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THE QUARTERLY JOURNAL
OF
INEBRIETY.

PUBLISHED UNDER THE AUSPICES OF THE AMERICAN ASSO-
CIATION FOR THE STUDY AND CURE OF INEBRIATES.

T. D. CROWTHER, M. D., Editor,
66 Fairfield Avenue,
HARTFORD, CONN.

Vol. XXVI. JANUARY, 1904. No. 1.

HARTFORD, CONN.:
THE CASE, LOCKWOOD & BRAINARD CO.,
PRINTERS.

EUROPEAN AGENCY:
BAILLIERE, TINDALL & COX
10 KING WILLIAM STREET, ON THE STRAND, LONDON, W. C.

Subscription \$2.00 Per Year.

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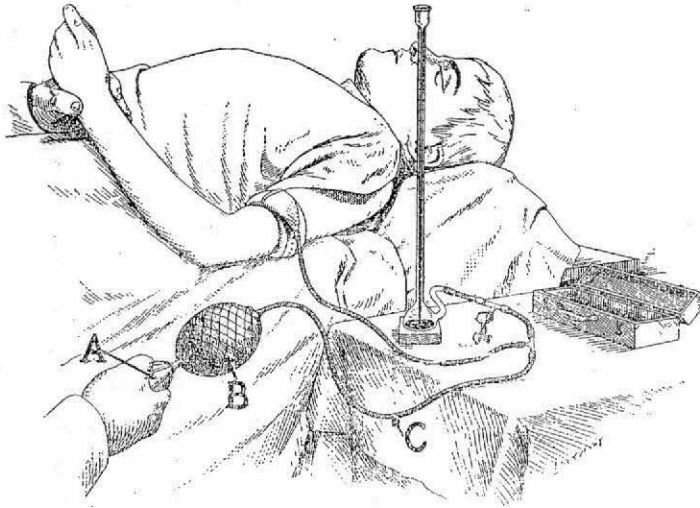
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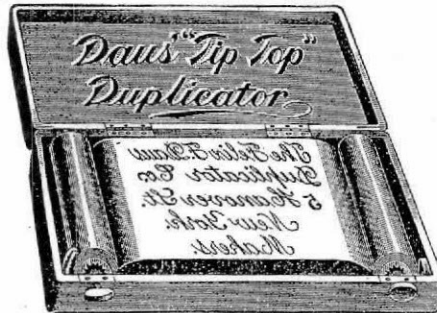
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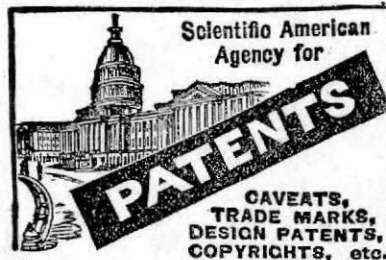
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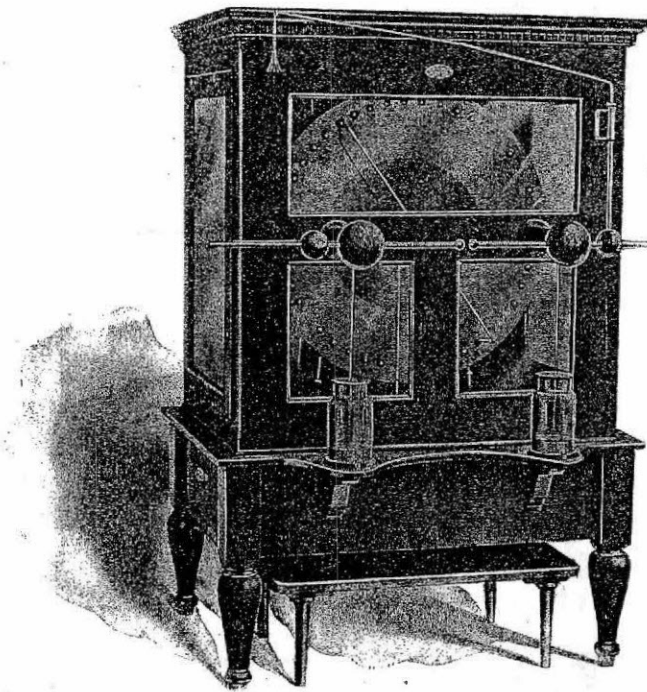
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Vol. XXVI.

JANUARY, 1904.

No. 1.

This Journal will not be responsible for the opinions of essayists or contributors, unless indorsed by the Association.

INEBRIATE RETREATS AND REFORMATORIES
IN ENGLAND.

The report of the inspector under the Inebriate Acts of 1879-1900, for the year 1902, by Dr. R. W. Branthwaite, who has for many years occupied this distinguished position, and was formerly superintendent of the Dalrymple Home, is before us. It is a very interesting volume concerning the work of certified inebriate reformatories and state inebriate reformatories, with plans, statistics, and a general review of the subject. Certified inebriate reformatories in England are private corporations licensed by the state and under the control of the state inspector, the same as state institutions, only the inspector acts as an advisor to prevent abuses and to assist in the general control of institutions and patients. When the act was passed in 1899 there were four institutions. In 1902 the number had increased to eight, and the inmates were 714. The report gives details of the progress in the care, treatment, and general management of inebriates in these eight different institutions, also giving accounts of changes in the buildings, with new methods and means for better work. From the report we learn that two new institutions are being built and will be

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opened very soon. These institutions receive committed cases which, under the act, are defined as follows:

First, inebriates convicted of crime caused or contributed to by drink.

Second, inebriates who have been convicted summarily four times of drunkenness within one year, or of certain other specified offenses of which drunkenness forms a part.

The first class, called criminal inebriates, may be sentenced to a state inebriate reformatory or any certified reformatory where the managers are willing to receive them. The second class are committed by the courts to a certified reformatory, then if it appears desirable they can be transferred to the state reformatory. The following are some comments by the inspector on this subject:

“The majority of persons hitherto sent for treatment have been long-standing confirmed cases, requiring, to give a chance of success, the longest possible sentence. We have found in dealing with even the best of them that very little good is likely to accrue from any period of detention extending over less than eighteen months to two years. Even after such a term has been spent under institution treatment it is desirable that a balance of sentence should be still available for purposes of license under supervision. Provided that inmates are released on license, so soon as sufficient evidence of recovery is forthcoming, there is no hardship in a long term. If the license-holder abstain from drink when so released the license remains in force, and liberty is retained until expiration of sentence. Should any inmate, when on license, relapse into drinking habits, return to the reformatory affords a second chance of ultimate recovery. Short sentences are mostly inadequate, and, therefore, something like a waste of effort and of public money; long sentences, on the contrary, are advantageous to all concerned. They give a fair chance to the hopeful inmate, who need not spend any more time than is necessary under institution discipline; they benefit the hopeless inmate by preventing

him from harming himself; and in respect to the latter, long sentences benefit others by enabling the retention, in a safe place, of a type of person who is a danger to the community when at large. It is satisfactory, therefore, to note the increasing tendency to imposition, by judicial authorities, of longer sentences. Of the total number of persons sentenced to reformatories during the year under review 59 per cent. were committed for three years, as 36 per cent. for 1901. There is, however, still a great lack of uniformity; some magistrates agree that nothing less than three years is of any avail, while others decline to commit for more than two years, or even one. There is no doubt that longer experience will put this right, and as little doubt that it will end in more general use of the longer periods.

Before leaving this section — dealing with committals as a whole — I should like to say a few words in the shape of a plea for earlier committal, and recommittal. We are now called upon to deal for the first time with persons who have been drunkards for many years, drunkards over whom there has been no possibility of exercising anything but the most transitory restraint, and that restraint of a penal and degrading nature. Consequently we must expect to have to deal initially with the very cream of the class; and there is no doubt about the fact that our expectation is being realized by experience. Watching committals as they arrive, it seems as if many magistrates are under the impression that so long as there is any decency or good feeling left, a drunkard is too good for a reformatory. Committal is, therefore, often delayed until reformation is almost hopeless, and is only then used as a last resort, when every time-honored expedient has been unsuccessfully tried.

Appendix E gives some idea of my meaning — the history of a woman who had been a drunkard since 1875, and who is known to have been convicted, at one court, 159 times of drunkenness or of offenses caused or contributed to, by drink. Of

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course in this case, during the earlier years of her career, there was no inebriate act which could have been applied, but now that one exists she is sent to us to reform, with a one-year sentence. There are many persons at the present moment starting the same career, which if unrestrained will lead to the same result, almost hopeless degradation and semi-imbecility. I do not object to cases, such as the one indicated above, being sent to us, for even they should have a chance for reformation, and at least be prevented from doing harm to others; but let us have some persons sent as soon as they become habituals, and qualified for committal, and before such a history mars our chances of success. Furthermore, so long as we have such bad material to work upon, and persons are sent to us for inadequate periods, some will surely break down after leaving the reformatories. It is seemingly inevitable. Again and again I have seen ex-inmates reappear at courts. On the score of having once been sent to a reformatory, without good results, the case is dubbed hopeless, and the old prison procedure is reverted to. I ask in such a case for re-committal, to be even repeated if necessary. So far, only 16 persons have been twice sentenced, but even among this small number there are a few who, in their second sentence, give evidence of probable good result which was quite absent during the first detention. In any case recommittal gives a chance of reformation, while reversion to short prison sentences gives none.

Concerning committals under Section 1 of the act:

Under this section any habitual drunkard, who is convicted on indictment of an offense punishable with imprisonment or penal servitude, may be committed to a reformatory, provided that the court "is satisfied from the evidence that the offense was committed under the influence of drink, or that drunkenness was a contributing cause of the offense." The reformatory sentence may be in substitution for any prison sentence which might otherwise be imposed, or may be in addition to any preliminary penal detention which may be considered de-

sirable. Any person committed under this section may be sent direct to a state reformatory, or, with the consent of the managers, direct to a certified inebriate reformatory.

Tables are given showing the offenses for which inebriates were committed to the certified reformatories, and after being under treatment a year or more over 70 per cent. were considered hopeful and amenable cases. Eleven per cent. were placed in the state reformatory as refractory and violent, and 5 per cent. were considered insane and sent to asylums. The remaining 13 per cent. were classified as mental degenerates, epileptics, and suffering from organic diseases, also too old to be helped in any particular way. Concerning these cases the following are the inspector's conclusions:

Is the mere detention of probably irreformable cases justifiable on the part of local authorities, whose duty it is to safeguard the interests and pockets of a community? To this question I think there can be but one answer. It is justifiable (1) because no person can say that any given case is hopeless, reformation may always be possible, even if not probable; (2) on the score of public economy; (3) for the safety of the public, and for the sake of decency and order; (4) because uncontrolled inebriates exercise a strong influence in the manufacture of fresh cases, and (5) because the reception of reformatories of all cases magistrates desire to commit is necessary for the satisfactory working of the act.

With regard to (1) we have already had some interesting experiences. Take a case as example. A man was sent to a certified reformatory with a bad record; he proved uncontrollable there, and was transferred to a state institution for stricter discipline. Until the last few months of detention he gave little evidence of reformation but latterly improved in every way sufficiently to earn his liberty on license. He has now been discharged for thirteen or fourteen months, and, although during that time he has worked as an ordinary artisan laborer amongst others of his class, the reports of his conduct

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have been excellent throughout, and remain so still (September, 1903). This was a case which, judging from previous history and from the character given him by the police, might well have been refused admission as probably irreformable.

(2) It is repeatedly argued that any expenditure in dealing with probably irreformable cases is a waste of public money. But is it? I can refer to no statistics bearing upon the question, at any rate to no figures sufficiently complete to be of real value; but taking into consideration the constant burden these persons are upon public funds I feel satisfied, even if control could be made continuous, that it would be cheaper than the present system of alternating short prison sentences with brief periods of expensive freedom. In reference to this question I am again constrained to refer to my sample case. It would be interesting to know how much that woman has cost the country: in prison detention (the fines, mostly unpaid, represent imprisonment); in damage to person and property; in her contribution towards the expense of trials and police court hearings, and towards the expense of police maintenance; in her carriage backwards and forwards between police court and prison, the issue of summonses and warrants, and the cost of legal procedure generally. This particular record, furthermore, only comes from one court; how many similar charges may have been heard in regard to the same woman at other courts it is impossible to say. Nor is this by any means an extreme instance. I could supply many similar and many worse; during the current year, for instance, a woman has been sent to a reformatory with a record which shows over 300 convictions at one court.

There are many other ways, however, over and above the cost of police procedure, in which habitual inebriates contribute towards national and municipal expenditure. There is for example, the expense of a large number of persons who become inmates of lunatic asylums for part of their lives; who become permanently chargeable upon local funds from chronic

mental trouble, or who leave behind them useless children — lunatic, epileptic, or of weak mental capacity. There is also their contribution to add towards the expense of coroner's court in cases of drink-caused suicides, overlaying of children, deaths from drunken neglect, deaths from accidents when incapable, and from fatal injury inflicted during drunken frenzy. Finally to all these sources of expenditure we must not forget the constant charges by such persons upon poor-law administration. How many families need sustenance or medical relief owing to the premature death, imprisonment, or poverty of drunken parents. How also the drunkard, if he lives long enough, is kept during his later years in the workhouse, a physical wreck, and in the end is buried at the public expense. When all these matters are fully considered I think there should be little difficulty in justifying the expense of control, even without help of reformation.

(3) The advantages in the direction of public sentiment, and the maintenance of decency and order, which naturally follow the seclusion of police court inebriates, are too obvious to need much comment. Our oft-quoted case will serve as illustration of this point also. At least 22 times during her life the woman was convicted of serious offenses against person and property, and very many times of offenses against decency and order. Under control she proves even now a comparatively quiet and inoffensive woman; but if at liberty, and under the influence of liquor, she would again become both vicious and dangerous. There are many such who constantly abuse their liberty, who constitute a menace to society, and who, consequently, whether reformable or otherwise, should, I think, be subject to the only possible remedy — control in the interests of public welfare.

(4) Every movement such as this must be influenced by future prospects as well as present issue. It would seem to be useless to attempt to lessen the number of the "habitual" class by attempting to reform the reformable, unless, at the

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same time, we prevent the irreformable from exercising unchecked a baneful influence over their young and susceptible associates. The example and precepts of an habitual inebriate, with his desire for excitement and for drinking in association, are factors to be seriously reckoned with in connection with the propagation of his species.

(5) Now we come to our last reason for desiring the reception of all cases, whether apparently reformable or not. As regards Section 2 cases we are absolutely dependent upon the coöperation of magistrates; they constitute our chief committing authority. It is quite impossible for a magistrate, or, indeed, for any other person to predict the reformability or otherwise of any particular inebriate; it takes months of abstinence under suitable surroundings to justify such an opinion. A magistrate sees the case for five minutes in the dock, in a besotted, muddled, or repentant state, according to the length of time which has elapsed since the last drunk; how is he to judge as to reformability in such a case? It is quite impossible. It should be sufficient for the magistrate to satisfy himself that any particular person is a habitual drunkard within the meaning of the act, and that he has qualified for committal, leaving the managers of reformatories to do their best to reform, and, if that prove impossible, then detain for the period of sentence which may be imposed. Every indication points to this as being the only basis upon which the act will properly work; continued refusal of cases because apparently irreformable will only engender dissatisfaction amongst magistrates, and very materially limit their willingness to use their power.

These are my reasons for desiring the reception into reformatories of all cases which magistrates desire to commit. After reception, then selection and classification can be applied most thoroughly and with satisfaction to all concerned. The hopeful cases should be treated under conditions most likely to result in their reformation; the violent transferred to the care of the state; lunatics sent to asylums, and the irreformable

(but amenable) section kept as cheaply as possible under practically workhouse conditions for the term of their sentence. Patients sent to these certified institutions are allowed their liberty on a sort of a ticket of leave plan, during which they report to the superintendent. The results seem very satisfactory, many of the patients remaining sober and well-behaved. The following is the conclusion of the report:

The present position, however, is satisfactory enough, apart from all questions of future improvement in detail. We have eight certified and two state reformatories in existence, all doing excellent work, with a certainty of further additions in the near future. About 500 of the worst possible characters are now in these institutions receiving constant care and attention, all living sober and many of them industrious lives. We are giving to such persons an opportunity of recovery which has been denied them hitherto, and which will convert some of them into decent members of society; into wage earners, instead of burdens upon the sober section of the community. We are relieving many hard-working men and women of untold misery, and at the same time preventing the exercise of an evil influence over a still greater number of young persons and children. We are reducing crime, both now and for the future, and we are lessening street violence and disorder. I think it would be difficult to find a more useful work, one which more thoroughly combines economic principles with the dictates of science and humanity, or one more deserving of the fullest possible coöperation and support.

The following is a report of the State Inebriate Reformatory for Inebriates, and gives a very clear idea of some new phases of the work of great interest:

The Inebriates Act of 1898 tacitly assumed that special reformatories, established by the state, would be necessary for the detention and treatment of "criminal" inebriates, persons who, in consequence of drunken habits, committed crimes which

in the ordinary course of law would be punishable by imprisonment or penal servitude.

Such persons it was anticipated would prove unmanageable and impossible to control in the milder "Certified Reformatories," managed by local authorities or philanthropic bodies. But, contrary to expectation, a short experience in dealing with such cases made it apparent that they were even more amenable to discipline than the second class of inebriate to which the act applies, viz.: The ordinary police court "habitual." Obviously, therefore, it became unnecessary to establish a special institution for the reception of criminal inebriates, and it was accordingly decided that such persons should, equally with the police court recidivist, obtain the same advantages of treatment under the lighter and more unprison-like surroundings of a certified institution.

All cases, therefore, whether convicted under Section 1 or 2 of the act, were committed to the care of certified inebriate reformatories, and were directed to be detained therein, under conditions applicable to all. This arrangement has now stood the test of fully three years experience, and no difficulty has arisen to cause regret or to indicate in any way the necessity for the separate treatment of "criminal" and "police court" inebriates. So far as any distinction between the two classes was concerned it appeared as if the certified reformatories were going to prove capable, not only of the bulk, but of the whole of the work under the act of 1898; and it almost appeared as if no unfortunate factor had subsequently to be reckoned with, a factor which materially altered the state of affairs. It became evident that from 10 to 15 per cent. of all committals to certified reformatories were so refractory as to render the proper conduct of these institutions impossible. It became similarly evident, unless certified reformatories could be relieved of this small minority, that the whole scheme would break down, and that no possible good could be done to the majority who were inclined to be amenable, and, therefore,

subject to good influences. The matter resolved itself into a choice between two alternatives — discharge from sentence, or segregation of the refractory element in some place specially adapted for safe custody and control. Discharge was obviously undesirable, because the wholesale remission resulting from such a course would be practically turning into a farce the sentences of courts of law ; because discharge from sentence for refractory conduct would be setting a premium upon bad behavior, and because it would mean turning loose on to the streets the very worst of all cases committed to our charge, the very element of disorder which the act was passed to remove, the very persons, who by reason of violence, constitute a constant source of danger to life and property. Long and careful consideration of all phases of the question resulted in the decision that the only possible solution of the difficulty existed in the removal of all refractory inmates from certified reformatories, and their segregation until they became amenable, or until expiration of sentence, in some place which should be specially adapted for their reception.

Moreover, it was agreed that neither local authorities nor philanthropic bodies should be expected to detain, or be responsible for the safety of, such a violent type of individual. By a process of exclusion, therefore, it became evident that this work was work for the state, and for the state alone, and the work of reformation, for which certified reformatories are carefully designed, would be seriously jeopardized, indeed, rendered practically impossible.

A second, more or less incidental but very material, advantage has been gained by the establishment of state institutions. Their existence now permits the full use of Section 1 of the inebriate act by rendering possible the direct committal to prison. The difficulty hitherto experienced by clerks of assize and sessions of obtaining consent to reception from the managers of certified reformatories is, therefore, no longer necessary. As, however, the chief object of state reformatories is

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the control of refractory cases, it will probably be found desirable to transfer the majority of such direct committals almost immediately to certified reformatories, but this need not affect the position so far as the officers of courts are concerned; all questions of subsequent transfer may safely be left to the discretion of the secretary of state, who, from his knowledge of all reformatories, is best capable of judging as to which institution would be most likely to benefit any individual case.

