. Allen, the Supt. of the Dept. of Medical Temperance, arranged a course of seven lectures, to be given in a separate hall, morning and evening, to the officers and local Superintendents of the different States, and others interested in the medical side of the alcoholic problem.

Dr. T. D. Crothers, of Hartford, gave two lectures on the History of the Alcoholic Problem, and the Disease of Inebriety. Dr. L. D. Mason of Brooklyn, lectured on the "Anesthetic Action of Alcohol," and its value in medicine and surgery, and the delusion of its stimulating qualities. Dr. T. A. MacNicholl, of New York, lectured on the "Food Value of Alcohol," and its destructive influence on cell and tissue.

The last lecture was a symposium, and general conference of the value of alcohol, supplemented with a paper by Dr. Shepard on "The Turkish bath as a remedy." Each of these lectures was profusely illustrated

by charts, tables and drawings, and attracted crowded houses of enthusiastic listeners.

This great organization numbering nearly half a million persons have recognized the value of physician's work in this movement which is the beginning of what will be a very popular feature of their annuals in the future.

* * *

Criminal Tendencies and Beer

Drinking

The criminal tendencies of beer drinkers is receiving confirmation in several prominent murder trials. Prisoners on trial for some of the most brutal crimes, are found to be beer drinkers who for years have drunk large quantities daily, and have become low grade dements. To many persons, in appearance, they may seem sensible and fully conscious of duty and responsibility.

In reality, they are idiots, with all the brutal instincts intensified, and all the higher qualities paralyzed. All control is lost, and they are merely the creatures of gross physical impulses.

Arterio sclerosis is present, with cirrhosis of the liver, and fatty deposits in all the organs. The system is saturated with toxins and ferments constantly increasing. The blood is unoxidized, and loaded with effete matter, and the brain cells are shriveled, degenerate and starved.

It is a farce, to hold such men responsible, they should be declared insane and sent to an asylum for life. It is a greater farce, to attempt to determine the degree of responsibility and prove to a jury the sanity or insanity of such persons.

ABSTRACTS

Alcoholism and Heredity

Dr. R. W. Bevan Lewis, Medical Director of the West Riding Asylum, Wakefield, Eng., in a paper published in *The Journal of Mental Science*, has the following on the subject of heredity and alcoholism:

"As regards alcoholic inheritance, the more general conception of this disease, to which I subscribe my belief, is that of a very universal reaction of the organism to the direct action of the toxic agent alcohol. I say direct because a distinguished pathologist has lately expressed the view that the disease is the result of a secondary bacterial toxæmia induced by alcohol breaking down the first line of defence. Health, we are told by Dr. Payne, is a state of moving equilibrium, a condition of uniform motion, or, as expressed by Dr. Albutt, 'a positive conception of a perfect balance of the moving equilibrium we call systemic life; disease is a negative conception, and signifies something less than this perfect balance.' Yet, as there is no absolute standard of health, the term becomes a relative one, and so the line betwixt physiological and pathological reaction can be but ill defined.

Thus it is that inquiries into individual idiosyncrasies can alone establish when the operation of alcohol oversteps the limits of healthy systemic reaction. When, again, disease dependent for their cause upon external agencies are concerned, whether bacterial, thermal, electric, or vital bacterial infections, everything depends on the impact or dose of the morbid factor, together with the individual susceptibility.

The dose of alcohol which transgresses the physiological limits is probably very small, and for the specially susceptible is very minute indeed. Parkes and Wollowicz estimated it at one and a half ounce for man, and this is probably greatly over-estimated, an opinion expressed by Dr. Sidney Martin. It has always appeared to me that the period of decreased thermogenesis, as defined in my calorimetric observations, gave the nearest approach to an accurate estimate of the dose consistent with physiological reaction, that the moment this period of stimulation of the vaso-motor centres tends to be less defined and shortened in favor of the second stage of thermolysis we transgress the physiological limits strictly so to speak. Thermotaxis affords us, then, clinical indications which should ever be borne in mind.

