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ABSTRACT

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Entered :

The Quarterly Journal of Inebriety

SPRING, 1912

THE ELDERTON STUDIES OF THE INFLUENCE OF PARENTAL ALCOHOLISM

BY DR. C. STODDARD OF BOSTON, MASS.

THE question of the relation between the use of alcoholic liquors by parents and the physical and mental status of their offspring has engaged the attention of a number of careful investigators. The painstaking researches of Professors Bunge, Hodge, Laitinen, Demme and others is at once recalled by mention of the subject.

It is also well-known that the statistics furnished by these investigators were obtained from large numbers of families, carefully classified, and that they confirmed the opinion handed down from antiquity and verified by medical and lay experience, that defective physique and mentality in the child is a very common association with alcoholic indulgence by the parents.

AN EXCEPTIONAL STUDY

Considerable surprise, therefore, has been aroused by the announcement that a memoir by Ethel M. Elderton, "Galton Research Scholar in National Eugenics in the University of London," finds practically no relation between parental alcoholism and the condition of offspring.

The arrival of this memoir, however, and a careful examination of its pages at once explains the secret of its unusual finding.

ABSTAINERS LEFT OUT OF ACCOUNT

The first notable fact is that no non-alcoholic class is used for comparison. The differences studied are the differences between the children of moderate drinkers and the children of immoderate drinkers. We are told in the memoir that the class called "sober" are those who are considered not to use enough to interfere with their health or their

homes, and those called "drinkers" are the ones who, "in the opinion of trained social workers, assisted by the judgment of police and employers, are drinking more than is good for them and their homes."

This last class only are the "alcoholics," and the "sober" and "temperate" are the "non-alcoholics" of the Elderton memoir. "Teetotalers," we are distinctly told, were so few—in the data chosen—that they could not be considered separately and were classed with the "sober."

THE DATA SELECTED

It is greatly to the credit of teetotalers that they were so thinly represented in the data selected, for it consisted of:

1. The parents of mentally defective children in a school for feeble-minded in Manchester; and
2. Families visited and reported upon by the agents of the Charity Organization Society of Edinburgh.

Those in the first category were classed by the original compiler simply as "Temperate" and "Intemperate." Those in the Edinburgh collection were originally listed as "Teetotalers," "Sober," "Drinks," "Suspected to Drink," "Drinks in Bouts." These five classes were merged in the Elderton memoir, into "Sober," "Drinks," "Bouts."

AN OBSCURE TREATMENT

Lack of definiteness is found throughout the memoir. There is no statement as to the number of families or the number of children studied, nor the basis of classification. One is left to stumble along in the dark until he discovers here and there a clue which can be worked out to furnish the needed information. We are, however, introduced to a new method of operating statistics (explained in another publication), whereby the relation between the children of "sober" and of "drinking" parents is expressed in "correlation coefficients," the one for "drink and height for constant age," for example, appearing as $.04 + .03$.

THE POINTS OF COMPARISON

The specific points of comparison were: Physical development, intelligence, general health, and vision, in which was

included a study of the effect of environment.

Taking the points of comparison in order, we are told concerning the first that "there is slightly greater weight and height in the children of the 'sober' than in those of the moderate users."

From the averages of height, weight and age given in the memoir it has been possible, by the aid of a standard table of measurements, to compute and present in tabular form, as below, the figures showing how much the children of the moderates would exceed the children of the immoderates upon reaching the same age.

PHYSICAL SUPERIORITY OF MODERATES OVER IMMODERATES

Children of	Greater	Greater
Moderate Drinkers.	Height.	Weight.
Sons.	$\frac{1}{2}$ inch (.47)	9.6 oz.
Daughters	$\frac{3}{8}$ inch (.39)	12.75 oz.

It must be held in mind that these small differences are not between the children of alcoholics and of non-alcoholics, as would be inferred from a casual reading of the memoir, but between children of the more or less slightly alcoholic and those of considerably alcoholic. The differences that might have been shown by a truly non-alcoholic class may be inferred by recalling the comparative weights at birth of children of abstainers, moderate and immoderate drinkers reported by Prof. Laitinen. More than 5,000 families were represented, and over one-fourth of them were abstainers. Prof. Laitinen's figures were:

WEIGHT OF CHILDREN AT BIRTH

Children.	Boys.	Girls.
Of abstainers	140.02 oz.	129.44 oz.
Of moderate drinkers.....	133.32 oz.	126.62 oz.
Of immoderate drinkers.....	130.49 oz.	122.03 oz.

The heavier weight of the children of abstainers stands out clearly, especially if tabulated.

EXCESS IN WEIGHT

	Boys.	Girls.
Children of abstainers over those of moderate users	6.7 oz.	2.8 oz.

Children of abstainers over those of im-	Boys.	Girls.
moderate users	9.5 oz.	7.4 oz.

DIFFERENCES IN GENERAL HEALTH

Children of moderates over those of im-		
moderate users	2.8 oz.	4.6 oz

The finding in regard to general health in the Elderton memoir was the remarkable one that there were more sound and fewer sick children among the offspring of immoderates than among that of the moderates. This is partially offset by the fact that more of the children of the immoderates died young. The figures for Manchester and Edinburgh, given separately, are:

COMPARATIVE PERCENTAGES OF CHILD MORTALITY

(Manchester Parents):	Father.	Mother.
Moderate drinkers	25.8	26.5
Immoderate drinkers	33.5	33.8
(Edinburgh Parents):	Father.	Mother.
Moderate drinkers	28.9	28.4
Immoderate drinkers	32.1	33.4
"Bout" drinkers	32.7	36.1

Further evidence that the non-alcoholic parents are missing from the Elderton inquiry and that only moderate and immoderate ones are compared, is furnished by the Laitinen report of child losses. The figures of that report are:

PERCENTAGE OF DEATHS AND ABORTIONS (MISCARRIAGES)

	Young Children.	Abortions.
Abstainers	13.45%	1.07%
Moderate drinkers	23.17%	5.26%
Immoderate drinkers	32.02%	7.11%

Here is a remarkable similarity between the child mortality in Prof. Laitinen's moderate and immoderate classes and that of Miss Elderton's "sober" and "drinking" classes, while she has no class where the rate falls to nearly half, as among Prof. Laitinen's abstainers.

Miss Elderton inclines to the belief that the higher rate among drinking mothers is due probably more to their proneness to accidents and carelessness than to any toxic

influence. But the very low rate of abortions among abstainers, shown by Prof. Laitinen, indicates a toxic influence at work in the moderate and immoderate parents before accidents and carelessness can count.

THE PROPORTION OF DISEASED

Miss Elderton found even fewer epileptic and tuberculous children in the families of immoderate drinkers than in those of the moderate. Prof. Bunge, on the other hand, found the frequency of these diseases keeping step with the frequency of the father's drinks. On a definite basis, according to the amount they drank, he divided a large number of fathers into four classes: Occasional, habitual moderate, habitual immoderate and heavy drinkers. The corresponding percentages of tuberculosis and nervous diseases in their descendants were:

PERCENTAGE OF DISEASES IN CHILDREN

Fathers.	Tuberculosis.	Nervous Diseases.
Occasional drinkers	6.4	4.3
Regular moderate drinkers	9.4	7.6
Regular immoderate drinkers	17.1	11.1
Heavy drinkers (drunkards)	24.2	22.2

The Elderton report of the very elaborate inquiry into the vision of the children tabulated, as well as the final summary, is vitiated by the continued assumption that only the heavier drinkers are alcoholic and that the temperate may be taken as non-alcoholic. When, therefore, we read, "there is no substantial relationship between goodness of sight and parental alcoholism," and that "on the whole the balance turns as often in favor of the alcoholic as of the non-alcoholic parentage," we are obliged to interpret it into: No substantial relationship was found between physical or mental defects and the varying degrees of parental alcoholism investigated.

If the Elderton memoir has any scientific value, therefore, it is as a denial of the oft-repeated assertion that there is a wide difference between use and abuse of alcoholic liquors.

IS ALCOHOL A HEART STIMULANT?

BY JOHN M. SHALLER, M. D., FORMERLY PROF. PHYSIOLOGY,
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YES! Just as nitro glycerine is.
Yes! If relaxing the arterioles and thereby flushing the capillaries of the skin, brain and skeletal muscles is stimulation.

Such remedies as alcohol, opium, atropine, nitro-glycerine act through the vaso-dilator nerves upon the involuntary muscle fibres of the smaller arteries.

These medicines would therefore naturally produce their best results in such conditions as are accompanied by spasmodic conditions of these involuntary muscle fibres.

Innumerable experiences show, that in angina pectoris and in colics of the hollow viscerae, the surface is cold and pale, which can be produced only by diminishing the amount of blood in the cutaneous capillaries. Relief is usually obtained in these conditions in proportion as the blood is returned to the surface. This is brought about by the administration of any of the above mentioned remedies. Digitalis is the most important of heart medicines and is the truest heart tonic and stimulant. It constricts the arterioles, by toning their involuntary muscle fibres, and it acts similarly upon the cardiac muscle fibres. It causes muscular activity, produces strength of action, and actually increases the size of the muscle fibre through digitalis exercise. The heart beats slower, with more vigor, and the blood pressure is increased. This is true cardiac stimulation, which unfortunately cannot be quickly produced.

Digitalis is therefore no value in emergency, where a few minutes is all the time there is, in which to produce effects.

The term stimulant seems to embrace quick action. By cardiac stimulation is meant the increase of the force of systolic action as well as the blood-pressure. The increase in blood-pressure can be produced only by constricting the arterioles, and not by dilating them. Alcohol cannot therefore produce this kind of "stimulation."

The effects of alcohol upon the circulation are opposite to those produced by digitalis. The arterioles are relaxed through paralysis of the vaso-constrictor nerves. In fact contracted muscle fibres are relieved of their enforced tension by alcohol. This permits the blood to flow into the surface capillaries, and unloads the crowded veins in which the blood has been accumulating during the emergency.

In internal congestions and in colics, this filling up of the internal veins is the cause of paleness. The veins are the only reservoirs which have the capacity to hold the blood forced out of the smaller arteries by muscular contractions.

To relieve the overfilled veins and return the blood to the cutaneous and muscle capillaries is a very important matter, not only to relieve pain, but sometimes to save life. This action of alcohol, or of nitro-glycerine, opium or of atropine is not stimulation, it is relaxation, or perhaps better dilation.

The warm blood refills the capillaries of the skin, brain and skeletal muscles. There is a pleasant sensation of increased heat with the relief of pain.

Our great grandfathers, in medicine, called this "stimulation," and obediently we have followed them. In some things, we have been compelled to discard much of their teaching. They saw all that was possible to be seen in that candle light period. Today we have brighter lights, our illumination is greater, we shall soon be in the radium light, therefore, we must correct the erroneous teachings of former darker periods. By still using the term "stimulation," as applied to alcohol, we do not mean the actual strengthening of the heart beats, accompanied by increased blood-pressure; but what we do mean, and what really occurs is, that the blood is simply transferred from overfilled veins to the commodious capillary system. The pressure is thus taken off of the venous heart, and in so much is the heart relieved and able to resume its former action. This may be misinterpreted as stimulation of the heart action.

Stimulation is a pat term. We are accustomed to it and it has come to mean a great deal after so many years of active use. But it would be more in accord with medical

advancement to use the term BLOOD DIVERTANT, for that is what actually takes place. Naturally it does not sound as vigorous as stimulant, but the results are obtained and the normal distribution of the blood follows.

The so-called cerebral stimulations accompanied by transitory sensations of general well being, by increased mental excitement, by changes in disposition and traits, ranging through the gamut of wit to stupidity, affection to hatred, liberality to penuriousness, are all narcotic effects. This is later followed by deeper narcotism, which may embrace any degree from mere dullness of intellect to profound coma. Increased supply or flow of blood through the brain will not of itself produce these changes.

It is impossible to give even the smallest physiological dose of alcohol without obtaining its narcotic effects.