Pending the erection of permanent buildings a wing of Aylesbury convict prison, capable of holding 21 inmates, was adapted for temporary use, and opened as a state reformatory in August, 1901. The accommodation so provided has been fully occupied from the first, and, viewed in the light of an urgency measure, has served its purpose. Some discomfort has been experienced from restricted space, and from the absence of sufficient provision for the constant employment of inmates. But this was of course unavoidable, and had to be temporarily submitted to.

Meantime every effort has been made to push on the permanent buildings, the first wing of which is now nearly ready for occupation. These new buildings have been carefully considered in every detail; they are fitted with all necessary requirements for controlling the most difficult cases, and at the same time possess every possible facility for treating inmates with a view to their future reformation.

In making provision for the reception of male inebriates the course adopted was almost identical to that successfully followed in the case of females. A portion of Warwick prison was set apart and adopted for temporary use until such time as an adjoining disused block could be reconstructed for permanent occupation. The similarity, however, in the case of males and females ceased in one important particular; while the demand for room for the latter greatly exceeded available accommodation, the demand for space for male committals remained small and unimportant. This is, in fact, the position

at the present time; consequently the permanent buildings, although now completed, still remain unoccupied, the continued use of the original temporary accommodation being justified by the opinion of the governor, who reports that it has so far answered all requirements.

With regard to questions of administration I might reasonably repeat many of the remarks which already appear on the same subject in reference to Aylesbury. In my opinion the staff has invariably shown tact, energy, and efficiency in the management of inmates and in the general conduct of the reformatory.

I have already indicated that the inmates of state reformatories are transferred thereto from other institutions on account of their violence and insubordination. They, therefore, constitute a selection of the worst possible characters amongst all cases committed under the inebriates acts. The 33 females who were transferred to Aylesbury (up to the end of March, 1903), were selected from 700 women committed to certified reformatories; and the 14 males, similarly transferred to Warwick, from a population of 102 under detention elsewhere.

The medical officers, both of Aylesbury and Warwick, in their annual reports supply some interesting and instructive details concerning the life history of their inmates. These descriptions are sufficiently suggestive, and leave little doubt as to the character of the persons we are called upon to detain. All have proved themselves refractory before admission; some because of inherent mental defect, others because their whole life has been spent amongst vicious surroundings, and they have never been taught to exercise any control over their passions and impulses.

Our greatest difficulty is to discriminate between insubordination which is due to madness and that which results from pure badness. This will be probably always so. The two conditions merge so indefinitely that it becomes impossible to point to any distinctive sign to indicate a line of demarcation.

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Out of all persons admitted to state reformatories five per cent. have been found to be certifiably insane, the subjects of orthodox delusional insanity. Putting these aside as easily recognizable, and capable persons who may be considered sane but bad, we are left with a large majority who are incapable of classification — who are neither sane nor insane, but on the borderland of both states. These cases, although free from delusion or hallucination, are characterized by low intellectual capacity, by inability to follow a train of thought, by illogical and inconsistent "reasoning," and by an impossibility of distinguishing a correct from a distorted inference as applied to the simplest problem in daily life. They are habitually sullen or unreliably mercurial in temperament. It is never a certainty from one hour to another in what mood they will be found. They are suspicious, quick to take offense when none is intended, and at times so hysterically passionate as to be almost maniacal.

Taking this description as a basis the following rough classification is obtained.

Insane,	10 per cent.
Borderland,	70 " "
Sane, but bad,	20 " "

No wonder that the managers of certified reformatories, relying largely upon moral influences for safe custody and the maintenance of discipline, have been unable to make headway with such material, and that the mingling of these cases with others was found to be a disturbing factor which proved detrimental to the welfare of amenable cases.

Hereditary taint, both of inebriety and insanity, youthful indulgence in liquor, and early association with drunkenness, have all doubtless assisted in the manufacture of these examples of mental depravity. With regard to the first-named influence the medical officer of Aylesbury, in notes accompanying this and previous reports, has supplied various information

concerning the family history of all inmates who have been committed to his charge.

Out of a total of 33 women 11 knew nothing whatever of their own family history, nor could any information be obtained concerning them from other sources. In eight of the remaining 22 no history of insanity or intemperance was obtainable; but in these cases also corroborative evidence was wanting, and reliance had to be placed upon the statements of inmates themselves — a source of information necessarily open to doubt. In 14 of the 22, however (nearly 64 per cent.), there was a distinct family history of intemperance, and in five of these of insanity also.

We are now sufficiently conversant with the whole question to be aware that state reformatories exist mainly for the advantage of certified institutions, that the latter could not exist without the former, and that the 24 persons now detained under state care are so detained to permit the proper application of reformatory influences to 500 persons elsewhere. State reformatories, therefore, may justly claim an important share of the credit attached to all work of certified establishments; and may claim to contribute largely towards every good result which is produced by them. Bearing in mind the fact that every person sent to a state institution has been sent only after every attempt has failed to render that person amenable, and bearing in mind also the extremely unsatisfactory nature of the material we have to work upon, it is unlikely that we shall reform a large percentage of the cases committed to our care. We must be satisfied in the main with our work of rendering such cases amenable; and, after that result has been obtained, with sending them back to certified reformatories for the reformation which we desire, and which the surroundings of those institutions are more likely to favor. Or in the event of a person remaining refractory we must be content, for the advantage of the general work, to relieve certified reformatories by detaining such person for the remainder of the sentence

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which has been imposed upon him. The only possibility of showing good results directly attributable to detention in state reformatories will be in relation to persons who are sent out on license from those institutions. These will be few in number, for it is only proposed to grant license direct from a state reformatory when there is some definite reason to prevent re-transfer to a certified reformatory.

Up to the 31st of March, 1903, 47 persons had been admitted to state reformatories, 33 to Aylesbury, and 14 to Warwick. Of this total, 47, 24 remained under detention and 23 had been released from custody.

Concerning the 23 discharged cases, 14 either continued refractory and were retained to the expiration of sentence, were discharged absolutely for other reasons, or were sent to lunatic asylums as insane. Five became amenable and were returned to the care of certified reformatories, and four were granted license to be at large. With regard to the persons transferred to certified reformatories, one gave some further trouble, but four remained perfectly amenable. The four cases on license have given us some encouragement, for on March 31st they were all doing well, notwithstanding the fact that one had been at liberty for about eleven months, and a second for at least seven.

Dr. Holitscher in *Pruger Medical Work* (1903) says:

Concerning the food-value of alcohol, and that it protects the proteids from oxidation: This may be true in health, but in fever, where nitrogen is deficient, alcohol not only fails to save proteids from consumption, but frequently rather increases their expenditure. Moreover, alcohol is a poison for protoplasm and reduces the vital activity of the cells, especially those of high organization. It follows that alcohol is an unsuitable remedy in fevers, since it interferes with the activity of the cells in their struggle against the toxins and micro-organisms of the disease.

ALCOHOL IN RELATION TO MENTAL DISORDERS.

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Alcohol, as is well known, produces increased vascularity with enlargements of the cerebral cortical vessels, with atheromatous, fatty, and other degenerative changes in their coats. The nuclei in the adventitia proliferate freely, and the protoplasm of the cell structure becomes fatty. Aneurysmal dilations are frequent; and here and there are to be found collections of extravasated blood, hæmatoidin crystals and sometimes fat embolisms. Associated with the vascular dilatation there is frequently an increased effusion of the blood plasma. In the degenerative processes due to chronic alcoholism the nuclear proliferation and overgrowth of the connective tissue cells appear to be closely related to the continued dilatation of the vessels and the consequent increase of exudation of the lymph into the tissues.

I have elsewhere emphasized the fact that in every instance of cerebral degeneration due to alcohol we have to deal mainly with the part played by the inflammatory exudate, that of the alcohol in the exudate, and the combined effects upon the nutrition and metabolism of the nervous structure. We know that when dilated the walls of the vessels are weaker, the exudation of plasma is more readily induced, and the mechanism of dilatation appears, therefore, to be of primary importance. In ordinary inflammation the exudate contains a relatively smaller quantity of proteids than does the blood plasma, owing possibly to the selective activity of the endothelial cells, and in this case

the extravasated leucocytes tend to undergo rapid destruction and dissolution. On the other hand, when alcohol is conveyed to the plasma the metabolism of the leucocytes is retarded, owing to the deprivation of the tissues of some of its oxygen; and retention and proliferation of the exudal material results. The using up of the oxygen for the destruction of the alcohol is clearly, therefore, a retarding process in the proper metabolism and we have in this way a tendency to the development of more stable but less highly developed tissues.

We have abundant evidence of parenchymatous, cloudy, or granular swelling of the protoplasm of the larger cells of the cerebral cortex due to alcohol. Hitherto these appearances have been regarded as evidences of increased activity of the protoplasm. I would prefer to consider these changes as mainly due to diminished metabolism. The exact nature and disposition of the granules in the nerve cell, and what determines the relative coarseness or fineness of these so-called granules, is as yet a matter for further investigation and it is not yet proved how far these varied appearances may be artificial. At first there is little or no change of the nucleus; but subsequently if the metabolism be retarded for a long time cytolysis and cytoclasis of nucleus and nerve cell occur, thereby rendering cytothesis or regeneration of the nerve cell impossible.

It is not part of my object to discuss the various opinions held as to the true nature of the moniliform swellings of the dendrites and the loss of the lateral gemmulæ said to precede the partial or complete disintegration of the cell structure. Berkeley had studied the lesions produced by the actions of alcohol on the cortical cells of the brains of rabbits, but his conclusions are not convincing until we know more definitely the meaning of the so-called "thorns" and are satisfied that they are not organic structures insufficiently delineated by the methods of preparation. All these pathological data are of great interest, but the uncertainty prevailing as to the trustworthiness of silver preparations renders it unsafe to build too much upon

them. Another source of difficulty rests in the fact that similar appearances have been found in paralysis agitans without insanity, and also in several other forms of insanity in which alcohol was not a factor of causation.

In alcoholic insanity various changes in the anatomico-physiological connections between the neurons have been described by several observers. These changes are said by Andriezen to occur in the ultimate protoplasmic expansions and contract granules, and also in the ultimate naked fibrils (collaterals and terminals). "Beginning with softening and swelling of these contract granules, and also of the protoplasmic twigs on which they are situated, the earliest noticeable changes are due to coalescence of these into small irregular composites recognizable here and there as a local coarseness. As the changes progress in coarseness and extent moniliform swellings appear along the course of the terminal protoplasmic twigs. These changes affect the cells of the ambiguous, long, pyramidal, and polymorphic layers, but the chief stress of the lesions appears to fall in the regions of the molecular and submolecular plexuses and in that of the subpyramidal plexus." Andriezen regarded these early changes in the fine protoplasmic contract granules of the apical expansions as associated with the amnesia so characteristic of some forms of alcoholic insanity. The fine collaterals and terminals of the molecular, submolecular, and subpyramidal regions also become granulated and wrinkled in outline, with irregular swellings here and there.

To attempt to discuss all the clinical relationships between alcohol and mental perversions would be quite impossible here, so I shall confine myself merely to the consideration of those memory defects and perversions which are so characteristic. Any explanation of these defects must deal adequately with the physical as well as with the psychical aspects of the question; and I believe that we are gradually approaching the time when we shall be able to formulate some more definite relationship between cerebral and mental events.

This is primarily due to the elaboration of the hypothesis of nervous amœboidism. This theory is now so well known that it needs no demonstration at my hands.

The neuron theory holds that every nerve cell with its protoplasmic processes, axis-cylinder process, and collaterals, is an anatomical unit, structurally independent of other nerve cells. The researches of Ramon-y-Cajal, Kolliker, Duval, and others, lead one to adopt the view of continuity of the ramifications of the neurons, as against the view of the continuity entertained by Gerlach; but it is not yet proved whether these protoplasmic ramifications are susceptible of approaching to or receding from one another by virtue of their contractile properties. So long ago as 1890 Burckhardt suggested that these movements might possibly account for the differences in the functional states of nervous areas, and in 1894 Lepine suggested that possibly sleep might be due to the retraction of cellular prolongations and thereby leading to their isolation from one another. In 1895 Duval argued that as the imagination, memory, and association of ideas become more active under the influence of certain agents (tea, coffee, etc.), whose functions would be to excite amœboid movements in the contiguous extremities of nerve cells, it was, therefore, conceivable that the ramifications did approach each other, and thereby facilitated the passage of impulses. Further, the numerous experimental researches on fatigued animals appear to show that fatigue of the nervous elements brings about the isolation by retraction of the cellular prolongations. The most able summary of the subject is that given by Ford Robinson in his *Text-book of Pathology*, in which he states that the present position of the controversy justifies the conclusion that no discovery that has yet been made really weakens the case for the neuron theory.

The neuron theory, if really true, offers a theoretical solution of the gross physical conditions underlying the various perversions of memory due either to alcohol or, in fact, to any other cause. Stimulation of the nerve cell, either direct or indi-

rect, favors the activity of the protoplasmic expansions and renders the passage of the physical stimuli more easy and more frequent. On the psychical side we have the parallel series of phenomena as manifested in the brilliancy and rapidity of thought, the general exaltation of function, and increased faculty of re-representation.

This latter faculty often amounts to hypermnesia, and is comparable to the hyperaesthesia which precedes anaesthesia, and which, like it, terminates in loss or complete amnesia. The individual groups of neurons of various localities can be excited to undue activity in various focal lesions, or the failure of their functioning by contact may lead to innumerable varieties of physical and mental states, as seen in the partial amnesias and aphasias, but it requires some general and far-reaching circulatory or toxaemic factor to induce a general hypermnesia or amnesia. Alcohol will stimulate the activity of not one but every neuron, and the hypermnesia of the alcoholic person is general and far-reaching. Following that stimulation, however, there is exhaustion and retarding of the metabolism essential to the life and active functioning of the neuron. Each subsequent stimulation to be equally effective as a hypermnesiac (if I may coin the word) must be increased in arithmetical progression, and be in inverse ratio to the regression or retrogression of the potentialities of the neuron. The law of regression or retrogression has yet to be amplified and adapted, not only to the psychical aspects of progressive loss of memory, but also to the physical counterpart, which assuredly must rest in the phenomena of contiguity and continuity of neighboring neurons.

Not only does alcohol produce various degrees of amnesia, but drunkards are prone to be affected by various illusions of memory termed paramnesic states. Paramnesia occurs more commonly in alcoholic insanity than in any other form of mental disorder. A simple image may appear as a recollection, or, more commonly, an imaginary image is recollected

and referred to as a reality. An illusion or hallucination may have been the initial factor in the production of the paramnesia, there being an inability subsequently to distinguish between what was actually a false sensory perception and a perception founded upon an objective reality. An illusion may be revived, the fact that the primary illusion was imaginary, lost sight of, and, as a result, a belief that the present revival is based upon fact. In alcoholic cases the false memory usually refers to a visual image of persons or places seen, or to a motor or kinaesthetic image of actions performed. It would appear reasonable to assume that the starting points of the initial illusions or hallucinations were in the cells most immediately concerned with vision of kinaesthetic impressions respectively; but this would give no solution to the delusion as to the active reality of the object seen or act performed.

At present psychology is confused, and I believe in error, with regard to the revivability of what may be termed specific "qualia" or perception of qualitative differences between sensations — without the aid of their respective stimuli, and until this question is more definitely solved it is useless to attempt to explain many points with regard to the paramnesias. In any case an explanation must depend, not so much upon the existence of a negative lesion (Hughlings-Jackson), which prevents the individual from correcting the positive symptoms. This negative lesion I believe to be due to disruption of the neurons, to be consequent failure of the comparing and associative faculty, and to isolation of the contributory processes (as represented physically in the neurons) essential to a proper seriality of thought.

I fear I may have exhausted your patience by having dwelt on this question so long, but I cannot but feel on the neuron theory there rests a great responsibility, and many of the problems of mental physiology and pathology must reckon with it in the future.

It now only remains for me to discuss briefly the relation-

ship of alcohol to general paralysis of the insane. Mickle, in his work on General Paralysis, states that in his own cases, alcohol, though perhaps rarely acting alone, has appeared to be by far the most frequent and efficacious cause of general paralysis. Thorneuf, Guislain, Hitchman, Hack Tuke, Marce, and Magnan have also demonstrated the frequent occurrence of alcohol as a factor of causation, but none of them assert that alcohol per se is the sole cause. In cases quoted by these authors, as in those described by Gambus, Lolliot, Nasse, and Sauze, there was, in addition to fatty degeneration of the organs and vascular atheroma, a diffuse interstitial sclerosis such as might readily be attributed to alcohol.

I do not for one moment desire to underrate the importance of alcohol as an adjunct in the causation of the degenerative processes of progressive paralyses. I merely go so far as to state that I do not believe alcohol alone is ever responsible for the disease we term general paralysis any more than it is responsible for tabes. General paralysis is, in its close etiological affinity to tabes, essentially a sequel to syphilitic infection, call it parasyphilis or metasyphilis, or what you will. The factor of alcohol, when added to that of syphilis, does not lead us to modify our diagnosis and prognosis very materially in any individual case; but when alcohol is said to be the sole factor, then even the most experienced of us hesitates to diagnose general paralysis, knowing as we do how almost invariably we are deceived. In those cases diagnosed as general paralysis due solely to alcohol, and which may progress to a fatal termination within the time allotted to general paralysis, the pathological findings are of varied interest and suggestive of etiological factors differing widely from the syphilitic types.

Bristowe, while studying the pathological changes met with among those dying insane, was much struck with the large numbers of cases in which chronic renal disease of a more or less advanced state was present. In general paralysis more

particularly was this the case, and his statistics led him to believe that the relationship between general paralysis and renal disease was something more than a merely accidental one.

Kellogg also believes renal diseases to be frequently associated with insanity, and that the two affections are sometimes the common symptom of general vascular degenerations. He states that out of several hundred necropsies of the insane he has found renal disease in a "considerable percentage of cases," but he does not give any information as to the exact number of the cases or the form of kidney disease. He points out, however, that if there appears, on close inquiry, a history of previous alcoholic excess in these cases, it is more consistent to regard both the renal and the mental trouble as two resultant symptoms to this antecedent cause.

Bischoff has only seen two cases of uraemic insanity among 3,000 lunatics. He believes that uraemic insanity is particularly likely to arise in those who are hereditarily predisposed, or who are addicted to alcohol. The actual cause of the disturbance is more often the uraemic intoxication, but in a certain number of cases the insanity appears to depend upon the convulsive attacks. He also regards it as possible that the visual disturbances may play some part in the pathogenesis. Uraemic insanity usually runs the course of acute mania, from which it is distinguished by the epileptiform seizures. Bischoff also refers to katatonic conditions, occurring especially in those with strong hereditary predisposition. The prognosis is in all cases bad as regards life, but if the uraemic condition passes off there is a considerable prospect of recovery from the mental impairment.

Any defect in the renal system associated with arterial degeneration and a tendency to cardiac failure is apt to be attended by brain failure. Renal cirrhosis is frequently associated with adhesion and thickening of the dura mater. The pia mater is also apt to be thickened and opaque, and in some instances adherent to the cortex cerebri. When this is the

case the lymphatic or vascular circulation is so impaired that symptoms of cerebral and mental degeneration appear.

Renal disease, therefore, is associated with insanity in two ways: (1) acute transient delirious mania or acute uraemic insanity, and (2) a progressive cerebral degeneration with chronic renal disease as the primary cause. In this type the mental symptoms during the earlier stages vary from a mild demential to mania or delirium. In due course, however, complete dementia results not unlike paralysis of the progressive type known as general paralysis of the insane.

I have seen many cases of mania with excitement and even delirium in which the pupils were contracted, reflexes diminished, and muscular tremors, followed later by convulsions. These cases, when extending over a period of two or three years, are apt to lead to the faculty diagnosis of general paralysis. Not infrequently, however, the kidneys are found to be normal, and the symptoms are due to an over-production of toxic substances in the body and eliminated in the urine.