Is alcohol inheritable? I think this must be met by a direct negative. Alcoholism as alcoholism is not inherited. What is inherited is usually something wholly different. That alcohol, like other toxic agencies in the parent, results in certain abnormal nutritional conditions of the germ-plasm is unquestionable; it would indeed be strange if such were not the case. That the ovum nourished by the maternal blood should not be affected by its immediate environment, the soma, in metazoa, just as the protozoa are directly influenced by the cosmic environment, would be highly improbable. So far back as 1895 Fere produced monstrosities by exposing eggs to the vapour of alcohol during incubation. Orvize also in 1900, and as confirmed subsequently by Reitz, showed the toxic action of alcohol

vapour on artificially hatched eggs of fowl, 36.7 per cent. of the progeny being structurally defective, monstrosous, and of the whole number incubated 17.5 per cent. alone were viable.

Cossar Ewart's Indian Blue-Rock pigeons, infected by the parasite halteridium, did not transmit malaria to their progeny. True, they were weakly offspring and more or less sterile, according to the potency of the parental toxamia, but in no case did the young exhibit the parasite halteridium in their blood; in other words, malaria was not transmitted. Professor Ewart would predicate the same for gout; it is the tendency under certain conditions for gouty changes to arise in the offspring which is transmitted; the offspring are never born with gouty tissue-changes.

Similarly as regards tuberculosis: the diminished resistance to the growth of tubercle, whatever that may mean, is what is transmitted to the offspring of the tuberculous—the diathesis is not the disease. Let us for a moment take as an illustration of the loose application of the term "hereditary" other cases of toxamia. A syphilitic mother with secondary symptoms begets a syphilitic infant, and this instance of congenital syphilis will by some be regarded as proof of the inheritance by the offspring of a definite character acquired by the parent. It is really not an instance of heredity at all; it is but an instance of simultaneous infection—either germinal, placental, or both combined—a synchronicity of morbid agency, and antenatal contamination.

Similarly as regards tuberculosis, should it arise congenitally in the offspring of the tuberculous parent it is but an instance of direct infection in utero, yet no proof at all of the heredi-

city of phthisis; what is handed down as a germinal variation is the heredity predisposition to the growth of the tubercle bacillus. In fact, all the specific infective diseases, such as scarlet fever, measles, smallpox, tuberculosis, must be excluded from the category of inherited diseases, and when arising congenitally are but instances of infection through the placental circulation, or, as with syphilis, transmitted by the infected germ. There is, of course, positive evidence that pathogenic organisms do pass from the placental into the foetal circulation. In a strict biological sense, therefore, none of these diseases are instances of heredity transmission.

And so, passing from vital agencies such as the pathogenic bacteria to the toxic agency alcohol, we can on no sense speak of alcoholism as inheritable; the varied and elaborate tissue-changes constituting the disease chronic alcoholism are never inherited by the offspring as a definite specific character. If that disturbance of the healthy equilibrium in the parent which is indicated by the symptoms or signs of the disease we know as chronic alcoholism can be reflected upon the progeny through the parental germ-plasm, we should indeed be only by some such elaborate and inconceivable hypothesis as that of Darwin's theory of pangenesis. The diathesis of biological science of to-day would affirm the negative—acquired characters in this sense are not transmitted. And yet undoubtedly this is the trend of popular belief, and would be moreover, I presume, upheld by the Neo-Lamarckian school of to-day.

An inherent susceptibility of the tissues in certain individuals to the toxic agency of alcohol is universally admitted, and just as specific differ-

ences are recognized in susceptible animals, as when, e. g., we find that the white rat is immune to the bacillus anthracis, while the common rat and mouse are peculiarly susceptible, so individual resistance to alcohol is a notably varying factor of germinal transmission.