Alcohol is a narcotic which cannot produce its so-called "stimulating" effect independently of its narcotic one. They are identical.

The effects produced by the social glass, are not stimulating, but narcotic. If we will but take the pains to compare the effects of alcohol with those of opium, we will find that they are similar.

As long as we keep these thoughts in mind, when describing alcohol, there can be no mistake, for then we know that when we administer alcohol, we do so because of its narcotic property.

The rapidity with which narcotic effects are produced is probably a matter of more or less personal experience with each of us. As soon as the flushing of the face is felt, accompanied with fullness of the head and the sense of general well-being, just so rapidly are the narcotic effects of alcohol produced.

The so-called cerebral excitement shown by increased liveliness of manner or of speech, follows the above primary effects. The narcotic effects are the first to be produced, probably the only one. Without them, relief, in all acute conditions, accompanied by coldness and paleness of the surface, could not follow their administration.

Alcohol is a powerful inhibitor of the higher nerve centers.

It would be impossible for many men to act foolishly, immodestly or criminally, unless the higher centers were paralyzed, which permits lower traits to come to the surface.

Stimulants cannot produce such effects as narcotics do. The so-called period of "stimulation" is one of exhilaration, of delirium, caused by narcotism.

No one doubts this when marked indications are present. We should be careful not to confuse mental excitement with narcotism or with the delirium of disease or with cardiac "stimulation."

PROVISION FOR DRUNKARDS AND INEBRIATES IN NEW YORK

BY FREDERICK PETERSON, M. D., NEW YORK, PROFESSOR
OF PSYCHIATRY IN COLUMBIA UNIVERSITY

THE crusade against alcohol now prevailing all over the world has for its generals such medical men as Sir Victor Horsley in England, Bunge and Forel in Switzerland, and Kraepelin in Germany. The noticeable activity of physicians in the alcohol war is new. There are several reasons for this. The extraordinary progress of medical science in all directions during the last three decades led naturally to the study of the effects of alcohol upon the individual, upon society, and upon the race. We had been living rather securely in the tradition that alcohol has always been with us, that most of the people of the world who have reached the crests of development have been free users of wines and beers, and that if alcohol carried with it any peril to the race, mankind would have degenerated long ago. But a closer investigation has shown us that drinking was not so widespread in ancient days as now. All liquors contained less alcohol. They could not brew beers all the year round, having no ice machines. The strongest drinks had not been invented, the whiskeys, brandies, cocktails, bitters, and absinthe. There were no bottles and no railroads and consequently less distribution of the beverages. There was more of country life, fewer and smaller cities, and as a result fewer saloons. They had not learned from wise doctors that it is safer to drink whiskey and water than light wines and beers. With easier transportation, cheaper and quicker methods of manufacture, the introduction of the stronger drinks, and with the wider and wider diffusion of the idea that alcohol was a food, drinking became more general and alcoholism enormously prevalent. A century or two ago there were no insane asylums to point a moral, and we had no startling facts to rouse our leaders in preventive medicine. We had no statistics like these for instance:

Of the 150,000 insane in the United States, 30,000 owe their insanity to alcohol.

It is stated that there are 365,000 arrests annually in this country for drunkenness.

Provisions for Drunkards and Inebriates in New York 11

* Twenty-two per cent. of epileptics (Craig Colony) and forty-one per cent. of idiots and imbeciles (Bicetre) had alcoholic parents.

It is estimated that there were 4,000,000 paupers in the United States in 1904 (Hunter), and alcohol as a cause of pauperism has been placed as high as fifty per cent. (Boies).

Intemperance is given as the cause of seventy-five per cent. of all crime committed in this country.

The statistics of general hospitals as to the physical visceral diseases due to alcohol are not easily obtained, but that they would add enormously to these items is certain.

If one take the English basis of \$770 as the per capita valuation of a life we have an economic waste in the United States of over \$1,500,000,000.

With such figures in mind the medical profession should be interested in any and every effort made to remedy these evils. There is at present pending before the Legislature of New York the Grady-Lee Bill which aims to provide for New York city a special hospital as well as an industrial colony for the treatment of inebriates, somewhat like the scheme of the Craig Colony for Epileptics.

The plan proposed in the Grady-Lee Bill was prepared by the State Charities Aid Association after a careful investigation of the experience and laws of other States in the union, and in particular the experience of England which has had special institutions for the treatment of inebriates for the past thirty years. The plan recognizes that the question is not exclusively a penal one as it has heretofore been treated in this State. On the other hand, it does not go to the extreme and say that the problem of public intoxication and inebriety is purely a medical one, but acknowledges frankly that the problem is at once a medical and social one, and it therefore aims to substitute medical and remedial measures so far as possible for punitive measures in dealing with the problem of public intoxication and inebriety.

The special hospital and colony buildings which the plan includes would be located on a large, tillable farm where an abundance of healthful out of door work can be given to patients. The institution would be under the supervision

of a medical officer and it is believed that, in addition to the possibility of restoring many cases, the institution would also be of very great value by affording an opportunity to medical men to observe these cases for an extended period in an isolated institution, and that much valuable clinical and pathological material could thus be accumulated which might serve as a basis for a more adequate study on the part of the medical profession of the problem of successful treatment of alcoholism.

One feature which is novel to the law of the State of New York, but which has been adopted in Massachusetts, Connecticut, Pennsylvania, Iowa, Minnesota and Nebraska, is a provision which will make it possible for inebriates to be committed to the institution. At present there is in this State no general provision by which habitual drunkards can be confined for treatment and reformation in any institution against their will no matter how seriously they are in need of such protection and treatment, nor how great a menace they may be to their friends and relatives, unless such persons are arrested for disorderly conduct or public intoxication and are then committed to a penal institution which affords no possibility whatever for any remedial treatment and which leaves the person worse off than before his commitment. The law, if passed, would provide that an inebriate who is incapable of properly conducting himself or his affairs or is dangerous to himself or others by reason of habits of periodical or constant drunkenness induced either by the use of alcoholic or other liquors, or of opium, morphine, or other narcotic or intoxicating or stupefying substance, may, on his own initiative apply to a civil court for his commitment to such an institution. If he is not inclined to apply voluntarily, the law provides that his relatives or the trustees of Bellevue and Allied Hospitals or the Commissioner of Public Charities may so apply, and if their application shall be accompanied by the certificate of two medical examiners in lunacy such a person can be committed by the judge to the institution for a period of not less than one year nor more than three years.

The measure also provides that persons may be com-

mitted to the institution by the police courts of the city on an indeterminate sentence. It, however, provides that before such commitment shall be made, every aid shall be made by special officers, of the institution, who are called field officers, to make it unnecessary to commit such a person to the institution. The field officer acts as an investigation officer for the court and also as probation officer, and the law provides that persons arrested for public intoxication may be put on probation under the supervision of one of the field officers and if necessary a fine may be added which can be paid in instalments to the field officer provided, however, that if the person does not respond to either of these, he shall be committed to the institution on an indeterminate sentence.

It is believed that the establishment of such an institution as is contemplated by the Grady-Lee Bill, if managed wisely would mark a very distinct step in advance in recognition of the medical aspects of the problem and in intelligent efforts to cope with it. Until the medical fraternity recognize that the problem is one which falls primarily upon them there cannot be very much progress in dealing with it.

In looking over the literature one finds that nearly every drug of any reputed sedative action has been highly recommended; even chloroform in half ounce doses was used. In our own cases I must say I do not know whether the hypnotics did any good or not. We are apt to draw conclusions from too small a number of cases. Thus, at one time we used the bromides hypodermically in twenty-five per cent. solutions. The first few cases gave wonderful results, but afterwards even doses as high as sixty grains gave no results except abscess formation. It is interesting here to note that in no other disease showing delirium are hypnotics used so constantly as in delirium tremens, yet the conditions may be very similar. In regard to the amount of hypnotics to be used opinions vary. Lambert says "small doses of hypnotics are worse than useless. They are ineffective, and the patient wears himself out by incessant thrashing." Hare says: "If sleep is difficult to obtain it is better to tide over the difficulty by moderate doses of hypnotics than to push excessively, as sleep is usually in-

duced on the second or third day.' Crothers considers the use of hypnotics to be dangerous.

Morphine is probably the most commonly used hypnotic because of its ease in administration. It is probable that the hypnotics when given by mouth are absorbed very slowly. therefore it is better to use them hypodermically if possible.

In later years hyoscine has come markedly into favor. A feeling grew in our hospital among the doctors and even among the nurses that deaths occurred after hyoscine, which were due to the hyoscine. Lambert says that hyoscine seems to excite, especially women. Wagner (18) used hyoscine in chronic alcoholics and concluded that it had very little sleep producing qualities. One of his patients was thrown into maniacal delirium after its use. One must remember that morphine sometimes has an exciting effect. Thus one might increase the morphine with the excitement and do a great deal of damage. One of our fatal cases seems suggestive of such a result.

Chloral hydrate and the bromides were used very frequently in our cases. The chloral was given sometimes in as high as twenty grain doses and the bromides in as high as sixty grain doses. Neither of these seemed to exert any marked effect in the severe cases.

Certain conditions to be met with not included in the foregoing.

Restraint. Most authors advise as little restraint as possible, using even a padded cell if necessary. With our patients we were forced to fasten hands to the side of the bed, and feet to the foot of bed. We would advise complete restraint unless a reliable attendant can be constantly present. Sometimes the patient when apparently quite good would get up and start to wander around the hospital. One such patient fell upon the floor, striking his head. Pneumonia and the signs of fractured skull developed in twenty-four hours. Operation was impossible. One must be very careful with restraint used about the shoulders for fear the patient may strangle himself in twisting.

Under this heading we may put the so-called vasoconstrictors such as digitalis and ergot. One patient drank

accidentally a half ounce of tincture of digitalis and recovered. From this on digitalis grew into favor used in high doses. In the last few years it has tended to fall into disuse, especially in the very large doses.

Ergot, hypodermically, was brought out by Livingston in drug addictions and alcoholism. Since then Lambert has used the hypodermic preparations quite extensively.

Extract of ergot.....	zi;
Water	zi;
Chloroform	miii.

He used 30 minims of the mixture, every two hours, for ten days without abscess formation. He says that this preparation reduces tremor very markedly. His statistics from Bellevue are very interesting. Thus 8,099 cases were treated without ergot with 2.7 per cent. mortality; 1,995 cases were treated with ergot with 1.5 per cent. mortality. He attributes this difference in mortality to the prevention of wet brains by the use of ergot. Its use was based on the idea of delirium tremens being a vasomotor paralysis with cerebral effusions especially in wet brains. One can hardly regard delirium tremens as a vasomotor paralysis unless in some way localized to the cerebral vessels because the blood pressure is usually higher than normal. In a few cases of the wet brain type lumbar puncture was used. The pressure of the spinal fluid was not taken. There was no marked benefit; however, this method was used only in extreme cases. Strychnine was used in conditions of weakness.

Conclusion: One may summarize the conclusions as to treatment as follows:

1. Restraint sufficient to prevent patient doing himself injury.
2. Feeding predigested and easily digestible foods, probably best in combination with hydrochloric acid.
3. Elimination by catharsis and intake of abundant fluids.
4. Certain other methods of treatment, such as the use of hypnotics, alcohol, ergot, digitalis, strychnine, are still more or less doubt as to their value.

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A STUDY OF ALCOHOLISM

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THIS study embraces about 400 consecutive cases admitted to the alcoholic ward of the Kings County Hospital, Brooklyn, N. Y., besides a number of interesting cases admitted at other times and to other wards. The patients were studied only so long as they could not be discharged from the hospital. The cases with delirium occupy most of the study.

Most of our cases of delirium tremens were from whiskey. Only one case was from beer only. Most of the cases occurred in chronic drinkers after exacerbation of drinking. Some cases occurred in chronic drinkers after cessation of drinking. One of our patients had never drunk until he had some domestic trouble. Ten days of hard drinking brought on one of the most severe forms, resulting in death in twenty-four hours after onset.