On careful analysis of the details of 200 cases of insanity due to alcohol admitted to Bethlehem there were to be noted the comparative frequency of such symptoms as inequalities of pupils, tongue tremors, alterations and defects of speech, sluggishness or exaggeration of the knee-jerks, and not infrequently hemiplegias or other symptoms of arterial and cerebral degeneration. In no case uncomplicated with a history of syphilis could I discover absence of the pupillar reflex to light.

The cases diagnosed as general paralysis appear to me to have been of three types: (1) Parasyphilitic types which correspond most closely to the classical description of general paralysis with alcohol as an adjunct: (2) Types of cerebral degeneration due mainly to vascular changes consequent upon kidney or arterial disease due to alcohol; and (3) types of associated and mental and motor defects in which the kidney disease was merely coincidental, the mental and motor symptoms

being due to other factors, such as sunstroke, malaria, post-febrile, and toxic states. The second and third types form what for convenience sake may be termed pseudo-general paralytic types, and run a totally different course from the first type mentioned.

It will, therefore, readily be seen that even progression to a fatal end does not necessarily mean general paralysis, and it will be of much interest to hear how far this contention that alcohol per se does not cause general paralysis is borne out by the experience of others.

In a discussion at Birmingham, England, on the Medical Problems of Alcohol, Professor Woodhead said: "The popular notion that the effect of large doses of alcohol, especially when repeated, could be slept off in a night was absolutely erroneous, as was also an idea that it was a valuable food. The action of alcohol as a poison was far more important than its action as a food, and, although a spurt had been made in bringing up the evidence as to the food-value of alcohol, it was daily becoming more evident that its rôle was pathogenetic rather than nutritive."

The experiments of Kurz and Krapelin were quoted by Professor Sims Woodhead to show that the foundations of chronic alcoholism might be laid sooner than is generally supposed. The experimenter says: "A single dose of 80 grammes of alcohol ($2\frac{4}{5}$ ounces) does not pass off quickly and perfectly, but leaves behind an after effect which lasts more than 24 hours. If this dose is repeated in 24 hours a gradual increase of effect is produced, which we must designate as the commencement of chronic alcoholism, and this is already very evident after 12 days' action by a depreciation of faculty to the extent of $\frac{25}{40}$ per cent."

THE INSTITUTIONAL TREATMENT OF
INEBRIETY.*

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The institutional treatment of inebriety, which has so rapidly developed of recent years, will be thrown away unless the opportunities of systematic and scientific study, which regular observation in such institutions affords, is fully utilized. Already the most superficial inspection of the inmates of our retreats, private homes, certified and state reformatories, must suffice to show that very different types are lumped together under the term "inebriate." Between the voluntary coöperant in his own amelioration and the criminal recidivist who rejoices in free indulgence, who has no self-respect, but prefers to remain a social parasite, and rebels alike against restraint and reform, there is a world of difference necessitating great discrimination and diversity in treatment.

From a most useful volume prepared by Dr. Branthwaite, entitled "A Collection of British, Colonial, and Foreign Statutes Relating to the Penal and Reformatory Treatment of Habitual Inebriates," we may gather that forty years ago the only laws existing in regard to drunkards throughout the civilized globe were of a penal nature, and represented in the main by fine or short periods of imprisonment. Here and there the imprisonment gradually lengthened until it apparently became more a question of control than punishment. Then the principle of irresponsibility forced itself upon the notice of

* Delivered before the Society for the Study of Inebriety.

legislators, and laws assumed more of a reformatory and less of a penal character. Some countries by "interdiction" framed laws to prevent an inebriate from obtaining liquor. Others either stretched guardianship laws already in force, or enacted fresh ones to apply to the inebriate. Then came the institutional treatment, and New York State, in 1854, gave legal recognition to the pioneer reformatory for inebriates, largely as the result of the advocacy of Dr. J. E. Turner of Bath, Me. After twenty-five years' useful work, the New York State Inebriate Asylum appears to have come to an untimely end. According to Dr. T. D. Crothers of Hartford, Conn., "it has proved the wisdom of its founder and showed that inebriety was both a disease and curable, and its failure was largely due to political influences and the frequent change of officers, who were unacquainted with the work and could not manage it along scientific lines."

In England select committees sat in 1834 and 1872, and inquired and reported on the modes of dealing with habitual drunkards; with their labors the names of J. S. Bucknill and Dalrymple are honorably associated. In 1879 the first legislative recognition in this country was accorded to the habitual drunkard, who was then and there defined as "a person who not being amenable to any jurisdiction in lunacy is, notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or herself, and his or her affairs." Licensing authorities and "retreats" were recognized; entrance to the latter was a voluntary act, though once there by request the volunteer becomes a prisoner *malgré lui* for the period specified, the legislature declining out of jealous regard for the liberty of the subject and fear of the abuse of compulsory incarceration, to go farther at that time. This act, though amended in 1888, did not prove a conspicuous success. The reasons of non-success have been variously given as: want of compulsion to secure the admission of dangerous and confirmed inebriates, insufficiency of the maximum period

of detention — then thirteen months — difficulties attending the treatment of refractory patients, escapes, etc.

Accordingly, after a further inquiry by a department committee in 1893, the Inebriate Act of 1898 was placed on the statute book. Under it the institutional treatment of the inebriate is provided for in certified reformatories and state reformatories, which supplement the voluntary retreats established under the earlier acts. The act created entirely new law. It enabled magistrates to substitute reformatory treatment for imprisonment in the cases of habitual drunkards who have brought themselves within the purview of the law by way of crime committed under the influence of drink, or who, by repeated appearances for certain scheduled offenses connected with drunkenness, had demonstrated the hopeless inefficacy of short imprisonments. So that at the present time the institutional treatment of inebriety falls naturally under the three classes of institutions which have received legislative recognition, and all of which are now at work. The "retreats" receive private patients — that is those who desire such treatment and seclusion, but who do not sign away their liberty by any "form of request for reception," as well as those, who not having rendered themselves amenable to the law by reason of drunken offenses, are yet desirous of treatment and compulsory detention for a period not exceeding two years. Then there are the certified inebriate reformatories established at the option of local authorities (town or county councils), receiving under Section II of the Acts of 1898, such cases as the magistrate may see fit to send and the managers may be willing to receive. Lastly, in order both of time and severity of discipline, we have the state inebriate reformatories established by the home secretary, which, by original designs, or rather as the result of experience, have been destined to receive the more criminal class of offender, or those for whom the lenity and amenities of certified reformatories have been formed in vain.

At the present time there are some score or more of "retreats," with accommodation for some 400 inmates; half a

dozen certified reformatories, with some 500 beds, and two state reformatories, all at work for the reclamation of the habitual drinker by various methods of more or less disciplinary regimen.

Concerning the secret systems of cure I know of no royal road or short cut from disease to health which can be passed over by drugs of any kind or description. All medicines invested in secrecy are suspicious. Why should remedies alleged to be little short of infallible in their results be kept secret by their discoverers in opposition to the general habit of the profession? I can only conceive two possible reasons for secrecy. One financial — to secure a monopoly of the treatment and the rewards it may bring; the other, that of occultism, that is, to surround the alleged remedy with a halo of mysticism and ritual, wherewith to confound the vulgar, and deceive, if that were possible, the very elect. I have no sympathy with either motive, nor do I envy the reflections of any man, who believing he holds in his hands a true remedy for this widespread evil, is content for such reasons to withhold it from publication. I am willing to admit, however, that human nature being what it is, there is some force in the latter of the two motives, for have we not read the pretty story of Joanna Stephens and her cures for stone which excited our ancestors of the eighteenth century? Her cures were so remarkable and indisputable that a general demand arose for the revelation of her secret for the public benefit. Have we not read how — led by the Archbishop of Canterbury — Fellows of the Royal Society, physicians, noblemen, and great ladies subscribed towards the sum which Joanna demanded for her infallible nostrum, how even parliament stepped in and passed an act to complete the required £5,000 as the valuable consideration for the "proper discovery" of the great Stephens stone solvent; and the prescription they got for their money was: Calcined egg shells, snails, carrot seeds, hips and haws, soap, and honey. The virtue of the remedy did not apparently long survive the knowledge of its composition.

I am convinced that we may look in vain to the teaching of a materialistic philosophy for any hopeful dealings with the class of offenders we are now studying. Hedonism and necessitarianism will, I believe, prove false guides and uninspiring mentors in the task of individual reclamation and social regeneration, though they pursue the paths of despotic philanthropy, so much in vogue in esoteric circles.

Appeal must be made to higher sanctions than those of pleasure, or even those of prudence. And unless we recognize in each individuality a conscious partnership in the architecture of his or her own character, that is to say, a will free to choose, a self-conscious power actuated by ideals which transcend the natural and merely physical sanctions, a will animated by a sense of moral obligation, of duty to the right and to the disinterested good, our efforts are foredoomed to failure.

Prudential motives based on the acquisition of some material good or the fear of deprivation of it may suffice to train a good animal but will not rehabilitate a human will. Something more is required than the mere exhibition of pains and pleasures. It is on the moral plane that we must work if we are to reconstruct character and not merely regulate conduct.

Unless above himself he can
Erect himself, how poor a thing is man!

Perhaps it is necessary, in order to guard against misapprehension, that I should here remark that it must not be assumed that I undervalue the enormous importance of securing in the first instance the physical well-being of the social wrecks which enter our reformatories. Nay, I would lay it down that to secure a return or approximation to a physical norm is a preliminary essential to any and all other treatment.

The prison commission says in regard to those who find their way to Aylesbury jail: "It is hardly possible to conceive humanity fallen to a lower state than is presented by these unfortunate women."

The interaction of mind and body needs not to be enforced.
We all know how

distemper'd nerves
Infect the thoughts; the languor of the frame
Depresses the soul's vigor.

To get the physically abnormal or subnormal up to normal by good diet, regular hours, exercise, and rest, in sanitary dwellings, is the first step, a sufficiently obvious one, and perhaps the easiest. To restore physical health, then, is the beginning of treatment, but only the beginning. As regards alcohol I firmly believe that in all inebriates, as also in delirium tremens, its immediate and complete withdrawal is the only rational course, and I have never seen any but good results follow from such a practice.

As to the existence of what is so much talked of as the "drink craze," if it is intended to imply the existence of a physical want, akin to thirst or hunger, I confess I am skeptical of its existence. My experience leads me to believe that it is often alleged as a sort of Demiurgos upon whom unpleasant consequences and unforeseen results can be blamed. What the inebriate wants is the secondary results of the drink by way of a mental alterative, or exaltant or narcotic. In a word, there is "a desire for intoxication," not a "crave for drink." But in many inebriates, I am convinced, paradoxical as it may seem, alcohol is not the all-important factor in the mental state.

Many habitual drunkards, in my opinion, either by temperance or by loss of self-control and chronic self-indulgence, have got into a mental and moral condition that is apt for crime apart from drink. Or, again, alcohol is not infrequently, as it were, the reagent which evokes a latent criminal tendency. It saps the will power at its source, and where this is weak congenitally, or has become so by repeated unfaithfulness to the sanctions of conscience, the will-palsy which alcohol evokes lets slip the curb and gives the rein to passion. In proof of this contention I would cite the report of the med-

ical officer of the Aylesbury State Reformatory. He says: "A large majority of the cases are greatly deficient in moral self-control. Several of the younger ones are highly hysterical and emotional. A small proportion are greatly below the average intellectually. The want of self-restraint is the worst feature of these cases. It exhibits itself in violent outbursts of passion, which are characterized by acts of violence and destructiveness, frequently extending over several days. Only those who have had the charge of such cases have any idea of the amount of destruction and violence these women can accomplish when once they let themselves go."

Now any rational system of punishment premises the possession of a will, a volitional responsiveness to motives. To expect results from pains and penalties where will is absent or in abeyance is fishing in a fishless water. It is worse than folly—it is cruel, it is criminal.

Not a few so-called inebriates of the class we get through the police courts are more suitable for asylum than reformatory treatment, and society has a right to demand that in default of adequate care by their friends they shall be taken care of by the state. The discrimination of such cases needs time and care and a proper co-ordination and communication between the committing authorities and the receiving authorities, when it is not conspicuous by its absence. The bill introduced into parliament last session to sanction the establishment of receiving houses, though unsuccessful, embodied a principle capable of extension to include all cases needing observation before being sent to an asylum, reformatory, and perhaps prison.

Then, assuming all that can be done by improving the physical norm has been accomplished and alcohol banished, whether as a drug or beverage, there comes the question of seclusion or association. Unless voluntary coöperation of the individual in his or her own restoration is secured I do not believe we are on the threshold of reform. Some desire seclusion, and where

that is the case it is probably good for them so long as they desire it, provided proper observation is kept up. A large number of the women sent to Farmfield were well known to one another, and removal from habitual environment is robbed of half its value if old associations are revived by personal communication in the reformatory. By such undesirable association prisons have often proved seminaries of crime rather than agencies of reform.

Next come attempts to foster will power. Habits of industry must be inculcated, especially on work that grows and progresses under the hand, so as to afford, as it were, an end in view and stimulate a fixity of purpose in attaining to the goal. Not too much of the washtub but plenty of outdoor work on the farm and in the garden. "Back to nature" seems a natural resort for these social wrecks, mostly denizens of the festering courts of the great city. Maybe as the poet tells us:

One impulse from a vernal wood
Will teach them more of man,
Of moral evil, and of good
Than all the sages can.

Or it may be that work in farm or garden acts in a way which James Hinton suggests in his "Mystery of Pain." He reflects how in such occupation an essential part of the pleasure is furnished by the slight inconveniences involved. "The little claim on the endurance constitutes a real part of the charm," and he dwells on the ethical value of "willing-accepted inconveniences."

The law of association should be laid under contribution, and the memory exercised as a valuable adjuvant to volition. Reading aloud by the officers of happily selected books during meal times has been found of service in more ways than one. On a higher plane come those ultra-physical and supra-natural sanctions, under which disinterested actions and propensions are most likely to awake and flourish.

All education has been said to consist in contact with a superior mind, and if this be true it is needless to dwell on the

constructive influence on character of a reverent allegiance to some great personal affection or to some lofty personal ideal.

The children's home at Lady Somerset's colony seems to have been admirably conceived to arouse altruistic sentiment. The magnetic personal influence of those in command is, though intangible, almost omnipotent in its effect. The tact which remembers that you can never displace one emotion except by another will cease from idle striving, await its opportunity, and not avenge personal pique by vindictive punishment. I must leave it to others to speak of any drug treatment of inebriety they may deem efficacious. I know of none. It was said of Paracelsus that in his zeal for psychical treatment of disease he made a bonfire of the books of the apothecaries, and mortally offended the pharmacists who were not remunerated by his transcendental prescriptions. With all apology to that useful profession I fear it is not by means they can dispense, least of all by anything out of a bottle, that the sot will be enabled to regain his self-respect and self-control.

Lastly, the return to liberty, the discharge upon the world, needs infinitely more attention and effort than has yet been given it. There is much to be said of the Elmira method of elastic sentence in the case of all repetitive offenders, and for effecting return from restraint to liberty by graduated stages. The careful provision of some guide, philosopher, and friend for each patient as discharged is the best security for good behavior which can be required or given.

These are some of the unheroic methods which seem to me best calculated to restore self-mastery and fidelity in these moral paralytics. If in our institutional treatment we begin by endeavoring even for the most degraded to idealize the real, it is possible that they may at last realize the ideal.—*British Journal of Inebriety.*

PSYCHOMETRIC TESTS OF THE ACTION OF
ALCOHOL.

A Visit to the Laboratory of Professor Krapelin.

BY THEODORE NEILD, B.A., J.P.

The research work in experimental psychology that has been done at Heidelberg during nearly two decades now has greatly influenced the views of men of science as to the action upon the brain of alcohol in moderate doses. Professor Krapelin, an alienist of high repute, began these investigations without bias; alcohol was only one of the several drugs whose effect upon the brain he wished to measure. The results he obtained with regard to it were long known only to the few who were at once students of psychiatry and also German scholars. But as, in the course of years, one important "Arbeit" after another issued from the Heidelberg laboratory, each widening the field of research, and each corroborating its forerunners, the attention of a large circle was attracted, and the results of Krapelin's researches at length made their way into medical textbooks. To those engaged in the "study and cure of inebriety" the conclusions of the professor and of co-workers Aschaffenburg, Furer, Smith, Ach, Kurz, Mayer, Rudin, and others, were especially welcome, as confirming in many ways their own rough observations, and as doing this with a scientific accuracy and thoroughness which went far towards placing beyond cavil the results obtained.

Dr. Pierce, the able head of the retreat at York, first drew the writer's attention some years ago to the Heidelberg re-

searches, and it was due to him again, and his company, that a six days' visit was paid last month to the place where Krapelin and that great student of the cortex, Nissal, have done their work. We were not among the number of those who are "skeptical of attempts to measure the mind or to examine consciousness with laboratory instruments," but we had certainly felt that much depends upon the acumen, sagacity, and freedom from bias (conscious or unconscious) of the deviser, conductor, and interpreter of mental tests. This made us wishful to see the man who has either carried out, or directed, so many important researches into the action of alcohol. We also felt that it would be easier to evaluate, and in some cases to understand, some of the results after we had studied the instruments and methods by which they were obtained.

Some account of these instruments may interest the readers of the *British Journal of Inebriety*, though, of course, those at all acquainted with psychometry will be familiar with some of them. As simple as any is the apparatus by which to gauge the speed with which a sound is recognized and responded to. Upon a table is a chronoscope showing thousandths of a second, and communicating electrically with two spring buttons at some distance apart. The operator and the subject, both doctors and both trained in this kind of work, are each in charge of one of these buttons. First, the reading of the chronoscope is noted. Then, after the room has been darkened, the operator smartly depresses his button, which starts the chronoscope. The subject hears the click and at once depresses his own button, which throws the chronoscope fingers out of gear. The reading is again noted, and this, subtracted from the first reading, gives the whole time taken — the "reaction time."

Nothing can here be said of the accessory apparatus by which the truth of the chronograph has to be frequently tested. Somewhat similar instruments are employed to test the reaction time of the eye by means of flashes of light. But a more

elaborate apparatus is needed to measure the capacity of the eye quickly to seize, and accurately to reproduce what has been so seized. This is termed the "shooting-slide." The light employed in using this instrument is artificial, in order not to vary, and shines through a semi-transparent screen. In front of this screen the subject sits in a darkened room. Between him and the illuminated screen is an opaque screen, placed in the line of his focus, and having in its center a square opening through which comes the light. Across this opening the operator shoots at various speeds, by the release of springs of different strength, a series of glass slides. Each slide has nine capital letters upon it, well spaced and variously arranged. The subject has to read as many of these letters as he can while the slide glances by. It is curious how distinctly all the three rows of letters are visualized in this tiny fraction of a second, but equally curious how hard it is, for the unpracticed observer at least, to reproduce to the operator all that has been seen. To test speed and accuracy of reading words or syllables, these are arranged spirally upon a cylinder which revolves so as to bring each word in turn before the subject for a fraction of a second. In experiments where the operator has to speak and the subject to reply, the time occupied is ascertained by apparatus arranged so that the opening of the operator's lips sets the chronoscope going, and the opening of the subject's lips sets the finger out of gear.

The instrument by which the time taken by the subject in making association-replies is measured is simple but excellent. Words of all kinds, representing all sorts of objects, ideas, sounds, etc., are printed in bold type upon cards. These cards are successively presented to the subject, who has to name some noun which the presented word calls up, and which is associated with it in some previously agreed manner. The finger-stroke which flashes up the card in front of the subject sets the chronoscope in motion; when he speaks his reply into a telephonic mouthpiece he throws the fingers out of gear. This gives the

time occupied; a far more delicate task is afterwards to sort the answer, given under the various conditions, so as to gauge their respective intellectual value.

