

THE JOURNAL OF INEBRIETY

Incorporating The Archives of Physiological Therapy

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

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ALCOHOL AND INSANITY IN THE LONDON COUNTY ASYLUMS

By F. W. Mott, M.D., F.R.S.
Pathologist to the London Asylums, Lecturer on Mental Disease at Charing Cross Hospital, etc.

A large proportion of the recoverable cases admitted to the London County Asylums consists of pure drunk cases, and of these 50 per cent. are discharged within three weeks to six months of admission. They often return again in a short time and some cases, termed "recurrent mania" and "recurrent melancholia" are discharged, readmitted many times, thus, fortuitously raising the recovery rate. Many of these people would not come to the asylum were they not subject to the temptation of drink, for which they have an inborn or acquired intolerance. A certain proportion of the recoverable drunk cases are delirium tremens, cases similar to those met with in hospital practice, but generally affecting persons of an inborn or acquired unstable nervous organization; some of them, however, are pure drunk cases sent to the asylum when

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sions of an inborn or acquired unstable mental organization, epileptics, degenerates, imbeciles, potential lunatics, general paralytic, subjects of head injury, local brain disease, syphilis, and arteriosclerosis; in all such cases the symptoms caused by the poison are liable to be prolonged and even become permanently installed. According to the predominant features of the mental derangement cases are diagnosed "alcoholic mania," "alcoholic depressive hallucinatory insanity," or, as the Germans term it, "alcoholic hallucinosis," "alcoholic delusional or paranoïal insanity," "epileptic insanity" or "pseudo-paralytic insanity." If alcohol is the essential factor, however, in the production of the insanity there will be certain specific indications in all these varied forms of insanity pointing to the more or less specific action of the poison. Even in the absence of a history of alcoholic indulgence there are certain physical signs and mental symptoms which point to alcohol as the cause. The more certain can we be that the cause is removable and the more hopeful the prognosis.

These signs and symptoms are found most pronounced in the two conditions of mental and nervous disorder which occur in hospital practice, viz., delirium tremens and polymenitic psychosis.

The symptoms are in such cases the results of the more or less prolonged action of the poison upon a more or less stable nervous organization—that is to say, drink is the essential cause. Although every form of mental derangement may be closely simulated by alcohol when an insane tempera-

ment is acted upon by sufficient cause in the production of the insanity there are certain indications in the character and constancy of the illusions, hallucinations, and delusions, in the mental state as regards orientation in time and space and loss of memory of recent events, in the existence of a powerful motor restlessness impelled by the hallucinations and delusions, and in the existence of tremor.

Moreover, alterations of the deep reflexes, tenderness on deep pressure of the muscles, anaesthesia, paraesthesia, and hyper-pressure of the indicative of neuritic affection are frequently present singly or combined. The affection of the neural structures subserving kinaesthesia, both central and peripheral, has been pointed out by Bevan Lewis, and is evidenced, not only by the objective and subjective signs and symptoms of neuritis, difficulties of gait and station in the performance of fine muscular movements, but probably also by the frequency of creeping, crawling, odious things being the subject of the hallucinations. It may be supposed, indeed, that the primary seat of the hallucinations of rats, mice, snakes, spiders, beetles, and bats, such frequent characteristic features of delirium tremens, may arise in the neurons subserving the kinaesthetic sense. Possibly awakened by peripheral paraesthesia, the kinaesthetic cortex revives, by association with the visual cortex, images of creeping, crawling animals, black, grey, and shadow-like, the images of which are projected outwards by the mind on to the wall or, in some instances, to the near point of distinct vision; hence the purposeful move-

ments and psycho-motor restlessness occasioned by these terrifying visions which are so characteristic of acute alcoholic poisoning. The following case is instructive. A general paralytic was admitted with signs of mania a fortnight to one of the asylums; he saw black devils, which flitted round him and lighted on his nose, putting stinking things in his nostrils and mouth. When the effects of the alcohol had worn off he passed into a state of marked euphoria, and angels now came and moistened his lips with honey and put sweet perfumes into his nostrils. Visual hallucinations, also of a terrifying character, are the spectres of dead persons associated with coffins, of burglars, of policemen and detectives, of men hidden in the house, of people who follow, accusing the patient of crimes or indecency, and calling him opprobrious names. The visual hallucinations arise probably in the visual cortex and excite by association verbal auditory hallucinations. These terrifying hallucinations of vision and hearing may lead to the patient running into the street in a semiconscious state and being taken up by the police. The more systematized these hallucinations, and the more they tend to the development of fixed ideas of persecution while the mind clears up in other ways, the more certain can we be that the patient is of an insane temperament, and that the alcohol has been the exciting factor in converting a potential lunatic into a probable subject of chronic insanity.

The existence of hallucinations of smell and taste are rare; generally speaking, they are strongly in favor of an insane temperament. The fre-

quency with which delusions of poisoning occur is possibly, in some instances, due to an insane interpretation of the pains caused by dyspepsia, occasioned by acute and chronic gastritis. I am the more convinced that this hypothesis may be true in not a few instances by the frequency with which one finds post-mortem evidence of morbid conditions of the stomach in the insane. In some instances, no doubt, quiet them, has given rise to delusions of poisoning. That insane interpretation of pains associated with inflammation of the cutaneous nerves may cause dangerous delusions is shown by the following cases: Several women who had the physical and mental signs of polyneuritic psychosis had delusions that they had been set on fire with torches, and one patient, who was not then paralyzed in her limbs, tried to jump out of a window. The proof in this case that there was a neuritis was afforded by the fact that a bullous eruption occurred shortly after on the limbs and trunk, a condition which I have histologically shown to be due to a neuritis of the cutaneous nerves. Another woman tried to get bangles off her wrist that were not there; she developed wrist drop the next day. Neuritic pains may also be insanely interpreted as the work of electrical machines. Perhaps some of the most characteristic delusions are those related to the sexual functions, jealousy and suspicion of fidelity of the husband by the wife and in turn by the husband, which may end in murderous assaults. It must be, however, remembered that there is sometimes a basis of truth in these accusations. Not infrequently a woman

takes to drink because of the cruelty or mildity of the husband, and the converse is also true. Women suffering with polyneuritic psychosis often have the delusion that a baby is in the lool. (One woman saw two babies. The several hallucinations arouse appropriate auditory hallucinations, they hear the baby crying. This may in some instances be correlated with a recent miscarriage. In fatal cases of this affection, often known as Korsakoff's disease, I have observed the frequency of uterine and tubal disease, and this leads me to suppose that there may be a peripheral origin to this delusion.

Again, women sometimes complain that they have been violated at night. The frequency with which married women have hallucinations and delusions about babies and, in their delirium, talk about babies, finds a parallel in the occupation delirium of men suffering with delirium tremens. The carman drives his horses, the publican serves and talks to his customers, and the actor performs his tragedy and shouts, "All the world's a stage," etc.

But nearly all these hallucinations and delusions, especially auditory and visual, may occur in insanity in which there is no alcoholic factor. It is, therefore, difficult to de vide simply by the hallucinations and delusions alone whether alcohol is the cause. Should they persist while the mind otherwise becomes clear, it is probable that the case is one in which alcohol has only played a subordinate part and the outlook of chronic insanity is probable. This is all the more likely to be so if the hallucinations and delusions be-

come systematized and there is a complete absence of any peripheral cause. While the effects of alcohol are still operating, there are certain signs of mental derangement which are very characteristic; the patient may be depressed or excited, according to his temperament. The majority of cases which come to the asylums, who either do not recover speedily or not at all, exhibit signs of mental depression, and the history of the case frequently shows that they drank because they were miserable, worried, and had lost their employment, or their money and business, or had family troubles. Not infrequently this

has led to attempt suicide. These cases of mental depression may be associated with excitement and motor restlessness, and be termed "alcoholic mania, or the delusion of poisoning and melancholy may lead to their refusal of food, and they are termed "melancholia." The alcohol taken may be merely a coefficient with other conditions, such as the critical periods of life, climacteric, combined with worry and trouble acting upon a potentially insane person. To ascertain

whether alcohol is the essential cause of the insanity it is desirable to look for those signs of alcohol poisoning found in delirium tremens and polyneuritic psychosis, and in proportion as these are present or absent we may gauge the probability of alcohol being an essential and efficient cause of the mental disorder. We distinguish between delirium tremens, so common in males as compared with females, and polyneuritic psychosis, in which the converse obtains, but it must be remembered that there is no hard and

fast line between these two manifestations of nervous and mental disorder, the result usually of chronic alcoholism. I have seen cases of delirium tremens which, after the delirium has passed off, manifested well-marked symptoms of polyneuritic psychosis, and some cases of polyneuritic psychosis have symptoms like delirium tremens at the onset. This later form of chronic alcohol poisoning may terminate in a permanent paralysis and contracture and marked alcoholic dementia, and the post-mortem findings in such cases reveal organic changes in the central and peripheral nervous system in measure proportional to the loss of function. Still, it is astonishing what improvement can occur in such cases if they are carefully nursed and properly treated to prevent permanent contracture and wasting. Chronic alcoholism may be manifested in the patients' conversation in various ways. There is often a tendency to wit and humor, the mental association is rather by rhyme and repetition of well-worn jokes, abusive epithets, and coarse, vulgar stories than keen, logical repartee.

Again, boastful loquacity, untruthfulness, and the tendency to relate pseudo-remiscences is a common symptom of chronic alcoholism. Especially characteristic is the mental confusion associated with the narration of pseudo-remiscences. A boastful loquacity frequently leads them into trouble, and of being suspected lunatics with delusions of grandeur. Their conversation may show a great deal of mental confusion and a tendency to wander incoherently from one sub-

ject to another without logical sequence, displaying a marked forgetfulness of what they had uttered a few minutes before. If their attention can be obtained it cannot be maintained, and there is a tendency to repeat themselves. They will talk unreservedly and superior. This tendency to confabulate is a striking feature of chronic alcoholism in its manifold aspects. Personal illusions and affixing wrong names to persons are very common. Patients suffering with mental derangement from chronic alcoholism frequently are unable to correctly name the place where they are, or give the correct date or even the time of the year. Often a patient will tell you that she came to the asylum yesterday when she has been there months.

Women suffering with polyneuritic psychosis are particularly liable to this loss of orientation in time and place. They may even forget where they live, although they remember where they went to school. Loss of knowledge, or perhaps more correctly speaking, loss of recollection of events that happened since the patient had shown mental signs of the poisoning, is common in women with polyneuritic psychosis. One woman, a cook, with signs of syphilis, had been in Hanwell four months and told me that she came "last night." The curious part of her story is that she had been married twice; when her second husband visited her she believed him to be her first husband, who had been dead many years.

Although this is a strange case, it is not altogether unexpected, for it is the rule that these patients, who are

unable to revive in consciousness any recent events, yet are quite able to recollect all the events of their childhood and early life.

A bookmaker who was suffering with chronic alcohol dementia could not remember the name of the horse that won the last Derby, although he was told several times, yet he could repeat the winners for each year from West Australia up to a few years ago. Again, as showing the peculiar features of alcoholic poisoning, I may cite the following case: A woman at the climacteric period was admitted with alcoholic mania and suicidal tendencies. She was a good type physiognomically, although the flushed face with dilated venules on the nose indicated chronic alcoholism, to which she freely confessed. She said she wished to leave the asylum, there was nothing wrong with her, and the cause of her drinking was grief caused by the death of her husband, who fell in the dock and was drowned.

As many of the patients are not scholars I apply simple tests of memory, of attention, and of calculation involving simple judgment and reason. I applied the following tests to this woman, who was able to give a coherent history of her life and knew the date she was admitted to the asylum, how long she had been here, and where she came from. I said to her: "You want to leave the asylum?" "Yes," she replied. "Then you must remember the name of the superintendent; it is Dr. Jones." She struck up a rhyme, "Oh Mr. Jones, oh Mr. Jones, he broke his bones by falling over cherry stones." I then asked her to remember the name, which she said

she would have not difficulty in doing. I then applied the second test. "You are given a half a crown and you go to a shop to buy half a pound of tea at 1s. 6d. per pound and a pound of sugar at 2-1-2d., how much change will you have?" She was quite unable to state the correct amount.

Again, they may be able to repeat the multiplication table correctly, but if you reverse the multiplication sum they will give wrong answers. Thus, they will give 7 by 5 correctly, but 5 by 7 they will make different. I now returned to my previous question, "Who is the superintendent?" She had quite forgotten.

When I said, "Who broke his bones?" she replied, "Why Mr. Jones?" and finished the rhyme, but was unable to reason from it that that was the name of the doctor who would be able to discharge her. Another test which I have found useful for detecting slight mental impairment in cases that are recovering is that used by Marie in testing cases of aphasia. Take three pieces of paper of unequal size. Tell them to carry out three separate and distinct operations for each piece. They will be able to carry out each order when given separately to them, but if before they commence any one the orders for the three are given together, they will forget and carry out the orders imperfectly. Thus, tell the patient to fold up the large piece and put it in his pocket, the middle-sized piece to be folded and handed to you, and the small piece thrown on the floor. Whether it is the lack of power of attention or inability to recollect more than one order I know not, but the

Frequency with which failure occurs in alcoholic subjects shows mental impairment which is not discovered if only one order is given. With respect to this test I may remark that I recently had under my care in the hospital a case of polymenuric psychosis complicated by syphilis, in which the patient on admission was apparently hopelessly demented passing urine and faeces under him and showing marked mental confusion, tremors and paresis, yet withdrawal of the poison and energetic anti-syphilitic treatment for a fortnight led to a complete clearing up of mental state, so that he performed this correctly and also the calculation test. This made me think of the dictum of Dr. Savage, "With alcohol all things are possible."

Another very severe case of paralytic polymenuric psychosis is now under my care in the hospital and is making a most remarkable recovery. After eighteen months in hospital she was considered by the students to be free from any mental defect, yet she was able to perform neither the calculation test nor the combined three-order test. I have not the slightest doubt that if we could see the patient's brain we should find some thickening and opacity of the membranes and atrophy of the tangential and supratentorial fibres.

I have invariably found this condition in fatal cases of alcoholic dementia. The change, however, is not so profound as would be expected. The question may be asked, "Are there any morbid microscopic changes pathognomonic of toxic polymenuric psychosis?" I maintain this condition is not peculiar to alcohol, lead, arsenic, and other toxic conditions produce similar symptoms and similar pathognomonic changes, and it makes me suspect that they are not caused by the direct effect of the alcohol, but rather by auto-toxins, the result of a deranged metabolism. I have examined a good number of alcohol cases and several lead cases, and in all of these cases where there was a pronounced neuritis there were characteristic changes in the motor cerebral cortex affecting the large psychomotor cells. The changes in these are similar to the changes seen in the anterior horn-cells of the spinal cord and are very evident; the nucleus is large and clear, dislocated to the side, sometimes extruded altogether, and there is a marked cell chromatolysis. The Nissl granules may be almost entirely absent or found at the periphery. Sometimes the cytoplasm is vacuolated or shows excess of pigment. It may be asserted that these changes in the cerebral and spinal motor neurones indicate a toxic action upon the whole motor efferent path. Seeing that in extreme cases I have found diffuse degeneration in the crossed pyramidal tract, it may be concluded that these changes are not solely due to a reaction, a distance due to destruction of the peripheral nerves.

Still, if the neurones are to recover we must afford them the necessary stimulus, and this can only be effected by preventing contracture and atrophy of the muscles by massage and passive movements. Examination of the sensory path in severe cases often shows profound changes in the posterior spinal ganglion cells and degeneration

in the posterior roots and columns of the spinal cord.

In one severe case there was a portion of the spinal ganglion destroyed and only a cavity left. In was the fifth lumbar ganglion, and there was a glossy skin of the foot on that side and a trophic sore on the sole. In some cases there is poly-encephalitis hemorrhagica; owing to the fatty change in their walls the small vessels give way and lead to numerous hemorrhages in the cortex and in the grey matter of the third ventricle and tier. Of course, if the patient survived a sufficient time—ten days—this would give rise to widespread Marchi degeneration. In two cases of delirium tremens I have found widespread Marchi degeneration as Bockhofer did, but both of these cases were complicated by pneumonia, and I found evidence of fibrous thrombosis of vessels and haemorrhages about the basal ganglia which would have accounted for (in these case at any rate) the widespread Marchi degeneration; I do not think this degeneration occurs in uncomplicated cases of delirium tremens. It is a well-known fact that a person in getting drunk may either become excited, boisterous, and grandiose in his ideas and conversation, as the French term it "vin gai," or melancholic, maudlin, and sentimental—"vin triste;" so the cases of alcoholic insanity fall into two groups. The majority of the cases are either mania frequently with depression or melancholia, but a few cases are excited, boastful, boquacious and have actual grandiose delusions so pronounced as to stimulate general

paralysis. In fact, these cases are often diagnosed as general paralysis, and no wonder, for in most cases of alcoholic poisoning in the early stage the pupils may be sluggish in their reaction to light, the facial expressions altered, the tongue and lips tremulous, the speech is often sturred and syllables may be left out, the handwriting tremulous; and not only may the spelling be incorrect and the words cut up into separate syllables and letters and syllables left out, but marked mental confusion may show itself in the matter expressed. The knee-jerks are altered, sometimes exaggerated sometimes diminished or lost. To these objective signs and symptoms must be added the symptoms of mental derangement. Loss of memory, loss of knowledge of time and place, hallucinations of sight and hearing, but most marked and perplexing in this class of cases are, sometimes instead of delusions of persecution, delusions of wealth and grandeur, and it is the existence of these grandiose delusions which so often leads to an erroneous diagnosis of general paralysis. The dementia is, however, not progressive; the pupils, although at first sluggish in reaction, are usually not unequal, and the patient does not babble unsolicited of his wealth and grandeur as a general paralytic does but only on question does he exhibit such delusions. The symptoms most alarming in their similarity to general paralysis may entirely disappear and the patient be discharged recovered; not infrequently, however, the opportunity of examining cases of this affection arises from death by intercurrent complications—e.g. pneu-

monia, dysentery, or heart failure. The naked eye and microscopic appearances are quite unlike those of general paralysis. Although the membranes may be opaque and thickened, there is but little wasting of the cortex, the floor of the fourth ventricle is not granular, or only slightly so, in the lateral sacs. There is microscopically no disorganization of Meynert's columns, and no evidence of lymphocytes or plasma-cells in the perivascular lymphatics of the cortex. The only definite microscopic change is some neuroglia cell proliferation in the definite subpial and septal struts of the cortex and replacement by it of the association fibres in the tangential and supradial layers. Generally there is evidence of chromatolytic changes of the pyramidal cells and active proliferation of young glia cells.

