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OFFICIAL ORGAN OF THE AMERICAN MEDICAL ASSOCIATION
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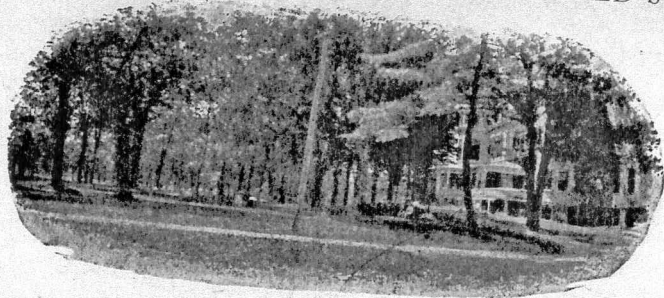
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A number of patients were discharged on parole, and did well. The desirability of getting accurate statistics from persons who leave the institutions was mentioned, and the remark is made which is so common in American Institutions, that the patients who do well conceal their treatment and are rarely heard of again, while those who relapse become very prominent and advertise their condition as the fault of the institution and are often the most bitter detractors and critics.

The doctor reports that eight per cent of the patients are physicians.

This is the third less than that noted in this country. Walnut Lodge Hospital, at Hartford, reports for 1907 one hundred and forty-four patients admitted. Of these forty-four were drug takers, four were insane and transferred to other institutions and thirty-one were physicians. The results of treatment were very hopeful, a large number of persons being discharged with every prospect of permanent restoration. All were improved. A large part of the report concerns the methods of treatment by hydrophobic, electric, and radiant light measures. This institution organized in 1878 is the oldest private institution in America that has been under continuous management. Dr. Crothers is the superintendent, and the hospital is chartered by the state with the similar powers of insane asylums.

A third report is of the Washingtonian Home, Boston, Mass., and is of unusual interest. This hospital was incorporated in 1859 and from that time up to the present has cared for and treated over seven thousand patients.

Last year the number admitted was over nine hundred, making it one of the largest inebriate hospitals in the world. A great many of the patients are in acute stages and are admitted for temporary relief. Others remain longer, and the results are reported by the Superintendent, Dr. V. A. Ellsworth, are exceedingly gratifying and hopeful.

The number of physicians are about eight per cent. This particular fact is mentioned for the purpose of giving emphasis to the very sad failure of medical colleges and physicians generally, who still continue to recognize only the moral side of inebriety. As a result they are too often the victims.

THE JOURNAL OF INEBRIETY

WINTER, 1908

THE INFLUENCE OF NARCOTICS UPON METABOLISM.*

BY WINFIELD S. HALL, PROFESSOR OF PHYSIOLOGY, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO.

IN order that the field of our discussion may be clearly outlined before us, it should be stated that metabolism includes all of the chemical processes of the living organism.

Among animals, metabolism begins with the chemical changes incident to the digestion of food. It includes also the chemical changes incident to absorption, and those immediately following in the intestinal epithelium and the liver.

Then follow a series of complex anabolic and katabolic changes in the active tissues of the body, viz. in the muscles, in the nervous system, and in the glandular system. The anabolic changes predominate at first as the several tissues assimilate the absorbed food, making it a part of their protoplasm. Once the food is assimilated it may serve either to build up the active cell-plasm or the passive cell-lymph, the latter serving to furnish through its oxidation the energy required by the former.

It is believed by physiologists that nitrogenous food materials are built up into cell-plasm, while the carbonaceous foods are held in solution in the cell-lymph. But whether the food becomes cell-plasm or cell-lymph, it eventually becomes oxidized and broken down into simple chemical compounds.

*Annual address of the president of the Society for the Study of Inebriety and Alcoholism at the Chicago Meeting, June, 1908.

As in combustion processes which take place in the furnace, so in the katabolic processes of the human body energy is liberated incident to the oxidation processes. It is this energy in the one case that drives the wheels of commerce and heats our dwellings. It is the energy in the other case that furnishes all life activity, motion, and heat.

As in the furnace, so in the animal body, the oxidized material is useless waste and must be kept cleared away, otherwise it will interfere with the oxidation processes. This clearing out of the waste matter in living bodies is called excretion.

Thus we see that the whole process of nutrition from the ingestion of food to the excretion of waste matter is accompanied by a series of chemical changes that we call metabolism.

To interfere with metabolism is to interfere with life. A narcotic is a substance that slows or deadens protoplasmic activity. The extreme physiologic effect of a narcotic upon an animal organism is to cause it to lapse into a more or less profound and prolonged sleep—hence, the term narcotic. Small doses of narcotics will naturally have a small effect, viz. affect a small part of the organism, or affect it to a degree commensurate with the dose, but always in the same direction. There are certain factors that complicate the action of certain narcotics and have thus led to misunderstanding.

While all of the narcotics are more or less completely oxidized in the animal body, some of the narcotics, viz. morphine, are potent in such minute doses that the energy liberated in the oxidation may be ignored as a negligible quantity.

On the other hand, the amount of energy liberated by an ounce of alcohol is so great that it must be reckoned with. This liberation of energy from alcohol incident to its oxidation in the body has even led some to affirm that it is a food.

The fallacy of confusing the oxidation of narcotics with the normal katabolism of food will be discussed later. Some of the narcotics produce a marked irritating effect upon living tissue at the moment when they first come into contact with it.

This irritating effect stimulates real stimulation so closely that it is accepted and possibly not without reason as stimulation. But once actually absorbed by the living cells and taken into the protoplasm the narcotic begins quickly to exercise its inherent influence, namely to deaden and slow the activity of the protoplasm.

This flaming action of narcotics is so marked and profound that it is now recognized, that all the narcotics are protoplasmic poisons. When we consider, however, that alcohol if not in very weak solution acts first as an irritant and that it is oxidized in the body, it is easy to see why its real relation to nutrition should have been so long misunderstood.

Dr. F. G. Benedict, an associate with the late Professor Avater, in the department of chemistry at Wesleyan University, recently published a valuable paper on the Scientific Aspects of Moderate Drinking, appearing in the Boston Medical and Surgical Journal of 1904, in which he urges that the use of the visible signs of intoxication as an index of the moderate or immoderate use of alcohol is fundamentally wrong. Long before the intoxication is apparent the user has in nearly every case consumed more than is recognized by all authorities as the limit that is physiologically permissible.

Anstie, in 1864, declared this limit to be one and one half ounces of absolute alcohol daily. This amount was claimed to be without any ill effects. Many insurance companies have accepted this as correct. This can be represented by three ounces of ardent spirits, equal to two or more glasses of sherry and claret and other strong wines. Of champagne, one pint bottle. Of ale or porter, three or four tumblers full.

Professor Abel, of Johns Hopkins, has established another standard which is about one half that of Dr. Anstie's, and says: "To the trained observer in the physiological laboratory small quantities of alcohol produce certain marked and characteristic phenomena in the brain action that should be carefully and clearly stated, for they play a very important role in determining a man's efficiency in the struggle for existence."

Krapelin and his pupils have collected much data and

their results are uniformly in harmony with those of Abel. "In general," Benedict says, "it is correct to say that alcohol in small quantities for a considerable length of time diminishes all forms of mental activity."

"The different phases of this process are very complex, but the accepted explanation of to-day is that alcohol paralyzes the inhibitory functions, and the reserve naturally acquired with age is cast off."

"The first acquisition of the mature man is the first to be affected, the first movements of the child are the last to give way to the action of alcohol. All these effects from the retardation of mental processes by small quantities to complete intoxication by larger amounts form a perfectly connected series of phenomena of alcoholic narcotism."

In as much as this subject is to be discussed in another paper I will only mention the recent work of Gizelt,* who found as a result of an extended series of experiments upon dogs that when the subject was given an enema of fifty cubic centimeters of a twenty per cent solution, the volume of pancreatic secretions was greatly increased, the increase beginning within thirty minutes, being greater during the first hour and lasting for three to five hours. The author obtaining similar results when the alcohol was injected into the stomach or subcutaneously.

Further experiments led to him conclude that the alcohol exerted its influence through its action upon the pancreatic secretory centers. Another set of experiments by the same author proved that the presence of dilute alcohol in the alimentary tract decreased very much the digestive activity of the amyllopsin and trypsin, while it increased the action of the lipase. It may be inferred from these experiments that while the volume of pancreatic juice is increased under alcohol its digestive activity for albumens and starches is proportionally diminished.†

Starke, in his "Justification of the Use of Alcohol"‡

*Gizelt: "Ueber den Einfluss des Alkohols auf die sekretorische Tätigkeit der Pankreasdrüse." Centralblatt für Physiologie. Bd. XIX, No. 23, S. 857.

†Gizelt: "Ueber den Einfluss des Alkohols auf die Verdauungsfermente des Pankreasdrüse." Centralblatt für Physiologie. Bd. XIX, No. 23, S. 857.

‡"Die Berechtigung des Alkoholgenusses," Stuttgart, 1905, 250 s.

recommends "the propriety of moderate drinking, an important hygienic question for many modern men." He maintains that, "in a day's ration which a man sets for himself it should always contain more alcohol than coffee, in order to overcome the action of the latter."

He disputes any detrimental influence from moderate alcohol dosage and ascribes to alcohol the quality of a valuable nutrient, the specific action of which upon the central nervous system he represents as unusually favorable when taken in moderate quantities. The procreative ability is also increased. The author's conclusions are based upon observations upon himself.

Goddard, in an article in the London Lancet,* gives the detail of a research on the food value of alcohol. He used dogs as subjects.

They were purged and kept without food for twenty-four hours, then given alcohol amounting to one seven-hundred-and-fiftieth of the body weight. The excreta of the tissues were examined. Five per cent were found in the excreta. The remainder was oxidized. If twice as much is excreted the excretion amounts to six per cent and acetic aldehyde appears in the expired air.

With four times the first dose forty-nine per cent of the ingested alcohol is excreted partly as alcohol in breath and urine, and partly as aldehyde.

Goddard concludes that because of its oxidation in the body, alcohol may be a food in small doses, but in large doses when half of it is excreted it cannot be considered a food.

Kassowitz reviews the work of Minra, Schmidt, and Schoeneseiffen, who found in alcohol no tendency to spare protein, and of Clopatz, Neuman, and Rosemann, who found that alcohol exerts a sparing action on proteins. Kassowitz accepts the results of the more recent experiments of the last group named, but calls attention to the fact that through its narcotic and poisonous effect upon living protoplasm alcohol stops and decreases oxidation of the protoplasm.

The writer feels impelled to call attention in passing to the fact that all life activity is accompanied by oxidation

*London Lancet, 1904, p. 1132. "The Physiological Action of Alcohol Considered as a Food."

and all oxidation by waste. The "sparing action" of alcohol so fully demonstrated and generally accepted is in perfect harmony with its generally accepted narcotic action. Narcotic action is followed by decreased activity, therefore decreased oxidation; therefore, "sparing." Nobody has contended, much less proven, that this so-called "sparing" is an economy of food material, in connection with activity. With the influence of alcohol, as without it, a given amount of life activity is accompanied with a given consumption of body substance.

When one eats a real food, it is assimilated largely by muscle tissue and is oxidized for the purpose of liberating the life energy. When one ingests alcohol, it is carried by the blood to the tissues, mostly to the liver, where it is oxidized, as any toxin would be, for the purpose of making it harmless.

Its oxidation liberated heat energy, but this energy cannot be utilized by the body even for the maintenance of body temperature. If a food is defined as a substance which taken into the body is assimilated and used either to build or repair body structure, or to be oxidized in the tissues to liberate the energy used by the tissue in its normal activity, then alcohol is not a real food.

The fact that alcohol is oxidized in the body has been generally misunderstood. The first impression naturally was: "Foods are Oxidized; Alcohol is Oxidized; therefore alcohol is a food." But many difficulties appeared.

A real food promotes muscular, glandular, and nerve activity and its oxidation maintains body temperature. But alcohol disturbs muscular glandular and nervous activity, and its oxidation does not maintain body temperature.

We found alcohol to be pseudo stimulant, and we find it to be a pseudo food. But if alcohol is not a real food, what is the significance of its oxidation? It has been long known that the liver produces oxidases and that it is the site of active oxidation of mid-products of karabolism of toxins and of other toxic substances.

Alcohol usually formed as an excretion of the yeast plant is also found as a mid-product of tissue karabolism. It belongs clearly then to the toxic substances mentioned above.

On a priori grounds, we should expect alcohol to be oxidized in the liver along with leucin, tyrosin, uric acid, xanthin bodies, and various amido bodies. There have recently appeared two most important papers based upon extended researches, upon man and lower animals. These researches practically clear up this knotty question.

Dr. Reid Hunt,* in one of the Government Laboratory stations, undertook an extensive series of experiments to determine the influence of alcohol upon the defense of the system against bacterial and other toxins. Throughout his exhaustive research, Dr. Hunt found uniformly that the ingestion of even small doses of alcohol was followed by a marked decrease of the defense of the system against toxins.

This effect was due to the disturbance of the liver function. The other research referred to was conducted by Dr. Beebe and published in the *American Journal of Physiology*.† The subject of the experiments was a young man in good health, of regular habits, unaccustomed to the use of alcohol in any form.