The investigation of variations in handwriting under small doses of alcohol was that about which the writer was most inclined to be skeptical. It was, however, the apparatus for testing these variations which Professor Krapelin seemed, perhaps, to describe with most satisfaction; and it is most certainly ingenious and delicate. Tracings upon smoked paper record the exact pressure of the pen at every part of the line written, together with the precise time taken over the various letters — again to the thousandth of a second, but in this case by the well-known tuning-fork arrangement. Then a special micrometer employed afterwards on the writing completes the analysis. The writer was much impressed by what he saw, and will now turn with much greater confidence to the monograph of Dr. M. Mayer.

Tests of handwriting, it is true, border more distinctly than any of the foregoing upon the domain of muscle. Measurements of muscle pure and simple, if we may speak so, are made, of course, with the egograph. This instrument is often employed at Heidelberg in experiments with alcohol, as all readers of the "Psychologische Arbeiten" know. It was interesting to see the originals of well-known diagrams of egographic work, but the instrument itself was engaged upon researches outside the scope of this paper.

It will be easily understood that the labor of research with any of the above instruments is enormous. A large number of experiments is made each day and the average taken. These are repeated at the same hour and under the same conditions for many consecutive days, in periods alternately without and with alcohol (or whatever other drug is in question.) The quickening effect of practice and the slowing effect of fatigue have, inter alia, to be ascertained and allowed for. The alcohol is given in various doses, either swal-

lowed at once, sipped, or repeated at certain intervals; and the experiments are made either immediately afterwards, or when a varying number of hours have elapsed, and all this has to be gone through with more than one subject to avoid idiosyncrasies. Much, however, as has already been done, Professor Krapelin still feels "the need for extending the experiments, and for varying the conditions in various directions."

The professor remarked to us that, while anyone could perform the experiments, it takes six months to train a man (doctor) to act as operator. As said above, we have felt that far more than training is needful for research in mental processes. But, after watching Professor Krapelin in the various departments of his work, we were entirely agreed that he has remarkable qualifications for the task in question. To the writer he seemed to unite the best qualities of a German, a French, and an English man of science. His results have remained practically unchallenged, and have been accepted by many of the highest authorities. Sir Victor Horsley's Lees-Raper lecture unfortunately was not published, but from the report it would seem that he based some part of his argument upon the findings of Krapelin, as well as upon those of Nissll, some of whose investigations into the diseases of the cortex gave us a rare treat during our visit. It is true, as Professor Krapelin reminded us, that the experiments made by himself have not yet been repeated, but all that has so far appeared has been confirmatory.

Krapelin states, it will be remembered, that the maximum dose of alcohol after which no depression of mental function is subsequently to be detected is about 7.5 grammes. We asked him if any work had been done to test whether there is any cumulative effect resulting from the daily repetition of a dose apparently non-paralysant. He said it had not, pointing out the great length of any experiment, which would have to be conducted in periods of six months alternately with and

without alcohol. But he added that he himself had practically no doubt that some cumulative effect is produced. We questioned him also as to that brief quickening of the more automatic mental processes which precedes their period of depression after small doses of alcohol. This quickening has been set down to the increase of blood in the brain caused by the paralysis of the constrictive nerves of the arteries. To the writer it has never been easy to see why this increase should not quicken all the mental processes equally. Professor Krapelin, we found, does not accept the extra-blood explanation, but sets the quickening down to that psychomotorische Erregung of which he and his school speak — by which they mean, apparently, something akin to those ill-governed but rapid movements which are observed in some forms of insanity and in delirium, and are attributed to the paralysis of the highest (inhibitive) functions of the brain.—*British Journal of Inebriety.*

Alternate hot and cold applications made to the spine powerfully impress the whole central nervous system and form a most effective means of arousing a patient from the lethargy of *opium poisoning*, profound *alcoholic intoxication*, or poisoning by any other narcotic drug. The author recalls very vividly a case of opium poisoning to which he was called in consultation some twenty-five years ago in which a patient's pulse was reduced to less than twenty, and respiration to four per minute. Thoroughgoing hot and cold applications to the spine quickly brought the pulse to a nearly normal count, the respiration became twelve per minute within five minutes, and the change in the entire aspect of the case was so marvelous as to seem little short of a miracle to the bystanders, who had never before witnessed the powerful stimulating effects of thermic applications properly managed.— By J. H. Kellogg, M.D., in "Rational Hydrotherapy."

THE DIAGNOSIS OF GENERAL PARALYSIS, AL-
COHOLIC INSANITY, AND SENILE
DEMENTIA.*

BY E. G. YOUNGER, M.D., BRUX., M.R.C.P., LONDON,
Physician to Finsbury Dispensary, Medical Officer, Metropolitan Asylum, Cater-
ham. Etc.

At first glance it would seem that there should be small difficulty in distinguishing between the above three forms of mental disorder, but a little thought will remind us that they each have not only several symptoms in common, but also some causes as well: and here it may be mentioned that in the diagnosis of mental disease a knowledge of the cause or causes is often nearly as important as a proper recognition of the symptoms. I have seen a good many cases of general paralysis, alcoholic insanity, and senile dementia where it was impossible, after even more than one interview with the patient, to distinguish one from the other. I have seen a few where weeks and even months have elapsed before a correct conclusion could be arrived at. And a few where the question whether the case was one of slow general paralysis or of premature senile dementia with marked muscular tremors has only been decided on the post-mortem table.

General Paralysis. This disease is commonest between the ages of thirty and forty-five, and is rare after fifty, though cases have been reported as late as sixty. It is quite four times more frequent in men than in women. The principal

*The following is an abstract of a paper in the *Medical Press and Circular* of some interest to our readers.

causes are generally admitted to be sexual excess, long hours of employment with insufficient sleep, alcoholic excess, syphilis. Other causes, such as plumbism and excessive meat diet, have been spoken of. General paralysis is the only form of insanity in which heredity as a predisposing cause can be excluded.

The mental symptoms comprise loss of memory, hilarious and optimistic excitement, with grand delusions which vary almost from minute to minute. The patient is a duke, a king, an emperor; his house is a marble palace, and the pebbles in his garden priceless gems; he is going to build a railway across the Atlantic and run golden locomotives on it and so forth. He is likely to commit some foolish theft under the impression that the article is his own, or to expose himself indecently, or be guilty of a criminal assault. The physical symptoms include tremors, especially of the tongue and of the facial muscles, and these tremors are nearly always fibrillary in character. Difficulty in articulation and alteration in gait are common, both being due rather to inco-ordination than to actual paresis. The pupils may be unequal in size or irregular in outline, or both. In due course epileptiform seizures, known as congestive attacks, set in. In these the convulsions are not so severe as are those of true epilepsy, and the patient rarely bites his tongue; but each seizure leaves him more paralyzed than it found him. There is usually diminution of cutaneous sensibility, and the knee-jerks are abolished or impaired. During the earlier stages remissions may take place, and are of sometimes long duration; but these are always followed by relapse, and the tendency of the disease is towards increasing paralysis and death.

Alcoholic Insanity. In speaking of this I do not refer to delirium tremens, but to the less transient mental alteration caused by long addiction to alcohol, where the patient, before actual insanity has become apparent, has already begun to manifest some of the physical symptoms of chronic alcoholism, such as diminished will power, untruthfulness, and cowardice.

It is rather commoner in men than in women. In all cases of alcoholic insanity, if careful search be made, a family history of insanity, epilepsy, alcoholism, or other neurosis can be traced, and here this form of mental disease differs widely from general paralysis. I believe that the drunkard with no hereditary neurotic history (if there be any such, which I am sometimes inclined to doubt) runs a far greater chance of ruining his liver and kidneys by his excesses than he does of becoming insane.

The type of alcoholic insanity I have now in my mind is the maniacal one with exalted delusions of wealth and position. The memory may or may not be affected. The mental symptoms are commonly accompanied by muscular tremors and halting alterations in speech. The tremors are often fine in nature, closely resembling those of general paralysis. The pupils are often unequal in size, but never irregular in outline, as in the paretic complaint. The knee-jerks may be abolished in one or both legs, and the gait impaired, but more from true paresis than from muscular inco-ordination. Moreover, cutaneous sensibility remains unaltered. Epilepsy is often an accompaniment of alcoholic insanity, thus importing another element of doubt in forming a differential diagnosis. On the other hand, hallucinations of hearing and touch, delusions about conspiracies and of poisoned food, all rare in general paralysis, are common in alcoholic insanity, and the dissatisfied and suspicious bearing of the alcoholic is in marked contrast to the restless condition of the general paralytic. Should doubt as to the nature of the case still exist, it may be necessary to withhold any attempt at diagnosis until the results of treatment, with the suppression of all alcohol, have been watched, when the marked improvement in the alcoholic patient's symptoms will generally clear up all uncertainty. It must not be forgotten, however, that these cases may end in incurable chronic mania or dementia, especially where the patient has had several attacks. Where the attacks of alcoholic insanity follow closely on one another it is sometimes difficult to distinguish

the intervals between them from the remissions so common in general paralysis.

Senile Dementia. This is rarely before the ages of sixty to sixty-five, but it sometimes belies its name by appearing quite early in the fifth decade of life, thus reminding us of the excellent aphorism that we are all as old as our arteries. It is common to both sexes, and is a primary disease, having for its origin the degenerative lesions of old or worn out tissues. Alcoholic intemperance in earlier life is one very common cause. Heredity also, is a usual factor, the tendency to senile dementia running in some families. A few of these patients have grand and expansive ideas, associated with optimistic restlessness in addition to the typical loss of memory which is always present, thus closely resembling general paralysis, but in senile dementia the maniacal attacks are often alternated with melancholic turns, which is not usual in the former disease. Tremors are common, but they are the typical coarse tremors of advanced age rather than the fibrillary ones I have already spoken of as being characteristic of general paralysis, and, in a lesser degree, of alcoholic insanity. The knee-jerks are usually unaffected, thus contrasting with their condition in the two above-mentioned states. Epilepsy may be present, a complication adding to the difficulty of arriving at a correct diagnosis, but arcus senilis, if apparent, will point to the probability of the case being one of senile dementia, as it is rare in general paralysis.

I append notes of two cases, both of which were seen by several physicians besides myself, but in neither of which was any certain diagnosis as to the form of insanity arrived at for two years in the one case, and one year in the other.

Case 1. In February, 1900, I was asked to visit and report upon the mental condition of a young lady, aet. 27, who had recently been admitted to a private asylum. No family history could be obtained, but the personal history, as far as I could get it from the friends, who were very un-

truthful, was that the patient had lived for a few years in concubinage with a gentleman, who had died a month or two before I saw her, and had left her in very comfortable circumstances, but that after his death she had taken to drink, soon becoming insane. Later on I learned from another source that she had been a hard drinker for many years, and that there was a doubt whether she had not led a life of prostitution prior to her falling in with the gentleman above mentioned. When I first saw her she was restless, mischievous, and utterly incoherent. She talked incessantly, and there was some clipping of words as well as tremor of the facial muscles. No pupillary abnormalities could be perceived, but I thought of the possibilities of general paralysis, especially as she was said to have had a slight epileptic fit. She was in poor physical health. I saw her again six weeks afterwards, when she was more composed, but still incoherent and incapable of sustained conversation. She talked about her personal appearance, and leered amorously at the solicitor who accompanied me and at myself. There had been no more fits. In the following May, when I visited her, she had become violent and unmanageable after an epileptiform seizure; she was again utterly incoherent, abused herself openly and shamelessly, yelling that she was getting younger and lovelier every day. I saw her again in October when she was quieter and more imbecile, but still with an exaggerated idea of her loveliness. She had no recollection of ever having seen me before. She had had, I was told, occasional slight epileptic fits. I paid visits to this patient for a period of over two years, sometimes finding her quiet, imbecile, and forgetful, and at others maniacal, noisy, restless, and disgusting, practicing self-abuse, and smearing herself and her padded room with excrement. For a long time both the medical staff of the asylum and I myself were undecided as to whether this was a case of general paralysis or of alcoholic insanity. By degrees the patient's fits became more frequent—about one in three weeks—but her

maniacal attacks became fewer and less acute, and she began to occupy herself. The delusions as to her personal beauty became less apparent, but her memory deteriorated, though her physical health improved. When last I saw her she was fat, amiable, forgetful, and silly, and there is little doubt that the case is one of true alcoholic insanity with epilepsy as a complication, passing into dementia.

Case 2. Some years ago I was consulted as to a gentleman, aet. 60, already interned in an asylum, possessed of large property, but who had for some months past caused much anxiety to his friends by his altered demeanor and habits of life. There was no heredity of insanity, and no history of sexual excess, alcoholism, or fits. From being a man of most exemplary ways and placid disposition, he had become restless in habits and lewd in talk; he had squandered money in giving champagne to anyone who would drink with him; had bought a yacht for which he had no use, and which he re-sold at a great loss; had walked into the street in his night-gear, and was altogether irrational and inconsequent in his actions. When I saw him he boasted of his success in all financial ventures he undertook. He was hilarious and elated, greeted me as an old friend, though he had never seen me before, and invited me to luncheon. He rambled from one subject to another in a most irrational way, and his memory was greatly impaired. He had a delusion that he had come to the asylum of his own free will, with a view of becoming part proprietor. His lips were tremulous, his speech was slurring, and gait shuffling. There were no pupillary abnormalities, but he had marked arcus senilis. In this case, although many of the symptoms pointed to general paralysis, the age seemed to contradict this, and I, as well as the asylum physicians, were inclined to suspect senile mania with megalomania. The diagnosis remained in doubt for more than a year, when he was seized with undoubted congestive attacks, after which his paralytic symptoms became more marked, and there was then no doubt of the existence of general paralysis.

THE PSYCHOLOGY OF THE INEBRIATE
MOTHER.

BY T. CLAYE SHAW, B.A., M.D., F.R.C.P.

The subject I have been asked to discuss suggested the union in the individual of the most revered and the most revolting conditions — nothing more to be honored than the mother. The subject is best discussed from the physical and psychical sides, and on the former one of the most interesting questions is: "What are the effects upon the foetus of blood charged or surcharged with alcohol?"

The evidence, which is both experimental and clinical, is very distinct on this point, and Ballantyne's recent work on "Antenatal Pathology" might be studied with profit. French authors have shown that alcohol, as alcohol, passes in considerable quantities into the foetus, and that non-developments, monstrosities, and malformations are brought about in the alcoholized foetus.

Owing to the accelerated and poisoned blood-supply the microkinesis and micropsychosis of the mature infant must be much interfered with. It has been shown that in a woman who had an attack of acute alcoholism from drinking a pint of brandy the miscarriage occurred of two dead foetuses at six months.

Some time ago Dr. Matthews Duncan pointed out that abortion and miscarriage were frequent in inebriates. Whether these effects are due to the direct influence of alcohol or to disease of the placenta is not quite certain, but it is probable that both causes act prejudicially. But the most striking results were shown by Sullivan, who pointed out, from his prison

experience, that in inebriate prisoners 56 per cent. of the children were either born dead or died within two years.

As to the teratological results, the experience at the Bicetre Hospital was that 41 per cent. of the idiot and imbecile children had drunken parents, and of these the inebriety of the mother must have been the chief factor, because, according to some authorities, the inebriety of the father may be deemed an almost negligible quantity. The actual forms of mal or irregular development found are such as extrodactyly, vesical extrophy, prencephaly, etc.

Turning next to the psychical side of the question, Dr. Sullivan has remarked upon the great influence of the condition of the mother upon the mental characteristics of the child, as shown by the ascertained laws of hereditary taint, by the transmission of particular qualities, and of neurotic liability, mother's marks, etc.; members of a family were quite sound mentally, but the younger ones neurotic, impulsive, and distinctly degenerate, the mother in the meantime having become an inebriate.

Inasmuch as intemperate habits produced in the mother states of impulse or lessened inhibition, it was quite fair to conclude that a warped or dwarfed intelligence would accompany the defects of structure, and this should be looked for in the epilepsy, impulsiveness, criminal conduct, suicidal and homicidal acts, which lead the victims of maternal excesses to Broadmoor, to county asylums, and to prisons.

It has long been noticed that the good qualities of the offspring can be traced chiefly to the mother, and if this is so, as we have every reason to suppose it is, from the long and intimate nutritive connection subsisting between the two, it is quite justifiable to believe that the weakened nerve state of the mother will have a corresponding effect upon the child; this, too, quite apart from the bad social example and the moral degeneration, and the actual wrongs which the inebriate mother displays towards the members of her family.

It must not be supposed that the lower classes of society are those who alone come under this ban. There is every reason to think that the want of occupation of the best-to-do families, the seeking after frivolous and temporary distractions, the exhaustion of continued excitement, and the facility with which stimulants are obtained and obtainable, have much to do with the neurotic and purposeless lives so commonly met with, rendering women not only useless and unworthy wives, but the mothers of degenerate and unreliable children.

“Alcohol, though called a ‘stimulant,’ has not much title to be considered a cardiac tonic. It is essentially a vasomotor depressant, and as such may help the heart indirectly when the tension is high. There is also sometimes a temporary increase in the strength of the pulse after the administration of a moderate dose, probably due to increased blood supply to the cardiac muscle, through relaxation of coronary arterioles.

“It is therefore possible that repeated small doses may be of service in pneumonia, but the large doses sometimes advised are likely to do more harm than good. To imagine that brandy can ‘support’ the heart when the right side is becoming paralyzed from overdistension is absurd. In such a case the only satisfactory cardiac tonic is venesection.”—Dr. Lees in the Harveian Lecture on Pneumonia in British Medical Journal.

The average expenditure upon liquor by the people of this country is seventeen dollars (\$17) per head, mostly for beer; for tobacco in all forms it is six dollars (\$6). Taken together, the expenditures for liquor and tobacco come to twenty-three dollars (\$23) per head, while our expenditures for the support of the government last year, including the cost of war, were only six dollars (\$6), or about one-fourth the cost of drink and smoke. We are proud of our system of education and we boast of our common schools, yet we apply only three dollars (\$3) a head, on the average, to the support of common schools, varying from a minimum of less than a dollar in the Cotton States to five dollars in Massachusetts. Six dollars a head for tobacco and three dollars a head for schools! Seventeen dollars a head for whisky, beer, and wine; five dollars a head for the support of government!

MAKING AN INEBRIATE.

·DAVID PAULSON, M.D.

The Lord does not arbitrarily make either drunkards or invalids; nor does he permit the devil to exercise such unlimited power. Modern medical science recognizes that it requires seed-sowing to produce either a dyspeptic or a drunkard. The fact that multitudes are born with strong predisposition in either direction does not alter the principle, for they only represent an extended harvest resulting from the sowing of their ancestors. The most emphatic statements of the leading men in the medical profession only serve to confirm the inspired declaration which was put on record long centuries ago: "The curse causeless shall not come."

The same energy which is spent in restoring one invalid to health, if utilized in a thoroughgoing health educational work, would save a hundred people from becoming sick. Similarly the work required to reclaim a drunkard, if used in instruction, pointing out clearly and definitely the successive steps in the evolution of a drunkard, would result in preserving thousands from a drunkard's career. Shall we, therefore, cease to treat disease intelligently or labor to save the drunkard? By no means. "These ought ye to have done, and not to leave the other undone." But it is not enough to merely portray to the young the terrible evils of intemperance, or paint in all its frightful truthfulness the picture of a drunkard's fate. A child cannot be saved from diphtheria simply by teaching him the nature of its painful symptoms; he must be taught how to cultivate such a degree of health as shall lift him above the

disease line. Likewise a young boy must be taught how to sow for temperance instead of deliberately sowing for intemperance; for the saloon, instead of being the first step in the drunkard's career, is often the devil's hospital where he sends those who already have a thirst created within them.

When the child is daily taught to eat mustard plasters in the form of condiments and highly spiced foods, he is physiologically having a thirst created within him which the town pump knows not how to quench. Tea, instead, of being the "cup that cheers but does not inebriate," is precisely the opposite. The free dispensaries of our large cities are crowded with women who are victims of tea intoxication, just as the hospitals are being filled with men suffering from the effects of drink. The mother who has to be "kept up" by the magic influence of her daily cup of tea, will discover to her sorrow that her boy, with his less sensitive nerves, will require one of these days something a little more stimulating to arouse his nerves than her cup of tea.— *Union Signal*.