Dipsomaniacs are occasionally brought to the hospital and asylum. These are persons who have periodic cravings for alcohol who in the intervals lead a sober and respectable life. Suddenly, for no accountable reason, save an unnatural and insane craving for drink, dipsomaniacs neglect their home and their business, take little food, do not attend to their personal care and comfort, and drink continuously to satisfy their morbid craving, sink into the depths of moral degeneration, and for a time lead an unnatural and vagabond life. Some reason or other may bring such a patient to the hospital or infirmary, or they of their own free will return home and in a short time recover and resume their moral life. A respectable photographer with all signs of delir-

ium tremens was admitted under my care this week at the hospital. He had a bottle of cyanide of potassium with which he wanted to poison himself and wife. He had delusions that he was followed by a man named N—. A hypnotic gave him a long sleep, and when he awoke all his delusions had disappeared, and he told me that he was not habitually inebriate, but that during the last few years he had had periods of craving for drink which he could not overcome. In the intervals he hardly touched anything and lived perfectly happy with his wife and family. Curiously enough, he had a similar attack two years ago and had been brought to Charing Cross Hospital when he had the same delusion about being followed by a man named N—. He informed me that his man was dead and that he had missed him.

Epilepsy and alcohol.—It is well known that epileptics are particularly intolerant of alcohol even in comparatively small quantities. The fits occur more frequently and are more severe, and it is certain that men who have never had fits become epileptics in later life by the abuse of alcohol. I have observed both in hospital and asylum practice numbers of such cases; in some the epilepsy is the direct effect of the alcohol upon an inborn, potentially unstable, nervous system; in others it is the action of the poison upon a brain damaged by syphilis, arterio-sclerosis, or injury. One very interesting case of this was a soldier, who was entirely free from any hereditary taint, and who rapidly rose to be a non-commissioned officer,

he acquired in South Africa multiple cysticercus cellulosa. He had several fits and was invalided home. About the worst thing possible was done for him; he was put in charge of a canteen, acquired habits of drinking, eventually resulting in his developing alcoholic epileptic mania. He became a patient of Sir Victor Horsley's, who discovered the cause of the multiple tumors he had. He is now in Hanwell Asylum, and he is quite rational and does not suffer with any fits while he is unable to obtain alcohol. It is not, however, in respect to the motor fits that alcohol is so dangerous to epileptics and potential epileptics; but in respect to the development of an impulsive automatism, causing them to commit indecent acts, crimes of violence, murderous assaults, and attempts at suicide, of which they may have no recollection. Some of the cases, however, of homicide and of attempted suicide remain perfectly well, and the question of responsibility for their action arises. Many of these epileptics are

quite sane when they have been in the asylum a short time and have to be discharged; frequently they are readmitted more than once owing to drink. Other types showing intolerance to alcohol are imbeciles and degenerates. They are sometimes in prison, sometimes in the workhouses, sometimes in asylums. A good example among many I could cite is case E. J.—, who was sent to hard labor for three months and six months; subsequently he was sent to Hanwell, and he is there now, but he has been discharged and readmitted six times. In the statistics such cases bulk large in the recovery rate. It may well be asked, From what have such cases recovered? Not infrequently history shows that such cases belong to a family of criminals, hanties and feeble minded. A considerable number of the positives on the streets belong to the defective class, and it may well be asked, How many are brought there by drink and failure to obtain employment?

BRAIN AND NERVE DEGENERATION

Due to Special Causes—Some General Considerations

By J. M. Fiken, M.D.

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The causes of disease are not essentially different from those operating during generations past, but in the age in which we live, we are changing our attitude of observation. After many years spent in the verification of theories, and research for anatomical signs, then as late

study of what these pathological conditions will produce, the study of medicine has come at last to inquire into the origin of disease. What is characteristic of these modern days, so far as medicine is concerned, is the high place we assign to the study of the things that operate on the

these pathologic conditions and their attendant symptoms. It is of present interest to us to know if all tissue destroying substances originate without the body, or if it be not true that many are the products of imperfect metabolism which our knowledge of physiology may correct.

Nervous diseases are in part due to inherited conditions supplying suitable soil for their growth; in part to acquired conditions which may be classed as the accidents of life.

We may receive from our parents constitutional organisms, that predispose to, and even invite nervous and mental diseases. When such structural conditions are a part of our inheritance, we possess a neuropathic constitution.

Progenitors, not especially neurotic, but whose bodies harbor alcoholic or nicotine poisoning, specific infection and diseases of mal-nutrition like tuberculosis, liver and stomach disorders, will produce children who have unstable, nervous systems. As these products of genetic deficiency grow into manhood and womanhood, certain characteristics mark their want of nervous and mental balance. Years of clinical observation and study have taught our profession degrees of accuracy in classifying types of nervous and mental disorders. When a person is afflicted with epilepsy, one or both of whose parents are epileptic, that person is a sufferer from direct inheritance. If epilepsy obtain in the child of parents who are not epileptic, but are migrainous, alcoholic, choreic or tuberculous, we class that as an indirect inheritance. So, too, epilepsy, hysteria, alcoholism, chorea and

crime, have hereditary equivalents, that may appear interchangeable in their descendants, and the converse of this is true in the descendants of those mentally defective. In no department of medicine is the question of family inheritance so marked, as in the study of nervous and mental diseases. The diseases themselves are not transmitted, but rather the structural conditions having tendencies to nutritional disturbances. These become manifest during the developmental period of life, usually at puberty, or some other critical period, when a strain or stress ordinary and habitual to a stable person and easily borne by him, may in those inheriting a neuropathic constitution, cause a nervous or mental break down. Maudsley says: "There is a destiny made for man by his ancestors, and no one can elude, were he able to attempt it, the tyranny of his organization." Ribot says: "Hereditv is that biological law by which all beings endowed with life tend to repeat themselves in their descendants. By it the ground work remains unchanged amid incessant variations, not governed by mathematical precision."

The conditions for similar and dissimilar occurrence grow more and more complex as we ascend from the vegetable world to the higher animals, and thence to man. The same author says further: "All are agreed in considering dipsomania or alcoholism, as an hereditary possession. Not, however, that the passion for drink is always transmitted in that identical form, for it often degenerates into mania, idiosy, and hallucinations. Conversely, insanity in the parents may

become alcoholism in the descend- ants." Dr. Morel, of Paris, after years of study into the mental state of children ranging from ten to seventeen years of age, whose progenitors used alcoholic drinks, says: "I am confirmed in my previous convictions as to the baneful effects produced by alcohol, not only in the individuals who use it but also in their descendants." Dr. Elam says: "All this, painful as it is, would be comparatively trifling importance, did the punishment descend only on the individual concerned, and terminate here." Unfortunately this is not so, for there is no phase of humanity in which hereditary influence is so marked and characteristic as in this. The children do suffer for or from the sins of parents, even unto untold generations. Wundt says: "When it is asserted that the character of a man is a product of air and light, of education and of destiny, of food and climate, and that it is necessarily predetermined by these influences, like every natural phenomenon, the conclusion is absolutely undemonstrable. Education and destiny presuppose a character which determines them; that is here taken to be an effect which is partly a cause."

The transmission of conditions favoring nervous and mental diseases is stronger in the female than in the male. This statement is not without exceptions. I cite a personal observation. The illustration is that of a husband and wife, the parents of six children. The first three children were healthy and developed into sound physical and mental young manhood and womanhood. The next three

were much below the physical and mental standard of the first three. Degeneration in the life of the parents was an inadequate explanation for this marked difference in their children, for neither had attained the meridian of life, and both were quite robust. Investigation revealed the fact that the father, a total abstainer from alcoholic, till after the birth of his third child, then began the use of liquor, and continued using it during the years while his wholly temperate wife bore him three defective children. Observation teaches that the nervous and mental family traits or tendencies reappear at about the same age in the descendants. If they appear later in life with each succeeding generation, they are being eliminated. If they develop earlier in life, with each succeeding generation, they are becoming intensified. Let me illustrate: Sick headache, usually develops in the first ten or fifteen years of the individual's life. If it is deferred till the third or fourth decade in the descendant's life, it is dying out. Intermarriage by persons of ill health and similar temperament will surely intensify morbid conditions in the descendants.

Where one parent has a stable, and the other an unstable nervous system their issue will show degrees of mental and nervous deterioration measured by the regenerating powers of the healthier parent.

A man cannot choose his mother, but he may choose the mother of his child. Degeneracy is morbid deviations from the normal average, in the nervous and mental soundness of a family type. The prodigies in

music, mathematics, medicine, law, oratory, religion, war and finance, represent certain mental and moral traits evolved at the expense of a well balanced nervous mental and moral nature. These persons are very appropriately styled high class degenerates. The congenitally idiotic feebleminded, morally perverse and criminal, are low grade degenerates. Hereditary tendencies, especially in the nervous and mental delinquents, are frequently negative, that is latent in child life, coming into view and demanding recognition among the activities of the individual's life during adolescence or a little later.

In 1901 the American Medical Temperance Association appointed a committee to conduct a scientific investigation to determine the cause of or causes producing nervous and mental degeneracy in school children.

The investigation revealed many causes, but so conspicuous was the alcoholic feature in the parents that the chairman, Dr. T. A. MacNichol of New York, began a personal and somewhat extensive investigation that gave added emphasis to alcoholism as an etiological factor above all others, producing this degeneracy. His investigation included 55,000 children, about one-fourth of whom were females and three-fourths males.

About one-third had foreign parentage and two-thirds American parentage; 10,800 from country schools and 44,200 from city schools. Of these city school children 13,000 were from cities of less than 50,000 population. These 55,000 children classified according to their standing in studies upon the same basis of gradation, appeared as follows: Standard, 42 per cent.; below standard, 16 per cent.; dullards, 17 per cent.; very deficient, 25 per cent. The immediate causes of dullness reported were as follows: Personal habits, 9 per cent.; environment, 11 per cent.; sickness, less than 1,300 of 1 per cent.; heredity, 95 per cent. Comparing the city and country schools, the city showed a total of 46 per cent. deficient to a total of 22 per cent. on the country schools.

The causes contributing to nervous and mental defects in country towns and rural communities, are less numerous and glaring than in the city, while those that do exist outside of densely populated communities, are partially compensated for by more congenial environments and healthful activities. In the city the children of foreigners make a large percentage of the deficient, but their dullness is directly traceable to causes other than racial. All things being equal the children of the native present no superiority over those of the foreigner. As an illustration: A class of 50, in which 90 per cent. of the children had an American ancestry for five generations, but with hereditary alcoholic taint, reported 80 per cent. dullards. The personal attitude of these 55,000 children to alcoholic drinks showed 73 per cent. of them total abstainers. The parental attitude to alcoholic drinks was known in 20,174 cases; 6,624 were children of drinking parents, 13,523 were children of abstaining parents. Among the 6,624 children of drinking parents 53 per cent. were dullards. Among the 13,523 children of abstaining parents 10 per

cent. were reported as dullards. This close correspondence between the drinking habits of the parents and the mental deficiency of the children can not be the result of mere accident. The eye strain, various neuritic manifestations, and inability of certain students to measure up to the normal average with those of even age, social and intellectual advantages, are usually charged to environment, badly ventilated and improperly lighted schoolrooms, a faulty curriculum, and to alleged unqualified instructors who presume to know more than the student. Too often we mistake these symptoms for causes which upon a more careful examination are found to be alcoholism in the parents or grandparents, the nervous symptoms being the result from inheritance for which the child is not responsible.

The proximate causes of nervous and mental defects, when obviously dependent on vicious practices, are not so easily overlooked as the more subtle, yet none the less potent causes which, through heredity, have become a part of the individual. The summary of 3,711 children of 1,100 families traced through three generations shows that 2,713 had drinking parents, 2,771 had drinking grandparents, 2,530 had drinking parents and grandparents, 908 had had abstaining parents, and 757 had abstaining parents and grandparents. Of the children of drinking parents but abstaining grandparents, 73 per cent. were dullards. Of the children of abstaining parents but drinking grandparents 78 per cent. were dullards. Of these 757 whose parents and grandparents were abstainers 4 per cent. were

dullards. Dividing the 3,711 children into two classes, that is those free from hereditary alcoholic taint, and those with a hereditary alcoholic taint, we note some very striking contrasts. In those free from alcoholic taint 96 per cent. were proficient, 4 per cent. were dullards, while 18 per cent. of all free from hereditary alcoholic taint suffered from some neurosis or organic disease. On those with an hereditary alcoholic taint 23 per cent. were proficient, 77 per cent. were dullards, while of these 30 per cent. were very deficient and 76 per cent. of all having hereditary alcoholic taint suffered from some neurosis or organic disease. From these studies on heredity we must conclude that alcohol, by destroying the integrity of nerve structures and lowering the standard of organic relations, launches hereditary influences which by continuous transmission gain momentum and potency and leave their impact upon gland and nerve until the mental faculties are demoralized, physical energies hopelessly impaired, and the moral nature becomes degenerate and dies. In Switzerland three-fourths of the idiotic and epileptic population are descendants from alcoholic parents. Dr. August Foral cites ten families of drinking parents who produces 57 children, 12 of whom died in infancy, 36 were either idiotic, epileptic, misshapen, or had serious nervous trouble, only 9 remained normal. In ten families of abstaining parents who produce 61 children, 5 died in infancy, 6 had nervous or mental defects and 50 remained normal. Every physician knows that the use of alcohol is a handicap in recovery from any dis-

ease, we are slowly but surely learning that it is the far most procreator of the tendency of nervous and mental disorders. Of the acquired causes that limit our future usefulness, a concrete instance taken from four classes representing 184 pupils 8 to 11 years old in a metropolitan school, showed only 10 per cent. up to the average standard for that aged pupil. Investigation revealed the fact that 87 per cent. of them were using alcoholic drinks in some form and 33 per cent. of these were using liquors regularly with their meals. Alcohol is much more deleterious during the period of physical growth than after physical maturity has been attained. It affects the cells by destroying their protoplasm.

Dr. Overton of Zurich says: "That while cells usually have the ability to hinder or prevent the entrance within their walls of substances that will injure them, this is not the case with alcohol, ether, chloroform and other narcotic poisons. These easily penetrate the cell walls and proceed into the interior of the cell, whose protoplasm they deaden. Furthermore, if we subject different kinds of cells to the same diffusion stream of alcohol so that it can enter all with equal rapidity and in the same degree of dilution, the suspension of activity begins first with the most complex and proceeds from these to the most simple. Alcohol carried in the blood stream, wherever it arrives, passes through the cells and arrests the activity of the protoplasm. If the amount of the alcohol is small, only the cells lying nearest the stream and those most finely organized—that is

also concerned in judgment, comparison, analyses, believing and originating actions; in brief those functions in the highest areas, involving the most complex intellectual processes, are the first to suffer.

Prof. F. L. Washburn of the Oregon State University finds from his experiments with the sphygmograph that while the normal pulse beats 17 times in one revolution of the cylinder, while the person is smoking a cigarette it beats 22 times. What wonder that the general health is interfered with by such abnormal work being forced upon the heart. Dr. J. W. Coleman of Jerome, Arizona, says regarding cigarette smoking, that it is much harder to stop than other forms of using tobacco; more difficult than opium, more dangerous than alcohol and more harmful than other narcotics. The effect of cigarette smoke is much quicker than the hypodermic syringe, ten to twenty seconds, and the silent poison is pursuing its deadly work.

Dr. D. S. Reynolds of Louisville, Ky., says there is no agent used by young manhood, that can produce the cardiac disturbance, muscular tremor, and so excite the brain as to make it impossible to concentrate the mind on one subject, or to engage in logical thought, as smoking cigarettes. Judge Barker of the Louisville criminal court says: In more than one-half of the lunatics tried in his court, cigarette smoking is the assigned cause.

Specific infection causes at least 10 per cent. of all hereditary nervous and mental disorders. When this affection has been acquired, the proximate ef-

fects are usually manifested on tissues other than the nerves, notably the blood-vessels, the nervous and mental symptoms evolving in from one to five, ten or twenty years later in the individual's life. It is an incontrovertible fact that a large number of people who become nervous or mental wrecks during middle life or later, are reaping the rewards of indiscretions during the second or third decades of their lives. These truths are well known to physicians, but it is knowledge which we are morally and legally bound to keep secret.

Multiple neuritis is essentially a disease of adult life. It is loss of power in the motor and sensory nervous apparatus. It is pre-eminently the result of poisons and infections, principally alcohol taken into the system. Almost 90 per cent of multiple neuritis cases are of the motor type, and of these more than 50 per cent are the proximate results of alcohol used by the person afflicted. The question of drink practically settles the distribution of this affection. If you practise in a community where but little beer or other alcoholics are used, the cases will be comparatively few to the number seen where it is a common beverage. Lead and arsenic are common causes of neuritis, the lead attacks by preference the motor nerves of the arms, and is comparatively free from sensory disturbances.

The arsenic prefers the sensory nerves, causing neuralgic and varied painful disorders, in addition to producing motor palsies. Multiple neuritis appears occasionally as an epidemic. In 1900 a serious outbreak

appeared in Manchester and adjacent manufacturing cities in England.

The cause was located by our medical brethren there, who found arsenic in the beer used by the laboring classes. Two grades of beer were manufactured to accommodate the small and large wage earners. In brewing of the cheaper grade arsenic was unconsciously produced, and only discovered when its poisonous effects had cost several lives, and impaired the present and future usefulness of many dependent workmen. While alcohol is the principal cause of motor multiple palsies, if to this we add arsenic, the sensory nerves express their disapproval by neuralgic or other painful disorders. If those present are exempt from all the handicaps I have hinted at as productive of nervous and mental disorders and limitations of our future usefulness I may possibly make the subject a bit more practical from another class of acquired causes. Thus far I have noticed only that class of poisons from without, that when either intentionally or by accident were taken into our bodies eventuated in nervous or mental impairment.

The effects produced by poisons formed within our bodies, chemically prepared in the gastro-intestinal tract, by the presence of too great quantities, or unwise combinations of food, are I think familiar to us all. The transient irascibility, despondency, and pessimism, with indecision of character, and other forms of mental perversity seen any day, can all be traced to gastro-intestinal disturbances. Dizziness, confusion of thought, diminished sensibility or irritation of

the sensory nerves, are due to gases formed and pressure on the nerves from distention of the stomach. Neuralgias and neuritic pains are often the starved nerves calling for nutrition, which when properly supplied, replaces pathologic with physiologic conditions, if deterioration is arrested before the cell nucleus is destroyed.

It is not the man who occasionally becomes intoxicated who evolves a nervous or mental trouble, but the man who drinks and never gets drunk (or who is nearly always drunk), that becomes a candidate for disease. It is the moderate drinker whose arteries

early grow less elastic and more brittle; his are the chances of apoplexy and consequent infirmity; his is the weakened will power and moral force; his are the nerve tissues that show slight vitality. His again are the offspring of stunted intellectual mould, who lack the ennobling qualities of men and women, but show to a marked degree the signs of mental and physical degeneracy, which make them easy victims of epilepsy, imbecility, and idioy on the one hand, and on the other, gives them the inherited and acquired right to a berth in the

insane hospitals, the jails and the penitentiaries.