From our study the cases with delirium may be classified as follows:

1. The Ordinary Form. This is familiar to us as a delirium with marked tremor coming on after prolonged alcoholism, usually starting in with tremor, loss of appetite, sleeplessness, and hallucinations of hearing and sight. The delirium may be of all stages, varying from only a few hallucinations to the wildest excitement. In the milder forms the patient answers questions quite readily and will do what he is told; in the more severe forms he disregards his surroundings and will pay no attention to questions or commands. The duration of the excitement stage usually does not last more than three or four days, the excitement gradually becoming less; usually after a sleep the patient will wake mentally clear. The delirium is usually worse at night; some of the patients that have been in the ward several days and are apparently normal may set up a severe delirium at night. Some of the patients that are recovering and are apparently normal during the day set up a mild delirium at night. This may happen over a period of two or three days. The textbooks in general seem to emphasize too much the hallucinations of seeing snakes and frightful objects. Very

many of the patients, especially in early stages, are constantly picking imaginary things from bed, walls, etc. During the excitement stage, the pulse is rapid and in most cases in which we were able to take blood pressure readings, the tension was higher than normal, say 160 to 170, dropping down after recovery to from 120 to 130.

Some of the patients were delirious, restless, and excited to the last breath, others gradually became quieter until recovery, or gradually quieter and weaker until death. The few fatal cases that we have watched during the final outcome showed respiratory failure before cardiac failure; the heart continued to beat full and strong for some time after respiration had ceased.

2. Convulsive Type. Under this heading we do not consider epilepsy with its accentuation by alcohol, but a type characterized by general convulsions accompanied in the intervals by delirium or coma. There may be only three or four such convulsions in the twenty-four hours, gradually becoming less frequent and less severe until the patient clears up. In some of our cases the convulsions occurred three or four times in an hour with death in eight to ten hours after admittance. In none of our cases did the convulsions last longer than thirty-six hours, the result being recovery or death in less than that time. As a rule one could make a pretty certain prognosis at the end of twelve hours. One of our patients had almost typical strychnine convulsions, the attacks coming on every five minutes. This patient had previously had no strychnine so far as could be ascertained. This patient recovered.

Percy (1792) (1) described a form of convulsion after drinking, saying that excess of drinking was apt to cause convulsions in those of nervous temperament. James Bird (2) described an epileptic type occurring in hot countries with five deaths out of seven cases. Later writers emphasize the tendency to convulsions after the use of absinthe.

3. Wet Brain or Serous Meningitis. One seldom hears of this form outside of the city hospitals. It was first described by Dana (3), and his description is an excellent one. This type is characterized by low muttering delirium,

moving constantly of the arms and hands, weakness, and irritability, the patient resisting all passive motions, especially when made quickly. The skin looks dry, the mouth is usually open and dry, the eyes are usually slightly open and if not cared for closely show a pus discharge. The patient never sleeps. The condition may develop gradually, taking three to ten days to develop, or it may follow the ordinary excitable delirium. The pulse is usually rapid, the temperature may vary a little above normal, 99 to 101 F. As the disease becomes more pronounced there is marked Kernig's sign, with stiffness of the neck muscles, or even some retraction of head. Dana considers that most cases that show retraction of head will turn out fatally. This seems to be true of the chronic cases. However, a few patients will show retraction of the head for only a part of a day and recover rather rapidly. In many of the fatal cases the patients never show retraction of the head or Kernig's sign; but merely become weaker and die. The delirium is of the so-called typhoidal type.

The patient may slowly recover, becoming gradually brighter mentally and stronger physically. The duration is sometimes as long as eight weeks. Even after getting out of bed, the patients are weak and recover slowly, just as after any other long sickness. In these cases that turn out fatally the patients become weaker, until death is reached. In a few patients the hyperpyrexia form develops. One of the patients reached a temperature of 100 F. before death with no signs of pneumonia. When the disease lasts any length of time there is a tendency to bedsores as in typhoid. None of the patients had retention of urine. Two convalescents had marked faecal impactions, which caused a great deal of trouble. In none of our patients have we found hydrochloric acid present using milk as test meal. The coagulation time of the blood was taken by means of Wright's tubes in all classes of alcoholic patients. In a few of the cases of wet brain with emingeal symptoms the time was delayed to from seven to ten minutes. In a majority of the cases there was no delay. We may illustrate the changes in coagulation time by one case:

Case.—Male, age forty-five, admitted November 1, 1906. Had been drinking heavily for four weeks, eating little. Patient looked quite well when admitted except somewhat anaemic. Heart and lungs were practically normal. Patient became irrational on evening of admission. Temperature 101 F.

November 2d.—Irrational coagulation time three and one-half minutes.

November 3d.—Irrational and drowsy, coagulation time six minutes.

November 4th.—Irrational, muscular tremor and rigidity, pulse tension 135, coagulation time four minutes.

November 5th.—Irrational, tremor of hands; patient resisted all passive motion, pulse tension 160, coagulation time nine minutes.

November 6th.—Irrational, rigidity of muscles of neck, muscular tremor, pulse tension 165, coagulation time eight and one-half minutes.

November 7th.—Patient slept some; rigidity of neck muscles, pulse tension 160; 10 p. m., temperature 105 F., respirations 38 a minute, pulse rate 130, lungs everywhere resonant on percussion.

November 8th.—Death at 5.45 a. m.

This case shows nicely the high pulse tension in delirium and changes in coagulation time; however, the wet brain cases seldom show as high tension as the above case. These peculiar changes on coagulation time occurred in only a small number of our cases. None of our patients showed any noticeable tendency to hemorrhage such as nose bleed, purpura, excessive bleeding of wounds, etc.

The test meal seemed to disappear quicker from the stomach of the alcoholic patient than from the stomach of the ordinary patient. One of our patients showed markedly the depressant action of the stomach tube. He was admitted comatose with no history. An effort was made to wash out the stomach and put in some hot coffee, but the introduction of the tube caused a cessation of respiration, which was restored with difficulty. About ten minutes later a second attempt was made to introduce the tube; this caused

a cessation of respiration, which could not be restored again.

On looking at the mouth of a patient, especially of the wet brain type, one sees there is little salivary secretion, and as our analyses showed diminished hydrochloric secretion, one might conclude that the pancreatic and intestinal secretory activity is also diminished, but unfortunately the stools were not studied as to whether the food was digested or not. On the basis of loss of secretory activity of the stomach, we used milk in combination with pepsin and dilute hydrochloric acid (two drachms of hydrochloric acid to one pint of milk), and in some cases combined with whiskey. This mixture, tried on two wet brain cases, in which the patients had previously been fed on milk and eggs, gave quite a marked temporary improvement. The use of hydrochloric acid seems especially good because of its digestive action, and because it has been shown by Dolinsky (13), using dogs with pancreatic fistula, to be an extremely good pancreatic stimulant from its action on the duodenum. This is also true of lemonade. Crothers emphasizes the good results of acid drinks in many cases and recommends alkaline drinks in other cases. One of our cases set up a secondary delirium when put on alkalis; however, three other cases tried in similar manner showed no such results. The alkalis were shown by Becker (14) to diminish gastric activity.

If we do not use alcohol in our feeding, it seems rational to use foods as near alcohol as possible, namely, the carbohydrates and fats. The older theories were that alcohol reduces the oxidizing power of the cell; if this is true we should recommend the feeding of carbohydrates and fats to replace a part of the large amounts of proteids that are usually given. The work of Reid Hunt (15) shows that the oxidizing power of the cell is increased in relation to certain substances and he thus accounts for the increased tolerance for alcohol in chronic drunkards.

The importance of food is shown by the condition; if the patient has eaten well during the debauch, the prognosis is very good; whereas, if he has eaten nothing during the debauch we feel very anxious about him, even though he is

not delirious. One writer has called delirium tremens a delirium of starvation.

To promote the action of the excretory organs: Here the first thought is for free catharsis kept up daily. Some think that calomel and gray powder are good from their action on the liver. Magnesium sulphate seems to be one of the best.

In 1901, Warbasse, of Brooklyn (16), used saline intravenously; since that time this method has been highly recommended by certain of the French writers. If alcoholic delirium is a toxæmia this seems a very rational procedure. There is usually a good deal of trouble in giving an intravenous injection to this class of patients, and as routine it seems hardly practical.

One of our patients who had gradually become weaker and who had every appearance of rapidly becoming worse drank about one quart of water and set up a profuse sweat. The condition of this patient improved greatly in less than one hour. From this time on our endeavor was to have the patient drink as much water as possible. The large amounts of water seemed to give better results than any other method of treatment; especially was this true if there was any fever. Most of the authors speak of using the eliminative powers of the body, but do not emphasize drinking water in large amounts. Collins recommends hot packs, trional, and copious drinks of hot water to overcome motor unrest. This seems mostly an eliminative measure. Crothers speaks very highly of elimination. The interesting point here is whether the intravenous saline injections and the drinking of water in large amounts will increase the meningeal effusions. From our cases one could not draw such a conclusion. There seems to have been no bad results in this way from using large amounts of water in typhoid.

Hot packs and hot baths are spoken of very highly by many authors. This method of treatment was not used in any of our cases, but it seems a very rational method of treatment if there is not too much depression.

To allay excitement and promote sleep: In most of our cases of delirium some form of hypnotic was used, usually

morphine hypodermically, bromides, chloral, paraldehyde, and occasionally hyoscine. The lack of sleep is such an important symptom that the disease was at one time called delirium vigilans. Ware (17), in 1838, after studying only a small number of cases, decided that the disease usually stopped after a few days and that opium was harmful and tended to prolong the delirium. He decided that some of the patients die even after they have slept.

4. Delirium with Hyperpyrexia. This may occur with the active delirium, thus one patient who was thought to be in quite a good condition showed a temperature of 105° F. In two hours this rose to 107° F., followed shortly by death. Or the hyperpyrexia may occur in the form of internal congestion; the patient is weak and semicomatose, the pulse is weak, the body feels about the ordinary temperature, but the hands and feet are cold. Rectal temperature may be from 107 to 108.5° F. The patient may last ten to thirty-six hours, but in every case the final outcome is death. Two of our patients with hyperpyrexia had hemorrhage from the bowel before death. At post mortem examination the vessels of the intestines were found to be very much distended with blood, otherwise the post mortem examination was negative.

It is very seldom that one sees in the wards a temperature reaching 107° F. except in the alcoholic and cerebral conditions. Some of the meningitis cases reach this high; in one postoperative case for broken neck the temperature ranged around 107° F. for about six hours before death. A few of the patients with fractured skulls had a very high temperature.

Mangan in *Gazette medicale de Paris*, 1873, spoke of alcoholic delirium with temperature reaching 105° F. and higher, but considered this as abnormal. However, if this is true one cannot well understand why it would not occur more frequently in other than cerebral conditions.

I have seen only one patient with a temperature of 105° F. who recovered. Lambert (4) brought out this point in his studies at Bellevue.

5. Korsakow's Psychosis. Only one of our patients

showed this peculiar condition of polyneuritis with confusion and weakness of memory.

The most common complication of alcoholic delirium is pneumonia. In our cases pneumonia was less often a complication than reports indicate in other hospitals. In many of our cases it seemed that the chest became more resonant than the ordinary chest. One is apt to overlook pneumonia in delirium tremens.

Traumatic or secondary delirium differs little from the ordinary except that it is more fatal. Most of our cases resulted from fractures, lacerations, or local infections. Most of the erysipelas patients, who had drunk heavy, became delirious, and most of the deaths from erysipelas occurred in heavy drinkers. Very many of the severe local infections in the surgical ward were in chronic drinkers. One of the French authors has well brought out the point that chronic alcoholics are more prone to delirium than are other patients.