THE PREVALENCE OF INEBRIETY.

Dr. Cooke, of Vanderbilt University, Nashville, Tenn., and secretary of the State Medical Society, in a late address before the Nashville Academy of Medicine, on preventive medicine, makes the following most suggestive reference:

Perhaps the fact of greatest significance in connection with this subject is that alcoholism is now universally regarded as a disease rather than as a crime. And statistics are not lacking to prove that it is one of the most deadly in its effects of any that curse humanity. In its sociologic bearings inebriety is a more important problem than either tuberculosis or venereal diseases, in that in some sense it may rightly be considered to occupy a casual relation with reference to both these evils. These only begin the enumeration of the social burdens for which it is responsible. Leaving out of consideration the question of crime, it is recognized as the chief and never-failing source of supply for almshouses, hospitals for the insane, and other eleemosynary institutions.

THE BEARING OF ALCOHOLIC STIMULANTS IN
MEDICAL SELECTION FOR LIFE INSURANCE.

BY A. B. BISBEE, M.D., OF BURLINGTON, VT.,

Medical Director, National Life Insurance Company of Vermont.

The particular subject to which I propose to give special consideration at this time is the personal habits of the man who applies for insurance. As we study our mortality experience from year to year, the conclusion is forced upon us that the most important inquiry which can be raised by a company when an individual applies for a policy, is in regard to a possible tendency to consumption. About one-fifth of all our deaths are from some form of tubercular disease. You all know what care is exercised by all companies in searching for evidences of a consumptive tendency, how the family history is inquired into for indications of a family predisposition, how the light weight, narrow chested, poorly nourished man is discriminated against, and what importance is attached to a personal history of blood spitting, of chronic cough, and of a recent pneumonia or pleurisy.

Next to the inquiry regarding a tendency to consumption, the most important question that can be asked of an applicant relates to his use of alcoholic stimulants. The conversations I have had with agents from time to time, lead me to believe that they do not understand what a large number of our deaths are directly and indirectly caused by alcoholic excess. One agent states that his experience has shown that if any of his policy-holders become seriously intemperate, they, as a rule, soon get careless about financial matters, perhaps lose their

positions, cancel their insurance, and the company is thus rid of them. Another points to the fact that only a remarkably few deaths occur from alcoholism.

I was greatly interested in reading recently the opinions expressed by a number of agency managers in one of our large cities, upon the relative merits of total abstainers and moderate drinkers as insurance risks. Of the thirty-one opinions recorded, seventeen were favorable to the total abstainer and fourteen to the moderate drinker. Two of the gentlemen who expressed themselves as partial to the moderate drinker referred to the fact I have just mentioned, viz.: that only a very small number of claims are paid where the deaths are due to alcoholism or drunkenness. From such assertions one would infer that intemperance has but small influence upon the mortality experienced by life companies. Such, however, is far from being the case. It is only necessary to look over the death papers as they come in month after month, to convince anyone that the immoderate use of alcoholic stimulants stands second only to consumption as a cause of death. It is true that we get very few deaths reported as due to alcoholism, but we get a great many from cirrhosis of the liver, Bright's disease, pneumonia, heart disease, fatty degeneration of the heart, arterio-sclerosis, apoplexy, and other nervous diseases from accident and from suicide, which we have every reason to believe have been indirectly caused by alcoholic excess.

It is in the air that selection should be liberalized. It is being asked, and properly too, that the old standards be revised, that the different classes of lives, which have heretofore been considered undesirable, be carefully studied in order that, if it can be done with safety, some of them may be accepted on some terms, and the waste of the business be thus lessened. Safe, conservative progress has already been made in this direction, and further improvement is sure to come with added experience and a better understanding as to what price must be put upon the common impairments which have heretofore

kept large classes from getting insurance. I am perfectly convinced, however, that against intemperate men the lines have not been too tightly drawn. Companies cannot afford to be more liberal with them in the future than they have been in the past. In fact, certain classes of immoderate users of alcoholics have unquestionably found it far too easy to get insurance during the past few years.

For our present purpose, we may divide all applicants for insurance into the following classes: (1) the man who is and always has been a total abstainer, (2) the man who is an abstainer at the present time but who presents a history of past intemperance, the reformation having been brought about by his own unaided efforts, or with the assistance of one of the so-called cures for inebriety, (3) the moderate drinker, (4) the man who is ordinarily temperate but who, two or three times a year, or on special occasions, gets intoxicated, (5) the man who has violent outbreaks of intemperance, lasting a few days or weeks, and is temperate or even an abstainer in the intervals, (6) the chronic steady drinker to excess.

Concerning the last three classes, the confirmed inebriate, the man who goes on sprees, and the occasional drunkard, I need say very little. There is no place in insurance at ordinary rates for any of them. They should all be unceremoniously declined. To select satisfactorily these three classes is a comparatively easy matter. Their records are known and read by all men, and it is usually not difficult to ascertain the facts for insurance purposes. These are the classes, too, who cancel the policies which they have been fortunate enough to secure, either before or after the pernicious habit has been formed. The man who gets drunk, even occasionally, cannot, as a rule, long maintain important business connections, and he soon finds himself without the necessary funds to meet his premium obligations. From every point of view, therefore, these forms of intemperance are far less troublesome to insurance companies than is the one to which I shall refer later on.

It is the third class, the moderate drinkers, to which I wish to call your special attention, and I will subdivide this class into (1) the really moderate drinkers, and (2) the immoderate moderate drinkers, as they have been called.

The second group, that of the immoderate moderate drinker, is the most important one of all from our standpoint. We all see such men every day. They are respected members of society. They are generally regarded as sober and temperate. Many of them occupy high positions. They never get drunk, but at odd times during the day, with their meals, and between meals, with a friend, with a customer, they take either beer or the stronger alcoholics or both, to an extent which they do not realize and which their friends may not suspect. A correct report of an average day of such a life might read about as follows: A drink in the morning, either before or after breakfast, to steady the nervous system, a drink at lunch, perhaps a drink in the afternoon, a drink or two at dinner, two or three drinks in the evening at the club. This is a fair report, but in an application for insurance the answer would probably be two or three drinks a day, or moderately.

While such a man may be always sober, his system is constantly charged with alcohol to a degree which is sure to cause irreparable damage sooner or later. Many of the drinkers of this class, as I have said, are men of large affairs. They work under a good deal of nervous strain, and it may be that it is this high nervous tension which leads them to stimulate frequently. They may be men of means. They are, many times, heavy insurers, and so far as my observation goes, they usually get all the insurance they want, unless the habit has been persisted in for a sufficient length of time to cause such marked damage to the tissues that the examiner finds evidence of organic disease. They are rarely excluded on account of habits, because they are, as a rule, men of good repute. No one questions their business or professional standing.

These, I believe, are about the worst lives that any company can write. They do not lose business prestige by reason

of habits. They do not surrender their contracts, in my judgment, more frequently than average insured men, and when their policies become claims, the immediate, and not the remote or underlying cause of death, is usually reported in the "proofs." It is easy to understand, therefore, how the real cause of many early deaths in insurance is so generally overlooked.

Let me explain briefly how this form of drinking produces its direful results. These men do not die from alcoholism, they do not have the delirium tremens. The prolonged use of alcohol, in the way I have indicated, produces an insidious organic change in the tissues of the body. If beer is the favorite beverage, this change partakes of the nature of a fatty degeneration. There is apt to be an unusual accumulation of fat upon the exterior of the body, and the tissues of the internal organs, particularly the heart, undergo a fatty change. Besides, the ingestion into the body, and the absorption into the circulation of such large quantities of liquids, overwork the heart, and cause enlargement of that organ with dilatation of its cavities. The heart becomes weak, the small blood vessels on the surface of the body, particularly upon the face, are dilated, and we have the bloated, red-faced appearance of the beer drinker. The danger here is in the way of cardiac weakness.

The stronger drinks, whisky, brandy, etc., when taken for a long time in small and frequently repeated doses, produce a different form of tissue change. A hardening process, progressive in character, is started in a particular kind of tissue, known as connective tissue, wherever it is found in the body. Perhaps the first organ to throw out danger signals is the stomach. The food is imperfectly digested, and there is present the group of symptoms usually included under the term dyspepsia. Later on, other organs are involved. If the connective tissue of the liver becomes hardened to an appreciable extent, the condition is known as cirrhosis of the liver. If it is

the connective tissue of the kidneys which suffers most, a form of Bright's disease is the result. If the connective tissue of the arteries is involved, the disease is called arterio-sclerosis, and this in turn gives rise to other dangerous conditions. The hardened artery is less elastic than the normal blood vessel, and more brittle. Consequently when this hardened condition of the arteries of the brain exists, the man is liable to and frequently has apoplexy. If the hardening process in the cerebral blood vessels does not advance to the stage of rupture, the brain is poorly nourished because of an imperfect supply of blood, and various forms of organic nervous disease show themselves. The obstruction in the arteries from diminished elasticity throws extra work upon the heart to overcome the obstruction. This extra work, for a time, the heart is able to do, but, sooner or later, it fails to meet the increasing demands put upon it; its muscular structure yields, its cavities become dilated, and we have all the distressing symptoms and dangers of heart disease.

Again, men who have important organs damaged in the way I have indicated by this hardening process, are not able to withstand the acute sicknesses to which we are all liable. A large number of them die from pneumonia. In an epidemic of any kind they fall easy victims. They bear accidents badly. Their normal resisting powers are lessened and they die from apparently inadequate causes.

I do not wish to imply that the abuse of alcohol is the sole cause of any of the diseases I have mentioned. Such is not the case. The same tissue change may be produced by other irritants, but it is well known today that alcohol, taken continuously, is one of the most common and one of the most potent causes of this whole class of affections.

The line of demarcation between the moderate drinker and the immoderate drinker is by no means well defined. It is an exceedingly difficult matter to decide at what precise point temperance ends and intemperance begins. Hard and fast

rules are impracticable. Each case must be studied on its own merits. Some men bear stimulants much better than others. To one man, alcohol, in any amount, is poisonous, while another takes a surprisingly large amount with apparent impunity. As a general proposition, it may be said that young men are affected much more easily by any excess than is the man of forty or over. Occupation has some influence. The clerk or merchant who works indoors, and who leads a sedentary life, is injuriously affected by a smaller daily average than is the farmer or the man whose life is out of doors, and whose work is more active and muscular. The question of temperament is also to be considered. The erratic man, with an unstable nervous system, bears stimulants badly as compared with the individual who is of more even temper and is less easily perturbed. A decision can be reached only after considering all the circumstances attending each individual case, and I need not say that great care and penetration are necessary in order to arrive at a conclusion which will be at the same time just to the applicant and safe for the company.

The great practical question now presents itself, how can we most nearly ascertain the facts regarding these heavy drinkers? I assume that no one will argue in favor of their acceptance on a par with average lives. What we have to consider is the best means to be employed, in our everyday work, of properly discriminating between this undesirable class and the really moderate drinker. The fact is an obvious one that the whole burden of investigation cannot be thrown upon the medical examiner. The service he renders is a valuable one, and should not be for a moment underestimated. We look to him to scan the applicant carefully for evidence of intemperance, to extract from him exact replies regarding the kind and amount of stimulants used, and to examine critically the various organs of the body for indications of damage already done by drink. If he is personally acquainted with the applicant, and can speak confidently of his habits, his testimony

may be all that is required. But we know that in the majority of instances the examiner has no personal knowledge of the man he examines. Under such circumstances, after he has completed his examination, and formed an opinion as best he can from the general appearance of the applicant, coupled with the results of his physical examination, we cannot expect him to turn detective and make a habit inspection of the business. Even when the examiner's report shows that he knows the applicant, the acquaintance may be only a passing one. He may have no real definite knowledge regarding the latter's habits. I recall scores of cases of this kind, where the examiner, when his attention was particularly directed to the matter of habits, has replied, after investigation, that he found a degree of intemperance of which he had no suspicion at the time of his examination, and his recommendation was withdrawn. Besides, in a few instances, where the examiner has personal knowledge of alcoholic excess, based upon an intimate acquaintance, it requires more courage than he possesses to state the exact facts in his report, of the contents of which the applicant is usually made aware. He allows the latter's own answers to pass on to the company without comment rather than have his pleasant relations with a friend or perhaps a patient disturbed.

These are some of the reasons why we cannot look to our examiners alone for as full advice as is desired concerning this important matter. Neither can we base our conclusions upon the statements made by the applicants themselves. The daily drinker invariably understates the amount consumed. If he says he drinks two or three glasses per diem, he probably uses a larger amount. I have never known a man to state in his declaration to the company that he was anything more than a strictly moderate drinker.

I am very well aware that no plan of selection can be sufficiently complete to exclude all undesirable risks of this character. With the best methods and with the exercise of the

greatest caution, many intemperate men will receive policies. It is next to impossible, many times, to get at the facts. But the problem is before us and it can best be solved by all departments of the company, agent, examiner, and home office, appreciating the danger, and working together to avert it.

Liquor Dealers. If it is a difficult matter to ascertain how much the average man in the community drinks, how immeasurably more difficult is it to determine what are the habits of the liquor dealer, the man whose everyday business dealings are with users of intoxicants, who lives in an atmosphere of drink, and is constantly subjected to temptation. All medical statistics show conclusively that, as compared with men engaged in other occupations, manufacturers and sellers of intoxicating drinks are (1) more generally intemperate, and (2) more subject, not only to those diseases which are caused by alcohol, but to all other diseases as well. In short, that their prospects of longevity are impaired by reason of occupation. This is true of all classes of liquor men, wholesalers, retailers, brewers, distillers, and certain hotel proprietors and employees. As insurance risks, they must, as a class, be looked upon as much inferior to average men in the general population.

It is a matter of common observation, however, that while the whole class may average badly, there are some men connected with all branches of the liquor business whose habits are strictly temperate, and there are still others who are total abstainers. It can also be demonstrated that intemperance is relatively less common among certain of these occupations than is the case with others. For example, the strictly wholesale dealer is less likely to be an excessive drinker than is the personal retailer or bartender. The men who have financial connections only or office positions with a brewery are, as a class, less addicted to over-stimulation than is the personal brewer, the driver of a beer wagon, or the traveling salesman. In view of this fact that there are a goodly number of liquor sellers and manufacturers whose habits are correct, it is the

practice of most insurance companies, nowadays, to issue policies to these few desirable members of what they generally recognize as an unfavorable class. You are familiar with the rules applied by our own company. Personal retailers, traveling salesmen, and personal manufacturers of wine, spirits, or malt liquors are not insured, while wholesale dealers and those men who have a financial or business interest, without coming in personal contact with the dangerous side of the traffic, are accepted. Now the point I wish to emphasize is that, although selling liquors at wholesale is counted with the unobjectionable employments, men who follow this occupation cannot be placed in the same category with grocers, dry goods and clothing merchants, for example. The same methods of selection cannot be applied in the two cases. The grocer, the dry goods or clothing merchant, the average applicant, in short, may be regarded as of good habits until evidence to the contrary is discovered. The wholesale liquor dealer, on the other hand, should be looked upon as intemperate until his temperance can be satisfactorily proved. Here careful investigation by the agent is of the utmost importance.

It is fair to consider in this connection whether a special blank form, similar to the one required when the applicant is a woman, would be of service, either in securing better inspections or more satisfactory reports to the company. In such a blank questions like the following might be incorporated:

- (1) Is the applicant a strictly wholesale dealer?
- (2) Has he ever personally sold liquors at retail? If so, when and for how long a period?
- (3) What is the reputation of his house?
- (4) What is his personal reputation for sobriety?
- (5) In your judgment is the risk extra hazardous by reason of occupation?

Would such a form benefit the field man by indicating the information desired in these cases, and would it be likely to encourage more active inquiry?

It should always be borne in mind that even wholesalers, as a class, are not good subjects for life insurance; that it is only those members of the class who are strictly temperate that the company wants. In fact, every individual who is personally connected with the liquor traffic, in any capacity, should be looked upon as uninsurable at ordinary rates, unless it can be clearly demonstrated that the habits are above reproach.

Reformed Drunkards. The only remaining class to which I will call your attention is that of the reformed drunkard; the man who is now temperate or a total abstainer, but who presents a history of having once been intemperate. A decade ago, men of this class were met with much less frequently than we see them today. I suppose that reformed men were really just as numerous then as they are now, but insurance companies were not able to recognize them. Applicants understate past excesses with as perfect regularity as they do present intemperance, and when their declarations concerning past indulgences are largely relied upon for purposes of selection, a very considerable percentage of this class of cases will be overlooked. During the past few years, as you know, the sentiment has been very widespread throughout the country that inebriety is a disease and is amenable to appropriate treatment. As a result of this revolution of popular thought, a variety of remedies have been brought forward and widely advertised as specifics for the drink habit. Large numbers of intemperate men have submitted to this kind of treatment. Consequently, by inserting in their application blanks a question relating to the taking of these cures, insurance companies have a ready method of bringing to light much past intemperate drinking, which would otherwise escape their notice. We are now receiving applications almost every day from men who answer this question affirmatively. Such men admit taking the cure, but they almost invariably deny excessive drinking. You are all familiar with the picture which is usually given us. The applicant states that he never was really intemperate. He drank some,

but not more than most men. It was not at all necessary for him to take the treatment, but his wife, his mother, or his father became afraid that he might form an alcoholic habit, and persuaded him to have the danger removed in this way. Or perhaps some member of his family was a temperance fanatic and urged so strongly that even moderate drinkers should take the cure as a preventive measure, that he finally consented to do so. Or popular enthusiasm was running high in his neighborhood and he was carried away by it. Or a drunken friend or business associate refused to take the cure unless the applicant did likewise.

Our observation and study of these cases have led us to the following conclusions:

(1) That the only safe working rule is to regard all men who present a record of having taken this kind of treatment as past drinkers to excess. The exceptions, where the cure was taken for other reasons, to please a relative or help a friend, are so few as only to prove the rule.

(2) That the treatment is neither harmful nor beneficial. It has never been brought to my attention that any of these cures, judiciously administered, have been seriously detrimental to the patient. Neither can it be maintained that the beneficial results hoped for have been achieved. A vast amount of evidence bearing upon the permanency of the reformation has accumulated, and so far as I can learn, it is the consensus of opinion among those observers who have taken the trouble to study the question in a large way, that about five per cent. of the patients do not relapse, and that only a slightly smaller percentage of the men who sign pledges, during great temperance movements, do not again become intemperate.

It is our judgment, therefore, that for insurance purposes, these takers of inebriety cures should rank on a par with ordinary reformed drunkards, and, as everyone knows, this is a most undesirable class. (1) Because of the danger of relapse. In the majority of instances, the reformed man does not per-

manently keep his good resolutions. If the same, or similar conditions which first led him to become intemperate, again obtain, his drinking habits return, and usually in a more aggravated form. (2) Because of the danger that serious damage has already been done to important organs. Such damage the medical examiner may or may not be able to detect.

Men who have once been intemperate, men who belong to the reformed class, should not be accepted for life insurance unless (1) at least five years have elapsed since the alleged reformation, (2) it can be shown by trustworthy evidence that they have, during the whole five years, abstained entirely from the use of alcoholics, (3) the reformation took place before the age of forty, (4) a searching medical examination shows that the tissues of the body have not been appreciably injured by past dissipation.

In calling your attention to heavy daily drinkers, to liquor sellers and to reformed men as insurance risks, I have not burdened you with statistics. I have not argued in favor of new and more stringent rules. I have not expected to give you information which you did not already possess. It has been my object to explain our reasons for believing that great care should be exercised in dealing with these classes of lives, and to point out some of the ways in which the agency department can be of service to the home office in properly disposing of these ever troublesome cases.

Importation of cocaine for 1901 was \$176,000

Importation of cocaine for 1902 was \$254,000

Nine months in 1903, \$200,000

During this latter period over a hundred thousand pounds of opium for smoking and other purposes was imported. —
Dr. Aiken in the Sign of the Times,

TEA INEBRIETY AMONG CHILDREN.