Again, it has been well shown that we can confer on animals an acquired predisposition to disease; in other words, the natural resistance can be broken down and an unnatural susceptibility established, as when hens or pigeons naturally refractory to anthrax can be readily infected if deprived of food, and thus Kantack indicates how starvation, bad food, exposure, or fatigue may reduce the natural resistance to the pathological level. In like manner we might argue that various agencies might break down one's natural resistance to alcohol so that an acquired predisposition to alcoholism when indulged in would be apparent. But the point of interest to us is whether or no this acquired predisposition can be inherited by the offspring—in other words, is what is transmitted to the progeny specific or non-specific? In the first place, we have to eliminate all instances of congenital contamination through the mother's blood during gestation—as before explained, these instances are not instances of heredity transmission at all; in the next place, specific maternal transmission can only be assumed where alcoholism was well established prior to conception, and is always open to some doubt as we must still eliminate a connate origin.

The transmission of parental qualities is not open to such fallacy; and where an acquired predisposition is clearly transmitted from the paternal side, there we have more solid ground for our contention.

These cases of transmission of an acquired predisposition from the paternal side are, therefore, the simpler one for investigation; yet even here we have to note the varied factors introduced by amphimixis. I take it that general assent will be accorded to the proposition that the vehicle of heredity is constituted by the chromatins of the germ-cell nucleus, and that the theatre for its operation is the cytoplasm of the cell itself. At first isotropous, the cell protoplasm step by step, through the agency of these developing forces, acquires polarity, cytoplasmic differentiation, and a stereotyped scaffolding, more or less modifiable with the age of the ovum. In early developmental stages there is betrayed a uniformity in value of the several blastomeres into which the egg has segmented, as shown in the more labile differentiation of amphioxus by Wilson; whilst in other organisms, as the sea-urchin *Toxopneustes*, the isolated blastomeres indicate a more fixed and stereotyped differentiation. One of the most beautiful experiments in biological investigations is that recorded by Zoja, who obtained perfect embryos from the two, four, eight, and even sixteen cell stage of *Medusa* by separating their blastomeres—each blastomere in the latter case developed into a perfect animal one sixteenth the normal size. I introduce these biological considerations to indicate that the fertilized ovum is constantly varying in its reaction to the environment; and what is pre-destined for one stage as the result of such environmental agencies cannot be safely asserted for a later stage of development. Cossar Ewart's remarks upon the stamens or age of the developing ovum as a potent source of variation will occur to us in this connection.

Certain conditions, therefore, morphological and developmental, are imposed upon the germ by virtue of its specific organization; but we must equally bear in mind, in speaking of heredity transmission, that we are dealing with agencies infinitely diversified, subject to elaborate combination and modification quite unpredictable, and that unforeseen forces, not easily suspected and far less readily explained, step in to disturb the mathematical precision we at times hopelessly attempt to impose upon our formulae of vital processes.

What is it, then that is transmitted by alcoholic ancestry? I presume it is a defective organization of the neuron, or a molecular degradation of nerve-tissue revealing itself in a loss or weakening of that primary attribute so characteristic of nerve-cell mechanisms-inhibition. Functional instability is, of course, pre-eminently the stamp of the neurotic heritage, but the instability resulting from an alcoholic stock appears above all other forms of instability to be indicated by (a) its convulsive nature; (b) its tendency to limitation as in so-called systematized forms of insanity; (c) its rhythmic periodicity and paroxysmal nature.

The latter time relationships are features especially worthy of note. Epilepsy, chorea, hysteria, the convulsive psychoses (moral and impulsive forms of insanity), and certain systematized delusional states are the first-fruits of an alcoholic heritage. The motor element of mind, if I may so express myself, is peculiarly liable to this derangement in paternal forms of transmission. On the other hand, arrests of development, as indicated

by congenital mental weakness, imbecility, idiocy, appear to me especially the results of maternal toxemia, and largely, if not wholly due to direct poisoning of the germ or ovum.