Diagnosis.—The diagnosis of the alcoholic case is usually easy, yet one is apt to confound any case of delirium or coma with one of alcoholism. The patients with fractured skulls and uraemia were particularly liable to be put in the alcoholic ward until closer study revealed the difference. One patient with typhoid fever was admitted to the alcoholic ward, one patient with acute maniacal delirium was transferred from the surgical ward as an alcoholic case.

Some patients of the wet brain type with slight albumin in the urine were extremely interesting in regard to diagnosis, several of which we were not able to decide. One such patient with discharge from the ear and leucocytosis was operated upon for brain abscess; however, none was found. A post mortem examination was not obtained. One patient with cerebral irritation after basal fracture showed typical alcoholic delirium for weeks, yet there was no history of alcoholism. One occasionally sees the delirium of pneumonia resemble very closely that of alcoholism.

Under the head of treatment of alcoholic delirium we shall discuss somewhat the methods at present in vogue and the conclusions drawn from our cases. The opinions even

among the better authorities are frequently contradictory and sometimes confusing. Unfortunately this malady seems to have been studied so little from a clinical standpoint. Even physicians seem to lay most stress on it from a sociological standpoint. Some authorities consider the malady as a toxæmia, others as a vasomotor paralysis either with or without cerebral effusion; while most of the textbooks pass by this point altogether.

In the treatment of most diseases the first indication is to remove the cause, and probably by a majority of the specialists in treatment of alcoholic delirium this is done. However, at present it sometimes seems doubtful whether this is best or not. We know that a person who is accustomed to drinking and is suddenly stopped feels depressed. It is generally acknowledged that a few alcoholic patients, when suddenly deprived of alcohol become delirious. With morphine and other drugs, we know that sudden stoppage causes great temporary depression. We see a few patients who have drunk heavy over long periods of time come in the ward in quite a good condition and fairly rational, become weaker and die when deprived of alcohol.

Some of the authors speak favorably of the use of alcohol:

Cushny (5): "In delirium tremens it is often necessary, or at any rate advisable, in these cases to allow small quantities of alcohol, as the sudden withdrawal may aggravate the condition."

Shoemaker (6): "A deprivation of the accustomed stimulant may be followed by an outbreak."

Hare (7): "As a rule it is necessary to give a certain amount of alcohol, sometimes it must be given very freely. When the pulse fails, becomes frequent and weak, and the skin becomes cold and clammy, alcohol must be given in full doses."

If alcohol is merely a toxic body it should be stopped; if it is a food or stimulant to which the body is accustomed, it seems rational to continue the alcohol in small doses. Many practitioners use alcohol in large doses in pneumonia and other infections. The work of Laitinen (8) is interesting

in regard to this. He showed that chickens, dogs, pigeons, and guinea pigs when inoculated with the germ of anthrax, diphtheria, or tuberculosis, die sooner when fairly large doses of alcohol are used than do controls without the alcohol. In only a few of our patients was alcohol used.

Treatment: We may classify treatment: 1, To properly feed the patient; 2, to promote the action of the excretory organs; 3, to allay excitement and produce sleep; and 4, to meet certain other conditions not included in the above.

Coues (9), in 1867, was probably the first to call attention to the necessity of careful feeding. Collins (10) has especially brought out the point of using predigested and partly digested foods. Crothers (11) advises against feeding for a few days and insists upon solid food. In most of the city hospitals there is an idea that forced feeding is a very essential point. The patients usually receive milk and raw eggs. The ordinary delirious patient usually takes liquid nourishment fairly well and seldom vomits. The real necessity of careful feeding comes in in the treatment of the weakness following the active delirium and in wet brains.

In the stomach analysis of about forty cases, using Ewald Boas test meal, the total acidity was decreased in every case except one patient with delirium from beer; this was normal. In probably half of the cases there was no free hydrochloric acid present. Chittenden and Mendel (12) have shown that alcohol increases the secretory activity of the stomach. The gastric contents of a few of our patients coming in merely drunk showed no hydrochloric acid. One person not accustomed to alcohol was given three and a half ounces of whiskey in broken doses and a test meal. This showed decreased hydrochloric acid, while a test meal made the following day showed the normal amount. A stomach analysis of a few cases of alcoholic delirium showed no hydrochloric acid present even three to four days after recovery, yet there were no symptoms of gastric disorder.

THE TREATMENT OF ALCOHOLISM

BY L. M. GATES, M. S., M. D., SCRANTON

FEW subjects can be found more deserving of attention and few are more neglected, than the treatment of alcoholism. I do not have to quote statistics from our almshouses, hospitals, reformatories and jails to prove this proposition as you all know that a large percentage of their inmates are there as the result of the use or abuse of alcohol. If anyone is skeptical of its economic importance, let him go home and consult the unpaid accounts on his ledger and reflect that a large part of the money that should have paid him went into the coffers of the saloon keeper, or that the debtor was unfitted to earn it on account of drink. Or, if doubtful as to the physical consequences, let him refer to his case book and figure out the amount of disease and degeneracy, inherited and acquired, attributable to this cause.

For a subject of its importance it is given little attention by the text-books on medical practice. Except for mania a potu, Flint and Osler give practically no treatment, and Pepper's System is but little better, what there is found there being of little practical value. Anders and Wilcox are somewhat better, but lacking in definiteness and system. As a result of this neglect by the leaders and teachers, the profession has given such patients little encouragement; and they have been practically driven to the advertising charlatans fair, but usually financially unfair. A little careful study of the conditions to be met and a systematic application of the means at hand to the individual case would have made us helpful to this class of patients and they would have been profitable to us.

Although all may be relieved from their immediate craving for drink, with sociologic and political conditions as we find them to-day, but a small per cent. of those who have a settled habit can be permanently stopped from drinking. The permanent result of treatment is practically determined by the mental attitude of the patient. The man, who comes to you, who has from any cause become a slave to drink

so that he must have his dram about so often in order to keep his nerves steady, but desires sincerely to be relieved from his bondage and is willing after his craving is relieved to so change his habits of life as to avoid temptation, can most certainly be cured. But the man who comes against his will, a wayward son brought by an indulgent but disgusted father or weeping mother, can, by a little watchfulness on the part of the doctor and restraint by a nurse, be relieved of necessity, that is, craving for drink; but he will probably return to it. Even detention in a hospital will not avail unless mental and moral influences can be brought to bear and ambition aroused for higher and better things.

Practically alcoholics can be classed under three heads, though close analysis might subdivide each class.

First, we have those who are not impelled to drink by urgent desire but when occasion presents they get drunk. Among these is the young man that gets drunk when he goes out with his companions, the farmer when he goes to town, and the laborer on pay-days. Such a one will have two drunks a month on semi-monthly pay and no drunk if the pay is omitted. The cure of such people is an especially hard proposition, as the habit is dependent on social conditions which must needs be changed to restrain such irresponsible individuals from drinking. This class serves as reserves from which to recruit classes two and three.

Second, there is the man to whom the craving for drink comes like a "brain storm," either as the natural outgrowth of frequent overindulgence in the past, or a weak, unbalanced nervous system, the result of inheritance, disease or over-work. Such persons require a long course of treatment and sometimes a complete change of environment or detention in a hospital past several periods in order to break the nervous habit.

Third, we have the regular drinker who must, or thinks he must, have about so much, an increasing quantity, each day in order to steady his nerves, with an occasional extra booze. That some men may continue to drink moderately all their lives while others under similar cir-

circumstances become drunkards is accounted for only by difference in temperament.

For most of these in all three classes there is no need for hospital treatment, except for a day or so until the stomach is settled and natural sleep can be obtained, and a nurse or even friends at home can usually meet the conditions. An occasional patient who has become a mental and physical wreck will require institutional treatment, and without the hospital will need guarding until the system is built up and the will strengthened. Even these patients if put under too great restraint will return to drink as soon as they are free.

Usually the sooner the patient is returned to his regular occupation and put upon his honor and made to feel self-reliant, the quicker and surer will be the cure. Every patient must be warned against overconfidence, as a single drink will arouse the old desire and prove his downfall. Patent medicines containing alcohol, tinctures, cordials, coca-cola, essence of ginger, etc., must be warned against as most sure to arouse the old craving.

On beginning treatment the doctor should try to gain the full confidence of the patient and should assure him that he would not be allowed to suffer from the withdrawal of his usual narcotic (I purposely do not say stimulant as some do, for I do not so class alcohol). It is best to at once interdict the use of alcohol in all forms. The old fears of bad results from immediate and total withdrawal are unfounded, as proper medicinal treatment will ward off bad effects. So long as even a little alcohol, as with opium, is used, so long will the system rely upon it and your patient is not cured. The cardinal points in the successful treatment of the alcoholic are immediate withdrawal of the drug, elimination of the deleterious and poisonous compounds in the blood and alimentary tract, restoration of the diseased and perverted organs to their normal functions, and incidentally, until this is accomplished, moderate sedation.

Probably the most hopeful subject is the regular, continuous drinker who thinks he can not get along without his dram and to whom future possibilities seem alarming

and this slavery has become irksome. Such a one can be freed from his bondage and continue his usual employment unless the dissipation has been excessive, when a day or so at home will enable him to get control of his nerves so that he can go on with his work.

The tongue of such a patient will be found heavily coated, the breath peculiarly foul and the stomach and bowels, from imperfect digestion, a regular sewer. The first indication, then, is the correction of these abnormal conditions and thorough catharsis meets this indication. Calomel with cascara and ipecac or podophyllin with cascara may be used, and if these are not sufficiently active, follow by Seidlitz powder or citrate of magnesia. As a result of the elimination of ptomaines there will follow a cleaning up of the tongue, sweetening of the breath, relief from sickness of the stomach and return of appetite, prevention of mania, and notably relief from craving. Nor should we be satisfied with a single purgative; as, for the first few days of treatment laxatives should be given daily, so that the bowels move several times a day, and throughout the treatment any tendency to constipation should be met or anticipated by their use. To the neglect of this most essential element in treatment, along with too great reliance upon nerve sedatives, such as bromids, chloral, morphine, etc., do I attribute the failure of former treatments to accomplish satisfactory results. Not but that moderate sedation will be needed to tide over the nervous reaction and help to relieve the craving for drink.

The use of sedatives should begin as soon as the cathartics have taken effect to relieve the trembling and nervousness and to produce sleep at night, but should be gradually withdrawn as soon as natural sleep is obtained and the craving for drink relieved. Moderate doses of hyoscin hydrobromate, 1-200 gr., with sodium bromide, with a larger dose at night accompanied by a trional powder, accomplish this. Sometimes a single dose of paraldehyde at night will be needed to produce sleep. Atropin or stramonium to the point of dryness of the mouth will help in controlling the nerves and relieve the desire for drink; and aromatic

spirits of ammonia in full doses has a sobering effect and is also useful to relieve depression.

The present and after effects upon the nerves of chloral and morphine are so deleterious and so similar to alcohol that it seems rather a substitution than a cure and should not be resorted to except in extreme cases uncontrollable by other milder and more rational means. During the first few days of treatment the doctor should see the patient several times a day. If the patient can be trusted, or is not too nervous or prostrated, he can come to the office; otherwise, the doctor should visit him. By this means the dose of laxative as well as the nervine can be graded to the present need, and most of all he will thus have the sustaining influence of the doctor's encouragement. The psychic element must be reckoned with in the impressionable state of the patient's mind, so the frequent calls, two or even three times a day, will help impress the patient that you are doing all possible for him.

After the craving is relieved, tonics and restoratives, as strychnine, gentian, the phosphates or hypophosphates, with good, nourishing, easily digested food should be administered and the nerve sedatives such as bromids, hyoscin, trional, etc., withdrawn as soon as sleep can be obtained without, and all medication withdrawn before the patient is discharged as he must be taught self-reliance.