We are not responsible for our inheritance, physically, mentally or financially, but we can by availing ourselves of the advantages brought to us by scientific research and clinical experience, possess the knowledge necessary to improvement on our progenitors. We are, because of better educational opportunities than our progenitors, more guilty than they, for acquired conditions that lead to nervous waste and limit our future success.

As young men preparing to assume the responsibilities of the medical profession, I ask that you make broad and sure the superstructure on which you build. Our vocation calls for qualities that inspire confidence in us not alone because of our knowledge of medicine and human nature, but for the ennobling character that will prevent us from doing ignoble acts. The practical side of medicine demands that we consider man as a physical, mental and spiritual being; to each of which natures we must address ourselves in curing or preventing his ailments.

STATIC ELECTRICITY IN INEBRIETY

The value of static electricity in inebriety and drug neurosis is clinically very marked, particularly in correcting the faulty metabolism and increasing elimination, and equalization of the circulation. Its effect is also noticed in insomnia and melancholia. These conditions rapidly disappear from the continuous use of the current once or twice every day. An-

other effect which will be described in the future is the increased drug action, noted in persons who are using the static every day.

Remedies seem to be more powerful, more rapidly absorbed. The system seems more sensitive to the action of the drug and its effects are continued longer. This is owing undoubtedly to the electric current and its effects on the organism.

ALCOHOLISM AND THE SEXUAL IMPULSE

By K. W. Sheffield, M.D., New York City

For many years past the men- neglected. Practitioners of medi- bers of the medical profession and cine, judges and jurists, and a host others in this country have given of people interested in the progress the study of alcohol a very large fare of mankind, have been to also- share of attention, but this study has, gether too large a degree indifferent to a great degree, been one-sided. Chemists and commercialists have made us very familiar with the numerous properties of alcohol; its uses in medicine and pharmacy; its application to many of the needs in the arts, sciences, and industries; its conversion and incorporation into a long list of beverages; and its toxic effects, and influence upon society. Its alleged value as a food has been most widely discussed, while thou- sands of others have held that its general use has been the cause of at least ninety per cent. of the un- happiness of mankind, and is, more- over, responsible for nearly all crimes committed, irrespective of their nature. As a therapeutic agent in nearly every disease known to us it has been dwelt upon by medical writers the world over, while in un- told millions of cases its effects have been studied in private and hospital practice by physicians and surgeons of every school of medicine in any way entitled to the name. Notwith- standing all this attention which al- cohol has received, and much more besides, its very potent influence in many other directions has been, comparatively speaking, most sadly

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This covers a most extensive field of investigation, and may be traced back to the very dawn of recorded history. With us, very little, com- paratively speaking, has been added to its literature along strictly medi- cal lines;—a fact due to a baneful national prudery in regard to all matters having to do with the sci- ence of sex upon the one hand, and upon the other the very general dis- inclination of physicians to pay any attention to the subject at all. This is extremely unfortunate for several reasons, for in the first place, from whatever point we view them, a knowledge and proper treatment of the diseases of the psychosexual system outweigh in importance those of all the other systems of the organization combined, while in the second place, the influence of alco- holic beverages as a sociological factor, regarding its effect upon the individual in health or disease, whether abused or used in the vary- ing degrees of moderation, consti- tutes a study second to none in im- portance in the entire category of human habits and requirements. Tracing it back to the earliest days of antiquity, in our own race, the taking of wine under an infinite number of circumstances has been associated with passion, with sex- uality, with the coition of the sexes. It has ever been the case in untold numbers of feasts of every descrip- tion; in myriads of debaucheries of every imaginable character; in end- less liaisons; in lust murders and crimes of passion; in the nuptial chamber; in the case of sexual per- verts and inverts of every class, both

for a moment question the impor- tance of this phase of the influence of the drug in every conceivable feature that it may present. When I make this statement, however, the fact must not be overlooked that in a way the examination of this class of cases and the medical and legal dispositions and treatment of them, does fit into what legitimately falls under the title of the present con- tribution, and I refer especially to sex crimes, aggravated by the use of alcohol, where their acts are taken cognizance of by the police and the courts. What is intended to be di- rectly touched upon here is the ef- fects of alcohol upon the sexual im- pulse or instinct, either in its nor- mal or abnormal manifestations, in whatever form taken, and that in the case of either sex at any age.

prior and subsequent to their various modes of libidinous satisfaction; and under other various conditions alto- gether too numerous even to men- tion. Throughout the entire history of mankind such practices may have commented in extreme youth and have been continued to extreme old age, and had a written record been made of them it would have filled thousands upon thousands of vol- umes, and as it stands both prose and poetry teems with accounts of the taking of wine, using that term in its broadest sense, in connection with the sexual act.

Out of all this mass of literature, a good example to illustrate my meaning may be selected from Shakspeare, where in his *Macbeth* (Act II, Scene 3), we meet with the following:—

Porter.—and drink, sir, is a great provoker of three things.
Macduff. What three things does drink especially provoke?
Porter. Macey, sir, nose painting, sleep, and wine.
Lechery, sir, it provokes, and un- provokes; it provokes the desire, but it takes away the perform- ance, therefore much drink may be said to be an equivocator with lechery; it makes him, and it mars him off; it persuades him, and dis- heartens him; makes him stand to, and not stand to; in conclusion, equivocates him in a sleep, and giving him the lie, leaves him.

This statement certainly sets forth very clearly the usual effects of al- cohol upon the sexual impulse; and its association with the sexual act.

If we confine ourselves to the Indo-European race, it is difficult to form any estimate of the proportion of children who become addicted to taking alcoholic drinks when very young. It is far greater in large cities and towns than it is in the country, and it varies for different nations. In Germany it is not at all uncommon to mix beer with milk and allow children to drink it at a very tender age. I have frequently seen children of five and six years of age come into bar-rooms with their fathers, and the latter allow them to drink beer, and sometimes even something stronger. This was in New York City. In large cities in England, I understand, little children, generally of the poor classes, commence drinking gin and porter when very young, and that all such children, in the majority of cases, keep up the practice during life there can hardly be any question. As a rule this may, and probably does, not have any special effect upon their sexual systems prior to puberty, while after that event, and on, it undoubtedly does, and that to a degree depending upon the sex, the constitution and temperament, and the nervous organization of the individual persisting in the habit, as well as the extent to which it is abused.

Of equal importance in this field of investigation is the far-reaching and more than vital question of parties being under the influence of alcohol during sexual congress, where impregnation follows, and children are brought into the world as a result of coitus under those conditions. This is an occurrence of the greatest frequency among people representing every grade and class of society, and, in so far as the mental and physical effects upon the future child are concerned, it constitutes a question in regard to which, even at this late day, we possess only too meagre a stock of accurate knowledge. That a child begotten under such conditions may at any time between its birth and death, regardless of the time that span may cover, exhibit extremely undesirable abnormalities, either of a physical or of a psychological nature, goes without the saying. This is altogether too large a subject to discuss in the present connection; it would not only far exceed my space limitations to do so, but it would be quite impossible within those limitations to give adequate attention to a matter of such paramount importance to the future well-being of the race.

As we pass to the stage of adolescence of the two sexes, and on to manhood and womanhood, we meet with a great variety of conditions exemplifying the relations of alcoholism to sexuality. At the present time I am engaged upon the preparation of a volume devoted in part to this subject. One chapter for it, just completed, is entitled "A General Discussion of Certain Cases of Sexual Mania in Middle-aged Men, Associated with Alcoholism," and to this chapter my learned friend, Dr. T. D. Crothers, has furnished some very instructive cases and other data. In a series of six cases submitted, all males, Dr. Crothers deals with the effects of alcohol upon the sexual centers, and formulating his opinion in reference to patients of this class, he states that they are quite common, and adds that "young men at college on coming to the city for the first time are tempted into houses of prostitution, where the first sexual intercourse occurs. This is associated with spirits, up to the point of intoxication, from which recovery is slow and protracted, since a psychical shock is sustained. The sexual centers are ever afterward unstable and uncontrollable, either exalted or depressed from the exercise of their functions, and become dominant forces in the functional history of after life. The palsy from spirits depresses them below the level of immediate restoration and it is doubtful if the reproductive function is ever the same in after life." (In MS. p. 14.)

If this view be true, the harmful effects of such experiences in cases of young men coming into manhood, in civilized countries, must have reached a number by this time, far beyond the conception of most people's minds.

Where alcohol is taken in any form, be it in moderation or excess, it is bound to have a corresponding influence upon the sexual habits of married couples throughout that entire period of their lives when coitus is indulged in. This is true also, but in a somewhat different way, to those couples who habitually cohabit outside the bond of wedlock, as in the cases of libertines, mistresses, concubines, and the rest. In the strict marital relations, the manifestations of the effects of alcohol will vary with the nature of the particular constitution, temperament, and sexual proclivities of the man and the woman of the pair—as for example, in a case where an eminently healthy, intensely passionate and affectionate man be united to an unhealthy, frigid and unresponsive woman. Thousands of divorces result from such unhappy coupling; many men from such relations become impotent; are driven to the extremes of drug or alcoholic intemperance; and suicides are by no means infrequent. All of this I have dwelt upon in another connection in a work being prepared for publication.

Finally, in another enormous class of cases, a class we have just commenced to seriously study, wherein the evil effects of alcohol are manifested in a great number of marvelous ways when associated with the sexual desires and habits of those addicted to its use, are the sexual deviates, in which group are to be included individuals of every age who in their sexual, psychological and morphological characters and characteristics in any way depart from those most normally constituted in these respects.

Many years ago, the late distinguished American philosopher, Professor Edward D. Cope, once said to me, that in those neurotic families where the women are erotic, we are pretty sure to find the male representatives addicted to drink. He referred especially to those families wherein such professions as artists, players, clergymen, singers

and musicians were represented, and although a large group is here included, it by no means covers the entire class of sexual perverts and inverts. Much light has been intelligently thrown upon this subject by the writings of such astute observers as Wm. Lee Howard, Jas.

G. Kiernan, Frank Lydston, and a number of others in this country, and a still greater number abroad, including such well-known names as Kroeft-Ebing, Havelock Ellis, Lombroso, Mantegazza, and no mean galaxy of other writers devoting themselves to this important study.

ALCOHOL IN ITS RELATION TO DEGENERACY

By *Engene S. Talbot, M.D., Chicago, Ill.*

Alcohol has been repeatedly charged with being the factor in degeneracy. Statistics of the present century seem to justify the conclusion that it is apparently the most potent factor, yet these statistics, as a rule, confound coincidence and cause, or effect and cause, or the vicious circles thereby resulting, to a remarkable degree. There are but few races in which alcohol has not been used and abused. The American Indians had *atizwen*, *chica* and *pulque* long ere Columbus; the Tartars and Russians have *bouza*, *kvas* and *kunyss*; the South Sea Islanders have *ava* and *toddy* (from the coconut); the Tunisians have *laymi*. The vast majority of the races of mankind have used alcoholic beverages. Each was called by a local name and not by a loan word, a most demonstrable evidence of local origin. Even the social (bees and ants) at times indulge in fruit ferments. The claim, therefore, that alcohol is the product of high civilization, hence of recent ori-

gin, and peculiarly destructive, is untenable. That excess in alcohol frequently occurs in degenerative stocks is, however, undeniable. But, as Krafft-Ebing, Kiernan Spitzka and others have shown, intolerance of alcohol is an expression of degeneracy. The person intolerant of alcohol becomes either a total abstainer because of a personal idiosyncrasy (like that which forbids certain people to eat shell-fish lest nettle-rash occur), or because of parsimony, or for both reasons combined. Such total abstainers leave degenerate offspring, in which degeneracy assumes the type of excess in alcohol as well as the even lower phases. The race tests of the deteriorating influence of alcohol are practically valueless, nor are statistics concerning alcoholism in the ancestry of degenerates of much more use. The enormous amount of idiocy, for example, in Scandinavian countries, charged by Huss, Langdon Down and others to alcoholism in the parents, has been

of most recent researches, cut down by Koof to less than 7 per cent. In some hospital statistics vary to a like degree. Bad faith, however, is out of the question in these statistics. Lack of analytic skill and that dangerous, unscientific, canting philanthropic tendency which rebels at statistics unfavorable to preconceived sociologic theories explain these discrepancies. The ignoring of all but the alcoholic factor produces also great elements of error. Kiernan gives twenty-three cases in which degenerate stocks were charged to alcoholic parentage, but which on analysis proved to be due to a degenerative factor in the parents, of which alcoholism was merely an expression. Nearly all the offspring born after inebriety were prematurely born defective, epileptic, hysterical, insane, idiots or criminals.

Some few were healthy, apart from their intolerance of alcohol. In eighteen cases both father and mother were alcoholics. The fathers in four of these cases had been temperate, industrious and affectionate one being sunstruck. Following this same periods of irritability, excessive drinking and spendthriftiness. The mothers had remained for some years after the fathers' breakdown free from the use of alcohol, but were nervously exhausted from the strain. One became depressed during pregnancy, was given gin for the depression and the habit persisted after the delivery. In the three other cases painful menses developed during the nervous exhaustion. The popular prescription for these, gin, was given, with the result of producing inebriety. In ten cases skull injury to the father had like results on both mother and father. In two cases the mother became a victim of painful menstruation after a railroad accident; gin drinking, to relieve this, followed and became a habit. The father's nervous system broke down under the strain and both became inebriates. In two other cases nervous exhaustion from typhoid and typhus fever produced the same outcome—inebriety on the part of the father and mother. In the remaining cases the inebriety was an expression of nerve exhaustion after various protracted infections. The alcoholism in these cases was clearly an expression of the factors of race deterioration producing degeneracy, and not its cause. The influence of alcohol must first be studied therefore on the individual, to determine its value and method of action as a cause of race deterioration. Careful medical researches have shown that alcohol produces a nervous state, closely resembling that induced by the contagions and infections, often accompanied with mental disturbances (delirium and acute types of insanity). The acute nervous state to which the term alcoholism was applied by Magnus Huss has all the essential characteristics of the nervous state due to the contagions and infections. There is, however, a greater tendency to impotence and sterility in the alcohol nervous state than in the others, and consequently a lesser influence on race deterioration. The condition, moreover, has a tendency to

set into action degenerative tendencies latent in the liver and kidneys. This action of alcohol on the liver and kidneys so interferes with their functions as to produce the effect already described as resulting in the contagious and infections from their toxins. Alcohol exerts a similarly deteriorating influence on the anti-toxin-forming organs (especially on the testicles, ovaries and their appendages) to that already described as exerted by the toxins of the contagious and infections. To the direct toxic effects of alcohol are added, therefore, results of imperfect liver and kidney's action and defective strengthening powers from deficient antitoxin secretion. Like all toxic agents, alcohol interferes with the functions of the eye and ear nerves. Special weakness thus created is transmissible to the offspring. In the chronic form, alcoholism may well be compared in its effect with chronic contagions. There is, however, less tendency to infections with the microbes forming pus. There is a greater tendency to deteriorating action on the nervous system. There is in chronic alcoholism, as in syphilis, special tendency to that formation of connective tissue which describes organs. The chronic mental disorders of chronic alcoholism resemble those of tuberculosis, except that the capricious state and exaltation are less frequent than the suspicious tendency, which is deeper, and takes the direction of delusions of poisoning and insane jealousy. The last are due to the deteriorating influence of alcohol on the general functions.

action to the central nervous system, and thus produce hereditary losses of power. It causes changes in the peripheral nerves, which in the offspring find expression in spinal cord and brain disorder through extension of the morbid process. But for its deteriorating effects on the ovaries and testicles, alcohol would be a most serious social danger, but through its action on the generative organs it tends to prevent the survival of the unfit, rather than to develop degenerates. There is very little doubt but that the routine prescription of alcohol by the laity for painful menses, teething, toothache, etc., underlies many cases of degeneracy in the offspring. The prescription is the more dangerous because it is recommended in the hidden guise of nostrums by hysterics with blatant alcoholophobia. To reach this serious source of degeneracy from alcohol and the narcotics, a statement on each bottle of the exact composition of nostrums should be exacted by law. Government could exercise a potent influence for good on alcohol abuse by improvement of sanitary conditions in the tenement or apartment-house districts. Experience in New York and elsewhere has shown that improvement in tenement houses produces decided decrease in the number of dramshops in tenement-house neighborhoods. The earlier tenement houses in New York, as elsewhere, were originally dwellings intended for one family. As these were replaced by houses specially built for tenements with proper sanitary arrangements and improved ventila-

tion, not only did a tremendous decrease occur in the infantile death rate, but a decrease also in the patronage of dramshops. In many instances it was apparent that alcoholic abuse had grown out of poverty. Foul air and crowded quarters had begotten not only a desire for stimulants, but a desire for social intercourse. The dramshop met social needs as a club. It is along this line that government can make best use of its police power. The prophylaxis of degeneracy in the mother and father may be summed up as simply the prevention of a state of neurasthenia, or nervous exhaustion, whether this condition (involving the functions of growth, motion and sensation, which, as Marinisco has shown, exist in every neuron and its processes) exhibits itself in nervous system or in the organs connected with alimentation, elaboration and exertion. Every factor of acquired degeneracy produces what is practically this condition of neurasthenia ere exerting any influence in the production of degeneracy. In other words, the neurasthenia of the ancestor becomes the neurosis of the descendant. Therefore the neurasthenia requires in its treatment in the ancestor the removal of the exciting cause (alcohol) and the treatment of the effect by physiologic rest in the truest sense of the word. In a general way, therefore, the ordinary principles of hygiene applied to each individual case will suffice to prevent development of this neurasthenia. The part of government in this is very small. It is true here that, as remarked by Johnson:

"How small of all that human hearts endure,
That part which kings or laws can cure."

Training of the individual rather than governmental regulation must be the factor to prevent degeneracy in the ancestor. Indeed, governmental regulation, by injuring self-reliance (that factor so easily destroyed and so hardly regained), may itself be a potent factor in degeneracy.

PHYSIOLOGIC EFFECTS OF ALCOHOL ON THE HUMAN SYSTEM

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(a) *The Source of Alcohol.*— Ethyl alcohol is one of the normal products of metabolism of the yeast plant. Most species of white mold form alcohol under normal conditions. The conditions which lead to a formation of alcohol by the white mold, lead also to a marked increase in the formation of alcohol by yeast. The yeast plant is a fungus and in common with other fungi reproduces by means of spores. The

yeast plant possesses another method of reproduction, gemmation or budding. This method is used when all conditions are favorable to vegetative growth. The fungi belong to the lowest sub-kingdom of plants, and are distinguished morphologically by absence of root, stem and leaf; and physiologically by the absence of chlorophyl—the green coloring matter of leaves and stems. According to the plan of nature, only those organisms which possess chlorophyl are able to build up complex food substances from simple inorganic compounds. Thus we find the green-leaved cereal grasses building up cellulose, starch, sugar, oil and proteids from such inert compounds as CO and HO and the mineral salts of the soil. The energy which is made latent in this wonderful constructive process is derived from the sunlight by the chlorophyl. Organisms not possessing chlorophyl are unable to utilize the inert organic materials of their environment. They are dependent on the chlorophyl-bearing plants for their food. Animals live on the cellulose, starch, oil and proteid elaborated by green plants for their own use. Fungi subsist in a similar, though perhaps somewhat humbler way—the toadstool and mushroom appropriating the decaying vegetable matter of field and forest, the yeast plant consuming the sugar of decaying fruits, while molds and bacteria are found wherever vegetable or animal matter is in process of degenerative change. In fact, the presence of these non-chlorophyl-bearing organisms promotes decay.