BY MATTHIAS NICOLL, JR., M.D.,

Instructor in Pædiatrics and Intubation, N. Y. University — Bellevue Hospital Medical College; Physician to Out-patient Children's Department, Bellevue Hospital; Pathologist to N. Y. Foundling Hospital.

Excessive tea drinking by young and half-grown children of the poorer population of our large cities may, without exaggeration, be designated as a national vice. The children of immigrants as well as those of the native born are being undermined in health to a degree little imagined by those who are unacquainted with the habits of the poor. Recent trade statistics show that the importation of tea to this country has increased enormously in the last decade.

While undoubtedly the Irish are more addicted to this habit than other nationalities, it is by no means confined to them, as we find the Germans, Italians, Russians, and Hebrews, and, in fact, all the races which go to make up our mixed population acquiring an abnormal taste for tea, in many instances only after their arrival in this country.

Most people will agree that as a beverage for adults, tea, properly made and taken in moderation, is at most a very mild form of dissipation, and to be commended as a substitute for much more injurious stimulants. As a drink for infants and young children it cannot be too strongly condemned.

* First, because in children under two years of age it is very frequently given as a substitute for milk, which should be the basis of their diet.

Second, because when allowed to older children the taste for tea rapidly becomes a craving, and it is invariably taken

in excess, in which case the effect upon the health is disastrous, as the following cases will serve to illustrate. The children were patients at the University-Bellevue Medical Clinic:

Willie B., 6 years of age, said to be "pining away." For the last four or five years he has been drinking two to five bowls of mixed tea a day, and coffee in "moderation." The child is 35 inches in height and weighs 27 pounds. The ribs are beaded, the epiphyses enlarged, abdomen protuberant. There is chronic nasal catarrh, the heart and lungs are negative, the urine is hardly retained at all, running away continuously night and day, so that it is impossible to keep the child clean. The father was surprised to learn that tea-drinking would probably account for the condition of his child. No medicine was given, and abstinence from tea brought about a rapid cure.

Catherine Mc., 11 years. Five cups of tea a day since babyhood. The child is very nervous, and twitchy, poorly nourished, very anemic, with coated tongue, and chronic constipation.

Andrew S., 4 years, five cups of mixed tea a day since babyhood. Father says he is "weak on his legs," falls constantly, and is very nervous. He has nocturnal enuresis. This child resembled a diminutive chronic alcoholic. His gait was markedly staggering, fingers tremulous, with general continuous muscular twitching. Stopping the tea, together with the administration of tonics, brought about a rapid and complete cure.

While two of these cases are doubtless exaggerated examples of the tea habit, they are only too common in dispensary practice. The ordinary type of tea drinker is usually a school girl or young shop girl, poorly nourished or even emaciated, anemic and of sallow complexion with over-acting, weak, or irregular heart, and cold extremities, extremely nervous, often irritable disposition, with coated tongue, poor appetite, chronic constipation, subject to frequent attacks of indigestion, a restless sleeper, and especially susceptible to "colds" and other troubles which fasten upon a depleted system.

If tea can produce these results in older children, what shall we say of the baby's chances, who is weaned on it? And yet this is not an uncommon practice among the poor. "What shall I give the child, doctor?" is the regular answer of the mother when admonished as to the dangers of tea. In other words, water and milk are no longer regarded as desirable beverages among these people.

What are the causes of this habit?

1. Ignorance on the part of the parents.
2. The high price of good milk.
3. The natural desire of the child.
4. The widely disseminated fallacy that children need "something to strengthen them."
5. Greed of the small grocer, who offers every inducement in the shape of credit and trashy presents to the purchasers of his tea, which, as a matter of fact, is inferior in quality and higher in price than that sold at a reliable grocer's.

The remedy is obvious. It lies in the education of the people and must be carried on in great part by the dispensary physician, who has already achieved such brilliant results in teaching the proper feeding of infants among the poor. That older children have not received the attention from this source which they deserve cannot be questioned. Anything seems to be good enough for a child to eat and drink soon after it has been weaned.

Mothers are very receptive of good advice when properly presented, and instead of prescribing a bottle of cough mixture or some other compound, which the poor pathetically cherish far beyond its intrinsic value, when a miserable looking child comes to the dispensary for treatment, the physician should make a routine practice of investigating the dietary, the elements of which will very often account for the child's general condition.

If there be any excuse for the multiplicity of dispensaries it lies in the fact that here the poor may be taught how to bring

up their children, and when we consider that upon their physical and mental well-being the future of this nation so largely depends, the dispensary physician should not consider his time wasted if amid many failures he succeeds in dispelling a part of the ignorance of the parents on this subject.

124 East 60th Street.

“THE STORY OF NEW ZEALAND.” By Professor Frank Parsons, the well known writer and authority on law, economics, and sociology; edited and published by C. F. Taylor, M.D., editor and publisher of *The Medical World*, and of “Equity Series,” 1520 Chestnut Street, Philadelphia, Pa. Handsomely bound in cloth, fine, heavy paper, over 170 illustrations, many of which are full page. 836+xxiv=860 pages; price \$3 net.

We call attention to this book as giving a very interesting view of the laws and social experiments made in this country. They are practically object lessons, and their demonstration is attracting a great deal of attention. We shall review the book in our next issue at some length.

Dr. Winship makes the following reference to the criticism on “The Teaching of Alcohol in the Public Schools, by the Committee of Fifty”: that “the only manly, professional, scientific method of rectifying errors in the existing physiology is for men like Dr. Bowditch and Prof. Hodge to write a scientific school of physiology that will satisfy allopaths, homeopaths, osteopaths, Christian Scientists, *et al.* Get the sanction of all medical authorities of all lands, submit it to a vote of a miscellaneous fourth of all teachers, and get the endorsement of more than forty-one per cent, and then go before the school boards and get it adopted. This is clearly their duty, as well as privilege.”

TOBACCO DEAFNESS.*

BY WYATT WINGRAVE, M.D.,

Physician and Pathologist to the Central London Throat and Ear Hospital.

We cannot fail to have observed the rapidly increasing consumption of tobacco, which is not only beyond all proportion to the increase of population, but promises to extend to a still greater degree and, further, that its over-indulgence (especially by youths) is likely to be responsible for serious morbid changes, some of which are of immediate interest to us in one department of our work. Its responsibility for serious morbid visual changes has been fully established, and observing the frequent occurrence of deafness in those suffering with tobacco amblyopia, it occurred to me that the association might be more than coincidental. This prompted a careful examination of such cases, with results which justify my submitting to you a preliminary communication on the subject.

Deafness, due to tobacco smoking, may be conveniently classified in three groups according to their etiology: (1) Mechanical or pneumatic; (2) irritative or catarrhal; (3) toxic or nerve deafness.

(1) Mechanical. This has its origin in the habit of smoking a tightly-packed pipe, cigar, or cigarette, especially in those suffering with nasal obstruction. A violent minus or negative naso-pharyngeal pressure is exerted with each inspiration, not only upon the Eustachian tubes, but also upon the blood and lymph vessels of the parts so leading to hyperaemia, upon whose symptoms and treatment we need not dwell.

*Extract from President's address before the British Laryngological and Otolological Association.

(2) Irritative or Catarrhal. This form is very familiar in the early morning cough and expectoration of habitual smokers. It is caused by the chemical and mechanical irritation of the smoke on the mucous membrane extending along the Eustachian tube, and inducing also hypertrophic changes.

(3) Toxic or Nerve Deafness. This is due to the gradual accumulation of certain toxins of tobacco in the system. Whatever the actual poison may be, whether picro toxin, nicotine, or any other, it is found, as a rule, in largest amounts in the darkest, strongest, and cheapest tobaccos, e. g., cut plug, cut cavendish, shag, etc., also in cigars of the maduro strength, Oriental as well as Occidental. This poison is undoubtedly cumulative, since complete abstinence is essential to effecting any permanent improvement; mere reduction in the quantity consumed or of its strength generally proves unsatisfactory.

The effect of tobacco toxin upon the cardio-vascular system is familiar to all of us. Also its influence upon the gastrointestinal tract, which may be responsible for the production of further toxins. But its most striking effect is upon the nervous system as exemplified in "tobacco amblyopia," a disease characterized by degeneration of certain bundles of the optic nerve, known as the papillomacular fibres — scotoma — characterized prominently by the loss of appreciation of the visual red waves. Does the auditory nerve present a similar degeneration? Although at present we have no definite histological evidence, the fact that there was marked deficiency in the appreciation of low tones in 50 per cent. of the cases recorded is presumptive evidence in favor of there being some selective degeneration at work in the auditory as in the optic nerve.

The effects of the toxins may possibly be terminal and central, but these are questions which also demand careful and extensive observations, both histological and clinical. The cases which I have examined are seventeen in number. They are those of typical "nerve deafness," for which no cause other than tobacco abuse could be found. To save time I give you a brief abstract of their chief features.

Ages. With regard to age, eight occurred between 24 and 40, and nine occurred between 48 and 64.

Tobacco. They all smoked very strong tobacco or cigars or cigarettes, and in large quantities.

Deafness. They were all subjects of symmetrical nerve deafness; an appreciation of low tones was deficient in eight; tinnitus and vertigo being generally well marked.

Vision. There was marked impairment of color sense — red, in twelve, of which four had well defined scotoma.

Treatment. Treatment consisted of complete abstinence from tobacco in every form, with the administration of strychnia, quinine, or bromides.

Results. Quinine, bromides, separately or combined, afforded no appreciable effect, but strychnia pushed to full doses proved more successful; three severe cases were completely cured in eight, nine, and twelve months, respectively; nine showed marked improvement; two improved only slowly, and two refused to continue treatment. That the improvement was in a great measure due to arrest of smoking was shown in several cases, which always relapsed on resuming the habit, although strychnia was persisted with. Improvement was again marked on abstaining from tobacco.

In conclusion, allow me to emphasize the following points:

1. That they were well marked cases of nerve deafness (unattributable to other causes) occurring in heavy smokers.
2. That the loss of low tones in 50 per cent. suggests an auditory equivalent to a recognized ocular lesion.
3. That there was definite scotoma in four cases, and impaired sensation of vision in eight of them.
4. That the disease was symmetrical.
5. That 80 per cent. showed marked improvement on abstinence from tobacco, and supplemented by drug treatment, three were cured.

But the habit was so strong and the will so weak that the forecast was not always encouraging.

Abstracts and Reviews.

A CLINICAL STUDY OF TOXIC INSANITY.

BY WM. MAGAZINER, M.D.

Toxine poisoning may act upon the spinal cord or upon the brain. If it acts simply upon the brain, it gives rise to a certain set of symptoms, which are especially noticeable in the case of alcoholics. The picture of alcoholic brain poisoning is one of impairment of mental action, and under this general term is included diminution of thought. Alcohol acts in various ways in producing delirium. A man who has taken alcohol to avoid great difficulties or sorrows in a relatively short period of time may bring about a delirium, which is easily distinguishable from other afebrile deliria. He hears noises, "sees things," has marked mental confusion coupled with excessive action; hallucinations of vision predominate, and these give rise to the ordinary description of "delirium tremens." It is peculiar to this condition, presenting symptoms that are rather prominent in unequivocal pictures.

The case which I would discuss is a man who has been accustomed to the use of alcohol, not for short periods of time, not in excessive doses for a few weeks or a few months: but he has taken alcohol for many years, having always been a drinker, principally of beer. These persons intend to be honest; yet they always minimize the amount they have taken. Mental hebetude is a characteristic symp-

tom of alcoholism. Yet this man will feel highly insulted if you accuse him of being a drunkard; this is commonly characteristic of these cases. This man has had now for a number of weeks a cerebral symptom which is quite common, namely, he has had some hallucinations. When I ask him what brings him to the clinic, his reply is that he thought he insulted somebody; and when I ask him what makes him think he insulted somebody, his answer is, "I cannot tell; nobody said that to me; it all came by itself." He hears voices day and night for a week; he thinks he hears he is taken away by the police to prison, and if asked why he is to be taken to prison, he says, "Because I have insulted some one." He does not see things truthfully. Visual hallucinations generally form an active part of an equivocal picture. In these cases if hallucinations exist at all they refer to the auditory sense. They appeared about six weeks ago, and if he heard them first, he afterwards had ideas based upon these hallucinations. Now let us analyze the second symptom, which is evidently a false belief based upon hallucinations. Are these illusions expansive or descriptive? They are depressive; this is an illusion of persecution, and it is thoroughly systematized. In paranoia we have a long attack of depression followed by a long degree of expansion, and that the beliefs the patient entertains are systematized. These cases are those of alcoholic paranoia. A great deal can be said with regard to the use of such a term as "alcoholic paranoia." But undoubtedly this man differs radically from the typical case of paranoia. We have here a history of considerable data showing itself in the behavior of the insane years ago, gradually commencing with delusions of persecutions running over a long time, having the history of prolonged intoxication. Alcohol may produce mental confusion just as it does delirium, although the confusion may run over weeks and months; may even last as long as ordinary cases of confusional insanity, sometimes lasting a time sufficient to give

us hallucinations such as this is, which resembles a true case of paranoia. Why alcohol should have one effect upon one man's brain and another effect upon another man's brain it is hard to say. There is probably some hereditary defect acting by one or more channels, to explain why in one case there is paranoia, and in another a case simply of confusion of mind. It is possible that in cases like this you have, so to speak, a neuropathy; that the digestion of alcohol developed that inherent weakness and brings it to the surface. These cases differ from typical cases of paranoia, and there is always a history of toxicity, which is sometimes special. There is sometimes coupled with this class of delusion also delusions of marital infidelity. Upon this fact hinges the notions. This man has not expressed delusions of marital infidelity, nor does he manifest them in any way.

This man has now abstained from the use of alcohol for a period of four weeks. It is perfectly marvelous the degree in which recovery can take place in cases of toxic mental affections, or toxic action upon the nervous system as a whole. The prognosis is favorable in proportion as the hallucinations have not become specialized. Recurrence, if not fed at once, may pass away; but recurrences may be looked for, even long after the alcohol has not been ingested. This man fully believes the excessive use of alcohol is injurious. Note his muscles of expression, the sleepy look, the tremor of the tongue, and also the fact that his enunciation is not clear. — *Medical Times*.

SALICYLIC INTOXICATION.

BY FRANCIS H. ATKINS, S.B., M.D., LOS ANGELES, CAL.

It was in October, 1898, when I was quite ill. Gouty pains led me to crave salicylic acid as the one agent that always seemed to clear me up most quickly when under the malign influence of imperfect oxydation in the tissues.

Small doses didn't serve, so I urged my attending medical friend to push the drug, and so I achieved the curious condition of salicylic intoxication which I will attempt to describe.

I was very weak and nervous, and taking no food but a little hot milk, and sleeping slightly.

For the therapeutically unlearned let me say that what we call salicylism (acts on the nervous system) is usually limited to ringing in the ears and slight deafness, much the same symptoms that quinine causes (cinchonism), and is rarely intolerable. The common dosage of salicylate of sodium is 60 to 90 grains daily and I was treated to a lot of visual and aural side-shows that would make the fortune of Ringling's circus. Frequent references occur in medical literature to odd results in salicylic poisoning, but in my long search in Los Angeles medical literature I have failed to find any detailed reports, only that sight joined hearing in deceiving (or trying to deceive) the taker of the active drug.

The most remarkable circumstance about my case was the predominating involvement of the visual sense, the minor involvement of the ears, hence I will dispose of the briefer aural effects first and delay more on the visual.

There was moderate deafness during the three or four days the drug was in use, and some buzzing noise, but the chief sounds that caught my attention were musical and by no means suggestive of Lohengrin or even of my favorite Bohemian Girl, incessant playing of the crudest polkas on many pianos in the neighborhood, as if heard through open windows in summer in a closely-built street. This tawdry performance would be varied by the faraway din of a small brass band, as if in some small one-tent show.

And really that was all of the aural entertainment, but it was a "continuous performance" and decidedly ennuyant.

As to my hearing, otherwise; all genuine sounds were accurately distinguished in spite of the tinkle-tinkle, boom, boom, all the while; always allowing for the deafness.

The first of the illusions of sight, as I recall, was connected with a vase of sweet peas on the mantelpiece. These assumed the appearance of a group of Italian peasants (*contadini*) with a laden donkey, all dressed out in rather fantastic costumes, man and beast all in miniature, much as one would fancy them after reading *Romola* or other books on Italy. They seemed to be slightly in motion and, to me, as if going into the city to keep some popular holiday.

They got to be a little too much in evidence, and I procured the removal of the pretty flowers. I should say that near-to they were only sweet peas, and that they masqueraded only in half-lights, and, indeed, most of my illusions were strongest in twilight, or in the evening when the main light came from the wood fire on the hearth.

Near these flowers, over the mantel, hung a bundle of "favours" brought home by the dame from various card parties, consisting mostly of cards and ribbons. These assumed very offensive grotesque forms, as seen from my pillow a dozen feet away, ugly old men's faces and the like, and were so annoying that they had to be removed.

Nearer to me was a new bed quilt with a pretty pattern of large yellow buttercups, much used because it was at first very chilly. As I sat up at times and my eyes fell on its bright surface, the interstices of the flowers were filled with wriggling monkeys in cocoanut trees, and here and there were busts of Apollo and other classic notables — a most curious medley, not very offensive and easily shut off by closed eyelids.

These things always bothered me more when I was sitting up in bed — that is, the optical display. The only illusion of that class that came when my eyes were shut was the appearance of an advertising page from the "Dramatic Mirror," a paper I had rarely seen, the page on which foot-loose tragedians offered their services to coy managers, and which is (or was) oddly set up as compared with such pages in other

newspapers. Probably I hadn't seen a copy in five or ten years, or longer.

Color phenomena were not lacking. In brighter lights (daytime) great patches of color in stripes would flash out on the wall and linger a few minutes, to fade and reappear a little farther along on the same wall, and generally placed slanting. The stripes were as broad as my hand; red, blue, and white, and maybe six feet long, and reminded me of coarsely printed striped wrapping papers I had occasionally seen, in narrow stripes.

A rather pleasing item was the appearance of scattered spots of blue light, quite vivid, and as if caused by a bright light in the next room, coming through many-faced glass "bull's-eyes," about $1\frac{1}{4}$ inches across, and of a clear ultramarine. These blue spots were rather rare and not over two or three visible at once.

What I have called my thread illusion was present through the whole episode — a tendency to see threads — white, gold, neutral, almost anywhere. I was much surprised when my stalwart female hired nurse helped me into the hot (whew!) bath ordered by my doctor, and I saw the door from the bathroom into the kitchen sealed up with abundant placing of cobwebs from door to jamb. As I knew the door was in constant use my amazement at the prompt activity of the spiders can be imagined. Threads of various sorts emanated from everywhere, but the prettiest were only seen after night when the open firelight shone upon the polished brass gas chandelier above the foot of my bed. From these bright spots radiated numerous bright gold threads, moving to and fro for six or eight inches (their length) and making a pleasing display.

The first time I tottered into the boiling cauldron after the show began I asked why they had put corn meal in my bath water. It appeared to me exactly as if a handful of golden meal had been thrown in, and I could see the particles floating in the water at all depths, and I tried to capture them in

my hand. The nurse and my wife assured me the water was perfectly clear, nothing had been put in it. (In childhood when frost-chapped hands were soiled good mothers would put corn meal in warm water to aid us in cleaning up. The early impression was revived.)

Two animal spooks appeared. One was only a myriad of flies sailing about just below the chandelier. The nurse admitted that there were a few, but denied that many, and by a strain of my mind I could distinguish the real insects from the mockers.

The other visitants were a good deal more important — namely, cats! Ugh, the nasty things! I think it was only one evening, the third maybe, of the whole grotesque farce.

After night, a shaded lamp being in the room besides the hearth logs burning, while I was sitting up in bed, a catlike animal would come in the door from the hall and go completely around the room, disappearing under a dark-shadowing table. They (in all there were three or four) would creep in stealthily, leap up on top of a tall chiffonier near the door, cross it (instead of going underneath as most cats would), slowly pass along the floor (after leaping down from the chiffonier), under my bed, and passing near the bed would look up straight into my face over their shoulders (each in turn), linger there a perceptible time and vanish under the table-shadow. They paid no attention to anybody until just before their disappearance, when they searched my eyes so intently.