* * * * *

Alcohol and Coffee as Acting upon Heart Disease and Nervous Affections

Stoll (Leipzig, 1905). On the basis of his extensive experience as a heart specialist, the author reaches the following conclusions: Alcohol weakens the heart, by dilating the organ and diminishing its motor power. It induces nervous weakness by under-nutrition of the central organs, of the nervous system, and of the abdominal organs. Coffee weakens the heart for the reason that caffeine exerts a degenerating influence upon the heart muscle. In the course of years, it leads to over-excitation and fatigue of the heart. With special reference to the combined action of alcohol and coffee, the author points out that the daily consumer of alcohol and coffee first weakens and paralyzes his heart power with alcohol by dilating and thinning out the heart muscle, and then compels it by means of coffee to work to the limits of its capacity, under these weakened functional conditions, the two agents together accomplish a supplementary process of destruction which gradually and systematically undermines the normal condition of the organ. Abstinence is just as advisable in regard to coffee (and tea) as in regard to alcohol. The caffeine-containing beverages should be more universally replaced by mated drinks and harmless herb infusions.

REVIEWS AND COMMENTS

Studies in the Psychology of Sex—Erotic Symbolism, The Altruism of Detumescence, The Psychology of Pregnancy. By Haeckel Ellis. \$2.00, net. Philadelphia, F. A. Davis Company.

Anything from the pen of Haeckel Ellis, will well repay a careful reading and research. The various volumes which he has written on the *Psychology of Sex* have opened a new field of study, of most practical interest.

The present volume is a very suggestive contribution and ends with a practical chapter on the *Psychic State in Pregnancy*.

The first chapter of the book on *Erotic Symbolism* is exceedingly valuable study, bringing out facts which have never been grouped before.

There are some interesting observations on "the Influence of Alcohol and Opium in these Conditions," and taking it altogether, it is a most interesting volume on a subject that is not well known, as a contribution to the psychology of this subject, it should have a place in every library.

* * * * *

Prize for Pay, by Willis P. King, M. D. \$2.00, Kansas City: The Barton Co.

The title of the book has a sensational ring and while describing the contents in one way, fails to convey to the reader the rich mine of facts which the author has gathered. The book is a collection of stories of persons who have exaggerated their injuries and deceived companies, and posed as injured ones in courts of law for the purpose of receiving pay for real and imaginary damages.

The author's object in describing these various cases is to show the intense selfishness and cunning of persons who try to take advantage of railroads. The cases are written very graphically and the points of interest brought out with great clearness.

Some of the stories are fine illustrations of shrewd detective work, and knowledge of human nature, but the impression from them as a whole is unpleasant, greatly diminishing our faith in humanity, particularly of persons who are hurt on railroads. Many of the incidents are startling and if appearing in any other form would be considered fictitious.

If the author had made a different grouping of these facts, making prominent the medical jurisprudence aspect, it would have been a startling contribution to this department of medicine. We suggest that he make such a study of these cases along new lines. The material is ample for a very valuable contribution to science. A present it is a most entertaining narrative form of incidents that are intense, with railroads and layman. The book deserves a wide reputation and will be recognized as the new side to corporation perils from a rapacious public. The author is not only a veteran surgeon, but a writer, who has in this and other works erected a monument to his future reputation. We commend this book to all our readers, and hope the author will do more work in this field, on a broader line.

* * * * *

A Primer of Psychology and Mental Disease, by C. B. Ross, M. D. \$1.50, net. Philadelphia, F. A. Davis Co.

Dr. Barr has grouped a very important mass of facts on this subject, which is particularly valuable to the general practitioner as well as the student of mental diseases. The chapter on "Intoxication Psychosis" is very clear and satisfactory, and is practical by a new treatment of the subject. The general facts in the treatment are made clear, and this last edition of the work with its full index gives the book increased value. For a busy man who cannot read long accounts of mental disease, this work will meet a general want, and for the medical student, no work could be more practical.