(b) *The Metabolism of the Yeast Plant.*—From the above we see that the fungus possesses many points in common with animals. Its life energies are liberated from the highly organized foods which it first consumes, then decomposes. The food of the yeast plant must contain nitrogenous matter, otherwise there will be a wasting of the cell substance, as shown by Pasteur. Mayer has shown that this nitrogenous matter may be in the form of such soluble and diffusible proteids as peptone, proteoses, syntonin or yeast extract. A portion of the nitrogenous matter may also be in the form of ammonium nitrate, tartrate or oxalate.

As these foods are all soluble, they may be directly absorbed by the yeast cells without the intervention of any digestive processes. They are absorbed through the cellulose wall of the yeast cells, and become a part of the cell protoplasm. How the cell accomplishes the building up of the new material out of food stuffs is not known. How it finally causes disintegration of portions of its own substance is also unknown. Something is known, however, of the processes by which the living cell-plasm extracts energy from the food-stuffs of the cytolymph. A study of the phenomena of fermentation has revealed the existence of soluble ferments or enzymes, which are the catabolic agents of the living substance. Enzymes may be either secreted by the cell or retained within the cell; in the first case they perform an extra-cellular fermentation. In the latter case, an intracellular fermentation (Green).

Buchner has shown that the yeast plant possesses an enzyme,—which has the power, when extracted from the cell, of causing dextrose to break up into ethyl alcohol and carbon dioxide. No one has expressed a doubt that this enzyme is the agent through which the living protoplasm of the yeast cell liberates the energy of the sugar. The zymase is not secreted by the cell, but does its work as an intracellular ferment. Very early in the study of alcoholic fermentation it was discovered that when the yeast cell has an ample supply of oxygen there is a rapid growth and reproduction of the cells with a much decreased production of alcohol and a quantity of carbon dioxide out of proportion to the amount of alcohol. On the other hand, with a deficiency of free oxygen there is a great decrease in cell proliferation, while the energy for the life processes of the cell is liberated from the sugar through the action of the enzyme; the reaction being something as follows: $C\ H\ O$ (+ latent energy) = $2CO + 2C\ H\ OH$ (+ kinetic energy), which was first suggested by Gay-Lussac, but is now accepted for practical purposes by Oppenheimer.

Every living organism absorbs certain foodstuffs, assimilates these and either directly or indirectly causes their catabolism. The catabolism of complex substances results in the formation of a number of substances of simpler composition, which are passed out of the cell or organism. Among the substances which have the yeast plant are: $CO\ H\ O$ glycerin, succinic acid,

ethyl alcohol, and a nitrogenous substance. (Oppenheimer).

But the matter which passes out of living cells may be divided into two categories: (1) Matter which is elaborated within the cells and passes out into the surrounding medium where it performs a function or serves a purpose advantageous to the cell or to the organism of which the cell may be a part; (2) matter which has been more or less completely catabolized, and, being useless to the cell, is passed out in order that its accumulation within the cell may not clog the vital processes or otherwise injure the cell. As example of the first category one thinks at once of the enzymes of the digestive glands, elaborated from substances within the cell plasma, passed out into the lumen of the alimentary canal, where they induce in the contents of the canal chemical changes which are highly advantageous to the organism as a whole. Then there is mucin formed and passed out to lubricate and to protect the delicate surface of the alimentary, respiratory and other membranes; also oil prepared in the sebaceous glands and thrown out on the skin to keep it soft and non-absorbent.

As an example of the second category one may name carbon dioxide, a product of the oxidation of the carbon of the cell protoplasm. In the case of the higher animals urea and uric acid—products of the catabolism of the nitrogenous matter—are good examples of the second group. The line of division between these two classes of substance is a very

clearly marked one. Johannes Muller first made this division, and it has been generally accepted. The substances belonging to the first category are called secretions and those of the second excretions. The term excretion is used in this sense by physiologists generally.

Accepting the use of the word excretion as it appears in the literature of nutrition, we can formulate the following definition which would be acceptable to any modern pathologist: An excretion is any substance (1) which is the product of catabolism of food; (2) from which the organism has extracted the maximum energy possible for it; (3) which would injure the cells that formed it if retained in them; (4) and which is expelled by the cells immediately after its formation. All the substances mentioned above as leaving the yeast plant fulfil these conditions and must, therefore, be classified as excretions. In no case could they be looked on as secretions in the sense in which that term is generally used. No one has ever contended that the yeast plant makes any use of these substances after they are thrown out of the body. The fact is that the yeast cell throws them out because it can get no further energy out of them. They are thus typical excretions.

(c) *Biologic Significance of Excretions in General and the Influence of Excretions on Living Matter*.—The living organism throws out excretions for two reasons: (1) It can make no further use of them, and (2) if retained the substance injures the organism. A clinical fact long

known and frequently illustrated is that retained urea and uric acid cause profound disturbances of the nervous system, followed by convulsions and death. It is a biologic principle universally recognized that the decomposition products of any organism are injurious to that organism (Vaughan). Vaughan expresses this law in the following words: "They (the cells of the body as well as bacteria) are injured when the products of their own activity accumulate about them." The excreta of bacteria are all classed as ptomaines by Vaughan, and he subdivides these into two classes: (1) Toxic ptomaines, formed in the presence of little oxygen (scarcity of O); (2) non-toxic ptomaines, formed in the presence of abundant free oxygen. Quoting further from Vaughan, "It is true, without exception so far as we know, that the excretions of all living things, plants and animals, contain substances which are poisonous to the organism which excrete them. These poisons originate in the metabolic changes by which the complex organic molecule is split up into simpler compounds."

We must now inquire whether or not alcohol is one of the constituents of the yeast plant excretion which is injurious to that organism. The latest authority on fermentation, Carl Oppenheimer, says: "The question as to how far the cleavage products affect the ferment injuriously can be answered very easily in the case of alcoholic fermentation, since in this case one of the cleavage products, namely, alcohol, is in a cer-

tain degree of concentration, a protoplasmic poison, and injures the yeast and decreases the fermentation. When the alcohol has reached a strength of 12 per cent., the growth of most species of yeast is much decreased, while with 14 per cent. all activity stops. While mold in general and some species of yeast are much more sensitive to alcohol, from 1 to 4 per cent. being sufficient to stop completely all further growth as well as fermentation.

Not only will the toxic excretion of any living organism poison the organism which produces it, but it will have a toxic action on any organism of a higher rank. Thus the excretion of a mammal might serve as food for some of the lower invertebrates and certainly for fungi and bacteria; while the excreta of the yeast fungus (alcohol) serves as pabulum for the bacteria of acetic acid fermentation. The toxic excretion of the bacteria (toxic ptomaines), however, are poisonous to the bacteria and to the yeast fungus and higher organisms, while the toxic excretion of the yeast (alcohol) is toxic not only to the yeast, but also to all animals.

The biology of ethyl alcohol may be thus summed up: (1) Ethyl alcohol is the excretion of a fungus; (2) excretions which are toxic to the organism which excretes them are also toxic to all higher organisms; (3) alcohol is, from its inherent nature, therefore, toxic to all animal protoplasm. Having set forth the relation of alcohol to living tissue; having shown that because it is an excretion of a fungus, it must,

in conformity to the universal biologic law, be toxic to all higher organisms, the effect of alcohol on the human system may be much more clearly comprehended.

(a) *The Effects on Nutrition*.—The first question that arises in this connection is an old one: Is alcohol a food?

Ethyl alcohol possesses several characteristics in common with the carbonaceous foods; e. g. (1) It is composed of C, H and O; (2) it is readily oxidized in the liver, yielding CO₂ and H₂O, which are excreted; (3) it yields heat incident to its oxidation, and this heat naturally augments the body income of heat; (4) ingestion of ethyl alcohol leads to a decrease in the catabolism of carbonaceous foods and may even "spare" proteins. In this connection one must not lose sight of the following facts: (1) All vegetable toxins and alkaloids are composed of the same kind of chemical elements as enter into foodstuffs, viz., C, H, O and N.

(2) Toxins and alkaloidal poisons in general are oxidized in the liver, through the agency of oxidases, whose function is to oxidize and thus to make harmless substances which would act as protoplasmic poisons on all cells with which they come in contact. When moderate amounts are sufficient to reduce them to harmless condition and no immediate injury results. If larger quantities are ingested the full drug effect (narcotic in the case of alcohol) is immediately experienced, the oxidases of the system

being unable to defend it against a large dose.

(3) All oxidation yields heat, whether it is a normal catabolism or a protective oxidation. That the heat from the oxidation of alcohol is not a normal catabolism for the purpose of heat liberation is evident from the fact that, notwithstanding the liberation of heat through oxidation of alcohol, the temperature of the body falls, because of increased

loss of heat from the surface. This increased loss is due to dilation of peripheral vessels.

(4) Decreased catabolism of carbonaceous or nitrogenous foods following ingestion of a narcotic is a universal fact depending on the drug effect and giving to the oxidized narcotic no significance as a food. It may be said without reservation that ethyl alcohol is not a food in the scientific significance of the word.

ALCOHOL AND NEUROSIS

The following extracts from a recent lecture by Dr. Lotzenfeld before the Medical Society of Munich and translated by Mrs. C. L. Trueman, will be of interest to our readers.

When we study the relation between alcohol and neuroses we are confronted by three questions which authors answer somewhat differently.

1. What influence does alcohol have in causing neuroses?
2. What effect does it have upon the course of neuroses brought about by other causes?
3. What influence does the neurosis have upon the use of alcoholic drinks?

According to the author's experience, alcohol alone is seldom a single cause of neurasthenia with individuals free from hereditary or acquired neuropathic disposition. Among the causes which are found to combine with alcohol in bringing on nervous troubles are smoking, and cramming for examinations in student life. A similar experience is found among men who have been drinking immoderately for years, without apparent injury. There come times which necessitate unusual exertion, or long continued mental strain or irritation, and presently there is a well-developed neurasthenia. With hard drinking laborers, accidents are often the occasion for the development of a neurasthenia for which alcohol prepared the ground.

With those of hereditary neuropathic tendency the case is quite different. It does not take long with these for continuous drinking to bring the latent predisposition to a pronounced neuropathic condition. Among such cases are frequently found students who are obliged after a few weeks to give up the fraternity life because of its coercion to drinking that would run their nerves. The effect of alcohol in producing a temporary feeling of well doing might be

cited as one factor in causing neurasthenia. The hours spent at the beer table or in the wine room seem the best ones. The lassitude and weariness following the day's work give place to agreeable sensations, care, anxiety and depression are banished and sleep, which without their liberation, is tardy and deficient, with it comes more easily. It is easy to see how a substance which appears to act so favorably should be restored to freely and fondly, but upon this artificial stimulation advances with relentless steadiness, the functional ebb of the nervous system. The greater the pleasure and the earlier the gathering in the evening, the gloomier the world appears in the morning; and the duller the head the more difficult is the work. The necessity for a new stimulation is felt immediately and when the quantity that was once effective proves insufficient, more is taken.

Our views of the aetiology of hysteria and the mechanism of the special symptoms have reached a turning point. The author holds that the development of a hysterical condition under alcohol is possible, but he is not disposed to ascribe to it alone, the role of a causative agency. A distinction is to be made between occasional spicing and chronic alcoholism. A glance at facts known at the present time justifies the conclusion that alcohol is able to bring on various forms of hysterical attacks in hysterical patients, or at least in those inheriting hysterical constitutions. The mental condition resulting from the excess must of course vary according to the quantity consumed and the development of the hysterical tendency.

In the causation of epilepsy we find alcohol intoxication a factor which is important in two ways. Statistical inquiries of recent times have indisputably shown that the chronic alcoholism of an individual may lead to the development of the epileptic disposition in the descendant, but it constitutes also one of the most important direct causes of epilepsy. How frequently alcoholism is combined with epilepsy is shown by the figures which Moellert compiled in the Berlin Charity Hospital. From 30 to 40 per cent. of the delirium tremens cases were epileptic and 10 per cent. of the alcohol psychosis patients.

The role which alcohol plays in individual cases of epilepsy is therefore various. With the hereditarily afflicted, alcohol intoxication may produce the first epileptic fit and in such cases no long continued hard drinking is needed, while in the other class of cases the attacks do not appear until after long years of such indulgence. Abstinence in the first class leads to a mitigation of the epilepsy, but does not have that effect with the chronic drinkers.

Even when the daily use of a certain quantity does not bring about striking symptoms, a comparison of non-alcoholic periods with similar ones of alcoholic indulgence shows that the consumption of even moderate quantities of alcohol increases the number and intensity of the attacks. In institutions for epileptics it has been observed that many patients during their sojourn remain nearly free from attacks but after their return to their home conditions, the fits come on frequently, due chiefly to a resumption

of the use of alcohol. All these facts have it unmistakable that alcoholism is a most weighty factor in the causation of neuroses, only on account of the severity of the consequences. It can lead to neurosthemia without predisposition, develop epileptic conditions in the hereditarily afflicted, strikingly aggravate acquired epilepsy increase the hysterical tendency, cause the onset of acute, light or serious hysterical attacks, and exert a very unfavorable influence upon the more violent forms of neurosis. The later investigations force us more and more to the opinion that toxic influences play an essential role in the various neuroses, and the results we have to strive for are made more difficult to attain by the constant addition of a toxic agent, such as alcohol.

EDITORIAL

Mental Deficiency in Children

It is a pleasure to note the very wide interest which has followed from the various papers and studies of Dr. McNeill, the vice-president of our association, on the above topic. His studies extend over the condition of 55,000 school children. Fifty-eight per cent. of this number were below the normal standard of intelligence. Seventeen per cent. were actually dullards and twenty-five were very deficient. In the history of the parents of 20,000 cases it was found that fifty-three per cent. of the children were dullards and only ten per cent. of dullards came from abstaining parents. These and other most interesting statistics will be eventually grouped in a book which we shall welcome very heartily.

International Anti-Alcoholic Congress

The Eleventh Anti-Alcoholic Congress will be held at Stockholm,

Sweden, July 28th, 1907. This

promises to be one of the most important gatherings devoted to this subject. The Swedish government has officially invited the different countries to send delegates, showing the national character of the movement. Over twenty different topics are announced as subjects for discussion concerning alcohol and its influence on the civilization and the race. Almost every possible phase of alcohol and its influence will be presented. Institutions for the cure and questions of heredity are not mentioned; no doubt they are overlooked and are not considered with the same importance as they are in this country. Among the committees for the organization are some very eminent medical teachers, government officials, generals in the army, members of Parliament and superintendents of prisons and societies. This

country will send ten or more delegates. It is very evident from the circular that the subject will attract

a great deal of attention and this great gathering will have a marked influence both in Europe and this country.

Some Curious Facts of Heredity

A physician very highly cultured, and a man of superior attainments and strength of character, suddenly became an inebriate, drinking in the most prominent places and exhibiting a degree of mania that was startling. He was locked up in an insane asylum for a few weeks, then discharged, and was more wild and erratic than ever. Suddenly a slight hemorrhage occurred which paralyzed one side of his body, all desire for spirits subsided, and he lived many years a very temperate, sensible man. A careful inquiry showed that his great grandfather on his mother's side, after preaching nearly forty years, as a most careful, temperate man, and bringing up a large family, suddenly began to drink, going down to the very lowest level, making himself very prominent denouncing all his past life, and standing on the street corners speaking in the most maniacal way. In the course of a year a hemorrhage occurred partially paralyzing his body, and this was considered a punishment for his sin. He lived from that time on most exemplary; this peculiar episode was regarded as a possession of the devil, and hence was concealed, his grandchildren scarcely knowing of this event, the doctor never having heard of it. Here was a reproduction in general details of what had occurred in his great grandfather's life. The family was unusually strong and robust, and no one had ever exhibited the drink impulse. Another instance came under my care of a dentist who in middle life suddenly drank to great stupor and exhibited a moral palsy both in his conduct and associations with others that was startling. He associated with the lowest characters, slept in barns, begged, and was a most wretched tramp when not confined in the police station. He would not go near his family, called them the worst names, and believed they had robbed him, notwithstanding repeated efforts to have him cared for in institutions or come home and let them treat him. He finally died in a low boarding house from neglect and spirit excess. In his history two generations back, both parents were excessive drinkers of the lowest type, their children were taken away from them and they both died in the almshouse. The father of this man was the most excellent temperate business man, who amassed a large fortune and left a family of healthy, temperate children. In all probability they did not know of the history of the grandfather, because it occurred in another part of the country. The dentist had been ambitious and a very honorable temperate man, a church member and benevolent and kind in all his transactions with his neighbors. His family and business relations had been free from annoyance and there seemed no excuse or reason for his sudden use of spirits. His rapid degeneration to the level and type of his grandfather suggested an inheritance that could

not be mistaken; all the efforts of his family to keep him up failed. In ordinary experience he would have retained his previous character and training and not broke away from his long life of respectability in such an abject and precipitous manner. Another very curious entertainment from spirit and drug-taking parents is the struggle to avoid pain and suffering and attain ideal states of health by the use of drugs. Often such persons are very exemplary and temperate in conduct, and sometimes are temperance reformers, exhibiting great horror at the use of spirits, and personally or privately they depend on drugs and are constantly studying advertisements of short cuts to health. Many of these persons use drugs containing spirits and narcotics constantly, and then finding their contents change to something else more mysterious, they are all practically inebriated, yet it seldom develops into impulses for alcohol and opium. Another fact noticeable in families whose ancestors were heavy drinkers is that of drinking only when they become exhausted or worn out. Often in age, at any other time with ordinary vitality and vigor, they are thoroughly temperate, but let some great strain come along and diminish their vigor and produce exhaustion, and alcohol is taken up with avidity. If on these occasions they can rest in sanitoriums or surroundings that are quiet, the drink craze dies out and they fully recover. Overwork, mental strain and exhaustion which lowers the vitality beyond a certain point is followed

by inebriety, and this dies out when the vigor comes back again. There is a latent predisposition to use spirits kept under control as long as the person remains in health. There is another class of persons who evidently come from insane or mediocrate ancestors who possess an intensity of brain and emotional activity, and who work with great courage and persistence, and live carefully in every way. Finally from disappointment and failure all the former intensity reacts into the same sort of persistent effort to secure relief by the use of spirits and drugs. They become moderate drinkers, never exceeding a certain amount, and taking it with mathematical certainty; in reality they are the very worst of all drinkers, in degeneracy and weakness, and leave an enticement for posterity that is certain to destroy all hope of future longevity of a race. * * *