While under treatment the patient should have impressed upon him that intoxicating beverages of all forms are used solely for the alcohol in them and its effects; that alcohol is not a stimulant, but a narcotic and a motor depressant, and that it is for the narcotic effects that it is taken; that alcohol is poisonous and not beneficial to the system, except in rarest cases when given as other poisons temporarily, as a medicine; that under all circumstances alcohol lowers vitality and the power to resist disease and diminishes strength and endurance, and if continued permanently injures such vital organs as the stomach, liver, kidneys, heart and nervous system.

To insure permanent results patients should be encouraged to follow some regular employment that does not tend to

throw them in the way of temptation. They should have impressed upon them the entire lack of necessity for drink under all circumstances, the degrading effects of drink, and, if possible, have them brought under the influence of moral and religious society, and their talent enlisted to help other unfortunates. Some nervous and physical wrecks will require prolonged care in a hospital or sanatorium in order that the system may be restored to a normal condition and the will strengthened. Even then, with social conditions as they are to-day (although perhaps better to-day than ever before, as drink was never more frowned upon), many will relapse. Prevention is far better than cure, but that is too large a subject for my limited time; so I will close with the wish that we may soon see the time when temptation to drink is not thrust in the pathway of every man.

SOME DIFFICULTIES IN ORGANIZING AN INEBRIATE ASYLUM

BY DR. THEODORE DILLER OF PITTSBURG, CHAIRMAN OF THE
COMMITTEE FOR THE ORGANIZATION OF INEBRIATE
HOSPITALS IN PENNSYLVANIA

THE following abstract of an address by Dr. Diller, delivered before the Social Science Association, will be of interest.

“There is no question that inebriety is a disease, and that the evils following from it are startling in the highest degree. There are many questions concerning the disease side, that are still in dispute, but there can be no doubt as to the possibility of its cure and prevention, and the questions that concern us most intimately are what can we do? We in this state of Pennsylvania have made an effort in this direction, very much the same as that which has been attempted in New York.

Six years ago the Pennsylvania Medical Society took up this matter and appointed a committee for the purpose of endeavoring to secure through the legislature, a state hospital for inebriates, believing that such a hospital would offer the best chance for a certain number of possibly curable inebriates. This committee has been steadily in existence ever since, and has been before the legislature three different times. The first time the bill didn't get through; the second time the bill went through for a hundred thousand dollars and the good governor from Philadelphia (not Pennypocker) vetoed it; and at this last legislature, although the bill was endorsed by the state board of charities, it never reached the governor. We asked for a hundred thousand dollars.

Our committee is still in existence, and we propose to go before the legislature again. We have in the state of Pennsylvania a so-called inebriate law, which was passed in 1903. This law, briefly, provides that any person may be committed by a judge of a court, for a period of not exceeding one year on the certificate of two physicians and after a

hearing before a judge to "a proper hospital or asylum," within the state. Now, under that act a number of inebriates have been committed to various institutions; and where have they been committed, they have been committed to lunatic asylums. That is the only place they can be committed to. This is an anomaly; it is wrong. Here are men not convicted of a crime, not certified to be insane, and yet who are illegally detained in a hospital for the insane. The decent insane object to him; they don't want him there. The superintendents of hospitals for the insane are unanimous in saying that he is an apple of discord that he creates trouble. The inebriate himself very much objects to going there. He goes there under protest that he is not insane; he says that he will go to some descent sort of a place which is the proper kind of a place for him; and when he is sent to the asylum (and how many of them have gone to Kirkbride's and friends and all the state hospitals have had them); and superintendents all of them with great unanimity say they don't want them. He goes there with an antagonistic attitude of mind. He goes there feeling that he is going to the wrong place, feeling that an outrage has been done to him in committing him to such an asylum; and we must too, have some sympathy with his feelings.

So we felt that we had a good argument with which to go before the legislature. We had this law; we said briefly, "You have provided a law governing the subject of inebriety; and the law contemplates a proper hospital or an asylum; therefore, create one." That is a logical step; and we hope that the state may yet make some appropriation to begin the erection of such a hospital.

Now, we need something broader than this: we need something—some such measure as New York has attempted; we need some board of inebriety that will deal with the whole subject. It goes without saying that only a certain number of individuals would be suitable for such a state hospital for inebriates if it were created. Certainly, we could not put a man there who got drunk for the first time at a college ban-

quet, nor if he got drunk for the second time. Such a hospital, if it were to serve its highest possibilities of usefulness, should, in my opinion, not take men who have any criminal record, but men who were simple inebriates.

Now, there are a great many inebriates who are of the chronic class, which are as hopeless as Dr. Lewis has painted them. Such a hospital for inebriates as we have in mind, (although I speak for myself: I think those who have been associated with me have had the same idea), would be particularly for curable cases. There should be some other separate institution for the inebriate who is a vagrant; and I quite agree with our friend Mr. Lewis, that this class is hopeless, or well-nigh hopeless and that should they be in the same institution, they should be in a separate department or division of it. The board of trustees of such an institution should have discretionary power as to the sort of cases that should be admitted.

If we had such an institution, it would be an entering wedge to the discussion of the whole subject of inebriety; and we might get a general board of inebriety, with branches in the various cities; so that we could take up this whole subject in a systematic and intelligent way, instead of the haphazard, *laissez-faire* manner in which it has been considered in Philadelphia. Pittsburg is not nearly as bad as Philadelphia. I remember my experience at Blockley Hospital when I was serving my apprenticeship after coming out of the medical school; and we had the greatest number of inebriates and repeaters. These men came to Blockley drunk; and they were back after a week drunk; and the next month drunk, sometimes twice in the same week; and anyone who knows anything of the subject, knows how they go from jail to workhouse; from one hospital to another. Our city hospitals take no care at all for the cure of the disease of inebriety, because these people don't want to be cured, particularly: they simply want to stay long enough to get over the drunk.

Now, for the cure of inebriety there are a few things

that are required; and they are so simple that anyone can understand them. There must be, I think, a general agreement among intelligent men and women, in the first things that a man who shows persistently a lack of control, or a lack of control of desire for liquor, and to get repeatedly drunk so that he is dangerous to himself and a nuisance to others—this man needs to be segregated. He needs a certain time element for a cure. He needs to have the best sort of surroundings; he needs to have plenty of work; he needs to have plenty of recreation; he needs to have the best sort of moral and religious uplift; he needs, in other words, to live as nearly a normal hygienic life as possible, which would be well regulated in some such inebriate colony as we have in mind for the state of Pennsylvania.

Now, I have here, copied from the excellent report by Mr. Bailey B. Burrit, some of the propositions which he has made as to the needs of the drunkards, as to the things which we should consider in our work to deal with him; and these seem to me so pertinent, so well drawn up, that I have had some typewritten copies made; and I shall pass them around, asking those who are particularly interested, to retain a copy and put it in their pockets.

Now, I don't know why we can't do more in Pennsylvania. What do they tell us at Harrisburg, when we go down there? Well, they listen; and they look—many of them—as though they wanted to get away as soon as possible, from our importunity (and we try to be brief in talking to them); but my conviction is that there is a general feeling that the inebriate is an uninteresting person. He is distinctly an unpopular person, unless it happens to be your brother, or your son, or your father: then it is a tremendously interesting question. Relatives of inebriates go to physicians and they say: "Oh, Doctor, what shall I do with my boy? Why, where shall I send him? Can't you tell me some place I can send him?" And the doctor tells the person of the state law. "Well, where shall we send him under this

law?" "Send him to the lunatic asylum." "But we don't want to send him there." "Well, it is the only place we can." "Why don't you doctors do something? Why don't you get the proper sort of a place to put my boy in, or my husband in, so that he will have some sort of a chance?"

Physicians cannot recommend these quick cure places, that cure them absolutely in 60 days, in competing with other places that cure them absolutely in 30 days, and still in other places, who have cut down the time to two or three days, I believe. They are irrational, and they are unscientific, and many of them pure fakes.

Now, that is our position here in Pennsylvania. We are trying to have a state hospital for inebriates. We ought to have it. We ought to have more than that, and we ought to have a workable law governing the whole subject, as applied to the two great cities, at least. Now, we have been very much encouraged within the last year or two by the commendation of the state board of charities. The state board of charities has considered this matter patiently and has commended our scheme in their last report—thus: the proposed state hospital for inebriates was commended by them; and it augurs well for things in Pennsylvania that although only a few people will come out to a gathering of this sort, that busy men in our community and men of affairs—important men composing the state board of charities—are here to-night in great numbers.

There should be no doubt about our duty in this matter. We should push every effort possible to secure the organization of a hospital and begin the work with the best possible appliances at our hand. It is no experiment but simply a question of housing and taking care of persons who need such restraint and who without it would become criminals and burdens on society, and by it may be restored and become respectable citizens.

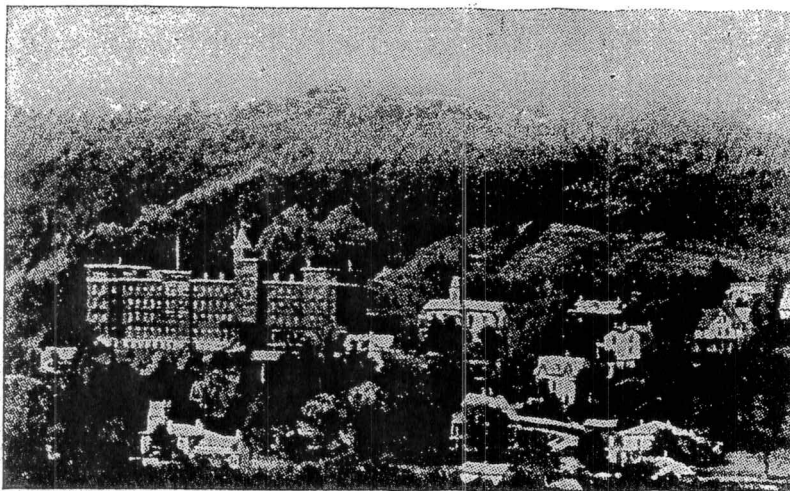
The claim that we make to provide a hospital for the control of these persons has as much justification as that of any other institution under the care of the state.

I believe this statement can be verified by facts undisputable, whenever the public understand that the inebriate is a burden which can be removed, there will be no question of means and measures to provide for his care and control.

I ask all of you to recognize this matter and do practically what you can to create a larger interest and help push through this most important charity of the day.

GREAT AMERICAN SANITARIA

THE JACKSON HEALTH RESORT



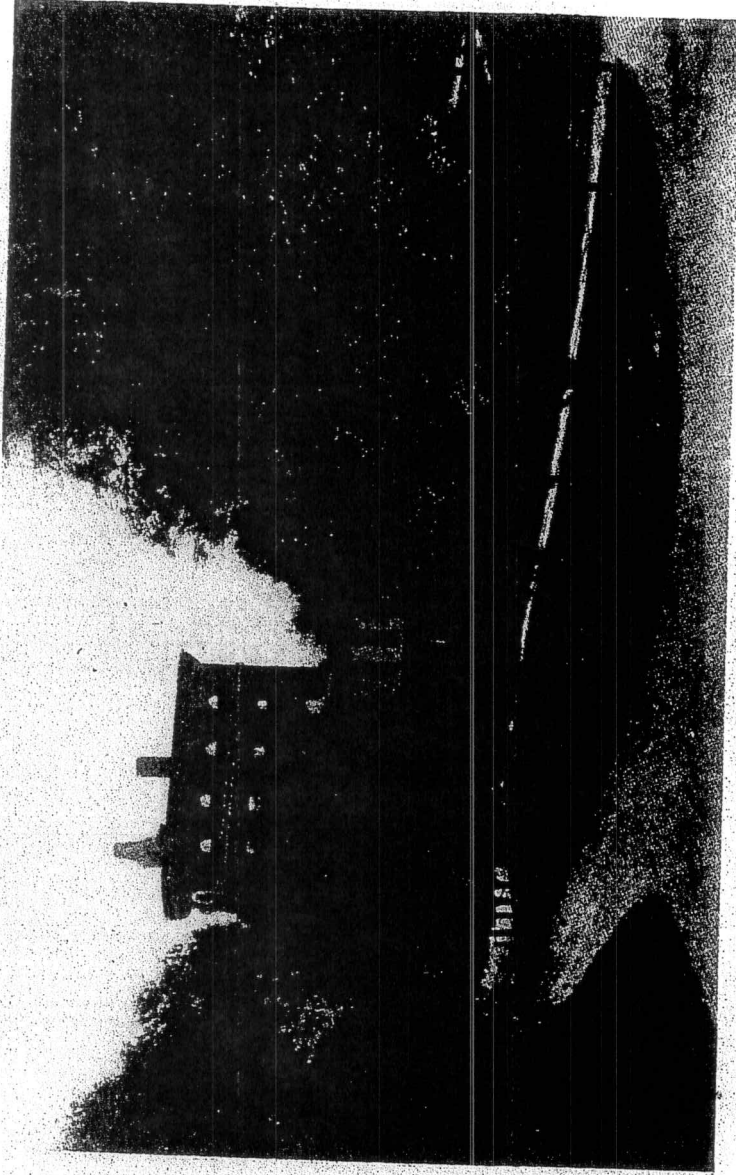
GENERAL VIEW OF THE JACKSON HEALTH RESORT FROM A DISTANCE

WHILE co-operation, as evidenced especially in the tendency towards the formation of combinations of capital, seems to be the keynote of present-day progress, it is none the less true that history only repeats itself in proving that nearly all enterprises of great pith and moment are the conception of one great mind. Never was this better instanced than in the case of the well-known Jackson Health Resort at Dansville, New York.