The diet was uniform throughout. Experiment I covered a sixteen-day period divided into a seven-day control, with all conditions normal. A six-day period during which alcohol was given and a four-day period during which observations were continued without alcohol.

The amount of uric acid excreted was accurately determined. The daily average of uric acid for the control period was 0.635 gms., for the alcoholic period, 0.755 gms.; and for the post period, 0.615 gms. Note that during the alcoholic period the increase of uric acid was approximately nineteen per cent—a notable increase; subsequent experiments yielded similar results.

The author's conclusions are so important that I will give them in full:

"1. After these experiments there is no doubt that alcohol, even in very moderate amounts, causes an increase in the excretion of uric acid.

"2. The following points indicate that the effect is due to a toxic effect on the liver, thereby interfering with the

*Reid Hunt. *Studies in Experimental Alcoholism*, 1907. Hygienic Laboratory—Bulletin 33.

†Beebe. *The Effect of Alcohol upon the Excretion of Uric Acid* in Man. *Am. Jour. of Physiology*, 1924-5, XI, p. 13.

oxidation of the uric acid derived from its precursors in the food. (a) Alcohol taken without food causes no increase. (b) In experiment 2 the diet contained much less purin food than in experiment 1, and there was a similar increase in the uric acid excretions. (c) The maximum increase occurs at the same time after a meal as it does when purin food but no alcohol is taken. (d) The purin bases are affected to the same degree as the uric acid. (e) Alcohol is rapidly absorbed and passes at once to the liver, the organ which has most to do with the metabolism of proteid cleavage products.

* The increased excretion means that a large quantity of urates has been produced and not that more of that which is already present has been excreted.

* If we accept the origin of the increased quantity of uric acid to be the impaired oxidative powers of the liver, the results of these experiments will have greater significance than can be attributed to the uric acid alone.

* For the impaired function would affect the processes which are normally accomplished by that organ, and the possibilities for entrance into the general circulation of toxic substances of intestinal putrefaction, for instance, would be increased.

* The liver performs a large number of oxidations and syntheses designed to keep toxic substances from reaching the body tissues; and if alcohol in the moderate quantity which caused the increase in uric acid excretion impairs its power in this respect, the prevalent ideas regarding harmlessness of moderate drinking need revision.

The value of this work and that of Reid Hunt can hardly be overestimated. In the first place the rapid oxidation of the alcohol in the liver is explained. *Alcohol itself being one of the toxic substances which reaches the liver from the alimentary canal is at once attacked by the liver, and if the oncoming tide of alcohol is not too great it will practically all be oxidized.*

But the hepatic oxidation of other toxic substances is impaired in the mean time so that they get past the liver to the tissues, where they may do injury. Some of these toxins are excreted unoxidized by the kidneys. There are three

ways of accounting for this condition: (1.) The oxidation capacity of the liver is limited. The physiological limit of alcohol ingestion is that amount which taxes the oxidation capacity of the liver to its limit. When thus taxed all other toxic substances including uric acid and the xanthin bodies pass through the liver unoxidized to appear in the urine. (2.) The presence of alcohol in the blood, through its toxic action upon the liver cells, impairs the hepatic oxidation capacity and thus permits toxic substances to pass unoxidized. (3.) A combination of these conditions may represent the real situation. It is hardly conceivable that the relation of alcohol to the liver activity is not covered in the hypotheses above formulated.

We may therefore accept it as practically demonstrated by the researches of Beebe, Hunt, and others that the oxidation of alcohol in the liver is simply one of the defensive activities of that organ, i.e., it is a protective oxidation and belongs strictly in the same category with the oxidation of uric acid, xanthin bodies, leucin, tyrosins, and the amido acids.

The next question which arises is, why does the liver select alcohol first and oxidize that substance to the exclusion of other toxic substances up to the oxidation capacity? The answer is probably to be found in the chemical composition of alcohol.

It oxidizes very easily, much more so than any of the other toxic substances which gain access to the liver. Its early oxidation may be due to this fact alone, or in part to an actual selection on the part of the liver. Another question of importance: Is the energy liberated in the oxidation of alcohol in the liver available for the use of the muscles, nervous system, or glands?

If this question is answered affirmatively, then alcohol is a food. If negatively, then alcohol is not a food. Let us reason together. All body oxidations may be classified in two groups: (1.) *Active oxidations* which take place in the active tissues,—muscles, nervous system, or glands,—and take place incident to action. It is under the perfect control of the nervous system and is proportional to normal activity. (2.) *Protective oxidations* which take place in the liver.

This class of oxidation processes is wholly independent of the usual tissue activity and is proportional to the ingestion of toxic substances and quite independent of muscle action, brain action, or gland action, other than liver action.

If the oxidation of alcohol in the liver belongs to class 1, the following consequences should be found: (1.) The ingestion of alcohol would lead to an increase in muscular power and in the working capacity of the brain or glands. (2.) The ingestion of alcohol would serve to maintain body temperature in the healthy individual subjected to low external temperature. (3.) The accession of muscle, brain, or gland activity would be proportional to the amount of alcohol ingested, but laboratory observations and general experience show that none of these things are true; i.e., the ingestion of alcohol decreases muscle, brain, and gland work, and depresses body temperature when external temperature is low.

In the nature of the case there can be no proportional relation. The oxidation of alcohol does not therefore belong to class 1. If the oxidation of alcohol in the liver belongs to class 2 the following consequences would be found: (1.) The ingestion of alcohol would be followed by its early oxidation in the organs in question. (2.) If the oxidation capacity of the liver is limited this capacity may be overloaded by exceeding the physiological limit of alcohol. (3.) If the oxidation capacity of the liver is taxed nearly to its limit in the oxidation of uric acid, xanthins, and other toxic substances, the introduction of alcohol may seriously interfere with this protective oxidation by overtaxing the capacity. (4.) If the oxidation capacity is overtaxed, an excess of uric acid, xanthin bodies, and other toxic substances will get by this portal and reach the active tissues or the kidneys. Now all of these things take place, so we are forced to the conclusion that the oxidation of alcohol is a protective oxidation. In the light of this presentation the significance of Dr. Hunt's work becomes very clear. The alcohol given to the animals taxed the oxidation capacity of the liver to the limit and left the organism defenseless against bacterial or other toxic substances.

GENERAL PRINCIPLES OF THE TREATMENT OF HABITUAL DRUNKARDS.*

BY T. CLAYS SHAW, M.D., LECTURER ON PSYCHOLOGICAL MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL.

THE word "drunkard," as far as our immediate purpose goes, implies the drinking of alcohol in some form to excess, and does not include drugging by hypodermic medication, inhalation, etc.

Some people prefer the term "inebriate," because it is less opprobrious and more comprehensive, and applies to both alcoholic inebriates and drug habitues; but it does not appear that there is any particular reason for sparing the feelings of those who indulge to excess. We call a person who deliberately kills another, a murderer, and we do not cloak our appellation under the euphemism "culpable homicide," so we will retain the term "drunkard" paid because there is a kind of rough brutality about it which concisely expresses the general feelings about this class of cases, and partly because the word is well understood and recognized as comprehending the whole territory of excessive alcoholic indulgence.

It so happens that a royal commission is now sitting on this particular question, the date of this commission having been fixed subsequent to the emanation by this section of our intention to discuss it at this meeting. The scope of this commission is very large, and will, I understand, be extended to take evidence from many societies and individuals, including even some who are not recognized in medical circles as professional exponents of the subject. Not only is the British Medical Association itself, which has been for some time actively concerned with the question now under consideration, but the Society for the Study of Inebriety, the Medico-legal Society, the Medico-Psychological Association, and even the Turveyres, together with other bodies, are to lay their views before the commission. Let us hope that some practical results will be arrived at by this section in the direction

*An address before the Section of Psychological Medicine at the British Medical Association Meeting.

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in which the consensus of those best acquainted with the facts seems to point — the necessity for the authority to use restraint when it is required — and that our expressions of opinions may be brought before the commission as the deliberate conviction of a body of men who are intimately acquainted with the circumstances about which we are deliberating.

I do not propose to discuss the medical treatment of the habitual drunkard, not because I believe medical treatment to be altogether a failure; on the contrary, the records of the inebriate homes where medical treatment is carried out may be quoted to prove the great value of remedies in some cases, but because we have already as much power as we want for the application of medical agencies. What we require is the possibility of obtaining a lengthened time, during which remedies if necessary may be applied. A discussion on the most efficacious treatment of inebriety by drugs is well worth the attention of any society, but we are all probably agreed that while the less legislative control the better (I am speaking now of properly qualified and registered practitioners), the more has arrived when, for the sake both of the patient and his social surroundings, it is necessary to have means at hand for the forcible control and detention of a person upon whom, whilst drugs have been tried and conspicuously failed, the curative elements of time and enforced abstinence from stimulants may have a reasonable chance of operating.

According to Section 3, Clause 1(b), of the Act:

Habitual drunkenness means a person who, not being amenable to any jurisdiction in law, is, notwithstanding, by reason of habitual drinking of intoxicating liquors, at times dangerous to self or others, or incapable of managing himself or his affairs.

As practical men, conversant with the various social and mental conditions in which acute or chronic inebriety shows itself, we all recognize that, while there are actual poisons produced by alcohol which require and are easily placed under certificates for asylum treatment, there are yet others which, though not veritable poisons, do require compulsory sequestration, for their own and others' sakes. We also

know that mental troubles caused by alcohol have a way of recurring in a most surprising manner when all alcohol is withdrawn, and that under the present state of the law it is not possible to detain these people, though we know that to discharge them is to invite a speedy return to the deplorable conditions which before existed, so that if legislation is to be of real value, it must be both corrective and preventive.

Our interference is required for persons who drink to excess, perhaps constantly, perhaps intermittently, who, though rarely drunk in the sense that they are absolutely incapacitated are yet unable adequately to discharge their obligations, who squander the money which should be for the family in buying, betting, and gambling, who pass much of their time in bed, when they should be following their business, who through absence of domestic duties or habits of idleness cannot be certified as insane, who are ready to give promises of reformation, but the gods do not keep, but who are always on dangerous ground, and in a state of doing wrong, doing which renders them liable to heavy penalties, though able to give plausible accounts of their conduct, and to sustain a certain amount of conversation, on various occasions.

Thus, the condition in which we want the law to help us, not only for the sake of the agent, but for those who are being abused, subverted and threatened with real ruination by a continuous current of fraud, deceit, and should be dealt with as directed. We should thus strive to give a good and operative remedy be allowed to describe his home, to endanger the good name of his wife and children, and to imperil the dependents, who ought to have the means of staying the deterioration which they can see is gradually overtaking them. At present the law takes no notice of such cases, the cause being to all or above, not of conventional evil practices which must be dealt with.

There is, apparently, nothing to prevent an individual acquiring a license to carry income and having a record as long as he neither threatens to nor actually does so. Only when he has used it does he come within the clutches of the law, though all the time he is in such a condition that it impales to the detriment of any moment, and the mischief

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the various altered me inebriety studies are actual insanities d are easily placed there are yet others require compulsory s' safety. We also

know that mental troubles caused by alcohol have a way of recovering in a most surprising manner when all alcohol is withdrawn, and that under the present state of the law it is not possible to detain these people, though we know that to discharge them is to invite a speedy return to the deplorable conditions which before existed, so that if legislation is to be of real value, it must be both corrective and preventive.

Our interference is required for persons who drink to excess — perhaps constantly, perhaps intermittently — who, though rarely drunk in the sense that they are absolutely incapacitated are yet unable adequately to discharge their obligations, who squander the money which should be for the family in racing, betting, and gambling, who pass much of their time in bed, when they should be following their business, who through absence of definite delusions or hallucinations cannot be certified as insane, who are ready to give promises of reformation, which they do not keep, but who are always on dangerous ground, on the verge of doing something which renders them liable to legal penalties, though quite able to give plausible accounts of their conduct, and to sustain a certain amount of conversation, on their own terms.

This is the condition in which we want the law to help us, not only for the sake of the agent, but for those who are being slowly submerged and threatened with total extinction by a continuous current of banal excesses which should be dammed up or diverted. Why should this destructive, grinding, and oppressive creature be allowed to desolate his home, to endanger the good name of his wife and children, and to pauperize his dependents, who ought to have the means of staying the destruction which they can see is gradually overtaking them? At present the law takes no notice of acts unless they cause harm to self or others, not of continued evil practices which may do harm.

There is apparently nothing to prevent an inebriate acquiring a license to carry firearms and having a revolver as long as he neither threatens to nor actually does use it. Only when he has used it does he come within the clutch of the law, though all the time he is in such a condition that the impulse to use it may arise at any moment, and the mischief

in which the consensus of those best acquainted with the facts seems to point — the necessity for the authority to use restraint when it is required — and that our expressions of opinions may be brought before the commission as the deliberate conviction of a body of men who are intimately acquainted with the circumstances about which we are deliberating.

I do not propose to discuss the medical treatment of the habitual drunkard, not because I believe medical treatment to be altogether a failure, on the contrary, the records of the inebriate homes where medical treatment is carried out may be quoted to prove the great value of remedies in some cases, but because we have already as much power as we want for the application of medical agencies. What we require is the possibility of obtaining a lengthened time, during which remedies if necessary may be applied. A discussion on the most efficacious treatment of inebriety by drugs is well worth the attention of any society; but we are all probably agreed that while the less legislative control the better (I am speaking now of properly qualified and registered practitioners), the time has arrived when, for the sake both of the patient and his social surroundings, it is necessary to have means at hand for the forcible control and detention of a person upon whom, whilst drugs have been tried and conspicuously failed, the curative elements of time and enforced abstinence from stimulants may have a reasonable chance of operating.