Unconscious Expressed Delusions
A patient under the care of Dr. Ellsworth at Washingtonian Home, Boston, Mass., was greatly alarmed with the idea that he was swearing and cursing at the top of his voice and making himself most obnoxious. In reality he was silent and seemed abstracted. He was a man thirty-five years of age, had been a barkeeper and engaged in the saloon business for many years. There was no history of heredity or any particular disease, he was admitted in a semi-delirious stage talking freely in a low voice, and saw objects on the walls, principally of pictures and faces; then suddenly he began

to apologize and express great regrets for his conduct. On inquiry he asserted positively that he was swearing and cursing and using the most profane language, but could not be persuaded that this was a delusion. While lying still in bed or sitting quietly in a chair the thoughts of cursing and shouting passed through his mind and the impression was that they were expressed by the voice and that the effect of this language on the persons about him was that of extreme pity and sorrow which caused them not to notice it. This delusion was thoroughly fixed and at times seemed to be very intense. Every few moments his face would become red and a sense of sorrow and chagrin followed and the most humble apologies would be made. These attacks grew less and finally disappeared. A similar case appeared at Walnut Lodge Hospital in the case of a lawyer, who at intervals of two or three times a day posed as a political speaker and gesticulated with great energy for twenty or thirty minutes, then sat down claiming that he had made a speech. His lips moved, but no audible sounds escaped. He could not understand why he had not expressed the thoughts that were passing through his brain and for some time was absolutely certain that he was addressing in audible tones some one. There was in this evident word deafness. * * *

Inebriety in France
Statemen and philanthropists are becoming greatly alarmed at the prevalence of inebriety among all classes and the marked increase of disease, pauperism and criminality. The birth rate has decreased and the death rate is greater than ever. Statistical studies for the last ten years show a startling decline in vigor and longevity and tremendous loss from sickness and death in every section of the country. The evil has reached such proportions that a large society has been formed, called the Anti-Alcoholic League. Their efforts are to educate public opinion looking forward towards the passing of prohibition laws, particularly to prohibit the manufacture, sale and use of absinthe, and looking forward into the future to diminish the use of alcohols, wines and beers to such an extent that they will be forced out of the country. Both houses of the Senate and Chamber of Deputies are represented in this league, 91 members of the Senate and 141 in the Deputies. These comprise all political parties and men of all shades of opinion, who are practically one in the prohibition of absinthe, brandy and alcohol as beverages. Recently a great meeting was held by these leading men and a number of eminent physicians in sanitariums set forth the facts and reasons for legislative interference. Dr. Legrand gave the history of 215 alcoholic families, who had 810 Senates; 53 children were born dead of these families, 121 died in infancy, 38 were physically defective, 65 had tuberculosis in early life, and 145 were mentally deficient. This gave a total of 412 cases of death and degeneracy, due speci-

cally to alcohol, or more than 50 per cent. of all descendants of alcoholics dying or becoming dependents. Senator Delpath, a noted scientist, announced as the result of a study of mortality statistics, that 40,000 persons died every year in France whose death was directly due to alcohol. He found in 2192 cases of tuberculosis over 2000 cases due directly to alcohol and absinthe. Dr. J. Re Bot declared that there were 10,000 persons insane in France in 1835, and today there were over 60,000 persons insane, although the population had increased only one-sixth in number. It was asserted that the cost of absinthe alone consumed in France was 142,000,000 for the year of 1906. These figures are startling and indicate a great revolution in the drinking habit of the country that is sure to come in the near future. In the meantime nearly all the magazines and papers are picturing the disasters and evils which follow from this source. This great revolutionary movement is non-partisan and seems to be led by physicians and prominent men in every department and has reached down to the public schools. The prefect of police has put up warnings on the bulletin boards, and the alcoholic subject is rapidly becoming the burning question of the hour.

The American Society for the Study of

Alcohol and Other Narcotics

The annual meeting of this society will occur at Atlantic City, N. J., June 4, 5 and 6, 1907, in the parlors of the Hotel Marlboro-Bienheim. The

honorary President, Henry O. Marcy, M.D., of Boston, Mass. will deliver the general address. The President, Prof. W. S. Hall, will deliver the second address on "The Physiological Action of Alcohol." The third address will be delivered by the Vice-President, Dr. L. D. Mason on "The Teachings of Alcohol in Our Medical Schools." A very interesting list of papers on spirit and drug taking will follow. The popularity of the Society is evident from the fact that over twenty papers have been offered, many of which can only be read by title. The Society have projected a Temperance Lunch at the headquarters hotel following the same line as that presented before the British Medical Society for many years past. This will be an informal meeting and talk on the Alcoholic Problem by leading physicians, and will be an innovation and advanced step showing the increased interest in the subject. We shall be happy to put before our readers in the coming issues, results of this most important meeting.

New Measures for Treatment

The following from an editorial in *Modern Medicine*, is very suggestive. "The progress that has been made in physiologic therapeutics and the advantages of this method are well shown in its application to the treatment of fevers. Thirty years ago whiskey and quinine were almost the sole reliances in the treatment of typhoid fever. If these drugs were not available, nothing could be done but stand by and watch the battle between the patient and the disease. How different the physiologic

method! What could be more natural than the use of water for the relief of fever?—water in every form, water drinking, water by enema, water baths, spongings, packings, and compresses, water inside and outside to remove surplus heat and dissolve and carry away toxins, to arouse to activity narcotized nerve centers; a remedy which is practically always accessible, in no way dependent upon the drug store or the medicine chest, and within reach of the very poorest patients.

In convenience the natural and rational remedy vastly surpasses whiskey, quinine, antifebrin, antipyrin, and the whole list of drugs which have been lauded as antipyretics in the last twenty-five years. When we consider the effect produced, the contrast is still greater. Antipyretic drugs lower the temperature, but they also lower the patient as well. The thermometer indicates that the patient is better, but the sphygmomanometer shows he is worse, for with the fall of temperature there is a still greater fall of the blood pressure, and in all fevers blood pressure is abnormally low, while the temperature is abnormally high. Hence, the fall of blood-pressure is an indication, not of improvement, but of the very opposite, notwithstanding the temperature is lower. The effects of an antipyretic are, in other words, the effects of a toxic agent, not those of a curative measure.

How contrary the effects of water! By suitable applications of the Brand bath, the cooling pack, even the

sponge bath, copious water drinking, or the cooling enema, or any one of half a dozen other hydropathic measures, it is possible to accomplish at one and the same time the lessening of heat production and an increase of heat elimination, and this is accomplished by a natural means which aids the system in its efforts to right itself, instead of producing a mere toxic effect in which the bodily forces are paralyzed by a depressing agent, as when a medicinal antipyretic is employed. But a hydropathic application accomplishes something more. It is not merely a palliative measure by which symptoms may be controlled, but it proves itself to be a real curative agent by reinforcing the energies of the body, awakening the vital resistance, facilitating the poisoning and eliminative processes carried on by the liver, kidneys and other organs, and by energizing the heart and vessels raises the blood-pressure, thus overcoming dangerous stagnations, bringing new life and strength to the tissues, washing away paralyzing toxins and sending "the blood which heals" to every cell and fiber of the disease-invaded body.

Dr. Marcy speaking of Syc. Hypophos. Co, Fellows says:

"I have long employed phosphorus in various forms with much confidence, and considering your preparation very valuable as uniting in one compound the other essential tonics. I have used it in many diseases where a nervine tonic was indicated."

The Radiant Bath in Acute Stages of Inebriety

The powerful eliminative action of this bath is readily understood in the acute stages where the tissues are in a state of tension and paralysis. Recently it has been discovered that the action of certain drugs are greatly intensified by the use of the bath, strychnia becomes a more positive stimulant and narcotic when given directly after the bath. Its action is also a narcotic, quieting the tension and irritation, particularly the demand for spirits.

Small doses of apomorphia have also been found more sedative and relaxing in their action. In some way the bath seems to not only remove the toxins, but to put the system in a condition to be more easily effected by these and other drugs. That this is owing to the radiant light is evident from a comparison with hot air baths. Two patients, both in the toxic stage, one given a hot-air bath, the other a radiant light bath, then given strychnia and atropia. The one using the hot bath was very little influenced by the drug, the other was profoundly impressed by the drug and made a more rapid recovery. This is confirmed by the effects of other drugs which seem to have much more powerful influence when given immediately after the bath. It has also been observed that salines have a more powerful influence on the intestinal tract after the effects of the bath. In a certain number of persons, the static breeze is stimulating and cannot be used with satisfaction. It has been

noted that after the radiant light bath it has a peculiar sedative influence and it is now found to be more valuable given after the bath than at any other time. Insomnia is particularly influenced by the radiant light bath and a static breeze following. Sleep in all cases followed, in some instances several hours, in others a shorter time.

The irritations following the withdrawal of opium is overcome by the bath and the static breeze in all cases, and in some the effects are more or less permanent, in others it is a shorter duration. We shall refer to this subject again in the future, but so far there seems to be very marked effects from drugs and the electrical currents after the radiant light bath.

Physiological Action of Light

Dr. Morse declares that the light from the Leucodescent lamp increases the oxidizing power of the blood and thus facilitates tissue-metabolism. The hemoglobin of the blood gives off its oxygen less rapidly in the dark than in the light. There is not a disorder where there is a perversion of tissue metabolism where the light is lacking in efficiency. In every case of deficient or imperfect tissue change the light is most efficacious. The rays of light are analgesic, they oppose pain, they rest the nerve substance, they promote elimination of waste and oppose the formation of toxin.

Hydrophobia in Inebriety

The following cases are reported not because of their novelty, but as

indicating possibilities which are within the range of every practitioner. A man fifty-four years of age who had used spirits regularly for at least twenty-five years, during this time he had not been intoxicated, but had used a certain amount of spirits daily, pursuing his work with great regularity and never during this time had he been ill to the extent of going to bed, he was a mechanic and worked in the open air most of the time. From reading he became imprinted with the idea that water was the only rational remedy for all disease. He came to the hospital insisting that he should have no remedy but water, he was humored and given from two to four baths a day, both tub and shower, all spirits were removed and no drugs or any other means were used. His recovery was rapid without any depression or insomnia. The first two days he showed signs of nervousness, later this passed off, and with the exception of hypersensitiveness to heat and cold there seemed to be nothing abnormal. This was continued six weeks, the baths diminished, finally to one every day. He was discharged and six months afterwards reported as in excellent health and working regularly. The second case was that of a farmer who had used spirits at intervals to great excess for many years, having used a gold cure without success, determined to cure himself at home, by baths alone. He accordingly stopped all work and all use of spirits and began a continuous system of bathing, sometimes lying in the water for an hour at a time, then being rubbed by an attendant, then alternating with salt and soda baths, and

sleeping when exhausted. His family became alarmed at this most unusual course, and the physician was called in council. He confirmed the patient's view and advised him to take the baths all in the afternoon and evening and have a rest in the morning. Four weeks of this treatment was followed by complete restoration, the patient only claiming that he was weak and exhausted. He recovered from this and one year after was in good health and vigor. He continued the baths, but confined them to one or more at night.

The third case was that of a chronic inebriate who had taken many cures and relapsed each time. A man without business with a bad inheritance as a psychopath and paranoic. He had arterio sclerosis and heart, deranged liver, hypertrophied heart, deranged nutrition and was generally a pronounced invalid. His drinking had lasted at least twenty-five years, the longest free interval had been two years. At present the interval was about two weeks, he had become very susceptible to spirits and became intoxicated after the first or second glass. He recovered slowly and usually took many remedies to help him. He was impressed with the idea that water was the only remedy that would finally cure him and went to live at a seaside hotel where he could have baths, hot and cold in his room or go out to bathe in the ocean. He took with him a professional rubber and began with three or four baths a day, sleeping in the meantime, generally becoming exhausted from the bath, then waking up and taking another. This was followed up carefully for four

weeks, the baths being diminished to two a day and the operator remaining with him all the time. He drank large quantities of mineral water, took liquid diet and remained in bed when not bathing. He had determined to continue the treatment for two months and although opposed by his friends, he insisted on carrying out this system. There was nothing unusual in the symptoms, except loss of weight and hypersensitive conditions of the skin. The end of two months he returned home, the symptoms being diminished every other day and since then has entirely abstained from all kinds of spirits. He is healthy, has improved in digestion, but otherwise seems to be in fair health. These three cases suggest possibilities that might in many instances result in permanent cure and are worthy attention and recognition by all physicians.

Literation in the Treatment of Tuberculosis

Recently muscular vibration has been found to be of great value in the treatment of spirit and drug takers. The following very interesting summary of the rational of the treatment will do much to clear away the present confusion of the subject. Dr. J. H. Pechinier makes the following very suggestive statements. The fundamental idea of the so-called osteopathic manipulations is to preserve the fountain head of all energy. With them all disease is supposed to be due to faulty osseous association, the vertebra and other bones are displaced and cause pressure on the vessels and

nerves and this is followed by pain and disease. From this they reason that pathology or disease is only secondary to the spine and its relations to the nerve and vessels associated with it. The means for correcting this is vibratory stimulation by manipulation, pressure and stimulation. Such efforts are not infrequently followed by most excellent results, but the rational is entirely overlooked and by no means does it depend on the faulty relation of the bones. The pathological conditions are due to changes in the central nervous system, often over-nutrition and under-nutrition, or perverted nutrition, followed by changes in the soft or hard tissues surrounding them. There can be no doubt that the principle of disease is some local or general disturbance of the blood is changed and its rhythmic uniformity is altered. It is increased or decreased in parts of the body, or throughout the whole system. The sympathetic nervous system is practically an auditing office for the commissary department of the organism. It controls the supplies furnished to different parts of the body. The sympathetic ganglia represents headquarters for the distribution of proper nutrition to all parts. From this point there are ten smaller nerve centres known as the phrenic, celiac, gastric hepatic, splenic, suprarenal, renal, superior mesenteric, inferior mesenteric and spermatic plexus, these are all nerves whose names suggest the part they supply. Now direct stimulation to any of these centres is followed by increased nutrition, increased activity and increased vigor. Maintenance of

any of these centres and their termination is followed by impairment of activity, nutrition and function. Vibration is a form of interrupted pressure which may be mild and short in duration or powerful and deep in force, but in all instances its effect is to increase the normal activity and harmonious workings of the metabolism and the circulation through the arteries and capillaries. The parts may be overstimulated from various causes and a firm pressure from external sources be followed with a sedative action. The nerves first are stimulated to greater activity and from them the circulation received some force and direction which it did not possess before. The waste products are thrown off by this increased circulation. This form of treatment is theoretically and practically in accord with the recent pathological conclusions of disease. Hand massage is always followed by excellent results and is literally the same thing with the intelligence of the operator to determine its duration and direction. Mechanical vibration is the same thing under the direction of the manipulator, and is really one of the great remedies which should be used in all treatment of drug neuroses.

A Study of the Blood Tension in Intubercy

Arterio-sclerosis is a condition very common in spirit and drug neuroses. It is practically a fracture of the elastic fibers of the walls of the vessels, also a stretching and loss of power of elasticity to contract and expand. When the arteries are dilated by the force of

the blood current the lymph is driven out of the sheath of the walls, and when contraction occurs it flows back again with increased volume. When this is regular and uniform the walls of the arteries are in health and well nourished, but when the blood is driven with great violence or the opposite two conditions follow which tend to destroy the integrity of the mechanism. One produces apoplexy, the other is followed by degeneration. A register of the uniformity of the current and its force and weakness is very essential to determine the nutrition as well as the functional activity of the capillary circulation. In all tubercles and drug takers the tension is abnormal with a Riva-Rocci sphygmomanometer, the register is always from 20 to 50 and 100 above the normal. Different observers agree that in all persons under 40 the register of the blood pressure should be below 100, from that to 60 it would normally rise to or 15 more, but when the pressure is registered above that it indicates an abnormal tension and feebleness of the arterial coats, liable to hemorrhage.

The action of spirits, producing vaso-motor palsies, always raises the tension and degenerative changes follow. In most cases they become organic. The removal of alcohol and the restoration of the nutrition followed by the use of baths and mercurials always results in diminished pressure. Often a change of diet is marked by a greatly diminished tension. High proportion of proteids may be the cause of high tension. This is proven by the fall-

ing of the tension on the change of diet. The derangement of the blood current and the capillary circulation so common in spirit drinkers and so apparent in the changes noted in the face and men's membrane of the mouth and throat as well as surface of the body falls most heavily on the arteries and capillaries. In the treatment this must be recognized. Drugs which lower the blood pressure are always indicated. The potash salts are very valuable. Charged waters containing alkalines and potassium salts, elimination and change of diet have also a marked influence on the capillary circulation. These clinical facts confirm the studies of the laboratory and prove that physiological treatment addressed to nutrition and capillary circulation is not only rational, but eminently scientific. The study of the tension is far more practical and significant than other of the functional activities of the body and abnormal tension that continues for a long time is always suggestive of danger, and the experience proves it. Hence the sphygmomanometer should be studied and is an indispensable instrument in every office, particularly for the study of spirit and drug takers.

Electricity in Acute Gastritis

Spirit and drug takers often suffer from acute gastritis. This may be due to direct irritation and inflammation or to reflex neurosis and is often intractable resisting all remedies and eventually subsiding, having run a certain course. Dr. Jaethner, in a paper before the American Electro

Therapeutic Association at Philadelphia, called attention to the value of electricity, particularly the high frequency currents as having a decided quieting effect over the irritation of this organ. He concludes that electricity associated with other local measures is of very great value, and that the general treatment of the patient, particularly elimination of the toxins, makes it possible to secure the very best results from the use of the static breeze or the galvanic current. A very large number of the disorders of the stomach and bowels following spirit and drug taking, can be successfully treated by this means. The incandescent light bath given every other day or every day seems to increase the value of the static sparks and diminish the irritation. In the acute stages of this condition, no foods or fluids should be given, a large flat electrode may be placed over the stomach or on the back, the other applied to the feet or distant part of the body and the current turned on, for a few moments at a time. Occasionally a soft rubber tube is introduced into the stomach, through which a copper wire extends, the stomach being filled with warm water, a current is transmitted down this wire direct to the inflamed parts, the other pole being placed on the back or feet. The patient may be placed in a hot water bath and the current passed from one to the other by means of electrodes, this is sometimes very efficacious. The concentrated light from a incandescent lamp placed over the stomach is also very valuable. Mechanical vibration in

other parts of the body seems to add materially to the value of these means. In most cases following spirit and drug taking, the irritation of the stomach is reflex, hence general electricalization is most practical. Its local application over the stomach alternately with that of its general action is very useful. This subject deserves more extended study, and we hope our readers will take it up in the near future.

Phototherapy in Indebriety

Light remedies vary according to the quality of the light and its force and energy. The radiant light in form of a bath has found to have a distinct effect on the tissue cells. Dr. Snow says that radiant heat is a different force from dry or moist hot air. In the latter the molecules of the atmosphere are in violent action without direction. In the former, there is penetration and direction, and its effect is anodine and analgesic opposed to pain. It gives the effect of morphine without the disagreeable after effect of the narcotic. The light it emits has a strong influence on metabolism. Where the radiant light is combined with the yellow and green rays, most favorable influences increased, both in number and quality. Malnutrition is checked and an increase of leucocytosis is marked.