Only four years ago this summer its first half century was celebrated, and the whole spirit of the exercises breathed one profound tribute to its founder, Doctor James Caleb Jackson. Doctor Jackson in the light of the wonderful record of the Dansville institution, seems to have been as much a man sent from God, as was his prototype, the Evangelist St. John. He came in a day when the dawn of rationalism in healing was just beginning to break. To the fire of spirit of a genuine apostle, he added what in his day and realm, was almost unknown, the calm rational temper of the Scientist. He not only founded his institution as on a rock, but he lived to see his second and his third generation in direct line continuing the work as greatly as he had begun it. The Dansville Health Resort is today one of the first healing institutions in the whole world, and it is domi-

nated in every detail by the spirit of its founder, although methods have naturally changed since he inaugurated "Our Home on the Hillside," in 1858. It was intended, from the day it first opened its doors, to be the ideal American home of rest and restoration for the invalid. Drugs were abandoned; rest of body, soul and spirit, among nature's most charming scenes, an ideal ethical atmosphere, and the most careful selective diet, were the great rational means of cure. And they have done their work until the great Dansville institution stands today absolutely unrivalled among the foremost "cures" of the world.

This great health resort is situated in a hill and dale environment of very much the same character as that which surrounds Baden-Baden. Its founder sought and found the two great essentials of a "Cure," which was to look direct to nature for results, a high altitude in good air among pleasant natural scenes, and a clear mountain-fed spring of great remedial value. While it dwells upon a hillside high above the pollutions of the common air, it is sheltered by friendly hillsides that rise still higher. Every advantage of the temperate zone is here gathered. Some of these are swift-running streams, a dry porous soil, ever-green forest growth, a climate equable and genial, and an exceptional dryness and purity of atmosphere. The hottest of summer days here bring only cool nights in their train. The winters are mild and equable, and there is but little snow. There are only two parts of the whole United States, according to government statistics, which enjoy the same low degree of humidity:—the pine forests of Northern Michigan and the dry plains of the farther west. This is the one favored spot of the whole Atlantic seaboard, and at once gives the Jackson establishment an advantage whose value is scarcely to be over-estimated. The Home was originally established as a so-called "water-cure" and pure spring water is still one of the important remedial agents employed. This is obtained from mountain-springs which flow from rocky heights far above any possible source of contamination. One of these, appropriately named a generation or more ago the "All-Healing Spring," is celebrated in thousands of

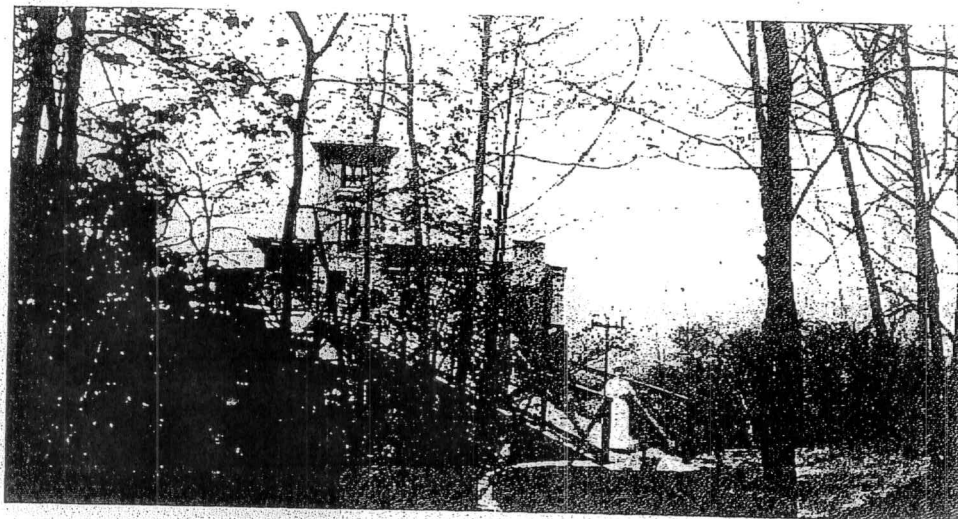


VIEW FROM THE SOUTH MALL.

grate fl homes all over this country and has become famous throughout the institutional world. It contains a large percentage of carbonate of lime and to this has been attributed, as the result of careful study of thousands of cases, its marked value in rheumatic and gouty complaints, in gravel, neuralgia, and especially neurasthenia, arising from systemic poisoning by accumulated waste matters, a chronic result in the majority of cases of over-indulgence in alcohol.

The main building of the Jackson Home, which is three hundred feet long and five stories high, is of recent construction, and contains every modern improvement. It is absolutely fire proof in that each floor is completely isolated by making the intervening medium of fireproof material. This is the only safe system. A description of the building would be that of any first-class hotel in New York or Boston, except that absolutely needless luxury in the way of expensive decorations and furniture is foregone. The guest does not have to pay for more or less priceless oil paintings and other art objects at the Jackson Home, but he does get light airy rooms heated by steam, lighted by electricity and furnished in a tasteful and comfortable manner; open grates, that dear old-fashioned home comfort, in all public and many private rooms; safety elevators, electric bells in every room, telegraph and telephone; spacious halls and corridors maintained at a uniform temperature for indoor winter exercise; broad promenade piazzas for all the year round and finally sewerage that is perfect. The keynote of this model building is ideal sanitation. Both the main building and cottages are lighted by electricity throughout.

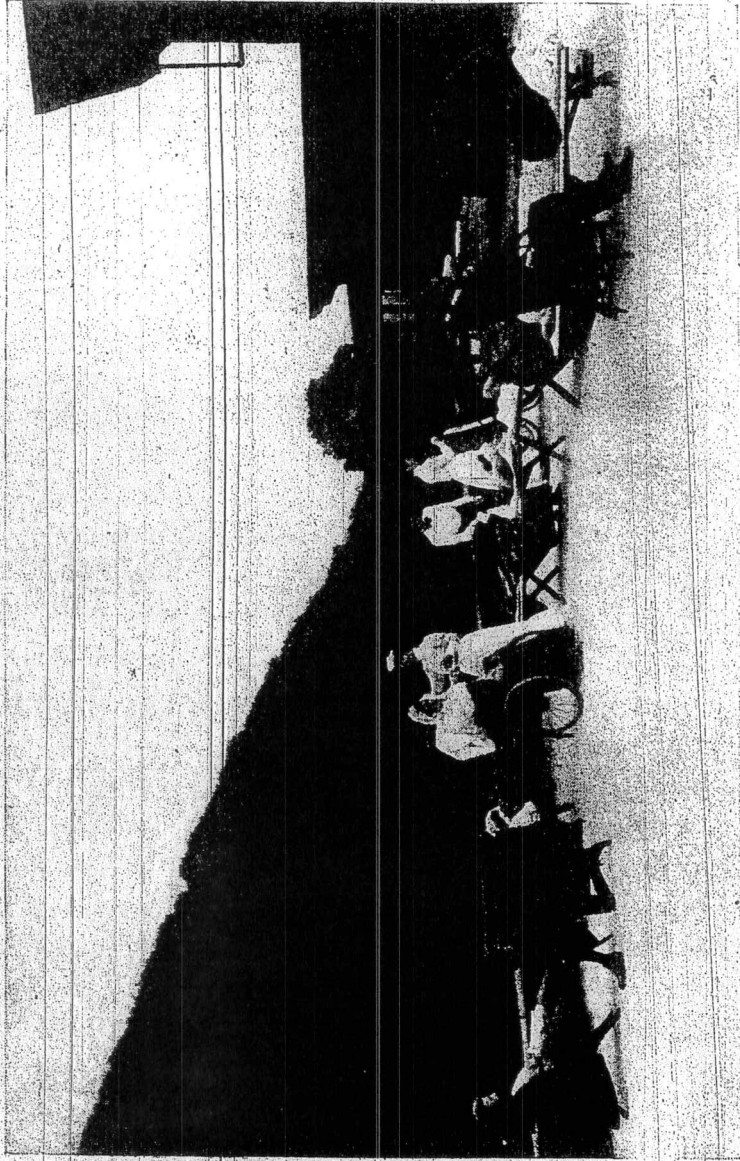
Health is in the air at the Jackson Home and its ministers are the medical and nursing staff of whom the chief for thirty-six years has been Doctor James H. Jackson, the son of the founder. Upon him the mantle of Elijah fell at his father's decease in 1895, although he had long before been the active head of affairs. The general fundamental idea of the Jackson Home is the same today as when it was established; Health by Right Living. The methods differ in detail but the ethical spirit is exactly the same. In all the changes, in all the improvements that the rational side



BRIDGE FROM ROOF OF MAIN BUILDING TO HILLSIDE PARK

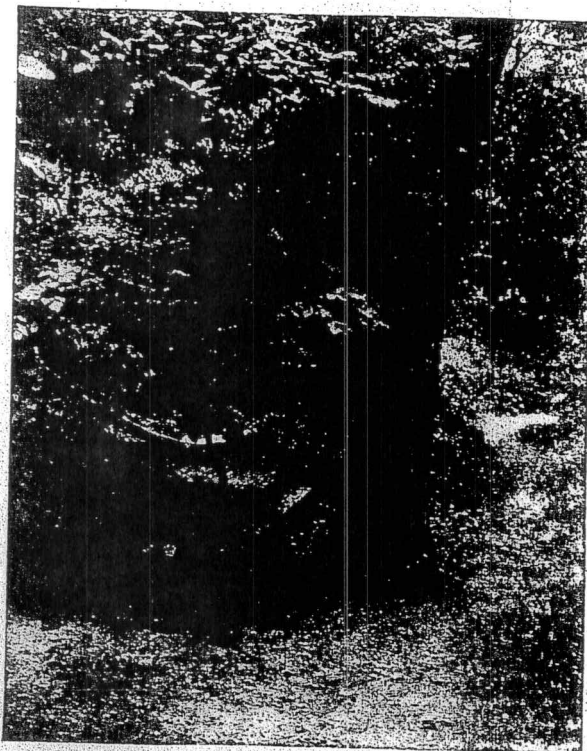
of therapeutics has constantly inaugurated during the past half century, Doctor James H. Jackson has been a clear headed pioneer. What the Jackson Home has been for the past generation is chiefly due to his guiding hand. Following him in direct line is his son, Doctor James Arthur Jackson, now in his thirty-sixth year, under whom the institution will only grow in value and usefulness, when his own turn comes to take the helm.