According to Section 3, Clause 3 (b), of the Act

Habitual drunkard means a person who, not being amenable to any jurisdiction in lunacy, is, notwithstanding, by reason of habitual drinking of intoxicating liquors, at times dangerous to self or others, or incapable of managing himself or his affairs.

As practical men, conversant with the various altered mental conditions in which acute or chronic inebriety shows itself, we all recognize that, while there are actual insanities produced by alcohol which require and are easily placed under certificates for asylum treatment, there are yet others which, though not certifiably insane, do require compulsory sequestration, for their own and others' safety. We also

know that mental recovery is a process which may be withdrawn, and it is not possible to discharge them to conditions which are of real value, in the

Our interference with excess — perhaps though rarely also incapacitated are obligations, who the family in part of their time to business, who the emations cannot promises of reform always on danger thing which require quite able to give to sustain a re actions.

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oppressive create endanger the go pauperize his de staying the debt taking them. A unless they cause evil practices wh

There is app acquiring a liver as long as he ne Only when he ha the law, though a impulse to use it

be done before it can be prevented. Is such a possibility right either for the man himself or for society in general?

I come now to the legal processes which should be invoked, remarking in the first place that there is a dual control — namely, that of the Secretary of State, who regulates the management of the retreat and the duties of inspection, and the county and borough councils, which are the authorities for the granting of licenses. I am able to state that the experience of those versed in the working of these retreats is that this dual control is for many practical reasons unsatisfactory, and that to the Secretary of State alone should be committed the power to grant, transfer, or withhold licenses, and, moreover, that compulsory licensing of all retreats should be made absolute.

The question has been raised whether it would be of advantage to grant licenses to lunatic asylums for the reception of habitual drunkards. I beg to suggest that it would, for the following reasons: In a paper read before the Medico-Legal Society on Dec. 17, 1907, I remarked that when a person insane from alcohol had been placed in an asylum and has so rapidly recovered that he can no longer be detained, it should be possible for the governing authorities to discharge the patient for a term of probation for as long as was considered necessary. I still think that removal to the home would be a good thing for the well-to-do person who may have been placed during his attack of insanity in a private asylum, but in a case of the pauper patient the advantage of removing him to the part of the asylum license for the reception of inebriates would be a cheap and expeditious way of keeping him under supervision whilst it would free him from the company of actually insane persons, would prevent the stress put upon the accommodation at existing inebriate homes, and would lessen the expense. For private patients whom it is not expedient or even possible to confine in an asylum, I would have the power granted to place them in a home upon the authority of two medical certificates, somewhat similar in form to lunacy certificates, but free from certain objectionable phrases which exist in the latter. These certificates should be available for at least six months, and

should be capable of renewal for additional terms of six months, if considered necessary by the authorities of the home. Whilst under these certificates the patient would be allowed to transact such business as he was deemed capable of by the home authorities and their superintendent, but special permission would have to be given for these acts of responsibility, and during the time of his detention, all personal liberty would be denied, except by special permission by the superintendent. A question arises as to the propriety of having the order of commitment to the home signed by the next of kins. It would probably be better for the future family harmony if the immediate members could be kept clear from participation in the detention of the head of the house, but on the whole it is only right that the friends should undertake some responsibility, and therefore it may be concluded that some authorization from a near relative must accompany the certificate, either as a separate document or conjointly with those of the certifying doctors.

The advisability of having the order of a magistrate is also a debatable point. Experience of certification in lunacy cases is not entirely in favor of having a magistrate's order, for in urgency cases it is not in the first instance required. If the order of the magistrate is understood to be nothing more than a formal official recognition that a certain process has been complied with, there would appear to be no reason, beyond the question of delay, why it should not be made compulsory; but if it is to involve discretionary power, then its possible harm is apparent, because the arbiter is not always in a position to judge the validity of the premises. The form of certificate would be on the following lines:

I, being a registered medical practitioner, hereby declare that I have visited and examined residing at and am satisfied that the said is an habitual drunkard (or a chronic inebriate) and is unable to control himself and to manage his affairs. I accordingly recommend that be detained in the license home for inebriates at for a period of calendar months, at the end of which time this certificate may be, if necessary, renewed for another

period of . . . months, or for such time as is considered by the authorities and the friends of the patients to be advisable.

Signed

I agree to the above certificate being issued.

Signed nearest of kin.

The patient thus compulsorily secluded ought to have safeguards. Whilst under detention he would be visited by the government inspectors, and he would have his legal remedies for improper certification just as the lunatic now has.

I note that the departmental committee on the Inebriates Act has issued a series of questions for the guidance of witnesses, submitting evidence before it, and from the scope of these questions it is evident that the whole subject of new legislation in regard to the taxation and licensing of retreats, the compulsory certification and seclusion of habitual drunkards or inebriates, their employment and treatment when in retreats, etc., is receiving the fullest consideration; but I venture to suggest that a resolution embodying the views of this section of the British Medical Association on the question of the urgency of compulsory legislation in the cases under consideration might be presented to the Council with a view to its being brought before the notice of the departmental committee, with the object of re-enforcing such testimony as is brought before it in favor of this proceeding. Section D of the question says:

In view of the fact that the 1879 Act only empowers the detention of inebriates when they themselves desire treatment, and the 1898 Act only when the inebriate becomes a criminal or degraded, are you of opinion that further powers are necessary to authorize the treatment, guardianship, or detention of inebriates who cannot be controlled or treated under any existing power?

Surely our answer can only be that we do think so, and that whether the means employed be by certification or by inquiry on commission (as has been urged by one very experienced prison physician), we must do all in our power to back up such efforts as are being made to attain this end.

I conclude by saying that we can teach people the necessity for moderation, but alcohol is always a dangerous instrument, and we cannot be surprised if some who do not know how to use it as a servant find that it becomes a tyrannous master. Drunkenness may not be the end for which alcohol is taken, but the social system which permits the insidious ensnarement, swelling up finally in a paralyzing incompetence for economic duties, should also provide the means of escape from the net, if even by temporary restraint of another kind, and it should resolve that the possession of such a power is not a futile asset.

There is really nothing novel in legislating to effect the compulsory detention and control of these persons, except that this country lags behind numbers of others, whilst in some places (I am now quoting from particulars from Dr. Hogg, of the Cedars, Rickmansworth) still more stringent laws are in action, for an habitual drunkard who is believed to seek help from the authorities to support himself or his family is liable to arrest, and may be placed in a workhouse for a term not exceeding two years.

To carry out with all due safeguards the measures above proposed is not asking too much in the way of public expenditures, because the private patient will be able to pay, and if the present homes for pauper inebriates are not sufficient, it will be possible to make use of the machinery of the existing country asylums by adding a little to their accommodations.

Two very significant gatherings during the past few months have been held in England. One was the International Moral Education Congress. Delegates from many countries were present and one of the great topics was the alcoholic problem and means for its prevention and cure.

The late Mrs. Hunt practically pointed out the methods of prevention in the compulsory laws for the teaching of alcohol in common schools. She actually carried the subject a century in advance of this generation, and this fact was recognized by many of the speakers.

The second movement was a summer school of the Temperance Collegiate Association of Cambridge, England. Prof. Sims Woodhead presided and delivered one of the lectures. This was the first effort among collegiates to take up alcohol as a special topic.

A similar school has been projected in this country, but has not materialized yet.

THE INFLUENCE OF ALCOHOL AND AUTOTOXICO-
SIS ON NERVOUS AND MENTAL
DISEASES*

BY G. H. BENTON, M.D., SUPERINTENDENT CHESTERCREST
SANITARIUM, CHESTER, W. VA.

THAT the statement which affirms alcohol to be a protoplasmic poison excites less rational opposition and less unfavorable comment now than at any other time in the history of the study of narcotic drugs, both among the leaders as well as the followers, who are giving special study to the subject, or those who are accepting the affirmation of others, either through proof or impression, leads me to feel that this truth is becoming so thoroughly implanted in our medical knowledge and in the future may be taught in its scientific entirety, through which reaching the present roll of pernicious narcotic drug use may be confined within more rational limits.

Narcotics are all toxic, but poisonous drugs are not all narcotic, and there exist other differences even between drugs which have some narcotic effects in a matter of tolerance. Apparent harmless tolerance may be established in an individual who has accustomed himself to a poison by gradual continued use which otherwise would result fatally if given in the same doses.

The special narcotic with which we are dealing in this paper is alcohol, whose baneful action is enumerated in its extensive destruction of the cellular tissue of the protoplasm through its extraordinary sensitiveness to chemical action and through which fact one must forego the idea of immunity or harmless tolerance through its even apparent careful limited use. To be sure nature abhors a poison and seeks to live in spite of it, yet no one knowing the truth can hope to indulge and escape the penalty. The degrees of palsy, however, vary with the individual and his personal susceptibility to the poisonous chemical action of the alcohol

and also to the hereditary factor of inherent lowered vitality representing both physiological and pathological conditions.

In addition to the pernicious chemical effect of alcohol on an ordinary normal individual there are other toxic matters which circulate in the system and which materially influence, aid, and abet the destruction of normal protoplasm resulting in the weakening of the physical forces, degenerating the circulatory and nervous systems, which in turn give occasion to all degrees of malnutrition, malassimilation, as well as trophic and toxic degenerations, giving the varied degrees of expression of conditions ranging from the slightest deviations from the normal to total destruction of one or more of the somatic constituents resulting in death.

The pathological lesions attributable to the inimical action of alcohol are well understood by this body and need no reviewing, and I am impressed that there might be little or no difference of opinion among us in reference to the extent of ravages produced by alcohol. Clinical observation has established these facts beyond dispute and been further confirmed by autopsies, yet there is another element whose extent and range has not been so definitely determined either as to the extent of its action alone or its combined action and influence in connection with alcohol.

I am referring to the auto-intoxications which are so prevalent in our daily experience, and whose action has been studied less extensively by the larger per cent of the profession and in which field there lies yet hidden a vast amount of valuable knowledge, in the gaining and teaching of which, I believe, would accrue to humanity as an asset of almost incalculable worth both individually and collectively.

Only a very limited part of the subject can be covered in this paper. Therefore, I wish to direct your attention now to the influence of autotoxiosis on nervous and mental disease, both with and without the additional influence of alcohol, particularly through the diverted and perverted nervous functions from arteriosclerosis, produced especially by toxins, and autotoxiosis.

In autotoxiosis we may include all the endogenous intoxications, first of metabolic order, under which we recognize

* Read at the annual meeting at Chicago, Ill., of the Association for the Study of Inebriety.

a condition of perversion of the normal physiological function produced by either an excess or deficiency of the normal metabolic constituents; and these constituents not only include the primary materials of nutrition and metabolism, but also the physiological fluids and secretions associated with and elaborated in the process of anabolism and katabolism; these intoxications of perverted metabolism induce a large range of attitudes within the physical economy, more or less responsible both primarily and secondarily for the larger range of physical disease from which humanity suffers, exclusive, of course, of external accidents and some surgical maladies, but nevertheless complicating many times the latter to a serious degree, secondarily and also primarily by its influence in reducing normal vitality and weakening or destroying the normal defense lines of resistance.

Endogenous metabolic intoxications embrace numerous subdivisions, to which we may well direct our attention, the primary function of which is oxidation, which may in turn be divided into insufficiency of oxygen, suboxidation, and superoxidation.

Distoxication and over-exertion also follows; while retention intoxications cover the toxins produced by retention of bile, perspiration, feces, carbon dioxide, and the suppression of urine.

Intoxications from salts, acids, alkalies, and acidosis.

Intoxications from fevers, infection, and neoplasm.

Intoxications due to the perverted protein metabolism, giving expressions in cystinuria, alkaptonuria, and uremia.

The perverted nuclein metabolisms producing gout and oxaluria.

The perverted metabolisms of the carbohydrate group:

(Glycosuria and diabetic) metabolism of fats, viz. Acetone complex.

Diseases of special organs: Thyroid, adrenal, pituitary bodies, Pancreas, liver, etc.

And finally of the second order, parasitic intoxications, embracing both systemic and alimentary intoxications; the former covering infectious diseases and the latter due to bacterial processes and also to the higher parasites, as vermes. This second order of intoxications or parasitic intoxications

are endogenous, exhibiting intimate relations to and with metabolic intoxications, and evidence is at hand showing that it is proper to assume that in the larger percentage of the infectious diseases, the major part of the deleterious results which accrue is resultant from the autotoxiosis secondary to the metabolism of the bacteria and not necessarily bear any relation to the specific poison of the particular micro-organism representing the infection, since in many instances no other intoxication is apparent. We are led to believe that some micro-organisms are solely harmful through exciting an autointoxication which are of the nature of accelerations or exaggerations of normal processes of catabolism, oxidation, and cystalysis. Exaggerations of catabolism and oxidation which are concurrent in the infectious diseases express a distortion of metabolic balance with which you are familiar, also the acceleration of cystalysis as commonly observed in infectious diseases.