With the combined light and radiant bath, marked relaxation of the muscular tissue occurs, and dilatation of the smaller blood vessels and capillaries in the periphery are noted. Elimination is increased by the

stimulation of the emunctories and increased absorption is noticed. A number of very remarkable effects follow which are not clearly understood. It is asserted that the luminous rays of the light exert a very powerful nutritional influence. It is evident that the radiant light bath has some particular power from the light rays to overcome fatigue, diminish nerve excitement, and beyond its eliminative powers, it promises a great deal in the poisons and conjunctions from spirit and drug neurosis. Some experiments are now being made, and the prospect is, that its curative action will exceed anything that we know of at present.

Psycho-Therapy

Dr. Barker of Johns Hopkins University, gives some very suggestive experience on the use of simple methods of Psycho-Therapy. Eighty cases were treated in the hospital by suggestion, hypnotic influence, medication and isolation. One great point was to produce a species of re-education, meaning by this to train the patient's mind away from the present conditions. The results were so satisfactory as to suggest the further use of means along these lines. The neurotics were particularly benefited and their morbid symptoms were driven away for the time.

He showed clearly that it was possible for every physician to use these means with far more facilities and success than the quacks, but that it required time and attention. The spirit and drug takers are extremely

susceptible to psychic influence presented by stolidly trained physicians, and in a quiet, unobtrusive way. The commonly observed fact that certain inebriates are unable to resist the invitation to drink in the company of certain persons, indicates a psychic influence which could be used to repel the idea of drinking. If the patient is told that he is to be hypnotized for the purpose of creating a disgust for drink, the effect will be negative, but if suggestion and hypnotic influence is used unconsciously its great service will be apparent.

Dr. Finkelpearl concludes a very interesting article on the electric light

in the treatment of disease as follows:

First, I have found the radiant heat more penetrating and consequently draining the water from the deeper tissues much better than in any other form of heat. Second, patients who cannot stand a high temperature will respire at a much lower temperature than the electric light is the source of heat. Third, patients will tolerate a higher degree and longer exposure to radiant light than any other form. Fourth, it may be given with perfect impunity to persons having weak hearts and other disease. To this we will add that this is the most powerful agent for elimination and stimulation in all spirit and drug neurotics.

ABSTRACTS

The Use of Alcohol in Pneumonia
Prof. S. S. Burt, of the New York Post Graduate Medical School, in a recent lecture has this to say on this much disputed subject:

The integrity of the heart is best conserved in the end by not goading it from the beginning with stimulants simply because the patient has pneumonia. The stronger preparations of alcohol, such as brandy, are seldom needed in this affection, even as sedatives and depressants, which they are in fact, instead of stimulants. It is now pretty well established that alcohol produces little, if any, real stimulation. A popular belief prevails that alcohol increases muscular and nervous energy, whereas it simply benumbs the nerve and impairs muscular coordination. Patients with a previous

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influence of alcohol, became more subject to the harmful effects of several microbes, such as the bacterium coli, the streptococci and the staphylococci. Subsequently, Laitinen performed numerous experiments of a like nature and with similar results. For example, sundry rabbits were given alcohol for several days in succession and then each was injected through the skin with a small dose of the first vaccine of anthrax. Six of these so treated died after a more or less extended illness, and they all were found to have anthrax bacilli in their blood and organs; whereas of four control rabbits which received this same vaccine and no alcohol, but one died, the other three remained in perfect health. It is thought by some observers, however, that a single dose of alcohol by the mouth or hypodermically will increase the quantity of the antibodies and temporarily the bacteriolytic power of the blood. Still, in spite of this, alcohol ultimately has a harmful action on the phagocytes, which are the chief means of defence against infective microbes, as well as upon the nerves and the rest of the tissues, and should not be used to any great extent in the treatment of infectious diseases, and especially in pneumonia. Possibly the one exception to this rule may be a case of chronic alcoholism. Rutney Yeo says that the routine giving of alcohol in pneumonia, especially in the early stage, with the idea of preventing cardiac failure later, in his opinion, is a serious error. "Alcohol," he also says, "produces vaso-motor

paralysis and causes dilatation of the vessels, and it must therefore aggravate or induce tendencies to vascular engorgement." Hay's account of the influence of alcohol on the circulation, quoted from a report by Prof. Sherrington, is as follows: "Its primary action is on the mucus membrane of the mouth, esophagus and stomach, and in virtue of this action it undoubtedly acts reflexly as a cardiac stimulant."
"This stimulation is neither prolonged nor powerful. After the absorption alcohol exerts a specific action, dilating the peripheral blood vessels and lowering the blood pressure, thus tending to empty the arteries and to fill the veins. On the heart itself, directly, alcohol seems to have no effect at all; in large doses it enfeebls it." Also Hay says: "Alcohol has a tonic effect upon the protoplasm of the muscles of the heart in addition to that of the pyrexia and toxemia." In conclusion, he remarks: "The total action of alcohol on the heart being depressant it is futile to give it in cases of commencing cardiac failure with the idea that you are combating that failure by giving a specific cardiac stimulant."

* * * *Febriety and Intoxication*

Among the many public evils of modern life demanding the attention of physicians and legislators alike, few are of such far-reaching importance to the welfare of the race as the growing habit of indulgence in alcoholic liquors by young married women. If the root be corrupt there is little chance of the fruit ever attain-

ing to perdition, and, similarly, if the constitution of the unborn babe or the tender nursing be undermined through the intemperance of the mother, it can hardly be expected to arrive to complete physical or mental maturity. If inebriety be so widely spread, especially among the working class population of the great cities, as it is believed to be, another influence is at work which cannot promote anything but degeneration, physical and mental, in the offspring. The practice of giving alcohol to women in childhood in the shape of sin and brandy appears to be on the increase, and it is not an uncommon thing for a woman who has reformed during her stay in a retreat to relapse entirely into her old ways after the birth of another child. Not content with taking stimulants themselves, these women seek to cure the various minor infantile ailments with drops of spirits, so that their unfortunate children become almost literally "gin-soaked." Can it be wondered, therefore, that if their lives be spared at all, such infants grow up unstable in mind and body, bearing in them the seeds of the mother's vice in the shape of some physical or moral malformation or perversion only to be perpetuated in a more aggravated form through a third generation? The opinion of experts on the subject goes to show that when alcoholism becomes hereditary the whole family is doomed, neuroses appearing in the second generation, epilepsy and other forms of mental instability in the third, actual imbecility and infatuate extinction in the fourth. Apart from the effects upon the mind there is the increased predisposition to

tuberculosis and certain diseases of the nervous system, combined with the tendency towards physical deterioration. As to the causes which lead women to so indulge, illness and grief seem to take the first place throughout the opposite poles of society. The richer classes, or that section of them which have nothing to do, find amusement in giving way to secret drinking, and even frequent private counters of innocent-looking confidence shops for the purpose of indulging in alcoholic beverages. At the other extremity of the society scale it is sometimes little to be wondered at when one thinks of the misery and want endured by the poor, that a sure if temporary solace is found in the spirit bottle. They do not intend to wilfully injure their little ones, such a thought probably never crosses their minds, they simply live for the immediate present, and any wrongs inflicted upon their offspring are done in selfishness and ignorance in the vast majority of instances. When the supply of alcohol is prohibited altogether, as in jail, it is then noted that when a child is born in prison it usually presents a better physique than the remaining members of the family. The whole subject of inebriety among young married women, and indeed in the female sex generally, is one which is difficult to handle, whether from the aspects of the physician or the legislator, and it is more likely that reforms in this direction will be effected by individual advice proffered by tactful and not too obstructive visitors, medical or otherwise, who will take the trouble to go into the homes of the

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people, than by any systematic legal restrictions. The peril of inebriety in maternity is a real one, and like other dangers which menace the public health, must be boldly faced.—*The Medical Press.*

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Pneumonia Treated Without Alcohol
Dr. J. H. Kellogg, of Battle Creek, Mich., in an editorial in the *Good Health*, writes as follows:

Thirty years ago eminent physicians urged upon their students the use of alcohol, even in enormous doses, in pneumonia, typhoid fever, and other febrile disorders when ever it was thought necessary to sustain the heart. The folly of this practise in pneumonia was early pointed out by Graves, and at the present time, the best hospital practise, both in this country and Europe, discards alcohol altogether in pneumonia.

The overworked heart in pneumonia requires not an agent which will still further weaken its force and waste its energy, as alcohol has been clearly shown to do, but something which will actually energize its weakened muscle while lessening the work required of it.

The effect of alcohol in raising venous pressure, tending to dilate the heart, is in the highest degree calculated to do inestimable damage in pneumonia. The great fatality of pneumonia in men accustomed to the use of alcohol is well known. By a discontinuance of the use of alcohol its mortality has been reduced from 30 per cent. to 8 or 10 per cent., and even less. In more than one hundred cases of pneumonia in the prac-

use of the writer and his colleagues in which no alcohol was used, the mortality has been but 6 per cent. If the pulse is weak, alcohol is certainly not needed, for the only effect can be to weaken it still further. In the cases in which alcohol is prescribed, the blood pressure is already too low; but, as we have seen, alcohol invariably diminishes blood pressure, and never raises it, hence there can be no indication in such a case for this agent. The cold precordial compress, hot and heating compresses to the lower extremities, the chest pack, and other hydrant measures, afford most excellent, convenient and efficient means whereby blood pressure may be raised or lowered at will, and the heart energized, its work diminished, pulmonary congestion lessened, and every other indication in pneumonia perfectly met.

It must not be forgotten that in pneumonia the issue depends entirely upon leucocytosis (transient increase in the number of white corpuscles in the blood.) How carefully the up-to-date physician watches the blood count from day to day. As he sees the leucocytosis rising from the normal 7,500 to 30,000, 50,000, perhaps even 100,000 or more, he knows that the body is raving its forces to battle with the invading microbes, and that, if the battle can be maintained for a sufficient length of time, the victory will be won. By what possible argument can it be made to appear rational to administer an agent whereby leucocytosis is hindered, the development of alexins and anti-

toxins prevented, when it is only through the operation of these marvelous functions that there is any hope for success in the battle between the vital organism and the death-dealing enemies invading it?

There can be no doubt, as has been asserted by an eminent English authority, James Barr, M.D., F.R.C.P., F.R.S., that "alcohol diminishes the power of the cardiac muscle." This being true, this drug would seem to have no place in the therapeutics of a disease in which everything depends upon the maintenance of cardiac energy.

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Reasoning Inebriate

The following case appears in the *Dietetic and Hygienic Gazette*, and while by no means uncommon is always of great interest and a subject of controversy in certain circles:

We have had under observation for several years a cultured and highly intellectual gentleman who possesses characteristics which would indicate a dual personality. For instance, he realizes perfectly well that alcoholic beverages in even small amounts very seriously disturb him both mentally and physically. If he indulges in but a small amount of whiskey he will suffer from gastric disturbances, with an insatiable thirst which no amount of water will appease.

His meals will remain undigested,

he will have gastric fermentation with accompanying dilatation, from all of which symptoms he will not entirely recover short of from eight to twelve hours. This experience has been so often met with that he fully realizes what an indulgence will lead to. He is greatly self-condemnatory when he partakes, vowing with each experience that he "will never again suffer himself to drink the villainous stuff," and yet he lapses very frequently, stating that he cannot resist. He never becomes intoxicated, but frequently passes through this same experience, explaining his erratic conduct by stating that an impelling and irresistible something in his make-up forces him to again indulge. This other personality will not be controlled, notwithstanding that he makes strenuous efforts to resist.

He declares that this other self takes possession of his will, and that his normal or usual self is at such times in complete subjection. Some of our friends will doubtless declare this a psychosis, others that the trouble is an hereditary alcoholic character. We have not been able to confirm through searching inquiries into family history that this gentleman is of a hereditary taint. Nor does the indulgence in alcoholic come from liking or from the effects; the taste is not agreeable, while the unpleasant effects have been detailed above.

REVIEWS

Paraffin in Surgery.—A critical and clinical study by *Wm. H. Lockett, M.D., Attending Surgeon, Harlem Hospital, Surgeon to the Mt. Sinai Hospital, Surgeon of New York and Frank L. Home, M.D., Formerly Assistant Surgeon, Mt. Sinai Hospital Dispensary.* Surgery Publishing Co., N. Y., \$2.00.

In this work is presented the chemistry of paraffin and its value as an aid to surgery. To the reader it is novel and very startling and shows how much can be done along mechanical lines not recognized before. The general practitioner and specialist will find much of interest and value in this brochure and we commend it most heartily to all our readers.

* * *

Plaster of Paris and How to Use It.—By *Martin W. Ware, M.D., Adjunct Attending Surgeon, Mt. Sinai Hospital, Surgeon to the Good Samaritan Dispensary; Instructor in Surgery, N. Y. Post Graduate Medical School.* Surgery Publishing Co., N. Y., \$1.00.

How to use plaster of paris not only in surgery but in many other ways in medicine is described in a very clear practical way, and illustrated so that its value can be clearly seen. Books like this and the one on plaster of paris are very welcome because they present practical facts in an explicit, most practical way, so that the reader is saved the weariness of long accounts. The

Surgery Publishing Co. are certainly meeting a demand of profession in books of this kind.

Man and His Poisons.—A practical Exposition of The Causes, Symptoms and Treatment of Self-Poisoning. By *Albert Abrams, A.M., M.D., Professor of Pathology at Cooper Medical College, San Francisco, Cal., etc. New York: E. B. Treat & Co.*

This book of less than three hundred pages contains a variety of facts of the greatest practical interest, facts that are not accessible and are certainly not put in such a graphic way in larger works. Some idea of its scope can be had from the titles of the chapters. The second chapter, Man and His Poisons, and the third chapter, On Fatigue, are very clear statements of theories that are discussed very largely and are practically unknown. The chemistry and physics of thought and the symptoms of self-poisoning are chapters of great interest. The psychology of living in relation to the prevention and cure of self-poisoning should be read by every person in the practice of medicine.

The mental dyspeptic and the influence of mind upon the body is another chapter so well stated and impressive on the reader that it cannot be forgotten. The style is a happy combination of semi-scientific statements grouped in a form to be readily seen, and as a contribution to psychological therapy it is one of the best books that has been

published, giving the reader a general idea of this new field of practice. The first chapter on Life will probably be new in its grouping to the average reader, and at all events it suggests the great unknown into which many persons are pressing. We welcome this little book as a great assistance in all psychic therapeutic studies and hope the author will continue his writings in this direction, and we trust our readers will make this book a part of their libraries as bringing new facts in an attractive dress. The publishers have issued a fine volume.

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Medical Electricity.—By H. Lewis Jones, M.D. (H. Lewis, London, Eng.). Price 5s.00.

This work, which is one of the very few reliable, scientific treatises on electrotherapy, is in its fourth edition, and we hope to see it run through many more. The volume is well and plentifully illustrated, and we hasten to commend it to every conscientious student of electrotherapy. There is no padding and we have failed to detect one single erroneous statement in the whole volume.

Among the particularly valuable sections are those relating to the history of electrotherapeutics, the elucidation of the modes of electrical generation, application and control, including descriptions of the apparatus involved, the construction of meters, and static machines. One is particularly struck by the vast superiority of the American static machine over the instruments made in

Europe, both as regards efficiency and convenience.

Not much is said about Roentgen rays, but, as the author does not claim to treat this subject in anything but a very cursory way, this does not impair the good opinion which the work deserves as a whole. As its name indicates it is a work on medical electricity.

The section on high frequency currents is one of the most satisfactory discussions of this subject which has thus far been published.

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Alcohol.—*The Suggestion For Its Use. Scientifically Established and Popularly Expounded. Translated from the German of Dr. J. Starke.* G. P. Putnam's Sons, New York. *The Knickerbocker Press.*

On page 22 the author tells us that he has a "practical use and knowledge of all sorts of alcoholic drinks" and hence he knows all about them. This statement is confirmed on almost every page of the work. The author starts out in the first few pages with an epitome of the conclusions and object of the book and after reading these it seems unnecessary to go farther. The oft-repeated story of Brocher Jasper, that "The Sun he do move" and "The earth, he do stand still" describes the position of the author and the object of the work. The author calls himself a rational physiologist, but the extraordinary conclusions, dogmatic assertions and special pleas in defence of alcohol as a beverage sound more like a paid partisan or advocate for beer and spirit manufacturers. Perhaps after all the author is a humorist and fol-

lows Mark Twain's plan of the most extravagant defence that could possibly be made and looks out upon the effect of such a work with keen humor and pleasure. At all events the reader is in doubt whether to take the work seriously or not.

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Modern Physio-Therapy. *A System of Drugless Therapeutic Methods. Including a Chapter on X-Ray Diagnosis.* By Otto Juethner, M.D., M.D. Horeweg Publishing Co., Cincinnati, Ohio.

We take great pleasure in calling attention to this admirable work covering the entire field of physio-therapy which we have embodied as a part of the studies of drink and drug neurosis. The author is evidently a thorough student and familiar with the vast realm of facts that have come into notice within a few years. This volume is a pioneer effort to organize these facts into the Realm of Science and point out their availability to the practitioner. The work contains 500 pages and is divided into 11 chapters covering the following subjects:

—The Philosophy of Physiological Therapeutics. Personal Hygiene. Dietetics. Physiological effects of heat and cold. Nechano-therapy. Force and Foremodalities. Therapy of Light. Elements of Electro-physic and Electro-Mechanics. Therapeutic uses of Galvanic, Faradic, Static, and High-Frequency Currents. X-Ray Diagnosis, Principles and Practice of X-Ray Therapy. In the second part the author has grouped a great variety of diseases with some directions concerning the treatment. This will be

considered by most readers the best part of the work. We have unmarked many passages for quotation in future numbers. This is one of the few books which the specialist must have and particularly the student in institutional work. The rapid sale of the book is evidence of its value. The author has stamped his personal geniality on nearly every page and although the style is somewhat diffuse it is always interesting and readable. We shall call attention to this book again in future issues of the Journal.

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Alcoholism.—*A Chapter in Social Pathology.* By W. C. Sullivan, M.D., Medical Officer in H. M. Prison; Pp. 214. London: James Nesbit & Co. 1906.

Dr. Sullivan has written many excellent papers on the alcoholic problem, and is a student and writer of great clearness and accuracy. In this book he takes up a separate phase of the subject and gives a general summary of the facts from a different point of view. After an excellent historical review of the evolution of the drink problem, he condenses a very conservative, fair presentation of the present knowledge of the physiological action of alcohol on the body. This is admirable in its scientific exactness. Then he takes up drunkenness and chronic alcoholism; then the social causes of intemperance, industrial drinking, factors of industrial drinking, social effects of alcoholism, alcohol and suicide, alcoholism and crime, alcoholism and insanity, alcoholism and human degeneration; and finally follows some conclusions.