Surgical Suggestions, by *Walter M. Brinkner, M. D., and Eli Moschowitz, M. D.* 50 cents. *New York: Surgery Publishing Co., 1906.*

The idea of grouping together in an epigrammatic way practical suggestions and hints for the surgeon, is very happily executed in this little volume, and the general practitioner will find very many hints that will clear up many obscure points. Often works of this kind are far more practical than more elaborate treatises.

The Influence of the Mind on the Body, by *Dr. Paul Dubois*. Translated by *L. B. Gallatin*. 12 Mo. Cloth, 55 cents. *New York, Funk & Wagnall Co.*

The authors reputation gained by the epoch making work of the "Psychic Treatment of Nervous Disease," is fully sustained in this little brochure. The following sentences will confirm this: "By the fact of heredity and of Atavism we are born already influenced in a certain direction, we enter this world more or less, well or ill endowed.

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Good Health, published in London, and edited by Dr. Olsén the Superintendent of the Caterham Sanitarium, is a most suggestive journal with a breezy air, giving a great variety of facts on questions of health in such a popular readable way, as to make it a journal of value to every reader. It has an immense circulation and can be found on all the news stands, and is bought the same as a daily paper, at 2 cents a copy. Several of the later numbers take up the popular decisions of the day, and in brisk plain paragraphs, tell the readers something of the dangers concealed in the various drugs and nostrums. Such a journal is greatly needed in this country, and would have an immense sale and do a work in reforming the masses and breaking up the delusions of foods, and drugs, and teaching sanitary science.

* * * * *

The Popular Science Monthly, continues as usual in presenting a great variety of most suggestive scientific papers, presented in a popular style, and fully illustrated. It is one of the best science Journals, that comes to our table, and we commend it to all our readers.

* * * * *

Problems of Diet, by Alice Braithwaite, author of "Plain Dinners" and "Starve Foods in Health and Sickness," etc. London: R. J. James.

This little book of 150 pages is a very suggestive study from the popular standpoint of diet, and should have a very wide circulation. The author is particularly happy in many of her views, and the manner of presenting them, and no doubt the reader, will be grateful for grouping and clearing up many of the obscure problems associated with this subject. We shall be pleased to review this book at some length in a future number.

* * * * *

The Homiletic Review, deserves special mention, as one of the most valuable exchanges. It is a most suggestive monthly, even to laymen, and is published by a house that has given some very excellent medical works to the world. A subscription to this Journal for a year, will be a most acceptable present to all students and thinkers.

* * * * *

The following table of causes are published by the English commissioners of lunacy, in their recent report of 21,000, persons admitted to the government institutions, during the past year.

	Males.	Females.
Hereditary influences ascertained	19.2	25.0
Previous attacks	16.02	22.3
Intemperate in drink	22.5	9.2
Domestic trouble	3.5	8.7
Adverse circumstances	5.8	3.6
Other mental anxiety, worry, overwork	5.15	8.0
Love affairs	0.5	1.9

These proportions are thought by the commissioners to be but minimum figures, and that the actual number made insane by drink is double that mentioned in these figures. Also that the term "Hereditary" describes a very large class of cases that should be prevented in the near future.



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The facts that the American imports of opium amount to a million, two hundred thousand dollars, annually, has suggested the inquiry why, the poppies could not be cultivated in this country? Which will yield opium and its alkaloids of equal value to that imported.

Most of the opium brought to this country, comes from Turkey. The best opium is grown near Smyrna, and assays as high as 13 per cent. of morphine.

A small amount of opium comes from India, but this is not considered as strong. In the Department of Agriculture, the Bureau of Plant Industry has taken up the subject to determine if there are not climates in this country, where the poppy can be grown cheaper and stronger than that imported. The methods of growing it in Turkey and India are very crude and wasteful and it is assumed that American ingenuity and intelligence could grow the poppy cheaper and more luxuriantly than elsewhere.