It is impossible and unnecessary in a paper of this length to go into the technique of the processes producing or affecting the large range of autointoxications which are daily expanding their virulence on the anatomical constituents of the physical economy, producing or at least influencing morbid pathological changes or perverting normal physical functions resulting in varied degrees of invalidism from the slight acute indispositions to the profound organic changes; yet our daily observations must confirm the results of the careful study of our pathologists, biologists, and chemists who are daily seeking and demonstrating the processes through which these autointoxications are generated and elaborated within the system, and while much confusion still exists as to exact processes of production and actual extent of damages incurred within and upon the physical entity and its functions, yet sufficient evidence has accumulated and demonstrations are numerous within our daily observations to prove the dangerous aspect of autotoxiosis and yet I believe they are continually underestimated or their relative importance is overlooked in calculating the etiology of diseased conditions present and especially in relation to gastro-intestinal autotoxiosis and its congeners.

The trend of modern living suggests the most extensive

possibilities in producing gastro-intestinal autotoxiosis by the rapidity with which we eat without proper mastication of our food, thereby consuming larger quantities of food than the system demands or can use properly. In the selecting of improper food either of kind or quantity or quality and irrational preparation of same, pervasions of appetite, the attempt to digest large meals when the brain is actively engaged in study, business cares, mental anguish, and worry. Good digestion requires the termination of the excess of blood to the stomach and intestines, active cerebration also requires the termination of the blood to the brain, and as both cannot be adequately supplied at the same time, one or the other process must suffer some depression which is usually first expressed actually as a disordered digestion, and finally through the toxins formed primarily and secondarily within the gastro-intestinal tract and elaborated through the system, the nervous system both peripheral and central will show the results which may express themselves in every degree of divergence from mild acute functional disturbances to chronic organic lesions.

I have referred to me frequently nervous and mild mental cases; functional diversions, whose etiology expresses primary autotoxiosis of gastro-intestinal origin without other complications, and who clear up readily through thorough climatory processes and the correction of faulty habits, upon which the primary trouble existed, cases who do not relapse excepting through their own indiscretions of diet and faulty living. However, the effect of autotoxiosis through bad hygiene and bad diet, faulty mastication or other causes, though minimal in amount, in each instance, but more or less continual, will show marked degrees of first physiological diversion, then physical perversion and eventually physiological entities which leaves its impact on the nervous system.

Demonstrations of the effect of autotoxiosis on the nervous system are observed in varied degrees as expressed in the following conditions: migraine, neuritis, epilepsy, myasthenia, melancholia, dementia, paralytica, periodical, family paralysis, constipation, nervous dyspepsia, tetany, pain, vomiting, diarrhea, fever, etc.

Stuertz reports a severe case of autointoxication of

intestinal origin, with loss of consciousness, dilation of pupils, chronic convulsions, pupils insensible to light, slight trismus, increase of skin and tendon reflexes, rise of temperature, slight albuminuria, and a large amount of indican, but with absence of aceton or diacetic acid; after entrance to the hospital the pulse fell to fifty-two and eventually to forty-two, this bradycardia lasted for twelve days. The treatment which consisted of calomel and emetic flushings was successful.

Autotoxiosis of gastro-intestinal origin is undoubtedly of the most common occurrence and it is more than probable that no individual ever existed without incurring one or more attacks, while the rule is that the larger majority of individuals suffer more or less continually with recurrent attacks, and many of them with such frequent recurrences as to express a condition of continual psychosis which perhaps began with transitory or acute auto-toxications of gastro-intestinal origin; but in the wake of its rapid repetition and continuance induced the other metabolic perversions, including any or many of the endogenous intoxications, with especial predilection for the influencing of one or more of the retention intoxications. Representing a class of cases who consult their physician with no special evident organic lesions, but whose physical functions are so perverted and distorted that in some times is puzzling to decide where to begin to establish normal physical function. This class of cases which present themselves in a condition of a more or less chronic toxicosis also may represent varied conditions of functional or even the more grave forms of nervous manifestations or even actual psychosis, while the cases who have begun thus and failed either partially or fully to follow the advice of their physician as to prophylaxis and treatment and who have developed organic lesions either of the central or peripheral nervous system or both, usually allow themselves to succumb to any intrinsic or extrinsic intoxications which present themselves either intrinsic autointoxications over which they have no further control, or from extrinsic intoxications under the guise of medication through the hope of relief from the distressing symptoms of their maladies until they eventually produce drug neurosis in the varied of inebriety.

Arteriosclerosis may produce marked degrees of effects on the peripheral nerve both in their trunks and endings in the muscles, but in a much lesser degree than is witnessed in the nerve centers, owing to the more intense metabolism through the great vascular supply. The nerve centers are seats of much greater activity and are exposed thereby to the injurious influences of toxic material which may be circulating in the blood current. The ratio of the difference of this effect is proposed five to one.

The results recognized from the effects of arteriosclerosis upon the nervous system may be both mediate and immediate; both trophic and toxic. And just here I wish to call your special attention to the investigations by our leading neurologists in reference to the relationship of arteriosclerosis and diseases of the nervous system, and also some references to the recent studies on the influence of circulating autotoxins on the production of arteriosclerosis. The older theory that arteriosclerosis was incumbent on hypertension is gradually being abandoned as the cause, although it may or may not be concomitant with the diseased condition of the arteries.

The present acceptance of the disease resulting from the investigations of Von-Noorden, Klempner, and others, demonstrates that the primary irritation is due to toxic materials circulating in the blood. It has long been apparent that alcohol, rheumatism, malaria, typhoid fever, and such diseases have been productive of arteriosclerosis, and omitting all the long explanations demonstrating the immediate process producing this condition which are conclusive, I will refer only to the production of arteriosclerosis by the use of adrenalin chloride as demonstrating its production from toxin material and illustrated in experiments upon rabbits and other animals, conducted in such a manner as to show that the changes in the blood vessels were due to the toxic principle rather than from hypertension. The experiments of I. Mirowscu (three) (*Therapeutische Monatshefte*, January, 1906) were conducted on rabbits, in which he neutralized the constrictor action of adrenalin by a simultaneous administration of euphrasin, there was produced thereby calcification of the aorta from which was concluded that the degenerative changes were due to direct toxic action of the

adrenalin on the vessel walls, the variations of blood pressure being only subsidiary.

In the present era arteriosclerosis is recognized as much more common and extensive than formerly conceived of or at least taught. From our twentieth century fury of high-speed tension employed in modern business life and a large range of other contributing causes, there may exist much more extensive lesions of this kind; and again with our modern technique and instruments of precision, we may be more capable of early and frequent recognition. Then again a hereditary factor may be traced, due, perhaps, to inherited perverted structure of the blood vessels which render them more susceptible to accident and also to injury. At any rate it is a diseased condition which we recognize much more frequently, also its results in the influence and production of nervous and mental disease, the importance of which has steadily been growing in the minds of neurologists until it appears that in the diagnosis, prognosis, and treatment of nearly every chronic nervous disease, either functional or organic, the question of the existence of arteriosclerosis must be dealt with.

The position arteriosclerosis formerly occupied in relation to senility and old age, which has been assigned it by our predecessors, has advanced during the present generation to manifestations of the commonest sequence of a strenuous, disordered, irrational mode of our life.

In conclusion, let me refer to the studies of Dr. J. Collins, (New York Medical Journal, June 9, 16, 23, 1906), of the relationship of arteriosclerosis and diseases of the nervous system based on eight hundred cases in which the diagnosis of arteriosclerosis was definitely made, taken from the records of ten thousand consecutive cases of nervous disease, in which he says arteriosclerosis may cause (1) Diseases of the nervous system that are well-defined clinical entities, and are therefore described as definite diseases; (2) it may superimpose definite or indefinite symptoms upon any disease, incidentally altering the clinical feature of the disease; and (3) it may cause symptoms almost identical with those of well-known diseases. The desirability of early diagnosis in arterial sclerosis is the greater because of what would seem to be the

fact that in its inception the pathological processes may be checked, but the difficulty of early diagnosis may be very great and regrettably the diagnosis must still often be empirical vessels susceptible of examination manual or instrumental, may be free from preceptibly sclerosis, while others inaccessible are well advanced in the process which is prodromic of symptoms. In the eight hundred cases above referred to there were two hundred and six patients suffering from disorders of the nervous system; directly attributable to the cause in which the symptoms varied from slight vertigo to the most profound dementia, and between these two extremes one might find almost any kind of subjective and objective disturbance: parhesis, aphasia, hemianopsia, emotional upheavals, bulbar and spinal symptoms of every sort. And further, Collins has observed many times a clinical form of cerebral arteriosclerosis heretofore inadequately described, and has studied the lesions after death. A fugitive occipital headache, slight dizziness, feeling of insecurity of station, impaired snap and vitality go to make up the picture. Sometimes there are early emotional manifestations: Attacks of neurinole laughter, less often of crying, not coming on sporadically, as in multiple sclerosis and old apoplectic cases, but nevertheless, like them by reason of having no attributable cause and being without emotional contentment.

The most striking feature of the disease is the alteration of the patient's appearance. The individual becomes transformed from a person expressing grace in movement and relaxation in repose, into an immobile, inanimate replica of the normal person.

The immobilization gives a more or less characteristic gait and attitude which is remarkable, the stride is short, feet widely separated and often the patient runs better than he walks. The knee jerk is usually lively and in some cases Babinski's sign is present. Patients thus afflicted are often looked upon as hysterical or neurosthenic. Death may come from syncope, intercranial hemorrhage, or from trifling intercurrent disease. Pathological examination may show the brain normal or shrunken. The vessels at the base may be atheromatous or not, and sometimes the only striking

alterations are in the middle cerebral arteries and their branches. Collins has had fifteen cases with this symptom complex and five autopsies.

The chief manifestations that cerebral arteriosclerosis produces aside from the symptom complex above described are: (1) Insomnia and dysnomia; (2) headache and cephalic paresis; (3) vertigo; (4) brain tumor symptom complex; (5) neurosthenic symptom complex; (6) epilepsy, focal, and general; (7) amnesia and dementia; and (8) apoplectic symptoms.

THE SCIENTIFIC PHYSIOLOGY JOURNAL, edited by Miss Cora F. Stoddard, and published by the Scientific Temperance Federation, should have an enormous circulation, as it is the only journal published which attempts to put into popular language the scientific facts concerning alcohol and its effects on the race.

The wide variety of scientific facts that are popularized and presented in language that a child could understand gives a special value to this journal. If the Federation Bureau did nothing else than publish this journal, it would accomplish a great work.

We urge our readers to send to 23 Trull St., Boston, Mass., and get a copy of this journal and become a member of the Scientific Federation Bureau and thus keep in touch with the tremendous strides which science is making to understand this alcoholic problem.

The Bureau is really the great headquarters and center of the literature of the subject, and deserves the warmest support from every student of the cause.

A great campaign of education is before us and the Bureau and its journal are the means by which we can help on this good work. The October and November numbers of this journal contain facts which have never been published in English before, facts that are invaluable for temperance workers and writers, and one of the great fields for reformatory work is the dissemination of accurate literature in every community of the country.

THE PHYSICIAN AND ALCOHOL*

BY PROF. DR. MAX KASSOWITZ

ALTHOUGH no one is better qualified than a physician to appreciate the gravity of the effects of alcoholic poisoning, or to know of the universality of the evil, as a body, the members of the medical profession are indifferent to the temperance movement; indeed, many even oppose it. True it is that many physicians have had but little opportunity to hear a connected scientific discussion of the subject; for lecture room and clinic, medical and lay literature, have been deficient along this line. A few publications have treated the subject scientifically, but the number of their readers has been very limited. A few prominent members of the profession also have done noble service for the temperance movement, but it is the laity that have been most active. They have strong temperance organizations that are spreading rapidly, and curiously enough, they have found their strongest argument in the appeal to medical science. The hygienist, G. Fraenkel, of Halle, therefore, put the following two questions to ninety-three prominent scientists. First: Do you believe the use of alcoholic liquors, under all circumstances, even in small quantities, to be harmful to the health and questionable practice? Second: If not, where would you draw the line for its safe use? Eighty-nine of these scientists gave a more or less complete answer, and the data thus given is of special value.

First in importance is the discussion of the nature of alcohol and its action on the human organism. All substances upon ingestion act as a poison, as a food, or indifferently. A substance under different conditions may act at one time as a poison, and at another time as a food or indifferently; but we know of no substance that is poisonous and nourishing at the same time and under the same conditions. The investigations of the past year confirm the view that alcohol acts as a poison upon all living protoplasm,

* Translated and abridged by Kent Oakley Brown, M.D., Asst. Physician, Walnut Lodge Hospital, and read at the annual meeting at Chicago, Ill.

in weak solutions irritating it, in stronger paralyzing it, and in still stronger destroying it. Even very weak solutions have a harmful action upon life processes. It ranks with ether, chloroform, chloral, paraldehyde, etc. Now, it is still questioned whether the chemical forces set free by this destructive process are of benefit to the organism; that is, whether alcohol can play the role of a poisonous food. Many claim that it is a food, because it is oxidized in the body; but other substances are oxidized in the body, that no one ever thought of calling a food. Many of these substances have been proven to increase instead of lessen nitrogenous waste. To be a food a substance must take a part in the building up of the work-producing protoplasm. Alcohol does not reconstruct protoplasm. It is claimed, however, that after some days the tissues tolerate alcohol, and that then it acts as a food. This is manifestly erroneous, for although a tolerance is established in regard to the subjective sensation and the narcotic effect, many of its evil effects appear only after years of drinking, and grow worse as the use of intoxicants is continued. By experiments extending through a number of weeks, it was shown that a dog taking alcohol could do less work, expended less energy, measured by the amount of expired carbon dioxide, and lost in weight. Every one knows, too, that athletes can maintain themselves in the best physical condition only by abstaining from alcoholics. Roseman admits that alcohol acts very unfavorably to muscular work. A real food, even in small quantities, always acts advantageously to muscular activity.