Associated in active management is Dr. Walter E. Gregory of Wisconsin, who coming here an invalid twenty years ago, has remained to grow up with the Home, and assume his place among the powers that control. There is an auxiliary staff of three associate physicians. Each patient in the institution is either visited or seen daily. There is no exception to this rule. All the most approved forms of baths are in use, with massage and special apparatus natural life. It is true regeneration, of body and of mind and soul, if need be, that is accomplished here. It is needless to say that before the methods of such an institution as the Jackson Home, bad habits literally crumble away, and their very seeds are driven out of the victim.



LIFE ON THE ROOF OF THE MAIN BUILDING JACKSON HEALTH RESORT

APR 1914



RESTING NOOK IN THE HILLSIDE PARK

for certain forms of disease. Much use is made in special cases of psychotherapy. There is probably no single institution in the world in which this advanced form of treatment is so well understood, and employed with such uniformly successful results, as the Jackson Home.

As stated before, drugs are not relied upon *for curative purposes*, but are used very conservatively in the belief that better and safer means are available. These "better and safer means" include all that nature has done herself in her commoner manifestations of air, sunlight, pure water, etc., and all that she has done through man in leading him through long centuries of error gradually to the light and the knowledge of how to take care of himself. Every patient at Dansville is not only helped to get well, but has gone through a curriculum by the time his course of treatment is finished that enables him to *stay* well for rest of his life.

One of the keynotes of life at the home is simplicity.

This is encouraged in dress, specially of women, as both sexes mingle as in one great "home;" in deportment, and in the general trend of thought and feeling among patients, staff and attendants throughout. The simple, kindly word, in general conversation, no reference to diseases of a personal nature, and a cheerful tone, have done much to make the Jackson Home that shrine of moral uplift that it is generally acknowledged to be. So far as religion is concerned a sanatorium containing at all times several hundred patients, some of them from foreign lands must represent many shades of belief and opinion. These are harmonized in carefully conducted services which are held each Sunday in the beautiful Christian Union Chapel. A religious dispute is in these days never known to occur at Dansville. Any curative curriculum which relies so much upon nature's aid as does that of the Jackson Home necessarily inculcates much living out of doors. The climate of the Hillside is peculiarly adapted to this at all seasons, both summer and winter, and the intermediate ones. This part of the treatment is not desultory nor elective, and it is claimed that these regular periods of open-air life have a curative value not easily estimated. As before hinted both geological and climatic conditions make this out-door life entirely practicable for the most delicate persons and without risk of inducing or aggravating throat, lung, rheumatic and other like troubles. For the more robust there are all forms of indoor and especially out-door recreation: golf, croquet, tennis, wheeling, riding, and driving. Indoors at all seasons there are frequent concerts, moving picture exhibitions, amateur theatricals, besides pool and billiards and all forms of chair games. Life is never suffered to grow dull at the Jackson Home.

Finally there is no more economical sanatorium in the whole world speaking in the strict, and not in the comparative sense.

The charges are what used to be paid fifteen or twenty years ago for full accommodations in a first-class American-plan hotel; and here in addition to housing and cuisine such as were not dreamed of then, there is the priceless opportunity to regain lost health.

NOTES

THE WASSERMANN REACTION AND ALCOHOL

Drs. Craig and Nichol's note (The Journal A. M. A., August 5,) raises a very important practical point. The Wassermann reaction, though it has been found to occur in a few other diseases, has come to be pretty generally accepted as a practical test for syphilis, at least in this climate, and surpassing all others as a test for latent infection. If, however, we are to find it unreliable in case of alcoholics, or, speaking more broadly, that its value is abolished by even moderate alcoholic ingestion, its practical use is seriously embarrassed. Most subjects of syphilis are at least occasional users of alcohol and if the test can only be accepted as of positive value when it can be definitely proven that they have not indulged in the use of alcohol for at least twenty-four hours, or, still better, for two or three days before the test is made, then it will be only in hospitals or where the individuals can be kept under restraint that any positive conclusion as to the existence of syphilis can be obtained. A general public knowledge of this fact might vitiate all the Wassermann tests being made and this aspect of the matter is one worth considering.

LIABILITY FOR DEATH FROM DELIRIUM TREMENS PRECIPITATED BY INJURY

The Court of Appeals of New York affirms a judgment holding the transportation company liable for the death of a man who died from delirium tremens on the second day after being struck by one of the defendant's taxicabs and being thrown about 20 feet, having his thigh broken and his knee injured. He was removed to a hospital and a physician testified that when he was brought there he was unconscious, or irrational rather than unconscious, rapidly developed delirium tremens, and it could be said with reasonable certainty that the injury precipitated his attack of delirium tremens. Of course, it was undisputed, the court says, that the injuries could not have led to delirium tremens except for the pre-existing alcoholic condition of the man, and under these circumstances the debatable question in the case was whether

the company's negligence was, legally speaking, the proximate cause of his death. The court holds that it was.

The real proposition, however, urged by the company was that it should not be held liable for the results which followed its negligence, either, first, because those results would not have occurred if the man had been in a normal condition; or, secondly, because his alcoholism might have caused delirium tremens and death at a later date even though the company had not injured him. But that proposition could not be maintained in either of its branches, which were somewhat akin.

The principle has become familiar in many phases that a negligent person is responsible for the direct effect of his acts, even if more serious, in the cases of the sick and infirm as well as in those of healthy and robust people, and its application to this case was not made less certain because the facts were somewhat unusual and the injured man's prior disorder of a discreditable character. The principle is also true, although less familiar, that one who has negligently forwarded a diseased condition, and thereby hastened and prematurely caused death, cannot escape responsibility, even though the disease probably would have resulted in death at a later time without his agency. However, it is easily seen that the probability of later death from existing causes for which a defendant is not responsible may be an important element in fixing damages in such a case, but it is not a defense.

STRYCHNINE NOT A SAFE MEDICINE

For a long time it has been noted that persons given continuous doses of strychnine, the basis of gold cures, have suffered from paralysis, particularly of the motor nerves. When the strychnine was withdrawn, and active means used the paralysis disappeared.

Careful studies of its effects on inebriates, show that a certain number of persons are hypersensitive to its effects. One or two doses, 1-60 of a grain, will be followed by a spasmodic action and muscular tension that is very dangerous.

Where the doses are smaller and its use extends over many weeks, an unexplainable sort of a dementia appears. The patient becomes indifferent to the surroundings, to exercise both physical and mental, and is precipitated into that which resembles extreme

old age. The muscles lose their elasticity and become hard.

The patient walks with hesitation and all the acts of the body are performed, as if unconscious of their import. A species of progressive muscular atrophy seems to follow, which improves when the drug is withdrawn.

Careful experience shows that it is only safe in a limited number of cases, and then in very small doses given for a few weeks, discontinued and then taken up again after a long interval. It is generally contraindicated in all forms of hemiplegia. In the toxæmias and congestions from alcohol and inebriety, it should be used with great caution and careful examination of its effects. Otherwise much danger will follow.

THE ACTUAL LOSS BY DISEASE FROM ALCOHOL

It is asserted by competent authorities that fully 80% of all fatal cases of pneumonia have a history of the chronic use of alcohol. It is beyond all question that alcohol diminishes the vitality and resisting power of the body, and brings on a fatality that does not occur in other cases; hence alcohol can be literally said to be an active cause in at least 50% of the fatal pneumonias.

This is only one of the many diseases, whose mortality should be diminished. Diphtheria, typhoid fever and other infectious diseases are markedly more fatal in alcoholic cases than others. In one statistical study 6,000 persons died from pneumonia and typhoid fever under 45 years of age. There were no records of how many used alcohol, but comparative studies of smaller numbers showed that at least half of this number used alcohol. Here was a loss of 3,000 lives that should have been saved, and this is only a hint of what occurs in the large hospitals, in homes and sanitoriums.

The mortality from injury, surgical diseases, acute inflammations and infectious diseases presents an aggregate of figures suggesting preventable causes that are astonishing. There is no fact better authenticated and established than that the preventable mortality and disease is simply enormous.

What has been done in Havana and southern countries, stamping out yellow fever, typhoid and other diseases by removing the

causes, suggest what could be done by a larger knowledge and more exact study.

Alcohol is put down in the Lunacy Commissioners Report of England as the third most active cause of insanity. If this could be removed the changes that would follow would surpass anything that we can at present state in figures. There is already evidence accumulating rapidly and assuming a positive character that alcohol can be eradicated from the community; that its use as a beverage can be stopped, that its active cause in disease, injuries and degenerations can be as effectually stamped out as that of typhoid fever.

The results from this seen in many ways indicate a field of the greatest possible practical value to the race that cannot be measured with dollars and cents.

The losses from this source alone are tangible, literal and apparent in every community, and their removal is a matter of exact science above opinion or theory. When an epidemic of typhoid fever is traceable to infected water and milk, and the infection is removed, the epidemic subsides and with it a sense of scientific power and accuracy that appeals to intelligence. It is merely putting in operation causes that stamp out the diseases and its power.

When we ascertain that alcohol as a beverage is followed by a certain percentage of disease and by removal of these causes the disease communities, we are pursuing the same course with equally certain results. These are facts that must be recognized in the scientific world, and put into practice, and it is along this line that the greatest triumphs of medical work is to be secured.

WATER AS A CURATIVE AGENT IN THE TREATMENT OF INEBRIETY

A Paris doctor has announced in great detail a method of cure of inebriety, which is at least suggestive and far more rational than the various drug combinations that have been urged.

The inebriate is given colored water in four ounce doses every two hours. This water is first mixed with wine in very small quantities. Then the wine is withdrawn, and phosphoric acids substituted, so that the patient practically gets two or three drops with each dose of water.

The patient is told that he can drink his usual quantity of spirits, but he must take this colored water as a medicine, the nature of which is unknown to him. It is observed that after two days or more he loses his taste for spirits, and finally becomes greatly disgusted with them, and affirms that spirits are harmful to him, and that he will never take them any more. It is supposed that suggestion is given with this medicine, and very likely attention paid to other conditions.

The results of continuous large quantities of water is to relax the system, and increase the action of the bowels and skin, diminishing all craving for food, and followed by a general lassitude and weakness, which later passes away.

The results after two weeks of treatment is full restoration, and a degree of vigor which is very evident. The water is reduced in quantity until one ounce is taken every two hours, and this is kept up for a number of weeks, the patient realizing that he is unable to drink, with pleasure, and feeling no desire or taste for it.

This is the new application of an old remedy, which is deserving of much attention. In practical experience it is found that large quantities of water have a sedative action in inebriety and in many ways it is very valuable. We shall hope to present some details of this new treatment in the near future.

THE PSYCHO NEUROSIS OF INEBRIETY

Many physicians have denied that there was a pathology, or anything that could be distinctly called disease in inebriety. Such men have been taught that disease was entirely objective and that any subjective methods of study were illusory and exceedingly doubtful and uncertain.

Such physicians think that inspection, palpitation, auscultation and how to stain a pathological specimen, and examine stomach contents by chemical reagents, and with the microscope, how to determine tuberculosis in the sputum, or to obtain a widal reaction in a case of typhoid fever, or find the bacilli in diphtheria, or the plasmodium in a case of malaria, constitutes the highest kind of diagnostic skill, and means of determining the disease.

This with the ability to diagnose surgical diseases, make blood counts and examine the urine is all that is needed. Unfortunately, this is very far from being true. There is a subjective diagnosis

that goes farther back in the study of disease, and is far more accurate and positive in its conclusions.

Inebriety must be studied subjectively. Its phenomena must be put to the same test, and its significance determined. Thus the so-called moderate drinker has a class of symptoms that are significant of change, and can be studied with equal exactness as that from the revelations of the microscope.

The paroxysmal drinker presents a class of symptoms, which move in cycles, governed by conditions which should be known. There is in this positive disease, change and states of degeneration which can be understood, and which follow a uniform line of cause and effect.