The last two chapters, alcoholism and insanity and human degeneration, are the clearest and best contributions of the book and deserve a very careful study. The chapters on industrial drinking and the tables given to bear out this distinction are not very clear to students on this side of the water and certainly have a very minor place among the causes and conditions seen here. In the chapter on alcohol and crime the author is very much at home and presents some very significant facts. The book as a whole is an admirable study and brings out very clearly many wider views and clearer conceptions of the problems we are struggling with. The

The Drug Treatment of Inebriety. Dr. Gordon of London in a paper before the Society for the Study of Inebriety discusses this subject at some length, making many pertinent suggestions. We give the following extracts, which give a general idea of the value of the paper. The author discusses the drug cures in general and concludes that they are not reliable and of little value unless associated with other physiological means. The claims of secret cures are considered unworthy of attention, although in some instances they may be harmless, yet administered without special medical training and knowledge of the person might be very dangerous. All inquiries con-

cerning these cures show that they are about the same, all having strychnine atrophy as their base. The use of alcohol after a time destroys the metabolism of the body, leaving it imperfectly nourished, and the brain shows this defect in the loss of power of concentration and activity. In most instances defects of the senses and delusions are common, often they are concealed. Mention is made of the different drugs that are favorites with certain physicians; these drugs have practically the same effect and the art of sobering a man is a very simple one, as most cases will recover without treatment. The gastritis, dyspepsia, anorexia, insomnia and other distressing symptoms can be overcome readily by baths and rest. This is a very small part of the treatment; paying large sums of money for the first three or four weeks and calling this treatment or restoration is a misnomer. There can be no restoration of the disordered brain cells and the debilitated nerve forces in that short time; it is hardly possible to do more than to eliminate the toxins and set up a degree of restoration which requires months to perfect.

First Biennial Report of the State Hospital for Inebriates at Knoxville, Tenn.

In a period of six months this hospital received three hundred and ten patients, the majority of whom were inebriates. Three were opium takers, two used cocaine and three were users of both morphine and cocaine. Most of the inmates were received profoundly intoxicated. Twenty-six were suffering from delirium tremens and in two admissions the mental disturbance was so severe that they were sent to an insane asylum. Fifty-seven of this number have been permitted to go out on parole. This report gives extensive statistical tables which in the course of years will be valuable. The form of using alcohol is interesting, showing two hundred and twenty drinkers and ninety constraint drinkers. The physical condition at the time of admission is a very interesting table, but should be compared with the physical condition two months after the beginning of treatment to be of any special value. The treatment before commitment is a very interesting table, fifty-five of the inmates had been treated at the Keeley cures and about the same number had taken treatment at other places. The forms of home treatment which were stated to have been used is a very curious table and suggests the number of specimens on the market, some of which are practically unknown, other tables are very interesting. This first report is a very promising statement of the beginning of a very great work which the State should promote in every possible way.

The Superintendent, Dr. Osborne should have the warmest support by the State authorities to work out this problem in every way possible.

Test Under Statute as to Prescribing of Narcotics

The Court of Criminal Appeals of Texas holds insufficient, in Blair vs. State, an indictment of a physician which was framed under section 2, page 45, of the Acts of the Twentieth Legislature of that State which prohibits certain parties from prescribing morphine and other narcotic drugs, under the provisions of said section with the following proviso: "Provided, however, that the provisions of this section shall not be construed to prevent any lawfully authorized practitioner of medicine from prescribing in good faith for the use of any habitual user of narcotic drugs, such substance as he may deem necessary for the treatment of such habit." In order to bring the physician within the terms of this law, the court says, the indictment must allege such facts as make him amenable, and if he comes within the terms of the proviso, he has not violated the statute. Those

who are brought within the proviso are not within the terms of the inhibition because excepted from the punishable provisions of the act. In order to bring a party within the provisions of this act it should be alleged not only that he did not prescribe it (here morphine) in good faith for the use of the person charged, but that he did not deem it necessary for the treatment of such habit. The good or bad faith is not the criterion. It is the good faith on the part of the physician prescribing the medicine or substance as he may deem necessary for the treatment of such habit. It is the prescription for morphine was deemed necessary for the treatment of the habit of the person, then the physician is not within the purview of the statute, and is exempt by the terms of law. The mere fact that he may or may not have given it in good faith is not sufficient. The good faith is measured by what the party prescribing deems necessary for the treatment of the habit. If the morphine was necessary for the treatment of the habit, the giving of it was not violative of the statute.

Tobacco Lung

It is generally conceded that tobacco is a heart poison, but it is no less true that it is also a lung poison, hence there is a "tobacco lung" as much as there is a "tobacco heart." The primary action of tobacco is on the nervous system, and it is capable of bringing about the most profound narcotism. A large proportion of consumptive cases that come under the observa-

tion of a physician in this city, have from cigar factories, and in which a cough of the most persistent and stubborn type prevails as a very prominent factor. That this agent plays an important role in the causation of lung disorders is shown by the fact that many victims of this kind improve rapidly after relinquishing tobacco work and become worse after returning to it. In his by individuals chewing or smoking irritates the throat, larynx and bronchial tubes and causes a dry disagreeable hacking cough without much or any expectoration. It is very obvious that cigarettes are more poisonous than pure tobacco itself since the paper in which the latter is rolled is methiculated, says Dr. Marx in *The Detroit Gazette*.

Alcoholism in Navies

A report has been prepared by Medical Inspector Lovering of the United States Navy showing that in the last three years there were 753 cases of alcoholism or 251 a year, for an average force of 36,347 men this is nearly 7 per 1,000 men. In the English Navy in the last three years were 251 admissions for alcoholism, an average of 84 a year, in a force of 104,000 men.

In the German Navy there was 16 cases of alcoholism in three and a half years, or less than five a year in a force of 21,000. These figures show that there are nearly ten times as many admissions for alcoholism in the United States Navy as in the English Navy and nearly fifty times as many as in the German Navy.

Alcohol and Nerve Degeneration
Prof. Sims Woodhead, who says: "Alcohol plays a prominent part in bringing about degeneration of nerves, muscles, and epithelial cells; it determines the accumulation of waste products in the tissues by paralyzing the tissue cells; . . . it interferes with the production of immunity against specific infective diseases."

Alcohol and Cancer

The second predisposing cause of cancer that I would mention, says Dr. Reubing, is the habitual use of the various forms of alcohol as an article of diet. No one can deny the enormous amount of evil that is done to the individual who partakes of alcohol and also to the community as a whole from its use as an intoxicant. But there is a more insidious and more dangerous effect on the tissues of the body from smaller quantities of alcoholic drinks (when taken regularly) than is generally recognized. The diuretic forms of alcohol enter into the blood and thence circulate through every tissue and organ of the body.

What is the effect of this? The alcohol, by powerful affinity for the water of the tissues, dehydrates and prematurely hardens them; not only this, but alcohol is a retarder of waste in the body. In other words, it diminishes the metamorphosis of tissues; it hinders the separation from the tissues of the body of those effete and waste products which should be eliminated. These waste and waste matters are retained in the body, and tissue hardening and degeneration of organs are the re-

sults. If we may use the simile, the fuel is ready for a spark to kindle it, and if we have a local irritation, and injury or necrosis of the living tissue, a malignant or other neoplasm may result. These remarks do not apply to the drunkard; we all know what his fate will be. Many persons live daily under the influence and die from the effects of alcoholic drinks who are never suspected during their lives (except by their physicians) to have used them. The daily use of meals of various "bitters," etc., is essentially nothing more than a thinly disguised tipping under the form of medication, and produces dire effects in the course of time, especially when at the same time little or no bodily exercise is taken.

The Saloon as a Business Factor

Ex-Governor Larrabee, of Iowa, says: "I used to think years ago that so long as I left the saloons alone they would leave me alone. But I was engaged in business for twenty years, during which I permitted several thousands of dollars' worth of accounts to accumulate on my books. When I sold out and attempted to collect these that were worthless, and that nine-tenths of my debtors would not have been so had it not been that they had been spending their money for strong drink while I was keeping their families in provisions."

"It was therefore apparent that, as a matter of fact, I had been the greatest patron of the saloons in our community. I had readily contrib-

ated more to the saloonkeeper than any other person in town. All of us, no matter how temperate we are, will some day find that we are directly concerned in the saloon traffic."

Alcoholic Impulses

The tendency to an alcoholic impulse is not transmitted to all children of drinking parents, but may take on some form of nervous disease. Thus hay fever, sick headache, neuralgia, hysteria, nervous dyspepsia, hypersensitiveness to surroundings, feeble vitality, all follow from drinking parents. This in the next generation may be a veritable alcoholic impulse.

Alcivis Cordatidis represents one of our most reliable indigenous agents for uterine ailments. Reports of its efficacy in numerous cases of amenorrhea, dysmenorrhea and menorrhagia affirm its value in the treatment of these cases.

Causes for Drunkenness

Most drunkards have ab initio a lessened power of inhibition, with an insibility of brain working. Commonly, too, says Dr. Clouston, they have a hereditary tendency towards nervous instability. It by no means follows that the heredity is a direct one in regard to drunkenness. It is quite as often a heredity towards mental disease, epilepsy, or some form of nervous disease. Even a heredity towards general "nervousness" may act as a predisposing cause towards drunkenness. Two great facts out of many show the

diseased character of most drunkards. One is, that nine-tenths of the cases of uncontrollable inebriety, or dipsomania, occur in the developmental stages of the human life between fifteen and twenty-five, which is the period when most nervous diseases appear. The other is that the majority of the cases are periodic in character, thereby showing the relationship between the condition and most neuroses. When the mental state of the drunkard is carefully analyzed and the history of his weakness gone into from the beginning, it is found that there is in very many cases, a certain amount of mental depression which precedes and tends to over-indulgence in alcohol. In some other cases there is a morbid excitement which acts in the same way. In other cases there is what can scarcely be described as mental depression, but as a conscious want of the power of action, and an "anergic" condition of mind which leads the sufferer to take to artificial stimulants like alcohol. Then, there is undoubtedly such a psychological fact as an undue and very intense pleasure caused by alcohol in certain brains, a pleasure the desire for which is so overwhelming that even an ordinary average amount of inhibition is not able to control it.

Murder Statistics in England and Wales

Hales

Sir John McDonald, master of the Supreme Court, has given some interesting criminal statistics of the crime of murder in England and Wales. He makes a study of per-

sons sentenced to death from 1886 to 1905, 552 in all; 488 males and 64 females. In a table it appears that the largest number of persons sentenced in these years was in 1903 and 1896. In 1903 the largest number of persons were executed. There seems to be some difference between the persons sentenced and the number executed. One hundred and twenty-two persons sentenced to death escaped, and 102 were executed. The vast majority of persons murdered were women, nearly three to one.

The crime for murder among women was largely child murder. The great majority of the murderers were committed by persons between 20 and 40. One hundred and eighty were from 20 to 30, and 141 from 30 to 40. His analysis of the causes of murder places jealousy and intrigue at 92, and drink at 90, the other causes mentioned, such as rage, revenge, poverty, robbery, are so insignificant as to suggest a very imperfect study, probably the data was not to be had. Most of these crimes were committed on Saturday, and among the working people of the manufacturing towns, mining districts and seaports. The author declared that drunkenness is no doubt the cause of many of these crimes, and is the accomplishment of others, but he seems to be cautious about the correspondence between crime and drunkenness although he acknowledges that under the head of delicacy and intrigue, both beer and spirits are very large factors in the actual commission of the crime. If this study had extended to the mental condition of these persons, undoubtedly the use of beer and spirits

would have indicated degrees of insanity and mental states directly due to spirits.

Alcoholism and Microbial Invasion

The prolonged abuse of alcohol lowers the defences of the body against microbial invasion. (Metchnikoff has shown that alcohol produces a diminution of the phagocytes); and the poisonous effects of alcohol are the result partially of the alcohol entering the system, but also to toxins absorbed from the alimentary canal owing to the devitalising effect of the alcohol on the mucus membrane of the stomach and intestines, causing chronic catarrh, failure of the action of the stomach, especially if there exists rotten teeth and pyorrhoea alveolaris. When one important vital organ suffers, then the whole chemical processes of the human laboratory become deranged and the blood vitiated. It is a question whether cirrhosis of the liver is not due as much to the absorption of various microbial and other toxins as to the actual effect of the spirits absorbed, says Dr. Mott in *The Journal of Mental Science*.

Typhoid Fever

A case reported by J. F. Crowthamel, M.D., of Souderton, Pa., in June, 1905, Prof. R. S., who resides in a distant Pennsylvania city, came to the home of his parents for a vacation, and in a few days was stricken with typhoid fever. The case, which proved rather severe, was treated in the usual manner with intestinal antiseptics, etc.

(On account of the spread of the intestinal inflammation, as shown by marked tympanites, I applied a thick dressing of Antiphlogistine to the entire belly wall. Within a few hours after the application the temperature commenced to drop and experience soon taught me that by putting on a fresh dressing every twenty hours, it apparently exercised considerable control over the temperature.

The treatment, external and internal, was persisted in, and the patient made an uneventful recovery. I am certain the action of Antiphlogistine was responsible to a considerable degree for the decline in temperature, and that it also reduced the blood pressure on the heart.

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Temporary Dementia

Maudsley says: "A drunken man notably exhibits the abstract and brief chronicle of insanity, going through its successive phases in a short space of time. First, a brisk flow of ideas, inflamed emotions, excited talk and action, aggressive address, unusual self-confidence, a condition of stimulated energy with weakened self-control, so like the sort of mental excitement which goes before an outbreak of mania that the one is sometimes mistaken for the other; next, as in insanity, sensory and motor troubles, incoherent ideas and conversation, and increasing passion, which, according to the previous temperament, is expansive, quarrelsome, melancholic, or maniacal, and which may sometimes, as in insanity owing no cause, go through these stages in succession in the same individual; lastly,

a state of stupidity or stupor, which might be called, and is, essentially a temporary dementia."

* * * * *

A New Sanitarium

A large sanitarium for nervous, spirits and drug neurotics, to be called "Ravenwood," is to be opened at Kalamazoo, Mich., in April. It will be in the center of a large park and farm, and have every appliance for comfort and the application of all medical means to bring about restoration. The work is to be put on foot by a stock company with a large capital, and will be managed by medical men of note.

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An Effective Bitters for Tobacco

Cure

Most of the advertised cures contain some bitters, and one of the most effective is a preparation of hops prepared in some peculiar way and pressed into tablets. After chewing these a time, the desire for tobacco passes away. The last preparation or new means, is urged by Dr. Kolomietzoff, physician to a Russian military hospital. He recommends a twenty-five per cent. solution of nitrate of silver to rinse out the mouth, this to be followed by cold water after each use of tobacco. He declares that there will follow from this a special disgust that will quickly cause it to be abandoned. An English physician, Dr. Wilson, recommends a solution of quassia chips made by repeated boilings until the watery extract is very thick, this is to be taken in the mouth and held a long time. The result of this is that the person cannot smoke or

chew without positive nausea, and after a few trials give it up entirely.

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The Best Hypnotic

A patient who would sleep but cannot sleep should be made to sleep. In the choice of a hypnotist the physician should always seek that one which not alone is most effective but which presents the fewest disadvantages in the way of after effects. For years Bromida has been the standard hypnotic prepared at the command of the profession. Through all the time that it has been known it has never failed in composition or efficiency. Its constituents have been of the purest and in fact Bromida has been the standard by which similar preparations have been measured. That the medical profession have appreciated its worth and thorough reliability is well apparent, from the place it holds in the regard of every physician who appreciates stability and honesty.

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Alcohol as Taught in the Curriculum of Our Medical Schools

The following circular letter is sent out with the view of obtaining facts and conclusions from practical teachers in medical colleges of the methods of teaching and the instructions concerning alcohol in the various schools in the country. We sincerely hope that it will bring out very full responses and opinions which will be helpful in the further study of the subject as well as indicating what is being done at present:

My dear Doctor,—

I am preparing a paper to be read before our Society "On Alcohol as Taught in the Curriculum of our

Medical Schools," particularly bearing on the following subjects. You will observe that they cover a very large field of facts of the greatest practical importance, and we shall appreciate any assistance and statements of conclusions which you may have formed concerning these matters.

As to its *chemical* constituents, manufacture, various forms and derivatives:

As to its *pharmaceutical* and relative importance in the classification of drugs and their preparation:

As to its use in *General Medicine* and its *percentage* in malt and alcoholic liquors, wines, etc., as usually prescribed:

As to its place in the *materna medica* and the reasons pro and con as to its value in *Therapeutics*:

As to its *Physiological* action and demonstration along the lines of *Experimental Therapeutics* on the lower animals:

As to its *Etiology* as a disease producing factor, and considerations as to the *diseases* incident thereto:

As to *Pathological Conditions* resulting from its use and abuse.

As to its relation to *Hygiene* and *Sanitary Science*:

As to such other considerations as the importance of the subject may demand.

Do you give instruction in your institution on alcohol, dealing with the subject in connection with other branches of medicine, coincidently and indirectly, or do you consider the whole matter, alcohol in its relation to general medicine, etc., etc., in a *special course of lectures* in connection with the college term, and if so or not,

do you believe that the consideration of alcohol under the conditions specified of sufficient relative value and importance, to be taught as a *separate* and *distinct* branch in your college course, and finally, have you any suggestions to offer as to the best and most practical method of presenting the subject along the lines suggested to the students in our medical colleges?

An answer to the above queries at your earliest convenience will be appreciated.

Yours sincerely,
DR. L. D. MASON
171 Jerusalem Street,
Brooklyn, N. Y.

Mental Symptoms

The mental symptoms, both in hospital and asylum cases, are especially liable to arise at the climacteric period. Here alcohol may be merely a coefficient, a small quantity only of drink being the exciting factor in a person in whom there is an inherent unstable mental condition, and the symptoms might have arisen if the patient had not taken any stimulant. Again, says Dr. Mott in the *Journal of Mental Science*, in people who are the subjects of ar-

teriosclerosis in later life and renal change, of quiescent organic brain disease, especially syphilis, softening, and oncoming paralytic dementia, small quantities of alcohol become an important exciting factor. Again, alcohol, even in comparatively small quantities, may convert the dangerous to the epileptic and feeble-minded, leading in the former to the production of motor and mental fits and making him irresponsible and anti-social and sometimes very dangerous to himself and others. There can be no doubt that drinking in pursuit of pleasure in the well-fed is far less liable to produce insanity than drinking in fight from despair and misery by the ill-fed, emotional, and neurasthenic or neuropathic individual.

Heredity and Alcoholism

The study of heredity brings the strongest evidence possible for total abstinence in each person. It also indicates in some degree the laws and forces which control each one of us, which if observed will add to longevity and happiness, but if neglected, will be followed by pain and suffering.