Experiments are now being made in the upland districts of Vermont, Texas and California. So far, the poppies grown on the hillside and valleys of the green mountains, seem to be richer in alkaloid. Those in Texas and California yield greater, but are less valuable in the salts extracted from them. These experiments have not yet been carried far enough to determine all the facts, but they are among the most promising, and indicate that opium will be grown in this country, and probably, we shall be able to be exporters, rather than importers in the future. The cutting off of the Chinese market for the great opium fields of India will force the growers out of business, and this will break up the poppy growth and culture in the East.

Dr. Dressler, Kraschitz, Germany, in a recent paper on the muscular power of alcohol, asserts that alcohol in all doses is depressing, and poisonous to the body. The effect of alcohol increasing the excitability of the motor nerves, may increase the first stage of muscular action, but this diminishes rapidly, and finally disappears. It forces the blood faster through the arteries, but gives no increased muscular power, but rather impairs it.

The fictitious strength which it creates is false, and cannot be confirmed by measurements with instruments of precision. The muscular energy and the keenness of the senses are all lowered, and the power of endurance is diminished. The person is deceived and does not know it. There is no drug in common use so dangerous, and misleading and about which so many errors have gathered.

In Nebraska, the State Board of Health, have revoked the license of a number of physicians, for this and other reasons, and the circuit court, has sustained them in their power to delicense any physician who has failed to properly perform his duties as a physician.

The North Carolina State Board of Medical Examiners, have decided to withdraw the license, to practice medicine in that State to any physician, whose addiction, to alcohol or drugs has unfitted him to properly practice. They urge County societies, everywhere to join and co-operate with them in this.

* * * * *

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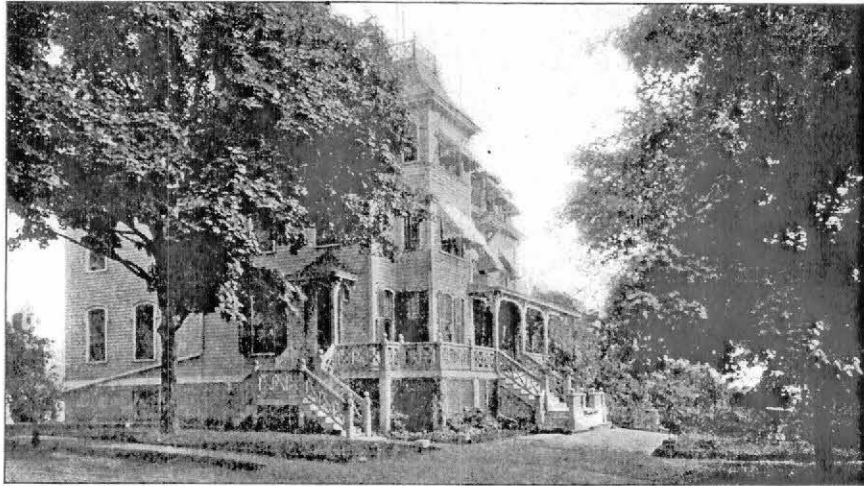
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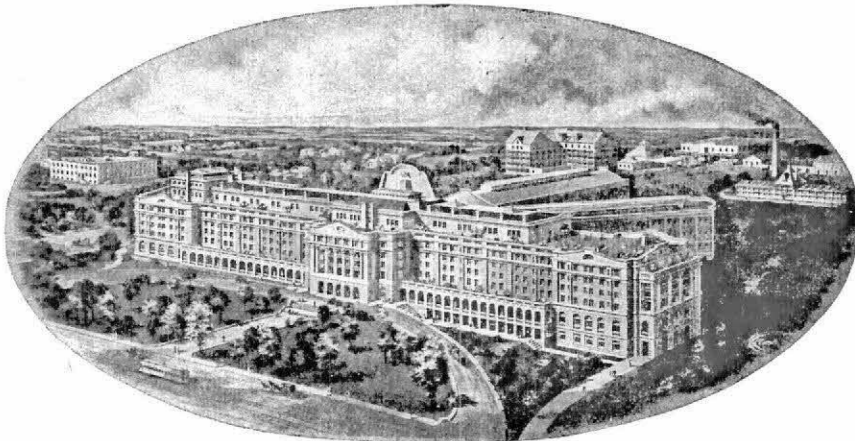
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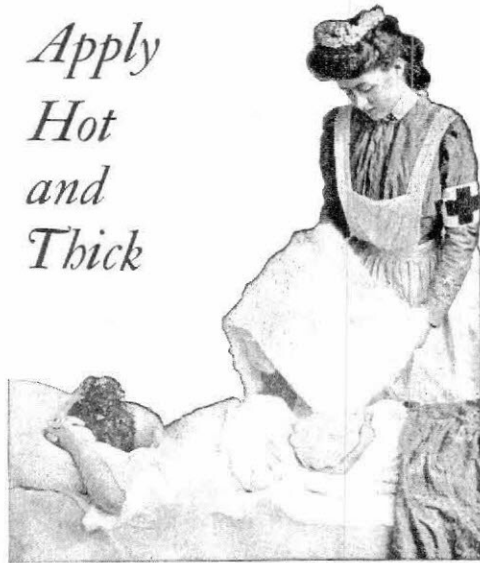
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Incorrigible, offensive, and insane patients are not received.