While a correct diagnosis is most essential in the study and treatment of disease, if this diagnosis be based entirely on an objective and materialistic class of symptoms, it will fail, and from such failures come supporters of the Christian Scientists, Mental Healers and Quacks generally. A subjective diagnosis is called for, and this requires as much study and consideration as the laboratory researches and physical trainings.

One must know the mental life, the hereditary influence, the influence of culture, occupation, diet, and the various changes, and their influences on the mentality of the person, not the organic disturbances, but the mental and psychical disturbances and departures from health standards which have followed from this. Then follows the effects of spirits; its paralyzing action, both local and general. From this a very exact knowledge of the present conditions, how spirits or drugs have warped or changed the original functional and mental activities, also what condition at present is most prominent may be determined.

It is from these data that the disease of inebriety is as clearly demonstrated as from the revelations of the microscope. This is the field that is not yet studied that promises to open up new causes of disease and new centers for functional and organic changes with greater possibility of prevention and cure than by the present coarser methods.

ANTIDOTES FOR ALCOHOL

Again ammonium chloride has come into prominence as an antidote and has started on the rounds of the medical journal as

something new and startling. This is at least the fourth time that it has been pressed on public attention and no doubt it has come to be recognized by the older ones as a genuine stock remedy.

It is simply one-half a gram of ammonia chloride dissolved in water and given at one dose. This is followed by large draughts of water and the result is that the patient quickly becomes sober and recovers without delirium.

The effects of ammonia on alcohol are to destroy its stimulating action and also its narcotic action. The dose may be repeated every hour until full recovery follows. If the patient does not sleep, bromides or chloral hydrate may be given. Some authors believe that smaller doses repeated every hour are more effectual. Others insist that a large dose followed by heavy draughts of water is better and brings on sobriety more quickly. At all events it is a very safe antidote and may be given freely.

TRANSIENT EFFECTS OF ALCOHOL IN SMALL DOSES

Dr. Hughes, the nerve specialist of St. Louis, writes on the *Transient Effects of Alcohol in Minute Doses* as follows:

"It temporarily appears to revive the depressive heart activity. This would seem to be due to its excitant influence on the cardiac intra-mural ganglia, also to its particular paralyzing of the vasomotor nerve dilating the blood vessels, for a time increasing the blood flow into the nerve centers and surrounding neurons with an effect of increased heat, and all this is transient and soon reacts below the normal. In reality there is a famished neuronie center. The blood carries less nutrient, flows in greater velocity and then stops after a time. In the experiments with minute doses of morphine and quinine, it was shown that the influence on the antibodies explained the paralyzing effect, and that alcohol in small doses probably acted in the same manner. The vasomotor paralyzing action of alcohol, dilating the arterioles and exciting the neurons is quickly followed by diminished force, embarrassed mental action, impairment of the currents, maudulin manifestations and is literally paralysis. The so-called wet brain is where the fluid caused by the escape of serum, becomes an obstacle and pressure preventing the return of the physiological activity and even here there is paralysis.

ALCOHOLISM AS A COMPLICATING FACTOR IN ANESTHESIA

F. Hoeffler McMechan, Cincinnati, Ohio (Medical Record September 30) states that the previous use of alcohol by a patient increases the dangers of anesthesia. The patient is very likely to have delirium tremens after recovery from the anesthetic. He is also liable to cyanosis and respiratory failure. Acute alcoholism in cases of injury forbids anesthesia unless this is necessary to save life. Alcoholics require excessive quantities of ether. Gas-oxygen is not yet very satisfactory, since nitrous oxide produces cyanosis, a condition that is feared in cases of alcoholism. Ether by the drop method unduly prolongs the stage of excitement. Chloroform increases the rigidity, which is a dangerous symptom in this class of patients. The use of ethyl chloride before ether facilitates the anesthetizing of alcoholics; it does not produce cyanosis and enables one to administer the ether easily. The author advises the following procedure: follow the ethyl chloride with CE mixture by the drop method. Oxygen may also be used to counteract the tendency to cyanosis. Postoperative recovery from ether is very rapid in alcoholics and vomiting is rare.

MEDICINE IN EGYPT

In Eber's Papyrus there are translated inscriptions, dating back 1000 years B. C., showing that patients applying for help at the medical temple at Thebes, had to state what their complaint was.

If this statement was found to be correct, they were divided up and sent to different apartments where medical men made a practice of treating the particular kind of diseases from which they suffered.

This indicates the antiquity of specialism, where some doctors acted as surgeons, treating the bones, tumors and sores. Others treated the eye; some treated the stomach, others affections of the bowels and some physicians were exclusively obstetricians.

Persons who became sick from excessive uses of wines were also treated by experts, and some of these treatments were given pictorial representations on the walls of the tombs. Evidently the occupants of the tombs were skilled in this treatment and probably were famous, hence these were evidences of their work.

In a Treatise on Inebriety, published by Harvey & Co.,

Cincinnati, a chapter is given, showing that inebriety and alcoholism were treated as a specialty in the earliest ages of Egyptian civilization. The mummies that were buried five or six thousand years ago, show that dentistry was very highly developed in those early days.

The teeth of mummies filled with gold and silver indicate expertness and skill equal to the best modern work done. Fractured bones were undoubtedly treated skillfully from the results seen on the skeletons.

A remarkable list of records are constantly being discovered in the tracings and characters on the tombs.

CUTANEOUS PIGMENTATION AND THE MORPHINE HABIT

At a recent meeting of the Medical Society of the Paris Hospitals (Bulletins et memoires de la Societe medical des hopitaux de Paris, June 18th) Dr. L. Galliard, of the Lariboisiere, and Dr. Lasnier, a hospital interne, brought up this subject by presenting a patient, a consumptive woman, thirty-nine years old, free from syphilis, who bore on the anterior regions of both thighs, both arms, and the upper part of both forearms exceedingly numerous, almost confluent, lenticular blue spots. The pigmentation was seated in the derma and could not be made to disappear on pressure. They had observed the spots for a number of months, and the woman herself said that they had been there for several years. The tint was not quite so deep as that produced by tattooing with India ink.

The spots on the thighs were sharply bounded above by the fold of the groin, and they extended down to the region of the knee. They occupied exclusively the anterior, the inner, and the outer aspects of the thighs. Those on the front of the arms reached nearly to the shoulder. On the forearms they were limited to the upper third of the anterior aspect. There were none anywhere else. In the regions occupied by the spots there were also many rounded, depressed cicatrices, of various sizes, but they were less numerous than the pigmented spots. They resembled the pits of smallpox. Nowhere were there any of the brown spots so frequently observed in morphinomaniacs.

The patient's story was that in 1897 she was admitted into the Hotel-Dieu with pleurisy and intercostal neuralgia, and there

received her first morphine injection. Soon afterward, unfortunately, she took service with some persons who were addicted to the use of morphine, and from them she acquired the habit of administering morphine to herself subcutaneously. She made the solution herself, using distilled water and cherry laurel water. It was never intentionally colored and she never noticed that it contained any solid matter in suspension. The depressed cicatrices occupied the sites of some of the injections which had caused a little irritation, followed by the formation of minute crusts, which she had scratched off, but there had never been anything like the formation of an abscess, although she had made no attempt at asepsis beyond providing herself with a new syringe occasionally.

Two other cases were mentioned as having been previously shown at meetings of the society, by M. Moutard-Martin and M. Thibierge, in both of which microscopic granules had been found in sections of the derma excised from the blue spots. Evidently, the authors remarked, the spots were not due to blood pigment, for that would long since have been absorbed. Particles of steel from the needles might have been detached and entered the punctures or particles of lampblack might have been introduced with the injections. It was not stated whether or not the woman was in the habit of cleansing the needle of the syringe by subjecting it to the action of a flame. It can hardly be supposed that carbonaceous matter floating in the air can have been carried into the punctures in sufficient amount to give rise to the pigmentation.

THE ACTION OF TOBACCO ON THE NERVOUS SYSTEM AND THE ORGANISM

Dr. L. D. Windyloschko (*Praktit-scheskij Wratsch*, 1909) educes, from his comprehensive study of the subject, the following data: Tobacco in its three forms of use (smoking, chewing, snuff-taking) contains as chief and specific ingredient, nicotine; also a poison, the nature of which has hitherto been unknown, and which develops in rabbits paralysis and emaciation. The puridins (antiseptic and antispasmodic liquids from dry distillation of organic compounds, chemically, Cs. Hs. N.), in the quantities present in tobacco smoke, produce no visible pathologic effect in

rabbits. Nicotin is toxic for all animals, but the degree of susceptibility varies in direct ratio with the complexity of the animals' nervous system; likewise true of the effect of tobacco smoke. In acute nicotine intoxication in animals, all phenomena are plainly due to the electrical action of this alkaloid upon the nervous system; where its action is permitted for a longer time, we have sclerotic changes in the walls of the blood vessels and destructive lesions in the central and peripheral nervous systems. Experimental investigations (by the writer upon himself) to determine the action of nicotine upon the human organism; cases of acute intoxication (often fatal), the results of excessive smoking, and likewise those of the chronic type show that the phenomena caused by nicotinal intoxication are specifically the same as in animals of lower type, and both the human and the animal pathogeneses are identic. The degree of action of tobacco smoke upon the human economy is dependent upon individual susceptibility. Cases of acute poisoning (his "first cigar," etc.) present no demonstrable pathologic lesions and a negligible mortality; whilst the phenomena of chronic intoxication due to continued and excessive smoking are incomparably more frequent. Many of the symptoms developed in such cases are unquestionably specific and due to the nicotinal intoxication, e. g., cardiac, amblyopic, amaurotic, auditory, gustatory, olfactory, the peculiar nicotinal aphasia, the dizziness, the tobacco neuritides, and the injurious effects in the mental and genital spheres. All of these phenomena are not necessarily present in the individual case; their development depends upon the degree of resistance exhibited by the individual and upon his quantitative use of the drug. The existence of a "tobacco psychosis," and the opinion that smoking is the etiologic factor in the genesis of psychic morbidities, must at present, be classed as unverified, though it cannot be denied that the habit affects intellectual output and the memory (particularly of appellations and proper names) where its abuse is chronic. Smoking by the young and excessive smoking in general—as demonstrated by numerous statistical data—have indubitable effect upon the genesis of criminality. Though most smokers soon acquire toleration of tobacco, and though, apparently, it develops no pathologic phenomena, it should be remembered that the mode of life pursued by the moderns is also an abnormally,

a rapid exhaustion of the vasculat system (due to mental and bodily over-exertion, to the component action of many toxic substances; alcohol, tea, coffee, to the sequela of infectious diseases, especially of typhoid, etc.) and, naturally, nicotine with its idiosyncratic sclerotic aptitude, finds modern man an excellent medium wherein to display its powers. Therapeutically, the acute case may be given atropin as physiologic antidote; tannin and iodine water as chemical. In chronic cases, cessation of the habit (suggestion), antisclerotic therapy, special treatment of the organ most affected. In some cases a more or less denicotinized tobacco may be used.

PRIZE ESSAY

Under the auspices of The American Society for the Study of Alcohol and Other Narcotics, Dr. L. D. Mason, of Brooklyn, N. Y., Vice-President of the Society, offers a prize of \$150.00 for the best essay on the following topic:

"The Biological and Physiological Relations of Alcohol to Life."

The essay must be the result of original research which shall confirm or disprove the present theories of the inherited effects of alcoholic degeneration and indicate how far the defects of the parents are transmitted to the children.

Such work may be carried on in man or animal, and the results may be illustrated by drawings or photographs, and must be typewritten and sent to the office of the Secretary, before July 1st, 1913.

This offer is open to students in all countries, and each essay should be accompanied by a motto and a sealed envelope containing the same, with the author's name and address.

A committee of award of which Dr. W. S. Hall, Professor of Physiology in the Northwestern University, Chicago, Ill., is the chairman.

All inquiries should be addressed to Dr. T. D. Crothers, Hartford, Conn., Secretary.