The managements of different armies have been compelled, little by little, to restrict the use of alcoholics among the soldiers. "The abstinent soldier marches better, shoots better, is sick only half as often, has considerably less days of sickness, and is punished only half so frequently for desertions and crimes" (Vlahael). Abstinence from a food cannot have so favorable a result. There is but one explanation. From time immemorial, the strength-giving properties of alcohol have been an article of faith with mankind; and only subsequently have they come to sanction its use by an erroneous professional theory.

Alcohol, though oxidized in the body, is of no more use in

maintaining the temperature of the body than in the production of energy. Heat is always formed in excess of the demand, and special heat-regulating apparatus is always at work, removing this excess. Alcohol paralyzes the vaso-constrictors, and inhibits the heat centers that stimulate the several mechanisms that prevent too great cooling, both of these actions facilitating the loss of heat. In the polar regions it has been found to be dangerous to life, where a real food would increase the heat of the body, and in the tropics it has proven equally harmful. German scientists have been unanimous in maintaining that alcohol is not a food. With our present knowledge of the question, we can only decide that "the use of alcohol, under all circumstances, even in small quantities, is harmful to the health and questionable practice."

German scientists again unanimously prescribe the administration of alcohol to a child, under all circumstances. This theoretical agreement stands in glaring contrast, however, to the custom in actual life; for children are allowed to drink in the family, in schools, in hotels, and in sanitoriums, and they will naturally continue to drink during adult life.

The laity cling to the idea that alcohol is nourishing and strengthening; and this error is often confirmed by the tact approval of physicians in charge, and by medical advice and prescriptions. In the report of German sanitoriums the responsibility of the profession is again exemplified by the statement that many of the patients, and especially the female patients, return to their inebriety upon the prescription of a physician for alcoholic drinks as a tonic. This disagreement between theory and practice is embarrassing to the physician. We can only say that we are continually advancing, and the practice of the profession at large is not always abreast of the advance in knowledge. Our situation will not be bettered until those who believe the habit an evil are willing, in public demonstrations and in articles to be read by the general public, to renounce reservations in favor of alcohol, some of which are manifestly erroneous, while the rest of them are still in doubt and under discussion. The laity, prejudiced in favor of moderate drinking, naturally remember best that which confirms their position, and the

effect of the whole is nullified. One can safely leave the exceptional use, should there be any, and instruction concerning it, to the physician in charge, as occasions for their arise.

It is to be regretted, too, that personal prejudice and preference come too strongly into the foreground in the discussion of this important question; so that a quiet, business-like consideration of the arguments and observations, pro and con, is not adhered to, as in the case of other drugs. Although other remedies are better stimulants and do not possess the paralyzing action of alcohol; and although hospitals in London and Vienna are using much less of it with as good, if not better success; and although the statements of our clinicians, as to the advisability of its use, vary widely, and our most experienced clinicians have no kind of an opinion on the subject, still, medication without alcoholics, especially in acute infectious diseases, is openly censured by physicians as a careless and serious omission, as would have been done a hundred years ago, if one had been so bold as to treat pneumonia without venesection.

Now, experiments on healthy animals and men show that respiratory activity is at first increased a little by alcohol, due, as Binz claims, to the direct irritation of the nerve centers. This initial irritation is quickly passed and is followed by the paralyzing action, which is prominent and lasting. Verworn concludes that no stimulation, but only paralysis, results from doses sufficient to produce the desired effect on the central nervous system. It is highly improbable that the effect on the respiration center is at all different from that on the other centers of the brain, so that the initial increase in respiration is not satisfactorily explained by Binz. Ninety-nine per cent of ingested alcohol (Atwater & Benedict) is oxidized, forming carbon dioxide and water; thus augmenting the amount of expired carbonic acid gas; this increase serving, in a normal way, to stimulate respiratory activity, until paralysis of the center checks it.

In pneumonia, when the patient, owing to consolidation, must make dyspnoic efforts to supply the necessary oxygenation of the blood, it would be highly injudicious, and perhaps dangerous, to compel him to increase his efforts, that he might dispose of the superfluous carbon dioxide, resulting

from the oxidized alcohol; and especially, since the action of alcohol is "extraordinarily unfavorable to muscular activity." In the treatment of the neurasthenic, the nervous, and the degenerate, the same difference of opinion exists, some declaring alcohol invigorating, while others think it decidedly harmful.

The majority, no doubt, would advocate a temperate use of alcohol as the remedy for all the evil effects of excess; but opinions vary widely as to what moderation means. Most of the authorities consulted consider a moderate amount so small a one, that in attempting to thus limit his drinking, one would not only bring upon himself the ridicule of his associates, but he would even be unable to buy so trivial an amount. Some would not even allow this small amount every day. On the other hand, there are those who are very liberal in the amount allowed; while still others would leave it to each one to decide for himself the amount that is proper for him, believing that the knowledge of what is excess will induce most men to avoid it. These advocates of moderation ignore the fact, that with continued usage most men have the desire to drink more and more, while self-control is injured or entirely overthrown.

Many supporters of moderation advocate instruction concerning the evils of the abuse of alcohol as a means of checking the excess, and abstainers would agree with them that it is an important matter; but such education has everywhere proven unavailing. Even physicians indulge themselves freely and their example is prominent and influential in making the temperance work of no avail. The very vehemence of total abstinence workers has greatly aided the cause by arousing people to action. They have the advantage of a strategic position, for radical measures are always easiest. The inebriate after treatment, therefore, has often been greatly benefited by the instruction of abstainers and association with them. With children, their work has been very successful, as is witnessed by the numerous juvenile total abstinence organizations. The example of personal total abstinence is the most effectual and helpful influence in the cause of temperance; on the other hand, the most formidable ally of intemperance is found in the drinking

customs of Europe. Moderate drinkers, as well as abstainers, recognize these two facts.

Opposition to abstinence is due to prejudice and misunderstanding of the motives and methods of its advocates. They are unjustly called fanatics, ascetics, and hypocrites; are accused of absurd purposes; and ridiculous inferences are drawn from their arguments; all of which simply show how hard it is for them to find just cause for their antagonism. They declare abstinence impossible and hopeless, and call it penance, castigation, etc.; and insist that it is renouncing all the pleasures of life; but this is wholly unintelligible to the thousands of totally abstinent families, who know from personal experience of the falsity of such statements. Difficulties are easily overcome, when one appreciates the importance of the question at issue. Complete extermination of alcoholism is not considered by any of the advocates of total abstinence, but it is not more hopeless than the extermination of tuberculosis, cancer, or of the degradation and misery of the lower classes; and work for the former cause is as reasonable as are attempts for the amelioration of any of the latter.

Last summer, the first German Total Abstinence Day was observed in Berlin. Ten different organizations took part, including those among the Good Templars, the women, managers of sanitoriums, pastors, teachers, students, merchants, railway soldiery, etc. At about this time eight hundred physicians drew up an appeal in favor of abstinence, setting forth the physical, mental, and moral damage from alcohol; the resulting inefficiency, liability to disease, and race deterioration; the brutality and crime which follow its use; the accompanying suffering of countless thousands of those who are innocent of any indulgence; the many accidents for which alcohol is accountable; and finally urging it, as a duty to our fellows and to self-preservation, to join in the conflict against alcohol. They are words that should be pondered, especially by the members of the medical profession; for the physician of the future will be an abstainer; and only a confirmed pessimist can call so reasonable a cause hopeless.

ALCOHOL AN IMPORTANT FACTOR IN THE ETIOLOGY OF MENTAL AND NERVOUS DISEASES

BY D. R. BROWER, M.D., LL.D.

ALCOHOL is a potent factor, acting directly and indirectly in the development of mental and nervous diseases. Heredity, bad environment, the infectious diseases and faulty education number them all, by thousands, but the effects of alcohol surpass them all. It is so subtle, so far reaching, and transmits its baneful influence from generation to generation to such an extent as to make its potentiality for evil far surpassing any other etiological factor. This conclusion is accepted quite generally by thinking people, but notwithstanding it, the consumption of alcohol does not materially diminish, as witness a recent estimate that places the direct cost to the people of the United States of the various kinds of liquors they consume annually at one billion dollars. As depressing as this aspect of the subject is, we can see light ahead in that the people are being taught with profit the physiological effects and the pathological results of such consumption, by such societies as this, and as a consequence of this the number of localities that have become "dry" in the last few years is very surprising, and gives us an assurance that in the very near future the consumption of these beverages will be very much reduced.

The great power alcohol has in developing and perpetuating insanity and nervous disease is due to its striking effects manifest on the vital organs of the body, which are in part as follows: On the stomach and intestinal tract its functions and its nutrition are seriously impaired; on the circulatory system by increasing the frequency and force of the heart's action, dilating unduly the capillaries generally and of the brain specially, directly interfering with the nutrition of the brain cells by the too rapid movement of the plasma and by blocking the perivascular spaces, and its continued use inducing fatty infiltration of the heart muscle and an atheromatous condition of the arterial walls; on the

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brain, spinal cord, and peripheral nerves, upon which it acts as an anesthetic, not as a stimulant, the apparent stimulating effect so often manifest being due to its depressing effect on the inhibitory apparatus, and therefore not an evidence of increased energy, its continued use causing an increase of neuralgia and an atrophy of the nerve cells; on the liver, the liver cells enlarge, become infiltrated with fat globules, the connective tissue cells proliferate, and eventually there is produced a cirrhosis of the liver; on the kidneys, function is disturbed by an increased output of fluid, but with a diminution of urea, in these organs the irritating results manifesting themselves more slowly than in the liver, but in the same manner, and eventually the cirrhotic kidney is produced.

When these various items are considered, is it any wonder that this agent is potent in producing various psychoses or neuroses? It may do so directly, that is, the disease may be the result of this agent alone, or it may be an accessory agent, or it may produce its results by transmitting to the offspring an unstable nervous organization that is unable to withstand the demand of ordinary environment, a mental and moral imbecility. Maudsley graphically describes the direct effect of alcohol on the mind, as follows: "Its first effect is to produce an agreeable excitement, a lively flow of ideas, and a general activity of mind, a condition not unlike that which oftentimes precedes an attack of mania; then there follow, as in insanity, sensory and motor troubles, and the automatic excitation of ideas which start up and follow one another without order, so that more or less incoherence of thought and speech is exhibited, while at the same time passion is easily excited, which takes different forms according to the individual temperament; after this stage has lasted for a time, it passes into depression and maudlin melancholy, as convulsion passes into paralysis; the last scene of all being one of dementia and stupor. The different phases of mental disorder are compressed into a short period of time, because the action of the poison is quick and transitory; but we have only to spread the poisonous action over years, as the regular drunkard does, and we get a chronic and enduring insanity in which the foregoing scenes are more slowly acted.

Or, if death, cutting short the career of the individual, puts a stop to the full development of the tragedy in his life, we may still have it played out in the lives of his descendants; since speech is exhibited, while at the same time passion is easily excited, which takes different forms according to the individual temperament; after this stage has lasted for a time, it passes into depression and maudlin melancholy as convulsion passes into paralysis, the last scene of all being one of dementia and stupor. The different phases of mental disorder are compressed into a short period of time, because the action of the poison is quick and transitory; but we have only to spread the poisonous action over years, as the regular drunkard does, and we get a chronic and enduring insanity in which the foregoing scenes are more slowly acted. Or, if death, cutting short the career of the individual, puts a stop to the full development of the tragedy in his life, we may still have it played out in the lives of his descendants; since drunkenness of the parent sometimes becomes the insanity of the offspring.

orel * illustrates in a striking manner the hereditary of the question, as follows:

First Generation

Depravity, alcoholic excess, degradation.

Second Generation

Drunkenness, maniacal attacks, general paralysis.

Third Generation

Hypochondriacal tendencies, melancholia, suicidal and homicidal tendencies.

Fourth Generation

Underdeveloped intelligences, mental obtuseness, sterility, and extinction of race.

Insanity

A careful study of the relation of alcohol to the causation of insanity has led me to the conclusion that in fifteen per cent of all cases it was the chief if not the sole agent.

The Commission of Enquiry for Great Britain, in their report for 1909, publish the fact that in private cases alcohol

causes the Degeu excesses.

was the cause in 16.7 per cent of males, 8.5 per cent of females, in pauper cases, 23.3 per cent males, 9.3 per cent females.