Antiphlogistine

(INFLAMMATION'S ANTIDOTE)

*Apply
Hot
and
Thick*



Enterocolitis, Cholera Infantum Peritonitis

In acute inflammatory conditions of the intestinal tract Antiphlogistine will be found of great value. It will not take the place of proper diet and internal medication, but by relieving the local congestion and soothing the nervous system, it will be found to be an inestimable adjuvant. :: :: :: :: :: ::

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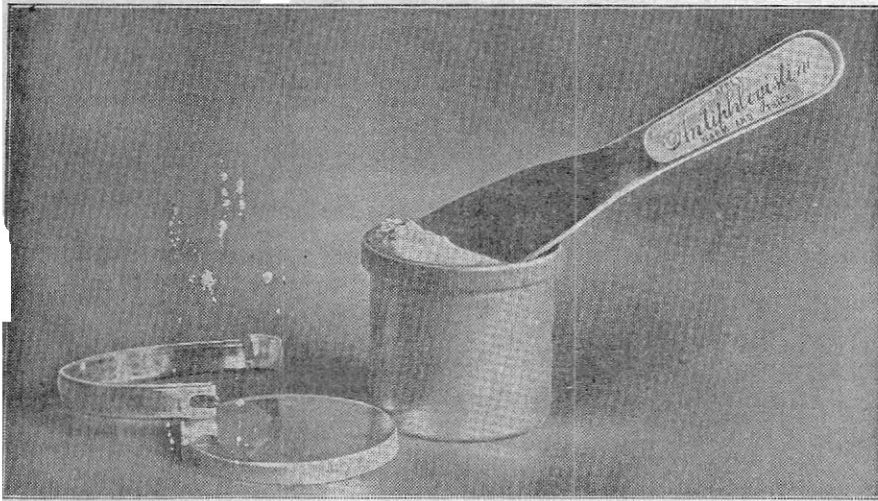
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"GET RESULTS"
—
ANTI-KAMNIA
TABLETS
(OPPOSED TO PAIN)
—
THINK IT OVER
THAT'S ALL

Antiphlogistine

(Inflammation's Antidote)



THE SPATULA

oftentimes will make unnecessary

THE SCALPEL

if it be used for the application of Antiphlogistine hot and thick in the various inflammatory and congestive conditions.

ANTIPHLOGISTINE

*Depletes Inflamed Areas
Flushes the Capillaries
Stimulates the Reflexes
Restores the Circulation
Bleeds but Saves the Blood*

The Dental Chemical Manufacturing Company

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NEW YORK

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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

24

Thirty years ago THE JOURNAL OF INEBRIETY was established for the distinct purpose of teaching the medical public that Inebriety was a disease, both curable and preventable.