Their bodies were about the size of a three-quarters-grown domestic cat and they had large, bushy, foxlike tails. They caused no fear in me, only a feeling of annoyance that I had to put up with so many unbidden visitors; so many eccentric sights and sounds; and on my doctor's coming next morning I announced that I was quite satisfied, that my pains were now gone and we would discontinue the salicylate, and we did.

The illusions at once ceased. I should say that never for

a moment was I deceived as a delirium tremens patient would be. My intellect was perfectly clear and I knew that these curious things were only sensory illusions and that they were caused by the excessive use of salicylic acid and would leave when the drug was discontinued.

Two medical friends sat chatting with me during the cat visitation.— *Southern California Practitioner.*

A SERUM TO COUNTERACT MORPHINE POISONING AND SIMILAR INTOXICATIONS.

Ehrlich declares categorically that there can be no such thing as an antitoxic serum which will counteract alkaloidal poisons. Faust, however, in endeavoring to discover the meaning of the toleration for large quantities of morphine, which is notoriously acquired by regular users of the drug, showed that, while in acute morphine poisoning three-fifths of the quantity ingested can be recovered in the feces, in chronic poisoning only the slightest traces of the alkaloid are eliminated in the fecal discharges. Since practically no morphine is found in the blood or urine, it is obvious that the chronic use of large quantities of morphine results in the introduction of new factors which are capable of destroying and counteracting morphine in the system. L. Hirschlaff (Berl. klin. Woch., Dec. 8, 1900) has undertaken to produce a protective serum to counteract morphine and other alkaloidal poisoning. Dogs were subjected to morphine injections for periods varying from three weeks to five months. Serum recovered from animals so treated was found to possess life-saving power against fatal doses of morphine administered to puppies and mice. Hirschlaff believes that his serum will prove to be of value in acute morphine poisoning in human beings. The dose to be used in such cases cannot be theoretically determined, as the susceptibility of human beings to morphine is absolutely and relatively different from

the susceptibility of animals. Reckoned by bodyweight, the human being is 70 times more susceptible to morphine than the puppy and 130 times more susceptible than the mouse. In one case only has the author had an opportunity to test his serum clinically, and the results in this case were most encouraging, but not conclusive inasmuch as the dose of opium taken was not definitely known, nor was the treatment limited to the injection of the antitoxic serum.

ALCOHOL AND DRUGS.

Among these stress causes are found the determinate factors already alluded to and to which I wish to call your attention. At the head of the list must be placed alcohol and drugs. All authentic observers have yielded the palm to alcohol as ranking next to heredity in cause. Clouston credits it with 25 per cent. of all insanity; Peterson from 18 to 20 per cent. in males; Berkley, more conservative, with 10 to 30 per cent.; Kraepelin 10 to 30 per cent. in Germany; the British Lunacy Commission gives 22 per cent. in males and 9.1 per cent. in females. The writer's observation has shown it to have 12 per cent. of the annual admissions. This is a cause upon which we can place our finger. We know it to be toxic in its effects upon the human organization, and the pathologic changes it brings about in the various tissues of the body are well known. We see them in evidence upon the autopsy table, and what we can not see with the naked eye there we can see under the searching glance of the microscope. There is no chance for guess or cavil there. The misuse of alcohol is one of the preventable causes, and yet it contributes 12 to 20 per cent. of the inmates of our asylums. Not only that, but the law of heredity is ever providing communities with dependent clientele for the future through a progeny the result of the participation of the alcohol misuser an inebriate in the marital relation. This legacy in the way

of defectives propagated by the alcohol habitué is distributed generously as well among the feeble-minded, the correctional schools, and the penal institutions. From this estimate of the extent it is figuring at present in the production of the degenerate classes, alcohol is one of the greatest factors menacing the perpetuity of the American race.— Dr. Carpenter in the *Journal*.

According to the vital statistics bulletin of the last census the total number of deaths due to alcoholism for the census year was 2,811. But we all know that only such deaths as are directly and unmistakably attributable to this cause are so reported. If it were possible to determine the number of deaths otherwise recorded, which were in reality due to this evil, the result would be far different. Thus:

117,579	appear as due to diseases of the nervous system,
75,791	“ “ “ “ “ “ “ circulatory system,
60,229	“ “ “ “ “ “ “ digestive system,
44,941	“ “ “ “ “ “ “ urinary system,
	(exclusive of venereal diseases)
57,513	to accidents, suicides, homicides, etc., and
40,539	to unknown causes, a total of nearly 400,000.

As in the case of venereal diseases, we know that many of these deaths were due primarily, even if remotely, to indulgence in alcoholic drinks. Any estimate of this proportion would necessarily be conjectural. But if no larger than 25 per cent., without considering the many other diseases not included in these groups in which alcohol plays a casual role, we would have an annual death-rate chargeable to this vice of nearly 100,000.

In the suppression of this stupendous evil lies one of the greatest and most urgent problems of preventive medicine. The attitude of the medical profession upon the use of alcohol has long been one of endorsement, or at least tolerance. But happily this is changing. With the firmer establishment of

the truth that alcohol in any quantity is a poison to the human system has come a keener realization of the duty we owe the public whose dependence we are and must continue to be for correct teaching and safe guidance in all such matters. This duty devolves upon us both as physicians and as citizens, though it is unquestionably in the former capacity that our influence will be most felt.

In conclusion I merely mention two practical aspects of the physician's duty concerning this subject:

1. Greater circumspection in the recommending and prescribing of alcoholics.

2. A more aggressive attitude toward the advertisement and sale of that large class of patent medicines which owe their effects chiefly, if not entirely, to the alcohol they contain. The consumption of this stuff is simply enormous, and the worst feature about it is that, indiscriminately introduced into the home, these pernicious agents come to be regarded as household specifics, and the women and children become their victims. Many of the widely advertised concoctions are doubtless often responsible for the production of the very diseases they are exploited to cure.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By Wilfred M. Barton, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Flexible leather, \$2.50 net; with thumb index, \$3.00 net.

This is a work which every medical writer should have constantly at his command; next to a medical dictionary and even

superior to this it will fill a want which every one has recognized. It is hard to discriminate where the book could be improved, but future editions will undoubtedly give more prominence to certain topics and less to others. The authors have produced a book of great value, for which every reader will be very thankful, and as an assistant to all who write or speak on the topics of medicine this work will be consulted constantly. It is a work in which technical words and their synonyms are arranged so as to express the same idea in different words, and thus avoid repetition. This is the only work in the language, and the reader will find it invaluable and helpful in many ways.

A NON-SURGICAL TREATISE ON DISEASES OF PROSTATE GLAND AND ADNEXA. By G. W. Overall, A.B., M.D., formerly Professor of Physiology in the Memphis Hospital Medical College. Chicago: Marsh & Grant Co., Publishers.

This little book of less than 200 pages discusses with great clearness operations in this region, particularly by the use of electricity. The author seems to have had unusual success, and he urges that electricity is one of the most potent measures when properly applied, and that most of the cases so treated are permanently cured. The following very good advice deserves repetition:

"If you wish to acquire skill in the use of electricity don't confine yourself to books, and attempt to perfect yourself alone; become a student of some reliable expert, and study practically as well as theoretically all parts of electrical technique. When you have given six months to an apprenticeship of this kind, you will have laid the foundation for ultimate success." This work deserves a wide circulation, and will be very suggestive to all surgeons and others called on to treat this condition.

PSYCHOLOGY AND COMMON LIFE. A survey of the present results of physical research with special reference to their bearing upon the interests of everyday life. By Frank S. Hoffman, Ph.D., Professor of Psychology, Union College. G. P. Putnam's Sons, 1903.

This little work of nearly 300 pages treats of many intensely interesting subjects in an easy, popular style. The chapters on hallucinations, hypnotism, the condition of the mind in sleep, mind reading, and telepathy are very excellent groupings of facts, which are put in such a graphic way as to be invaluable to all readers. The author has done good service in popularizing many obscure subjects and placing them in such a pleasing form, hence the volume should have a very wide circulation. Our readers will find many side lights in this little work on the psychology of inebriety, and we heartily commend it as a book of more than usual interest.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A guide to the application of water in diseases, for students and practitioners of medicine. By Simon Baruch, M.D., Professor Hydrotherapeutics in the New York Post-graduate Medical School and Hospital, member of the New York Academy of Medicine, etc. Seventh edition, revised and enlarged, with numerous illustrations. New York: William Wood & Co., Publishers, 1903.

This excellent book is a concise discussion of the value of water as a remedial agent. The first five chapters describe the physiological effects of water on the skin and the rationale of water in disease and health. The second part deals with the practice of hydrotherapy and its application to a great variety of diseases, prominent of which are pneumonia, phthisis, anæmia, chlorosis, and other diseases. The last part of the book gives a very valuable historical study of hydrotherapy in

different countries, and the methods of using water which distinguished physicians recommend. Dr. Baruch's book is very valuable to all physicians, not only for the new matter which it presents, but the exceeding practical character of the suggestions concerning the use of an agent that is at the command of every one. Homes and hospitals, as well as the practice in private families, can utilize this agent to an extent not at present realized in the successful treatment of disease. We very strongly commend this book. The publishers have issued an attractive volume with many fine illustrations.

A MANUAL OF ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS, RADIOGRAPHY, AND RADIOTHERAPY. (Second Edition.) By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics, editor of the *Journal of Advanced Therapeutics*, etc. New York: A. L. Chatterton & Co.

This is the second edition of Dr. Snow's most excellent work. The prominence given to the static machine and its practical applications gives a certain preëminence to this book and value not found in other works on the general subject. The first seventeen chapters discuss the electro-static modes of application and therapeutics. The first ten of these treat of the machines, the general principles, and their care and management, together with the physiological action of the various static currents. The remaining seven chapters give a very clear summary of the therapeutics and uses to which these currents can be applied in inflammatory conditions, painful neurosis, palsies, diseases of the skin and general organic changes. Section second of this work contains five chapters on Skiagraphy, giving all the essential facts for the use of the X-Ray, also in photographing the conditions which this marvelous

light reveals. The last part of the volume contains six chapters on Radiotherapy. This is equally interesting and contains many very valuable facts which every electrician, or person who uses any form of electricity, should be glad to know. The book is profusely illustrated with thirteen large plates and nearly a hundred cuts showing the method and apparatus as well as the form of administration. The author makes it very clear that the use of electricity can only be successful in the hands of persons who are familiar with the physiology and method of applying this new therapeutic agent. Every institution where the static machine is used should have this volume as a text-book and manual, for the proper understanding of many of the mysteries which are associated with the use of this agent. Up to the present time there are very strong indications that it will become a very prominent agent in the near future in the treatment of spirit and drug psychosis. Already one article has appeared extolling its advantages in morphia cases. But one of the great difficulties at present seems to be the want of knowledge concerning the physics of electricity, and the technique of its application. Dr. Snow deserves the warmest thanks for his contributions in this direction. We urge all our readers to possess this volume, and in this way master some of the first principles which will evidently lead to a much wider application and larger knowledge of its value in the future. The publisher has presented an attractive volume.

It is a pleasure to note the various journals which are now regularly published giving prominence to the medical discussion of the drink problem. Among the oldest is the *Medical Temperance Review*, which is the organ of the British Medical Temperance Association and has been published seven years under the editorship of Dr. Ridge. *The Temperance Record* is a very attractive monthly in which the scientific side of the subject is made very prominent. In France there are three journals in this field, the oldest of which is *La Temperance*, the

organ for this National Society against the abuse of alcohol. The second journal is *L'Alcool*. This takes up the question of anti-alcoholic studies, following medical lines and giving a general discussion of reform movements. The third journal, *Les Annales Antialcooliques*, edited by Dr. LeGrand. This is more of a medical journal than the other two, and contains a great many striking papers on this subject. Another paper has some prominence and is called *L'Abstinence*, and is published in Lausanne, Switzerland. This is an excellent paper giving summaries of studies in that country.

We are in receipt of several journals published in different parts of Russia devoted to the presentation of the dangers from the use of alcohol as a beverage. These journals are edited with great spirit and present the subject with strong emphatic language, condemning the government plan of the sale of the spirits and urging individuals to give up all use of spirits as dangerous in the last degree. Compared with the fifty or more journals in this country in which all forms of temperance work are urged it is evident that the Russian and Scandinavian countries are more deeply interested and are taking up the subject from a broader point of view, dealing with facts more than theories.

The Russian Minister of Finance has offered a prize of \$27,000 for the discovery of some means to make alcohol so unpleasant that it cannot be used as a beverage. This supposes that some substance can be found which will make it so disagreeable as to be undrinkable. This has been done in this country by the use of a little apomorphia. For a long time tartar emetic and ipecac has made all spirit beverages distasteful. We shall keep our readers informed concerning this remarkable effort to promote temperance and abstinence from all use of spirits.

The *Popular Science Monthly* shows a decided advance in the quality and matter presented. Several very excellent articles in both the December and January numbers are worth many times the cost of a year's subscription. We commend this journal to all readers who would keep abreast with the movements of science, in the higher departments of study.

The *Review of Reviews* is one of the best monthlies for the busy man that is published. The comments on the news of the day, together with special articles giving details of the prominent persons and subjects, are invaluable. No finer present could be made than a year's subscription to this number. It is published at 13 Astor Place, New York City.

The *Homiletic Review*, published by Funk & Wagnalls of New York city, is not only a theological magazine, but one which the general reader can enjoy, as an index of the great revolutions going on in the theological world. It is very valuable to every scholar. No more pleasing present can be made than a year's subscription to this journal.

The *British Journal of Inebriety* comes freighted with many very interesting studies and gives promise of being a most valuable periodical. The grouping and study of the facts in this field has now reached a point where its prominence cannot be ignored and we welcome most heartily our younger brother in this great field.

The *Scientific American* begins the new year with unusual richness of contents and illustration. No weekly brings more suggestive facts to the office than this. Munn & Co. of New York are the publishers.

Editorial.

THE JOURNAL begins the New Year with the most encouraging signs of growth and progress. Bills for the incorporation of asylums, for the care and control of inebriates, have been offered in seven different states. Four of these bills were urged last year without success, and are now offered again. The agitation of the dangers resulting from alcohol is increasing yearly, and leading up rapidly to a great revolution of public sentiment. In scientific circles the psychosis of the inebriate, with all the vast problem of physical and psychical causes, are attracting new attention. The theory of alcohol being a specific cause is disappearing, and the facts we have so often urged, that the use of alcohol was often a symptom and only a secondary cause, is being accepted by all students of mental diseases. Probably one of the most startling revelations of the past year has been the discovery that many of the greatest disasters both by land and water are traceable to the alcohol brains of persons who had control of events. Several great financial disasters, entailing great suffering and loss, were clearly traceable to the same source. The question is asked, how long shall we be dominated by the delusions that alcohol is a moral lapse and a vice of the human heart, and be content with the childlike efforts for its prevention and control? When will the great fact of disease be known? And when will the inebriate be recognized as a dangerous, irresponsible person, and forced to go under care and treatment? For twenty-seven years the JOURNAL OF INEBRIETY has gone out year after year on this great mission of teaching the disease of inebriety, its curability and prevention by the use of scientific means. And again we begin the New Year with greater confidence and hope in the reality of our mission and the certainty of its accomplishment.

PREVENTION OF INEBRIETY.

The most advanced work in scientific medicine is the discovery of the causes of the disease, and by their removal absolute prevention is obtained. The disappearance of yellow fever in Havana, following the discovery of the germ and its transmission by the mosquito, is a striking illustration. Can inebriety be prevented, from the discovery and removal of the causes, is a question for which an answer has been sought from the earliest times. The widely varying efforts to stop the sale of spirits and punish the person who drank is an attempt to answer this question. The possibility of determining many of the causes, and their removal, and thus preventing the disease, is established beyond question. The tremendous efforts to bring about prohibition by banishing the saloons and stopping the sale of spirits as beverages is an effort to remove causes which are supposed to be active in the formation of inebriety. The legal efforts to suppress drunkenness by fine and imprisonment is based on the theory that the causes are the willfulness of the victim and his reckless disregard of the interests of others as well as himself. Moral suasion by the pledge, prayer, and solicitation, assumes that the victim is a sinner in the need of conversion and change of heart, and when this is accomplished the causes of disease are removed. Another most remarkable effort to prevent inebriety is the legal enactments requiring physiology and hygiene to be taught in the public schools, and the dangers from the use of alcohol made a prominent part of the study. The causes here are assumed to be ignorance and the prevalence of false theories in regard to the nature of alcohol. By teaching exact facts concerning the danger from alcohol this ignorance will be removed and prevention will follow. Another effort in the line of prevention is the medical study of inebriety as a disease, and its treatment in asylums. This is based on the theory that the desire for alcohol comes from a diseased nervous system, and exhausted brain; also that these causes are both active and predis-

posing to various forms of insanity ending in death. It is claimed that the study of the causes and conditions which develop into inebriety, by the medical profession, is the most effective means to secure prevention. Thus both the medical profession and the public through societies and reform movements, religious efforts, legal and otherwise, recognize the theory that inebriety is preventable and can be stopped and finally broken up the same as other diseases. The causes are undoubtedly far more complex than any one of these efforts at prevention would indicate. Studies along the scientific lines by physicians have already pointed out some of these complex causes. Thus in certain persons there is inherited highly unstable nervous organizations with certain tendencies, which develop into inebriety both with and without temptation.

There are other persons in whom digestive troubles and various toxæmic states merge into inebriety, and also persons who live in centers of excitement in which the brain and nervous system is under constant strain. Here spirits, narcotics, and drugs cover up the exhaustion and disease and bring grateful relief. In most cases where spirits are used, there are two conditions present: one of favorable soils, such as heredity and exhaustive brain, and lowered vitality, and the other the toxæmias which are introduced with alcohol, and grow with its use. The prevention depends on a knowledge of these causes and their removal.

The prevention of insanity is already a recognized possibility. Legal and moral measures are being urged to prevent marriage with epileptics, idiots, and insane, and thus stop the growth of defectives from which insanity commonly springs. Breaking up the centers of pauperism, bad mental and physical surroundings, actually removes the soil for the cultivation and growth of insanity. These same conditions and causes are prominent in producing inebriety. Thus hysteric states, paranoic mental conditions, are all forerunners and early signal

flags of inebriety and insanity. This is the direction towards the discovery of vast regions of causes, the removal of which will be followed by the prevention of inebriety.

It is a great pleasure to call attention to the portrait in this issue of the government inspector of inebriate asylums in Great Britain, Dr. R. W. Branthwaite. We have from time to time referred to the advanced legislation and wise control of institutions in England, and we publish in this number many very suggestive quotations from the last government report on this subject. The inspector, Dr. Branthwaite, although a young man, has already distinguished himself by his clear, practical conceptions of inebriety and its treatment. He was born in 1859 and educated in London, serving for three years in institutional work in hospitals and asylums. When the Dalrymple Home was opened he was made its first superintendent. This was practically the first scientific asylum organized under the law in England. He remained in charge sixteen years, and in 1899 was formally appointed government inspector of inebriate asylums. The duties of this office are similar to that of our lunacy commission. All institutions must be licensed by the inspector, who visits them and advises on all matters concerning the care, admission, and control of inmates, and reports yearly on all matters concerning institutions. The reports which Dr. Branthwaite has issued since his appointment to the office in 1899 are very excellent summaries of the progress of the study of inebriety and the scientific work done in the various institutions. There is no man in Europe more familiar with institutional care and treatment of inebriates and the new and advanced work in this field. The scientific study of inebriety was begun first in this country, and had attained great prominence in many ways, yet there can be no doubt that the English method of placing all institutions under government control is far in advance of anything done in this country. The late Dr. Norman

Kerr, so well known to our readers, was the pioneer worker in pointing out the necessity of the institutional care of inebriates. Dr. Branthwaite, the government inspector, is equally a pioneer in the organization of institutions along scientific lines and the practical development of the most effective means and measures for their successful control and treatment. We look forward with confidence that in the near future our separate state governments will require all institutions of this kind to come under some legal inspection and control, along the same lines as in England.