The Danvers (ass.) Insane Hospital annual report gives the following statistics of male cases produced by alcohol from 1903 to 1907:

1903	19.8	per cent.
1904	18.9	" "
1905	23.0	" "
1906	25.6	" "
1907	27.0	" "

Kraepelin * reaches the conclusion from an analysis of thirteen hundred and seventy-three cases admitted to his Psychiatric Clinic of V. which, for year ending 1905, that thirty per cent of the male patients were suffering from psychoses due directly to alcohol, and six per cent of the female cases.

Indirectly and as a co-operative cause its action has a much wider range, and it may thus even have its part in as much as fifty per cent.

Kraepelin has reached the conclusion that the indirect or accessory effects of alcohol are responsible for 44.9 per cent of all cases that come to his clinics, and, considering the males alone, 61.8 per cent.

The relation of alcohol as an accessory factor in developing general paresis is important. Kraepelin's clinical records show that 51.9 per cent of male cases and 33.9 per cent of female cases had a history of early alcoholic excesses, excesses that long preceded the development of the mental symptoms; and he has reached the conclusion that general paresis is the combined result of syphilis and alcohol, and my own studies have led me to the same conclusion. General paresis is almost unknown among those peoples who do not use alcohol to excess or not at all. I have studied the question in lower Egypt, Palestine, Turkey, and Japan, and found that the disease is exceedingly rare in these countries, and yet syphilis is probably much more prevalent there than here, and among all of these peoples alcohol is not used as a

* *Der Alkoholisimus in München*, Münchener Medizinische Wochenschrift, April 17, 1909.

beverage. Eliminate alcohol from the etiology of general paresis, and the disease will be as rare here as in those countries.

Imbecility and Idioty

Bourneville¹ in one thousand cases of imbecility found alcoholism in the father four hundred and seventy-one times, in the mother eighty-four times, in both parents sixty-five times.

Denmie² found alcoholism in 81.9 per cent of parents, and moreover that in the families of alcoholics only 17.5 per cent of the children were normal.

Peterson³ attributes nine to sixteen per cent of the cases of imbecility to alcoholism.

Epilepsy

Spratling⁴ in an analysis of one thousand and seventy cases found alcoholism in sixteen per cent of the fathers and twelve per cent of the mothers. He quotes from Kovalevsky as follows: "Caucasus is a country of grape and wine making."

The drinking ware from the mountain rivers is bad, but the wine is good. The natives of Caucasus quench their thirst, not with water, but with wine, and the wine is no light one. It contains from 5 to 15 per cent of alcohol. Wine-drinking is so common that no one considers it inebriety. Everybody knows what a high percentage of epilepsy is caused by the abuse of alcoholic beverages. I have spent the summers during the last fifteen years in Caucasus, where I have a medical practice drawn from a large district, and in no other place have I had so large a proportion of epileptics among my patients."

But why take your time in multiplying instances of alcoholic etiology in mental and nervous disease? The great problem before us is prevention, for in no other department of medicine is the old adage so true that "an ounce of prevention is worth a pound of cure," and this must be accomplished not so much by legislation as by education.

¹Progres Medical, 1897, No. 2.

²Recherches Cliniques de Therapeutique des Epileptiques, Hirschowitz, Paris, 1902.

³Church & Peterson, p. 776.

⁴Epilepsy and its Treatment, p. 67.

ALCOHOLIC INSANITIES

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THE subject of alcoholism is one of the most important. The pernicious influence that alcohol exercises on the individual's physical, intellectual, and moral spheres of life shows that this poison presents a serious danger to society. Diarrhetically opposite views have been held as to the advisability of the use of a moderate amount of alcohol as a daily habit. The most recent researches of Reid Hunt throw considerable light on the physiologic side of the question and show in the most conclusive manner that even extremely moderate amounts of alcohol may cause distinct changes in certain physiologic functions and that under certain circumstances these changes may be injurious to the body. Certain physiologic processes even in moderate drinkers are distinctly different from those in abstainers.

Alcohol has a special predilection for the nervous system. We will not be concerned here with the pathologic changes produced by the poison in the nervous tissue or in its blood-vessels, but exclusively with its effects on the mental processes of an acutely or chronically intoxicated individual. It is a well-established fact that alcohol produces insanity and that the latter presents constant general features, which, however, may undergo modifications in the course and in the intensity of the phenomena, according to the individual and the nature of the beverage.

Mechanism is not infrequently associated with pre-existing mental affections. In order to determine the nature of the mental disorder produced by alcohol, it is important to make the observations on individuals with a normal mentality prior to the alcoholic ingestion. Alcoholism occurring in the course of mental affections acts as an excitant and renders the symptoms of the primary affection more conspicuous. Sometimes, on the contrary, the toxic agent impresses its special delirium, which becomes grafted on the pre-existing cerebral

Delirium. In parities, for example, by reason of their parietal in character of their delusions, all the degrees of an acute intoxication may be observed. In some cases alcohol in small quantities excites and stimulates the morbid activity of the parities, in others, in addition to the simple excitation, there are illusions and hallucinations, in still others an attack of acute delirium will mask the physical and mental symptoms of paresis. It becomes then somewhat difficult to appreciate properly one or the other. The alcoholic tremor may also mark the motor phenomena of paresis, and the characteristic speech of the latter may lose its special feature. In such conditions the diagnosis becomes obscure, especially when paresis in its first period.

Delirium may, very unfavorably, influenced by alcohol. In such cases one may observe the existence of two kinds of delirium, one that follows an epileptic attack and of which the individuals are totally unconscious, the other which they recognize well; they can give a good account of their hallucinations and of their acts. The latter is frequently observed in alcoholism and, in fact, is typical of this intoxication. In these two parts, while they possess their own characteristic features, have an undoubted influence on each other; one aggravates the other. The methodical importance of this fact is too obvious to dwell on.

A tendency to excesses and especially to alcohol excesses is not infrequently observed in paranoia. Here the intoxication aggravates the persecutory or other systematized delusions. Association of alcoholism with senile dementia, although less frequent than with parietic dementia, is, however, not rare.

In all these instances the diagnosis is sometimes surrounded with the difficulties. Nevertheless in the majority of these cases, close and more or less prolonged observations will enable us to disclose the primary affection superimposed or masked by the mental disturbances of the intoxicating nature.

In acute alcoholic intoxication complicating mental diseases, the delirium and hallucinations usually decrease rapidly and finally disappear; the toxic tremor becomes gradually less marked or disappears. In some cases these phenomena may last a longer time, and then we witness the curious combination of vague hallucinations or of vague

persecutory ideas alongside of expansive delusive thoughts in paresis.

I mention above the very curious association of two kinds of delirium in epilepsy.

The senile dement not infrequently has attacks of agitation subsequent to an alcoholic excess. Here, again, the toxic phenomena disappears rapidly, to lay bare the habitual symptoms of senile dementia.

If we turn our attention to alcoholic mental phenomena occurring in paranoia, we can see that the delusion of the original malady is, so to speak, stereotyped; it is fixed; it is by no means variable. The paranoic who is being persecuted, poisoned, hypnotized, or magnetized, is invariably the same object of his enemies' doings. In alcoholic delirium the delusional conceptions are characterized by mobility and variability. The hallucinations are of the same nature.

All these symptoms disappear with the disappearance of a toxic attack, but the pre-existing paranoic phenomena continue their monotonous evolution. Sometimes the toxic delusional thoughts with the hallucinations may persist for a longer period. Even then there will be no special obstacle in discriminating the symptoms of the primary affection and those of the added toxic conditions. The state of alcoholic intoxication naturally embraces two stages; one in which the symptoms are transitory, fugacious, and the other in which the disorder is profound, permanent, and irremediable. The first presents two subvarieties; in one of them the delirious symptoms are sudden in onset, but nevertheless not very pronounced; in the other the manifestations are very acute, usually occurring when the alcohol abuse is frequently repeated, and constitute the so-called delirium tremens.

In chronic alcoholism there is a long, slow, but progressive intoxication. Here the hallucinations leave, after their disappearance, delusional ideas, and the mental faculties in general present a certain degree of feebleness. While chronic alcoholism is not absolutely incurable, the usual result is dementia.

The not infrequent association of alcoholic intoxication with other mental affections had led some alienist to consider the latter as a result of the first. In fact, psychiatric

literature is abundant with examples of so-called "alcoholic paranoia," "alcoholic mania," and "alcoholic paresis," etc. Long ago these views appeared to be erroneous, and the more I studied the subject, the more I became convinced of the untenability of this point of view.

Summary of Cases: First Half

The present study embraces four hundred and thirty-seven cases and covering a period of three years of close observation, mainly at the Philadelphia Hospital, but also in other institutions and in private practice, was undertaken with the object of determining the forms of mental disorders in acute and chronic intoxications of alcohol, also the possible justification of some writers in describing alcoholic paranoia, mania, etc.

One hundred and sixty cases presented symptoms of acute alcoholism, the majority of them, viz. one hundred and twenty, presented the ordinary symptoms of an acute toxic state, from which they recovered quite promptly, viz. within a period of from three to eight days. They were all characterized by a marked confusion. In eighty cases there was also a stuporous condition, besides a confusion. All presented a more or less mild delirium. Hallucinations and delusions were also present. The remaining forty patients presented the well-known syndrome of delirium tremens. Except a few variations in regard to the intensity of the manifestations they all exhibited disorders in their sensorium. Through the visual apparatus they saw before them terrifying animals, assassins, robbers; they witnessed executions, fires, etc. Through their auditory apparatus they heard threats, bad names, oaths, accusations against their honor and morality, groaning, complaints, screams, clattering of sharp instruments or firearms. Through their olfactory apparatus they received the most repugnant odors. Through the gustatory apparatus they tasted all sorts of nauseating substances. Finally, through the sense of touch, the patients believed themselves undergoing torture; they felt the blades of knives penetrating their flesh, they were being mutilated; they felt serpents, insects, worms devouring their bodies; or else they felt they were being drowned or thrown over precipices. Being under the influence of hallucinations

they were excited, defended themselves, threatened, struck, or else were terrified and lay immobile. These mental phenomena were accompanied by a tremor affecting the hands, or the upper and lower extremities, or the latter and face. In some cases the tremor continued even in sleep.

The two categories of acute alcoholism observed by me in one hundred and sixty cases presented a good recovery. No sign of oncoming dementia was noticed when I saw them last. Some of the patients I had the opportunity to observe on subsequent occasions, viz. during second, third, fourth and fifth attacks. The mentality remained clear when they were discharged.

Before I dismiss this part of my study it may be of interest to mention that, while delirium tremens were observed mostly in men (twenty-eight), the so to speak subacute alcoholism affected more frequently women (fifty-five) than men (twenty-five). As to the relation of the quantity of alcohol to the toxic symptoms there was no parallelism. In some cases, very small amounts of the beverage sometimes produced delirium tremens, while larger quantities produced in some cases the mild form of acute alcoholism. It is interesting to note, however, that in the majority of cases (not in all) women become more easily affected by the poison in small amounts than men. There is nothing definite to say as to the relative effect of beer and whiskey, except that in the majority of cases large quantities of beer were identical in their influence to small quantities of whiskey. It is difficult to establish this relative effect, as the majority of drinkers usually combine these two beverages.

Summary of Cases: Second Half

So far the results of the first half of my study present no special features. They are, on the whole, similar to those obtained by other observers.

The more interesting is the second half, in which the investigations concern two hundred and seventy-seven cases of chronic alcoholism.

The mental disturbances of a chronic alcoholic nature may follow repeated subacute attacks or repeated attacks of delirium tremens, but they may also develop insidiously and progressively without preliminary acute symptoms. Before

taking up the special features concerning the individual phenomena I will endeavor to present a general picture which I was able to draw from a wholesale observation of two hundred and seventy-seven patients.

Intentionally I will refrain from describing the physical phenomena caused by chronic alcoholism, as, for example, the tremor, convulsive seizures, muscular weakness, sensory disturbances, gastrointestinal, respiratory, and circulatory disturbances, etc.

The mental stage consists chiefly of a gradually developing intellectual feebleness, viz. dementia. Before the latter becomes conspicuous the patient begins to show undue irritability, which at first is noticeable only to the immediate surroundings. At the same time appears a weakness of the will power and the energy. The patient soon becomes depressed, his memory becomes clouded, the power for application for work, physical or mental, is decidedly impaired. The sadness, the realization of his physical and mental impotence, lead him directly to delusive ideas, which become intensified by hallucinatory images, and criminal tendencies are not infrequently observed. Gradually the moral sense, and the sense of propriety, become deteriorated; conventional laws are totally ignored. The patient becomes indifferent, apathetic, brutal. His cerebral functions become irreparably disorganized, the judgment becomes infantile, and the patient's dementia is permanently established. The evolution, therefore, of chronic cerebral alcoholism is progressive and its ultimate result is terminal dementia.

Let us take up now the special symptoms as they present themselves in my cases.

Delusion

These were present only in one hundred and fifty-four cases. The majority (one hundred and eleven) were of persecutory character, decidedly unsystematized, sometimes extremely vague. At times they would disappear, sometimes reappear. They were either moderately or extremely mobile. Although the patient was invariably the object of the persecution, nevertheless the mode of the persecution changed frequently. At one time he was going to be put to death, another time he was simply called bad names, at still another

time he was the subject only of jealousy. Hypochondriacal delusions were rare (ten cases). There is a general belief that delusions of marital infidelity are very frequent in chronic alcoholism. I have observed them only in twenty-nine cases.