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ANEDEMIN improves the tone of the heart muscle, diminishes pulse frequency, lowers arterial tension; is a vasomotor dilator. It restores and maintains a perfect balance between the arterial and venous systems. It relieves dyspnoea, precordial pain and palpitation. It gives most marked satisfaction in mitral regurgitation; it quiets the action of the heart, not unduly prolonging the systole. It has the unqualified approval of thousands of conservative clinicians.

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The American Society and other

for the Study of Alcohol Narcotics

THE OBJECT OF THE SOCIETY IS

OFFICERS

1. To promote the scientific study of alcohol and other narcotics, particularly the etiological, physiological, therapeutical, and medico-legal relations, and also the sociological and clinical aspects of this subject.

2. To gather and formulate all the facts of the disease of inebriety and other forms of narcomanias, and point out the means of cure and prevention by legal and institutional methods and other remedial and prophylactic forms of treatment.

3. To compile and make available the studies and experiences of physicians in all parts of the country who have given attention to the diseases associated with and following from alcohol and other forms of drug taking.

4. The spirit and purpose of this society is to study alcohol and narcotics in all their relations to the human economy from a medical point of view, independent of all previous theories and conclusions.

5. All regular practitioners of medicine, and others whose credentials are satisfactory may become members by a majority vote of the Executive Committee after signing the application printed on the opposite page, and forwarding it, accompanied with the initiation fee (\$5.00) and the annual dues (\$2.00) to the Secretary of the Society.

The Journal of Inebriety is supplied post free to all members of the Society.

HONORARY PRESIDENT—H. O. Marcy, M. D., LL.D., Boston, Mass.
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If you are interested in this great work send in your application for membership.

APPLICATION

I desire to become a member of The American Society for the Study of Alcohol and Other Narcotics, and am willing to comply with the requirements of its by-laws, and promote the object of this Society. I enclose \$7.00, being my initiation fee (\$5.00) and annual dues for 1907 (\$2.00).

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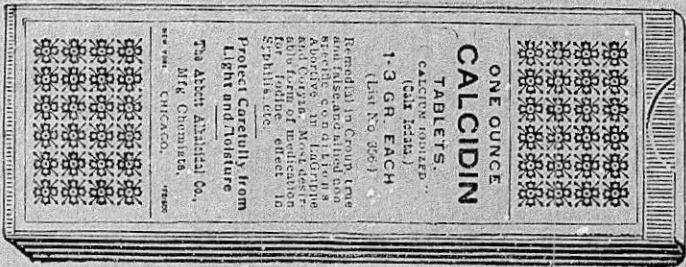
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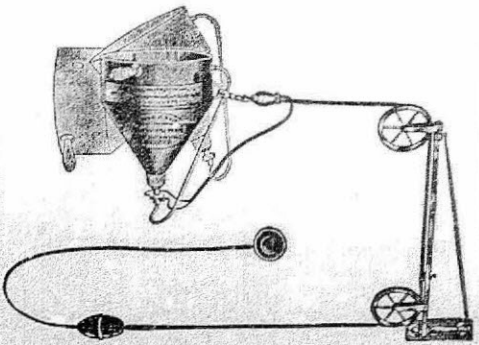
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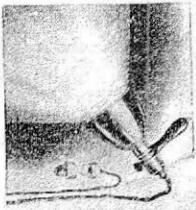
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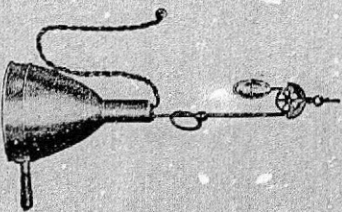
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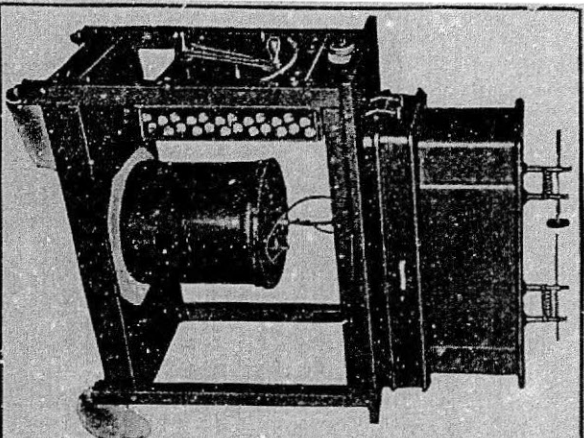
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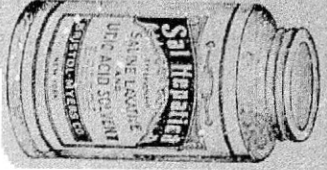
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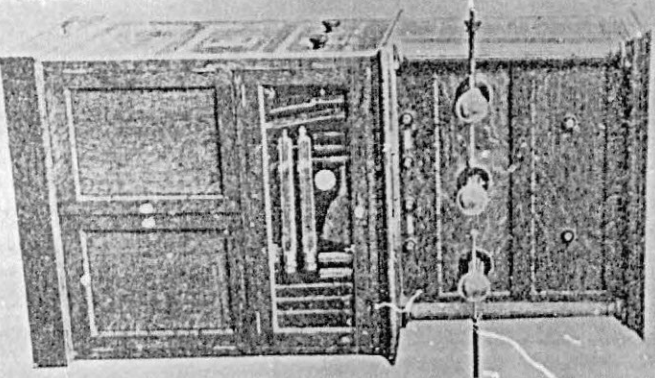
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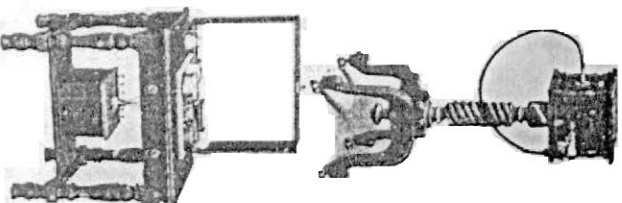
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NOTICE—CAUTION.

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The following are the most important private institutions in the country. A more complete announcement of those printed in heavy face type will be found by turning to the page given.

CALIFORNIA

Oakland—Dr. Petty's Retreat, Dr. Geo. E. Petty, Alcohol and Drug Addictions. See Page 164

COLORADO

Denver—Dr. Petty's Retreat, Dr. Geo. E. Petty, Alcohol and Drug Addictions. See Page 164

CONNECTICUT

Stamford—Dr. Barnes' Sanitarium, F. H. Barnes, M.D., Mental and Nervous Diseases. See Page 163

Westport—Westport Sanitarium, Dr. J. D. Roland, Mental and Nervous Diseases.

Hartford—Walnut Lodge Hospital, Dr. T. D. Crothers, Alcohol and Drug Addictions.

ILLINOIS

Rockford—Dr. Broughton's Sanitarium, R. Broughton, M.D., Alcohol and Nervous Cases. See Page 167

Danvers—Willow Bark Sanitarium, F. J. Parkhurst, M.D., Inebriety and Drug Addictions. See Page 168

Winnelka—North Shore Health Resort, Dr. J. H. Hirschfeld, Nervous Diseases.

INDIANA

Indianapolis—Neuronhurst, Dr. W. B. Fletcher, Mental and Nervous. See Page 166

Richmond—Glen View Sanitarium, Chas. W. Carter, M.D., Alcohol and Drug Addictions.

Leavenworth—Evergreen Place Sanitarium, C. C. Goddard, M.D., Mental and Nervous Diseases.

Kansas City—Grand View Sanitarium, E. M. Tracy, M.D., Mental and Nervous Diseases.

MARYLAND

Touson—The Springer Sanitarium, N. A. Springer, M.D., Alcohol and Drug Addictions. See Page 166

Catonsville—The Richard Gundry House, R. E. Gundry, M. D., Mental and Nervous Diseases.

MASSACHUSETTS

Boston—Washingtonian Home, O. A. Ellsworth, M.D., Inebriety. See Page 163

Arlington Heights—Arlington Health Resort, A. H. Ring, M.D., Nervous and Mental. See Page 169

Attleboro—Attleboro Home Sanitarium, Laura V. Gustin, Mackie, M.D., Neurasthenia.

THE PRINCIPAL SANITARIA OF THE UNITED STATES

- MICHIGAN**
Battle Creek—The Sanitarium, J. H. Kelloker, M.D. See Page 164
- MINNESOTA**
Minneapolis—The Lawrence Sanitarium, W. D. Lawrence, M.D.
Mental, Nervous and Narcotic
- NEW JERSEY**
Cranbury—The Larches, E. Gordon, M.D., Mental Diseases,
Plainfield—Plainfield Sanitarium, J. H. Cooley, M. D., Nervous
and Chronic. NEW YORK
- NEW YORK**
Goshen—Interpines, Dr. Frederick W. Seward, Nervous
Diseases See 2d Cover Page
Fishkill-on-Hudson—Riverview Sanitarium, Dr. J. R.
Bolton, Nervous, Mental and Alcoholic See Page 165
Kingston-on-Hudson—Dr. C. O. Sahler Sanitarium, Ten-
tal and Nervous See Page 165
Brooklyn—Dr. Chas. H. Shepard's Sanitarium
Danville—Jackson Health Resort, J. Arthur Jack-
son, M.D. See Page 168
Elmira—Dr. Everett's House, Edward A. Everett, M. D.,
Nervous and Mental See Page 169
Rochester—Telfair Sanitarium, Wm. G. Telfair, M.D.,
Nervous and Drug Addictions See Page 169
Katonah—Hillbourne, E. A. Sharp, M. D., Nervous
Astoria—River Crest Sanitarium, Wm. E. Doid, M.D., Nervous and
Drug Addictions
Gowanda—The Boeckel Sanitarium, H. N. Johnson, M.D., Ner-
vous and Drug Addictions
Brooklyn—Dr. Morton's House, Mental and Nervous and Habit
NORTH CAROLINA
Asheville—Dr. Carroll's Sanitarium, R. S. Carroll, M.D.,
Nervous, Habit and Mental See Page 167
Asheville—Telfair Sanitarium, W. G. Telfair, M.D., Ner-
vous and Drug Addictions See Page 164
TENNESSEE
Memphis—Dr. Petty's Retreat, Geo. E. Petty, M.D.,
Alcohol and Drug Addictions See Page 164
TEXAS
San Antonio—Dr. Moody's Sanitarium, G. A. Moody, M.D.,
Nervous and Drug Addictions See Page 168
Dallas—White Sanitarium, S. J. White, M.D., Inebriety and Mental
WEST VIRGINIA
Chester—The Sterling-Worth Sanitarium, G. H. Benton,
M. D., Alcoholic and Narcotic Addictions See Page 168
WISCONSIN
Wauwatosa—Milwaukee Sanitarium, Dr. Richard Dewey,
Nervous and Mental See Page 168

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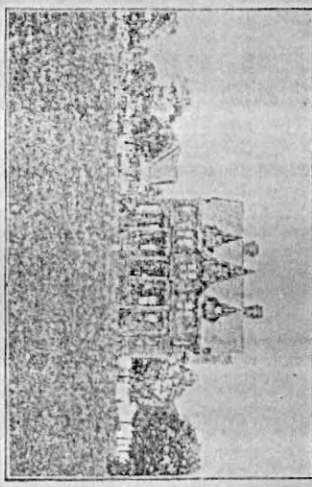
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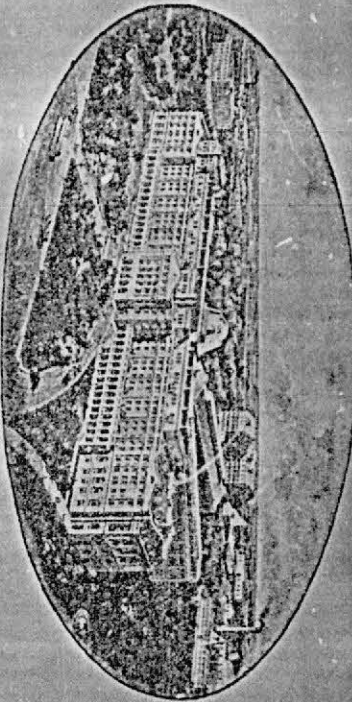
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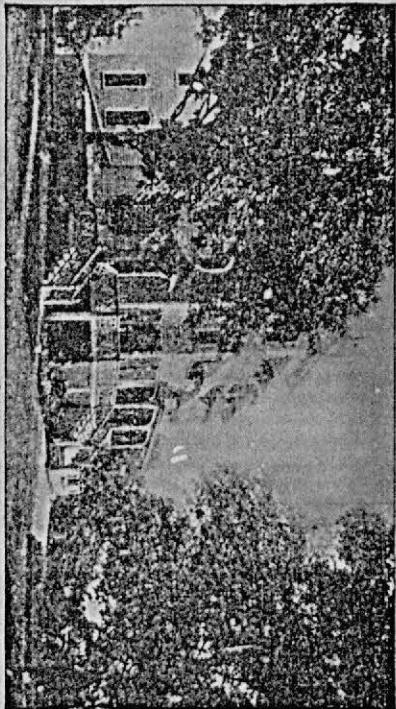
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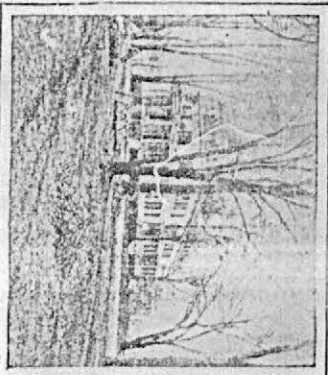
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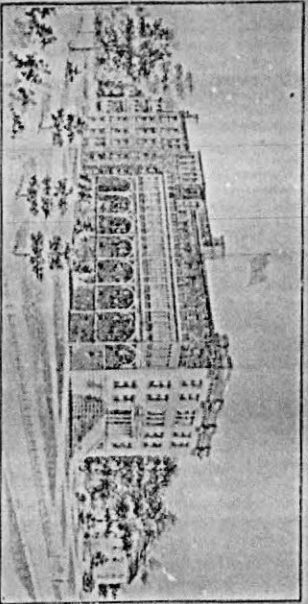
Physicians and friends who have mental and nervous patients whom they desire to place in an institution, having the principles of home and family life, non-restraint, and having tried all other methods, of treatment without success, should inquire into the merits of this Sanitarium.

No insane cases received.
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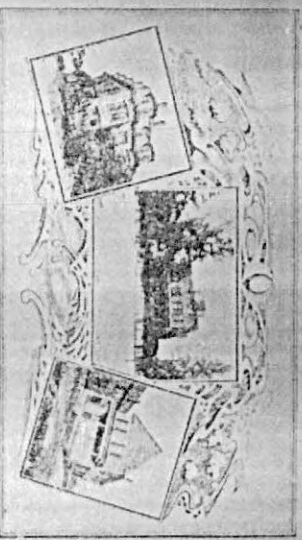


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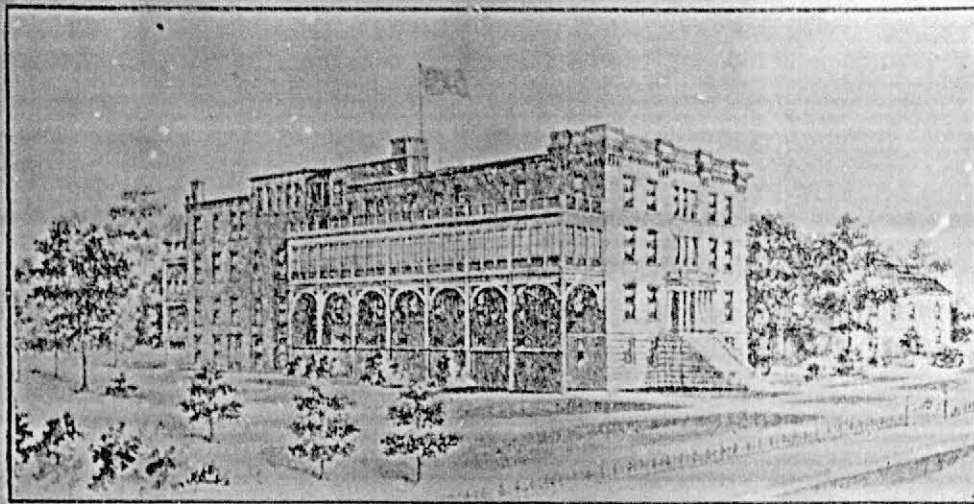
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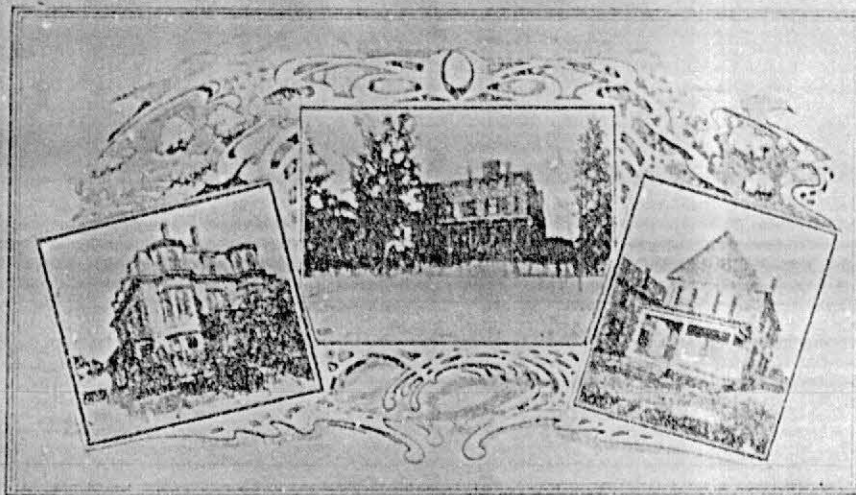
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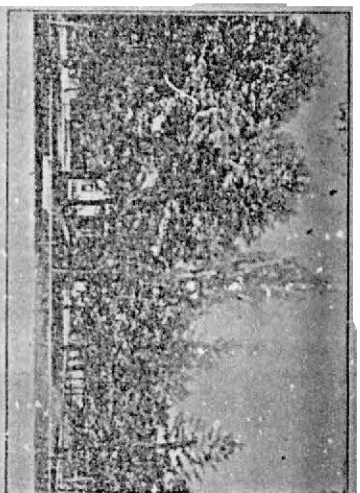
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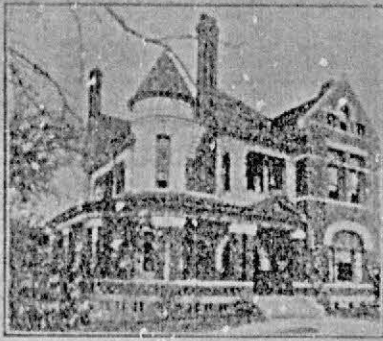
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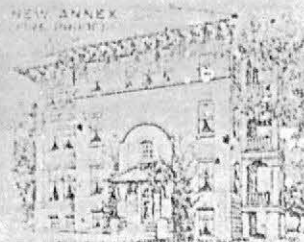
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