As result of its work, the disease of Inebriety is today recognized as one of the most serious of all the evils which threaten civilization, and the longevity of the race.

A new realm of medical practice has been opened to the physician, and this Journal is its organ and exponent.

It stands alone in the work of grouping the facts and conclusions from clinical and laboratory studies, along physiological, pathological and therapeutic lines.

The special object of this Journal is to make the physician acquainted with the causes and conditions of Inebriety, and assist him to apply scientific, curative and preventive measures.

Inebriety exists in every community of the country, and the medical man should be the authority to determine all questions of prevention and cure from a scientific rather than a theoretical point of view. Hence, this Journal appeals to every practical and progressive physician to take up the subject and become a student in this new border-land psychosis.

RICHARD G. BADGER, PUBLISHER, THE GORHAM PRESS, BOSTON

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CALCALITH

(Calcium Carbonate Compound, with Colchicine.)—Abbott

Formula: Repurified calcium carbonate, grs. 10; lithium carbonate, gr. 1; and colchicine, gr. 1-500; in aromatic combination.

An efficient remedy for most manifestations of the Uric-Acid Diathesis—useful in Lithemia, Gout, Nephrolithiasis, Lumbago, Urinary Hyperacidity, Uric-Acid Eczema, Phosphaturia, Gravel, Rheumatism, Etc.

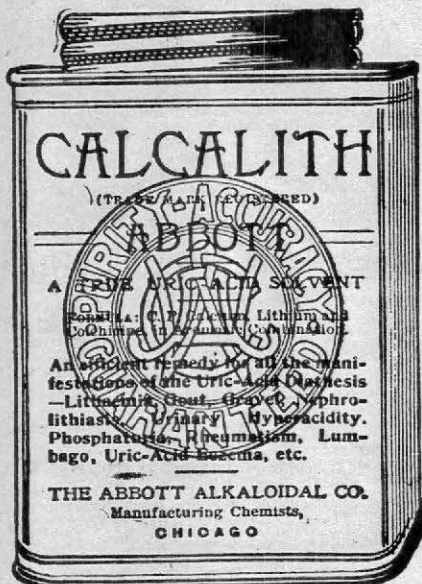
Many so-called "uric-acid solvents" have been tried and found wanting as to practical results, because, although they dissolve uric acid in a test-tube, they do not do so in the body fluids. Elimination of residues and prevention of deposit is the essential thing and Calcalith does this more positively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

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"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."



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THE new Pure Food and Drugs Act requires all manufacturers to sell their products under a guaranty, and a general guaranty should be filed in the office of the Secretary of Agriculture at Washington.

The following is a copy of a letter issued from the Department of Agriculture to us:

DEPARTMENT OF AGRICULTURE
Office of the Secretary
WASHINGTON

November 1, 1906.

*The Antikamnia Chemical Company,
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Gentlemen:—

Your guarantee as to the character of the materials manufactured and sold by you, given in accordance with Circular 21 of this office, has been received, found to be in proper form and is regularly filed. The serial number attached thereto is No. 10.

Respectfully,

W. M. HAYS, Act. Sec'y.

All Antikamnia Preparations are sold under this guaranty and our Serial No. 10 appears on every package sold under the new law, thus assuring the medical profession of the absolute reliability of these pharmaceuticals.

**THE ANTIKAMNIA CHEMICAL CO., ST. LOUIS, MO.,
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Antiphlogistine

(Inflammation's Antidote)

USED IN



Pneumonia

as adjuvant

Pleurisy

as anti-algesic

Bronchitis

as prophylactic

Apply in all cases at least 1-8 inch thick,
as hot as patient can bear comfortably and
cover with a plentiful supply of absorbent
cotton and a bandage.

THE DENVER CHEMICAL MFG. CO.
NEW YORK