As to the question of alcoholic mania, melancholia, paranoia, or paresis, my one hundred and fifty-four delusional cases show the following:

So-called Alcoholic Mania

It is true that some patients out of the original four hundred and thirty-seven were first seen with agitation, with talkativeness, but none of them, I may say, presented the typical picture of true mania in which the confusional element is absent, and the mental lucidity rather pronounced, and in which hallucinations are rare. The agitation in those cases was accompanied by a delirium; the hallucinations were terrifying. When a maniac who is prone to commit excesses drinks, he may develop hallucinations and a delirium, but the abatement of the latter symptoms at the end of a few days will expose the primary affection.

I made this observation in a number of instances. Cases that may have suggested acute mania or hypomania were observed in the subacute form and in the chronic form of cerebral alcoholism. In the latter case a recent ingestion of alcohol produced a mild acute delirious attack which was typical of toxicity.

So-called Alcoholic Melancholia

In five out of one hundred and eleven cases with unsystematized delusions there was the element of the unpardonable sin so characteristic of melancholia, but a close observation showed that, while the patients would incessantly blame themselves for such imaginary sin, nevertheless the other characteristic features of the malady were absent, as, for example, the painful emotional state, the depression following it. In eight cases there was marked depression with persecutory delusions, but there was not the idea of self-blame, of physical worthlessness. In none of these thirteen cases, which suggest at first glance melancholia, was there the remotest tendencies to self-destruction, which is so frequent in melancholia. The depression in the above eight cases was not a

genuine painful sadness, but rather the result of the stuporous state which is so common in alcohol intoxications.

So-called Alcoholic Paranoia

Of the one hundred and fifty-four delusional cases fourteen presented systematization. A close and prolonged study on repeated occasions showed that, while systematization existed at first, it became disorganized later. On the other hand, when a systematized delusion persisted for a longer period there was at no moment the spirit of revenge with a tendency to homicide, which is so characteristic of paranoia. In my first series of one hundred and sixty cases of acute cerebral alcoholism I have not infrequently observed fixed systematized delusions with homicidal inclinations intensified by hallucinations, but they have never been persistent. Whether they were encountered in the acute or chronic forms, these delusive thoughts could easily be shattered by persistent argumentation, which is not possible in true paranoia. Besides, the more or less delirious states and the faces of my patients, aided considerably in eliciting the true nature of the affection. The evolution of paranoia as an essentially chronic mental affection developed on a conspicuous degenerative basis, which can be traced from early youth, is so characteristic that it is not an easy matter to confound it with a chronic cerebral alcoholism. The dementia in the latter is the most essential feature, and at that period of the disease when delusions develop and the dementia is rather pronounced. In paranoia the degree of dementia during the period of delusional development is very mild.

So-called Alcoholic Paresis

Among the two hundred and seventy-seven chronic cases, in one hundred and one tremor was present, but it never was that fine fibrillary oscillation of the tongue and of hands that is characteristic of paresis. Pupillary inequality I have observed in fifty-two cases, but with two exceptions I never noticed any irregularity of the pupils, marked disturbances of the eye reflexes, or light or accommodation, or of the consensual reflex. The speech was frequently tremulous because of a coarse tremor of the lips, but never was there present the characteristic parietic speech in which, as is well known, the guttural and labial letters are practically affected. In

thirty-two cases a marked expansive state was noticed, but in those none of the above-mentioned physical signs were present. Not one of these cases presented, I may say, the combination of the symptoms on which we usually base our diagnosis of the parietic dementia. Some difficulty is experienced in cases of initial stage of paresis or in the depressive form of paresis, in which the expression of the faces resembles that slightly stuporous state of chronic alcoholism in which dementia is gradually developing and no distinct delusions are present. In such cases, close observation will always reveal mild physical signs in paresis, which will not be present in the form of alcoholic dementia I speak of.

At the beginning of this work I dwelt sufficiently on the value of the association of symptoms of acute intoxication with paresis.

My study of the several hundred cases, therefore, authorizes me to conclude that melancholic mania, paranoia, and paresis cannot be the product of alcoholic intoxication, acute or chronic.

Other Features

Let us turn our attention now to other features of my chronic cases. Simple dementia with delusions was present in seventy-six cases, and in some was accompanied by transitory hallucinations more of a religious nature. God and spirits figured in them continuously. The majority of these cases, fifty-eight, never had an acute period. The patients were mostly business people, who drank moderately, but without interruption for years. The remaining number presented in previous life several attacks of subacute alcoholism or one or two delirium tremens. The majority of hallucinations were of auditory nature (one hundred and thirty). The same observation I made in acute forms of alcoholism, although the relative percentage was not so high.

Age Incidence

Interesting figures are found in regard to the age. The majority of my patients (one hundred and twenty-nine) with distinct dementia were between thirty and forty years, a lesser number between forty and fifty and still lesser above that age. In only one case marked dementia was noticed at twenty-five. This observation is important. It seems that dementia develops early in life in chronic alcoholics, at an age

when normal activity is at its height. This cerebral activity is, therefore, interrupted at a useful and prolific age. The duration of the use of alcohol has apparently no marked bearing on the date of the onset of chronic cerebral alcoholism. While it is true that the majority of these patients began the use of the poison at a very early age, there was a number of cases in which the dementia set in early. It seems that the individual predisposition is a very potent factor in early or late development of the symptoms.

Neuritis

Multiple neuritis was observed in seven chronic cases and in three acute cases. The latter presented a marked confusional state with inability to recognize place and time; there were also illusions of identity. The three patients recovered mentally, but the polyneuritis symptoms remained. The chronic cases presented the amnesic form of Korsakoff's psychosis, but there was also a more or less pronounced dementia.

Conclusions

The present study establishes, I believe, this fact, that alcoholic insanity presents special characteristic features which it is not difficult, in the majority of cases, to distinguish from other analogous conditions. Acute cerebral alcoholism presents three states: delirious, confusional, and stuporous. The intensity of these states varies according to whether we deal with a subacute form or with delirium tremens.

The chronic form leads inevitably to dementia. In the course of development of the latter, delusions with hallucinations and illusions may and may not manifest themselves.

In the latter symptoms may sometimes present a picture of any other psychosis, this resemblance is only apparent, as in the majority of cases close observation will enable us to find the proper interpretations.

If the symptoms proper of cerebral alcoholism may sometimes develop in individuals affected with other psychoses, who happen to commit excesses, or do so because of the perverted mode of thinking or feeling caused by the psychoses, it does not follow that alcohol is capable of producing these psychoses. The conception of alcoholic melancholia, mania, paranoia, or paresis is unscientific, as it is not based in acute observation.

THE PAUPER INEBRIATE FROM A MEDICAL AND LEGAL STANDPOINT

BY L. D. MASON, M.D., BROOKLYN, N. Y.

THE inebriate is a physical and mental degenerate; he, therefore, is an irresponsible person and unsafe to be at large, and demands legal restraint and medical care. He should be a ward of the state, and treated as a distinct class, as are the criminal, pauper, and the insane, and not as is now the case necessarily, compounded with either.

The modern method of dealing with the inebriate is a travesty on law, justice, and equity, a burden to the taxpayer, and directly opposed to the rights of the individual and society. It is the stranding opprobrium and product of our state legislatures who promote and sustain, and refuse to repeal laws enacted in ignorance and out of date, for reasons best known to themselves and their political constituency.

The great majority of the states have no provision for pauper inebriates outside of the criminal law, and where it is provided, it is inadequate and not complete or satisfactory.

As a rule we have put the ban of criminal on the inebriate. We penalize him in order to reform him. This is the best that the twentieth century law and medicine can do for the inebriate, to place the mark and disgrace of criminality not only on him, but also on his family.

The indictment against the present law is that it is in no sense deterrent or reformatory, but precisely the reverse. The short term of imprisonment and fine practically puts a premium upon and encourages inebriety and drunkenness, a burden upon the family and friends of the inebriate himself, and makes restoration to his social, commercial, and political privileges almost impossible. Society will welcome back to its various relations the so-called reformed inebriate, but rejects the man who has a past criminal or insane record. We should not put the ban of either on the inebriate.

Presented before the Virginia Medical Association at Richmond, Va., October 21, 1908.

he has enough to carry. We need hardly mention the great social and financial burden inflicted on the municipality and the state by the present ineffective and foolish laws. They are a mere sham and a pretense, and a disgrace to a civilized community. Under the present shameful system, if we can call it a system in this connection, one thousand inebriate rounders or rounders mean ten thousand annual arrests, or more, and an additional burden to the police and the magistrates to arrest and commit repeatedly every few days, instead of once annually or permanently, in corrigible cases. It is an imposition on the taxpayer, to say nothing of a nuisance and grievance to society, and a great burden on the municipal and charitable funds and institutions, as well as to public and private charity. In the name of common sense why should not the inebriate be arrested only once a year, or less often, instead of every few days, and thus society and himself receive the benefit of his continuous treatment and protracted isolation; as contrasted with the irregular, intermittent, spasmodic modern method of dealing with the inebriate inebriate, or very aptly styled "rounder." By the proper means thousands of dollars would be saved in every city of the first class, a surplus large enough to go a long way to support farm colonies conducted on the long term basis of committal. Such colonies, such places of restraint, treatment, and discipline and I would emphasize the last term, present the conditions that with proper classification and special legislation for the inebriate, would largely, if not altogether, meet the needs presented. The physician, the lawyer, the penologist, and the disciplinarian, must come together and formulate such legal enactments as shall meet the case; neither can alone. It will need the combined wisdom and experience of all. The reason why legislative efforts for the inebriate have failed in the past is there has been lack of unity in these particulars. Back of the law so enacted should be strong public sentiment that should demand and control and enforce legislation.

The great obstacle to success in legislation for the inebriate is too many impractical theories and lack of unity in common sense measures. Neither law nor medicine nor the knowledge of the penologist nor the experience of the

disciplinarian are alone needed, but all combined, and among these medicine holds the most important and first place.

But the most desirable laws to regulate the care and control of the pauper inebriate may be drawn, and all will fail if the popular sentiment and vote are not with those who are interested. There should be a campaign of public education in this matter, emanating from medical sources. What is the great obstacle to special legislation in behalf of the inebriate? The secret of the whole matter is not only legislative apathy and indifference and ignorance of the necessities of the case, but the pauper inebriate of the class hobo, rouser, panhandler, tramp, is a most valuable asset to the professional politician. The lodging-house colonizes him, and gives him value as a repeater from one to ten votes on election day. He swells the police force and creates the occasion and makes business for the courts. If the drunken population in our cities could all be arrested and committed at once, the expense of the police department in relation to the drunken population of our cities would be cut down half. In the words of a police magistrate, if we could commit the inebriate inebriate for one year or more, the problem would be practically solved, and the business of the courts concerning the inebriate would be diminished. The cost of handling the inebriate population in Boston in 1898 was one eighth of the total cost of the police department. Fifty per cent of this was for unnecessary commitments. The same conditions exist in other cities. Literally there is money enough wasted in these foolish efforts to equip and sustain a first-class farm colony for such persons and keep them for a year.

Politicians recognize the necessity of catering to the inebriate inebriate through the saloons for the purpose of keeping a certain hold on office. Indiscriminate charity given to these tramps keeps them alive and perpetuates their work. The money they receive all goes into the saloon so that a vicious circle is established in which the low politician and the foolish philanthropist cater directly to the saloon through the tramp.

The complex political machinery in which the liquor dealer and the brewer are the great centers and the saloon

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THE BOARD OF HEALTH OF THE CITY OF NEW YORK

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keepers and tramps are the agents and promoters, everywhere, of every city where agents are sold. Thus the license law and the attempts to regulate the saloon trade give them a permanent foothold and entrench them as a part of the body politic. If this army of tramps could be disbanded or reformatories for periods of one year or more, depending on their conduct, a great blow would be stricken against the present saloonists. Eliminate the tramp trade, and the saloon would disappear, and with it a political evil would be slain. Remove the patrons of the saloons, the drunk and debaucher, and break up the vicious circles; repeal antiquated, inflexible, and unjust laws, and enact laws based on scientific and medical observations, and common sense and practical experience, and both a social and political evolution and revolution will take place.

Has the physician a place in politics? We maintain that he has. That he has an influential, dignified, practical relation to politics in all matters that pertain to public hygiene, the maintenance of the public health, and the cure, control, and prevention of disease. Moreover, we believe he should act either voluntarily or be specially appointed as an instructor to the public in matters concerning the public health, through the press and the platform, and by personal influence, in any legitimate way to the people who are not "lugged" as sheep, but are to be shepherded, as regards hygiene and sanitation. A more excellent article on "public health and the medical profession," appeared as an editorial in the September number of the *New York State Journal of Medicine*. It is too lengthy to quote here, but it fully brings out the case. I desire to impress that the public policy must include the medical profession as its council in all matters concerning public health and sanitation. Another editorial, in which I could all attention can well find in the journal of the American Medical Association, Sept. 22, 1900, reads as follows: "The Doctor in Politics," occasioned by the call of the Government of California to the State Medical Society to aid in taking an active part in the legislature in all matters pertaining to medical legislation. The experience of the epidemic of the infectious plague was the especial instance that demonstrated the more than need of medical consultation and

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THE PUBLIC HEALTH SERVICE AND THE CONTROL OF DANGEROUS DRUGS

of the public health service, a matter of considerable importance in the prevention, especially of epidemic disease, and the promotion of and participation in sanitary conditions. It is the duty of the public health service to the extent of its power to prevent the spread of such diseases, to prevent the use of such drugs as are dangerous to the health of the community, and to prevent the use of such drugs as are dangerous to the health of the community. It is the duty of the public health service to the extent of its power to prevent the spread of such diseases, to prevent the use of such drugs as are dangerous to the health of the community, and to prevent the use of such drugs as are dangerous to the health of the community.

REPORT OF THE PUBLIC HEALTH SERVICE ON THE CONTROL OF DANGEROUS DRUGS

Presented to the House of Representatives, Committee on Education and Labor, in accordance with a resolution of the House of Representatives, passed July 1, 1934.

Washington, D. C., 1934.

When a drug is used in the treatment of disease, and is found to be dangerous to the health of the community, it is the duty of the public health service to prevent its use. It is the duty of the public health service to the extent of its power to prevent the spread of such diseases, to prevent the use of such drugs as are dangerous to the health of the community, and to prevent the use of such drugs as are dangerous to the health of the community.

we believe that great service could be rendered this state by the establishment of a state institution for the treatment of this class of patients to which they may be committed voluntarily or by order of the court. Now, therefore, it is resolved that we recommend the establishment and maintenance by the state of an institution for the care and treatment of inebriates and persons addicted to the excessive use of drugs; and earnestly recommend, and urge the governor of the state of New York and the legislature the necessary and importance to society of the establishment of such an institution."

The state society endorsed and recommended the establishment of such an institution.

Previous to this meeting the governor met by appointment Dr. Spencer and Andrew M. Brown, of Watertown, and several state officials in conference in Albany. Result, there was not any bill introduced, but it was deemed best to have a commission to investigate the necessity for such an institution, so that a measure was introduced providing for the creation of a commission to investigate the subject, and report to the legislature its recommendations as to the necessity of the statute for such an institution, and as to any amendments of the statute with reference to the committee of inebriates to such institutions, such legislation applying especially to the control of the *Panper Inebriates*.

The International Congress of Alcoholism to be held next year in London has already mapped out an outline of the proceedings. The Congress will open Sunday, July 18, by services in the leading churches and a reception to the foreign guests.

On Monday an inaugural reception will be held. Every morning following there will be a general meeting and discussions on all phases of the alcoholic problem. In the afternoon and evening sectional meetings will be held.

The Congress will be held in the Imperial Institute, South Kensington, and a large delegation from this country is expected.

EDITORIAL

The Journal of Inebriety is not responsible for the opinions and conclusions of contributors.

Our Society for the Study of Inebriety and Alcoholism has very seriously offended a writer in the London hospital, who complains bitterly of the extreme views which were uttered at the annual meeting and published in the *JOURNAL*.

Under the title of Laboratory Temperance the author asserts that "alcohol is not a poison except in large doses, and that there is no need for laboratory study, for human experiment is perpetually before us." He is sure that the deductions of the poisons of alcohol are fallacious and misleading and believes that alcohol perpetuates the race, and increases good fellowship, and that while they may be very bad in a few cases it is certainly unscientific to denounce them without qualification.

There is something very pathetic in criticisms of this kind. Many years ago before accurate research had accumulated data in this field such protests might have been considered, but to-day with all the evidence at command from both laboratory and clinical research, it has the sound of persons who have failed to note the rapid advances of scientific study.

For years the *JOURNAL OF INEBRIETY* has been the center of continuous protests, criticisms, and appeals to take a moderate view of the subject and recognize the value of alcohol as a food and as a beverage.

Of late these protests are growing less and less. Our answer has always been that the object of the *JOURNAL* was to publish the evidence founded on accurately observed facts, and that any theories based on personal opinions were not reliable.

We fully recognize the fact that moderate drinkers and persons unacquainted with scientific research will continue to defend alcohol and honestly believe that it has some place in the economy of nature. The intensity of the subject has called into prominence paid defenders of pro-alcoholic theories, but this literature is transient and only indicates the failure of the authors to realize the real facts.

There is something pathetic and sad in the efforts of good men to explain, apologize, and commend the use of alcohol, and condemn

the teachings of advance science as extreme and irrational. Our society and *Journa*l began in this storm center and have gone on for nearly forty years, leading the advanced studies in this field, increasing in vigor and strength from these very criticisms and protests.

Contagion of Inebriety

The statement that inebriety is as contagious as consumption is a fact supported by unmistakable evidence. There are moderate drinkers who impress their opinions and habits of life on others and these impressions grow and produce similar conditions with as much certainty as the transmission of cells.

Consumptive and typhoid fever germs are taken into the body of almost everyone, but for reasons they do not develop only in a certain proportion of cases. The same may be said of the contagion of the inebriate. Unlike the germs this contagion is mental, but equally positive in its action and effects.

Innumerable examples will occur to every reader. A famous physician who used wine on the table and extolled its virtues and believed it had some great value in physical and spiritual life infected his students to the extent that nearly half of all his private students became inebriates and died directly or indirectly from the use of spirits.

A mental contagion is more dangerous than a germ contagion. In one nature has provided distinct antagonizing and repelling powers. In another there is no such antagonism. The moderate drinker who boasts of his use of alcohol impresses those in contact with him in some unknown way to follow his example.

Hence the terrible delusion of trying to drink like a gentleman, meaning by that to use small quantities of spirits daily and retain or improve the vitality and vigor (which is absolutely impossible) becomes a contagion and disease.

Inebriety is both infectious as well as contagious in the strictest construction of these words, and the results which follow confirm it beyond question.

A smallpox case creates alarm and is quickly isolated. An inebriate going about in a hilarious stage impressing his condition and personality on all he comes in contact with is equally dangerous and yet is not recognized. In business circles such a man is quickly eliminated as dangerous and unfit. From this point of view illustrations are numerous and very striking.

The increasing number of papers appearing in magazines and the

lay press devoted to the alcoholic problem, particularly the scientific aspect of it are unmistakable signs of a new literature and a new field of study for scientists and reformers.

Some of the papers are prominent in giving the authors' opinions and revealing their personal habits. Others show a mystical credulity and faith in old-time theories that is not helpful or illuminating. Both the president and a prominent professor of an eastern college have put themselves on record in a most unfortunate way for their future reputation.

Several physicians have shown a lamentable lack of knowledge and treated the whole subject as if it were a political one. This is incident to the recognition and development of every great scientific truth. Above all the present controversy there is unmistakable evidence that the inebriate is a sick man suffering from disease, and that the use of alcohol as an exciting and predisposing cause and its prevention and cure are going to be the great problems of the near future.

The subject is coming into the ranks of preventive medicine and psychopathology and the physicians will be the teachers and leaders at an early day.

The Great Local Option Agitation in England

License for the sale of beer and spirits in saloons and hotels are granted by a board of magistrates. This board is appointed by the crown and continued during life.

The people have no choice as to who and where spirits shall be sold. Often these magistrates are brewers and interested in the sale of spirits, and license saloons everywhere without much regard to the wishes of the people.

This past year a tremendous effort is being made in both the House of Lords and Parliament to have the license by magistrate repealed and local option given to the people who may vote in every town, whether spirits shall be sold or not.

This is one of the most formidable movements which perit the liquor interest and creates intense excitement. If it passes large sections of Great Britain will vote out the saloons and the public house and this will seriously interfere with the traffic.

Other bills have been presented to Parliament forbidding women to act as barmaids, and prohibiting women and children from frequenting such places. This is another revolutionary measure. It is thought that local option will pass, but the other bills will be put over for another period.

Enthusiastic meetings, protests, resolutions, and arguments *pro* and *con* are subjects of intense excitement and controversy. A great temperance revolution has begun and old-time theories and customs are doomed in face of this rising tide of evolution.

Our Society for the Study of Inebriety and Alcoholism will hold a semi-annual meeting in Washington, D. C., the last week in February, 1909, and a very enthusiastic meeting is expected.

Alcoholic Studies in Germany

It will surprise our readers to know that there are over thirty periodicals published in the German states devoted to the general subject of temperance. One of the largest is the Monthly Journal for Alcoholic Research and for the Suppression of Drinking Customs. Another one is called The International Monthly Journal and a third one on Alcoholism, which is devoted to research work and contains the best matter written along scientific lines.

Curiously enough the literature is very voluminous and cheap. Reprints on all phases of the subject are scattered freely, and while the impression is very strong that Germany is a great beer and wine drinking country, in reality the anti-alcoholic literature is more voluminous and assertive than in America.

There are in Germany forty distinct inebriate institutes or hospitals all run on sanatorium lines. Some of them report fifty per cent of permanent cures, but it is very evident that the lack of uniformity of control and state protection diminishes their usefulness.

A great deal of the literature discussed in these German papers is elementary, and concerns matters that have very little interest here. Thus questions of how far one can drink without being harmed and whether the damage from drink comes from poor beer and fortified spirits and how far good fellowship and light drinks can prevent the use of stronger spirits.

Only recently have some of the authorities begun to recognize the disease element. Some recent studies indicate that they have at last recognized that mentally deficient persons are more likely to succumb to alcohol than others, and that the craze for spirits is very often a mental defect not due to spirits, but to some other condition.

During the past year several very important papers appearing in the English language, notably in the JOURNAL OF INEBRIETY, have formed the basis of important German essays, showing that the seed of truth has taken root and is growing up in new soil.

At a meeting of the society for judicial psychology and psychiatry held in the Grand Duchy of Hesse, Dr. Waldschmidt, of Charlottenburg, gave a report on "The Treatment of the Alcoholized." He said that the craving for drink was to be looked upon and treated as a disease, and especially as a mental disease; that not all alcohol patients had the craving, and he cited examples. It would point to the logical claim that such patients should be treated in institutions under the direct supervision of nerve specialists. These special institutions ought to be established as much as public hospitals and private institutions, in order to ensure both the freest possible entrance and power of retention when necessary. A law to provide for the care of drinkers is a pressing necessity, in order that the alcohol patient as well as the mental patient might be legally committed to an institution for special treatment, without necessitating the restraint imposed by interdiction under the existing law.

A lively debate followed the lecture, resulting in the passage of a resolution embodying the recommendations of the speaker. A commission was appointed to take into consideration the erection of a state institution in Hesse for the special treatment of alcoholics.

Book Reviews

The British Journal of Inebriety, under the care of Dr. Kejnack, of 133 Harley Street, London, England, is the great central authority for scientific questions concerning the alcoholic problem. It is very suggestive and should be in the hands of every student of this subject as current literature of the most important class.

The following late books have a special interest to our readers.

LEGAL RESPONSIBILITY OF THE DRUNKARD. By H. Norman Barnett, F.R.C.S. London: Balliere, Tindall & Cox.

SOCIALISM AND THE DRINK QUESTION. By Philip Snowden, M.P. London: The Independent Labor Party.

THE NATIONAL PHYSIQUE. By A. S. Dutton, M.R.C.S. London: Balliere, Tindall & Cox.

MODERATE DRINKING, ITS PHYSIOLOGY AND PSYCHOLOGY. By Dr. L. D. Mason, an address before the Congress at Saratoga. Copies can be had from the author.

The many papers and pamphlets that are appearing in the popular magazines, weeklies, and dailies on the alcoholic question are intensely interesting psychologically. Many of them are by eminent medical men, whose conclusions and opinions are as dogmatic and unswerving as the old-time theologists.

The moralists and reformers are of course supposed to write from impulse and sentiment, with profound reverence for the theories and opinions of the fathers, but the medical man who assumes exact and profound knowledge which only the greatest scholars of the subject would possibly attain, makes a sad exhibition of his non-expertness.

In reality the credulity and stupidity of authors who assume to judge of a subject from mere casual observation is a psychological study of the greatest interest. The positively stated opinions of the value of alcohol and the methods of stopping the drink craze as if they were matters of minor interest show a very limited knowledge of the subject.

If these ready writers would become students and examine the facts as seen in every neighborhood, we should have new views, and escape the confusion of mystical theories.

There is in this an educational value, and the public are taught to compare the various theories and opinions, and out of it will come a scientific conception of one of the great problems of this century.

Marie Corelli's new work, called *Holy Orders*, deals with the drink problem and brings out some very dark shadows of this evil. The characters make statements concerning the iniquities of the drink traffic that are seldom ever seen in a novel. After presenting the evils of the drink traffic in the strongest possible light, there is an undercurrent of apology and explanation and talk about adulterated and impure spirits and beer, and the possible value of light wines.

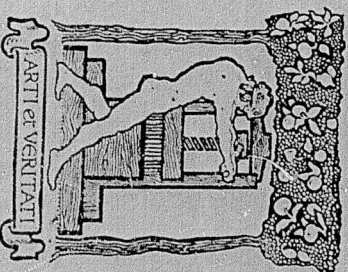
The author is an excellent artist in describing men and characters, but the attempt to lead a great reform movement without a full knowledge of the character of the evil has many disadvantages. "Holy Orders" will lead in a new field of literature and a new presentation of topics that concern every individual.

The book belongs to the scientific literature of the day.

THE JOURNAL OF INEBRIETY

EDITED BY T. D. CROTHERS, M.D.

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