In one of the popular magazines the author deploras the fanaticism of a few medical men in this country who urge the danger of the use of alcohol, and the disease of inebriety. He then cites Germany as a country where the subject does not attract attention among scientific men and that the common people are not disturbed, but continue their usual libations utterly oblivious to any injurious effect. These and other statements seem to be unknown by the leading German organ of the brewers, who in a recent number called attention to the dangerous agitation against the use of spirits and beer, which has provoked the printing and circulation of 871 books on the temperance question, printed during the last thirteen years. It also describes thirty-seven newspapers, magazines, and annuals devoted to the temperance question, and all published in Germany. It is evident from this that somebody must be concerned in studying the dangers in the use of alcohol, and that this author has evidently not heard from the Fatherland very lately.

One of the most hopeful signs of the rapid growth of clearer conceptions of the danger of alcohol, and the prevalence of disease which follows from it, is seen in the intensity of discussions on its various phases. Thus the canteen question, the

alleged errors in school-books teaching the dangers from the use of alcohol, the stringent rules adopted by railroads and other corporations in discharging moderate drinkers, and all the various questions of license, prohibition, and legal punishment of inebriates have been far more prominent during the past year than ever before. Like "Banquo's ghost" this subject will not down; papers and discussions follow each other with increasing frequency, and the subject becomes wider with each study.

The *Pacific Health Journal* of Oakland, Cal., begins the New Year with a symposium on alcohol as a food and medicine. Seven papers are devoted to this subject. They announce that in April a special number will be given up to the discussion of tobacco and its abuses. In July, tea, coffee, and other drugs will be taken up, and in October dress and its uses will be discussed. The editor, Dr. Heald, is doing a great work in grouping the various opinions on these absorbing subjects. There is great need for popular teaching and the journal that leads off in these times ought certainly to be largely read, and liberally patronized.

The *Good Health* of Battle Creek has for many years given great prominence to the discussion of the dangers from alcohol and its influence has been felt very largely in the frequent quotations from its pages. The *English Health Weekly* is another journal in which the temperance question become more and more prominent. During the past year the medical journals have discussed these subjects with greater freedom and frequency, and it is very evident that the public sentiment is turning to physicians and journals for information.

Clinical Notes and Comments.

THE TREATMENT OF ACUTE OPIUM POISONING.

BY JOHN SLADE ELY,

Yale Medical Journal, October, 1903.

It is still generally believed that in opium poisoning the coma is the chief element of danger. It is for this reason that strenuous efforts are often made to keep the patient awake, a course of treatment that only exhausts him and is usually unsuccessful. The writer believes, in accordance with the best physiological and pharmacological information at our disposal, that the coma of opium poisoning has no destructive effect *per se* — that the failure of respiration which follows is not its result, but a concomitant expression of the action of the poison on the respiratory center in the medulla oblongata. Though the primary effect of opium in man would appear to be exerted on the cerebrum, in this action there is no direct menace to life. It is only when its action extends to the respiratory center that life is threatened.

It has long been known that the action of opium on the heart, even when administered in large doses, is insignificant. There is indeed usually stimulation rather than depression. The correctness of this view is indicated by the behavior of the heart in severe and fatal cases of opium poisoning. Here it has been repeatedly observed that the heart has continued to beat regularly and with good force even up to the time of com-

plete cessation of respiration, and has seemed ultimately to fail only as a result of the respiratory failure. This is most strikingly shown in a case of the writer, of profound opium poisoning which ended in recovery. In this case, for more than six hours after cessation of spontaneous respiration, and during continuance of artificial respiration, the heart continued to beat with good strength. Whenever the artificial respiration was stopped the heart failed, and on several occasions the patient became almost pulseless at the wrist, but with the resumption of the artificial respiration the regular strong beat of the heart returned in each instance. There are many similar cases on record in which artificial respiration has supported the action of the heart and in which a similar dependence of the heart action upon the respiration has been noted. We may, then, consider it as clearly established that in acute opium poisoning, death is the result primarily of paralysis of respiration. In a considerable number of cases of profound opium poisoning, in which artificial respiration has been the only treatment, recovery has resulted.

Since Vogt, in 1875, demonstrated the presence of morphine in the stools of a morphine *habitué*, the view that morphine is excreted primarily by the digestive tract has received abundant proof. The stomach plays the chief role in the process. In dogs the stomach contents contain morphine two and a half minutes after the hypodermic administration of the drug. The excretion into the stomach continues actively for half an hour, more slowly for another half-hour, and then ceases. The same phenomenon has been observed in man. It would seem, then, that the gastric mucous membrane is an active excretor of morphine, that the excretion begins almost immediately, and, when the stomach is repeatedly washed, ceases in about an hour, presumably because in that time most of the morphine in the body has been eliminated. If not removed by lavage, however, the morphine excreted into the stomach passes down into the intestine, and is there reabsorbed with a resulting continuance

of the toxic action. The vomiting of opium poisoning is probably a conservative effort on the part of the body.

Rational treatment of poisoning of any sort resolves itself into antagonism of the lethal action of the poison and obtaining of speedy elimination of the poison from the body. The above considerations indicate that in opium intoxication the former indication is best met by artificial respiration and the latter by repeated gastric lavage, and that no matter how the drug has been administered. Of the pharmacologic antidotes the only rational one is permanganate of potassium. It has been shown that the latter possesses a peculiar selective action upon morphine, oxidizing it to the harmless oxydimorphine. The gastric lavage is probably rendered more efficient if a dilute solution of permanganate is used instead of plain water. Whether the hypodermic administration of permanganate will oxidize the morphine present in the circulation, while possible, is still open to doubt.

Finally, the writer urges that the conservation of the patient's strength is of the greatest importance in opium poisoning. Accordingly there should be avoidance of every unnecessary measure tending to exhaust him and to diminish his vital power. For this reason the practice of walking the patient up and down the room, flagellations, and the many other means so frequently employed to keep him awake, should be abandoned.

ON THE USE OF BOVININE IN THE TREATMENT OF THE MORPHINE HABITUÉS.

The general debility observed in all morphine habitués tells a story conclusively of cell starvation. Morphine is undoubtedly at all times a protoplasmic poisoning, permeating every cell and fiber and inhibiting metabolism throughout the entire economy. The vaso-motor system, thrown out of balance from

the first, brings in the train of its physiological impairment all of the characteristics of perverted blood supply. Impaired construction everywhere means peripheral starvation everywhere. The initial stimulation caused by morphia causes excessive action of the nerve elements; nature calls for a corresponding increase in nutrition. If this is not supplied injury to cell protoplasm is the result, which of course means cell destruction. If the supply of nutrition is adequate to the demands, auto-intoxication results from increased katabolic and insufficient anabolic processes, also from indigestion due to motor-atomomy and faulty secretion. Again, defective elements cause retrogressive blood changes, culmination of nitrogenous waste elements, and thus damage the tissue elements still further, especially in the nervous system. Under these conditions there exists the insufficiency of tissue oxygenation, and cell toxemia, and impaired cell functioning, paving the way for degeneration or infiltration. Defective metabolism follows deficient anabolism and defective cell and stomach elements.

The action of morphia over peristalsis is another serious matter in this disease. The absorption of ptomaines, leuko-maines, and extractives from retained feces, added to an already overloaded circulation, aids in inducing the condition of chronic toxemia. Assimilation effects are produced by the drug's action on digestive secretion and the tonicity of the stomach walls. The kidneys, already handicapped by vascular changes and a choked-up condition of the uriniferous tubules by isomeric salts of morphia, are overworked and compelled to do most of the work usually performed by the skin. In consequence of all these changes a high arterial tension occurs from centeric intoxication, which, indefinitely prolonged, is productive of much mischief, especially to the cardiac muscles. Hypertrophy of left ventricle is not uncommon in severe cases. The spleen, from constant encroachment, often becomes hypertrophied, and this condition frequently remains after cure of habits. The stomach is usually dilated in chronic cases to a

certain degree, and, as a result of deficient motility, food remains in the stomach seven, eight, or ten hours after ingestion. In the treatment of this habit the first point to be considered is elimination; the second, to control the nervous system and increase inhibition; the third, to supply nutrition to the starved and burnt-out nerve tissue and general cellular state. Other indications are symptomatic, being thus presented by certain withdrawal of symptoms, notably cardiac oppression. Bovinine is exactly indicated in the treatment of this condition, and will more rapidly restore a patient to both a normal and physical standard than anything else. It increases elimination and it controls the nervous system, and it supplies tone and thorough nutrition and stimulates properly the cardiac muscle.

CAUSATION OF DISEASE.

The following passage occurs in the annual oration before the North Carolina State Medical Society, by Dr. Joseph Graham, the president, of Raleigh, N. C., June, 1903:

“Of all the predisposing causes of disease alcoholism seems most productive. The effect of the alcohol depends upon the form in which it is taken. When taken dilute, and especially as beer, it produces a fatty infiltration especially of the liver, heart, and kidneys; when taken in a concentrated form, as whisky, it produces a low grade inflammation, resulting in over-growth of connective tissue by its direct irritant effect on the structures with which it comes in contact. Statistics show that alcoholics have the highest rate of mortality, and that fifty-five men engaged in liquor trade die from alcoholism to every ten in all other occupations. Of liver diseases, ten are caused by alcohol while one is caused by all other affections. Diseases of the heart, arteries, and nervous system are far more frequent among those engaged in the liquor trade.

“Alcohol causes at least one-half of the criminals, insane, and dependents that our state has to support; what proportion

of these result from imbibing patent medicines no one can estimate, but the number is large. Then, too, our ignorant classes pay high prices for these so-called medicines, and they are not only worthless as remedies but injurious to health. Ordinary whisky, as sold in the saloon, is not as strong in alcohol as some of these medicines which are recommended for the treatment of the alcoholic habit. Some nerve nostrums contain more opium than is contained in paragoric, and are recommended for the cure of the morphine habit and allowed free sale. The life insurance companies seem to be the first to recognize the great danger of patent medicines, and it is with pleasure that I note one company requires the examiner to ask the applicant what patent medicine he has used in the last five years. The *Journal of the American Medical Association* says this is a step in the right direction, for any one who will take a department store pill for the liver is not a fit subject for life insurance. Physicians vary in their opinions as to whether opium, alcohol, or cocaine is the most generally harmful constituent of these so-called cures. They are all dangerous, and through their use many become subject to disease. It is a well-known fact among hospital physicians and nurses that a man addicted to the use of alcohol who falls ill or has to undergo a surgical operation does not stand nearly so good a chance for recovery as a total abstainer. Even a moderate drinker has a harder fight for life, while the habitual drinker not only fails to respond to alcohol but also to all other drugs, and he often succumbs to a slight illness or injury.

“The opium and cocaine habits are certainly on the increase. Since 1898 the population of the United States has increased ten per cent. The opium imported, however, has increased 500 per cent., and this too despite the fact that it is less frequently used by physicians than in years past. Last year we imported over 700,000 pounds of opium and a ton of morphine, which will be disposed of in less than one grain doses. The importation of cocaine also shows a decided in-

crease—the amount imported in 1902 being three times as much as in 1898. Pharmaceutical statistics show that both of these drugs are used less now by physicians than in former years. What becomes of this superabundant quantity? It is compounded into nerve-nostrums, and is sold to the drug fiends and ignorant members of our lower classes.”

THE TREATMENT OF NASAL CATARRH.

Mannon (*Cincinnati Lancet-Clinic*) finds no danger whatever from the use of the nasal douche provided ordinary care is taken and a proper solution is employed. The charge that postnasal douching is prone to excite inflammation of the middle ear he does not find sustained. All leading specialists employ this method of treatment in the posterior as well as the anterior nares with equally good results. The doctor has had chronic nasal catarrh of many months' duration yield to douching when heroically employed. Listerine, to which a small quantity of bicarbonate of soda has been added, is his main stand by. If hemorrhage is a controlling feature he uses instead a saturated solution of tannic acid, to each ounce of which ten grains of carbolic acid has been added. When the tendency to bleed ceases he returns to the listerine solution. Treated in this way the most pronounced cases yield in three or four weeks, and are not prolonged by complications or sequelæ.

THE DECADENCE OF OPIUM.

We should not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere. In the acute stage of most inflammations, and in the closing painful phases of some few chronic disorders, opium in gelenic or alkaloidal derivatives is our grandest

remedy—our confidential friend. But here the application should cease; and it is just here that the synthetic products step in to claim their share in the domain of therapy. Among the latter perhaps none has met with so grateful a reception as Antikamnia Tablets, and justly so. Given a frontal, temporal, vertical, or occipital neuralgia, it will almost invariably arrest the head pain. In the terrific fronto-parietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, they are of signal service, contributing much to the comfort of the patient. Their range of application is wide. They are of positive value in certain forms of dysmenorrhoea; they have served well in the pleuritic pains of advancing pneumonia and in the arthralgias of acute rheumatism. They have been found to allay the lightning, lancinating pains of locomotor ataxia, but nowhere may they be employed with such confidence as in the neuralgias limited to the area of distribution of the fifth nerve. Here their action is almost specific, surpassing even the effect of aconite over this nerve. — *National Medical Review.*

BATTLE & Co., Chemists, St. Louis :

I have the pleasure of telling you of a most remarkable experienced had with the bottle of ecthol you kindly forwarded me last month. When I received the sample of ecthol I had been treating a young man about ten days for what I diagnosed as ulcer of the stomach. For a year before coming to me he had occasionally seen dark-colored blood in his alvine discharges, and now and then he had vomited blood of a lighter hue. There was an indurated spot on the body of the stomach about twice the size of a silver dollar, which had been giving him trouble for some time. Could trace no history of cancer in his family. After putting him on teaspoonful doses of ecthol four times a day he came to my office and smilingly told me the hard spot was gone. I examined him and found it to be true. During this last week he had been on ecthol alone. The

vomiting had also ceased, and he had gained in bodily vigor. Gave him a second vial of same, cautioned him as to eating and exercise, and discharged him in fine spirits. I wonder if this case can be matched?

JOHN F. NEAL, M.D.

Lytle, Texas, Oct. 14, 1903.

Among the ordinary inebriates which come under treatment in the institutions there are several quite distinct classes: One the imbecile and delusional class; another the occasional inebriates, who seem to be both imbecile and paretic in their mental conditions; the third, the habitual and constant drinkers, who are, like the first class, egotistical and delusional about their own strength. Another class may be properly called criminal inebriates, who when under the influence of spirits have all the instincts and impulses of a criminal. They are clearly insane. The accidental inebriates is a class by themselves, and seem to depend entirely on the surroundings. The recurrent inebriates, in which the paroxysm of drink returns at stated intervals, are allied to the epileptoid family of diseases.

Nearly all of these classes are neurotics from heredity; some direct from inebriate parents, others indirect from other forms of neurosis.

A certain number of inebriates manifest from the beginning of their treatment pronounced delusions of persecution, believing that the institution and its managers are directly responsible for the continuation of their dangerous condition. Sometimes this is concealed, at others it is outspoken and bold. Frequently these delusions change with the surroundings from one thing to another, but continuously dwelling on the fact that each effort or means to help them is persecution, which they must oppose in every possible way or fail to recover.

TOXIC AMBLYOPIA FROM COFFEE.

Well authenticated cases of toxic amblyopia from drinking coffee are quite rare; therefore the following undoubted case will prove interesting, possibly also explaining other cases of uncertain origin. The case is reported by Dr. P. W. Wing of Tacoma, as follows:

The patient, an apparently healthy, well-nourished boy, of eight years, was brought to the doctor's office by his mother, who stated that she had noticed failing vision the past five months, and that the boy had been sent home from school on account of his eyes. He had been fitted with glasses, but his vision had steadily become worse. Upon examination by Dr. Wing the conjunctiva was found normal; cornea, lens, and vitreous clear; pupil a little larger than normal and sluggish; the optic disc was much congested, could hardly distinguish its outlines. Retinal vessels large, arteries smaller than veins, and vision barely twenty two-hundredths in each eye for distance, near vision correspondingly reduced, field contracted.

There was no history of cigarette smoking, and no cause could be discovered until his mother said he had two cups of strong, black coffee at each meal without cream or sugar, and frequently when he visits his grandmother cake and coffee between meals. Six to eight cups of strong coffee daily for a boy of eight years old! Stopping the coffee at once and strychnine gr. one-fiftieth, t. i. d. gave normal vision in eight days, and in a month more the field returned nearly to perfect condition. No return of trouble.

This case is a good illustration of the harm in giving young children what few grown persons would care to take for a steady diet. Children are much better off without either tea or coffee, and possibly some patients may need their habits corrected in this respect if we make more diligent inquiry in obscure cases of amblyopia.

Rev. Warren Chaplin of the Missouri penitentiary says that eighty-five per cent. of all the persons confined there for crimes were inebriates, and the crime was the result of the drinking; thus, in the 22,070 convicts over 2,000 were inebriates.

I venture to say that the child is born who will see the last legalized saloon and brewery disappear in our country. This is inevitable, if the temperance people will do their part in looking after the enforcement of their temperance educational laws. — *Mrs. Hunt, School Physiology Journal.*

The Supreme Court of the United States declared, a few years ago, that no man had an inherent right to sell intoxicating liquors by retail. He could not claim protection in this business on account of his citizenship. They also declared that no system of license could constitutionally protect the sale of alcohol as a beverage. One of the reasons given for this was that the use of intoxicating liquors sold in saloons was the greatest source of misery and crime; therefore it was inimical to public health, public peace, and public welfare.

Dr. Maudsley's last book, on "Life in Mind and Conduct," published by the Macmillan Co. of New York city, sums up a long life study of many disputed topics, which are exceedingly suggestive to the reader. This book, of thirteen chapters, is exceedingly interesting, and should be in the hands of every student of mental diseases.

The *Todd Electrical Static Machine*, manufactured in Meriden, Conn., combines some of the best features of two very old machines, the Wilmhurst and Holtz, without any of the disadvantages of either. Although static electricity has come into great prominence within the last few years this is the first real advance made in the construction of an improved machine, in which the voltage and amperage can be regulated according to the work demanded. The practical and efficient manner of construction, so as to make the current uniform and available in all seasons, is of great value. This machine combines many new features, which give promise of revolutionizing the older

methods of construction. No physician or institution can afford to be without a good static machine. Its uses are so many and so practical that no good therapeutic work can be done without it. The Todd machine is the best, considering all requirements, for practical work on the market today.

The *Chattanooga Vibrator* is an instrument which has practically opened up a new realm of remedial forces. Its particular power is in increasing the volume of blood to a given area or organ, also increasing nutrition and secretion, and improving the muscular and general metabolism of the body. This particular machine outranks all the others in its capacity to produce both light and heavy vibratory stimulation. As a massage machine it is unequaled. The uses to which it can be applied as both a general and local stimulant are very great. There is no machine on the market that combines in one so many and valuable conditions as this. In this new field there is of course much to be learned, but with the Chattanooga machine in the hands of an observing physician a new realm of therapeutics is practically opened.

The great *Encyclopedia of Temperance Reform*, which will be published during the coming summer, in three volumes, will undoubtedly be one of the most exhaustive studies which has been made on the drink problem, and will comprise a set of volumes which should be in the hands of every student of this subject. We advise our readers to write to the New Voice Co., Hyde Park, Ill., and get prospectus of this great phenomenal work.

Farbenfabriken of Elberfeld Co., New York city, are constantly bringing out valuable synthetic drugs. Some of their products are the most valuable on the market, particularly *hedonal*, *heroine*, *messatone*. These have all special narcotic qualities which are unknown in other drugs. Every institution should keep in touch with their newer preparations, as they are more and more valuable each year.

Fellows Hypophosphites is imported very largely to China and the far East, and seems to have a great popularity in warm as well as cold countries. This is one of the few remedies which has come into prominence both as a drug for lay-

men and physicians. It is rare that a drug has so many uses and is so uniformly valuable.

The Ammonol Chemical Co. of New York city manufacture a very valuable coal tar derivative, which as an antipyretic and hypnotic can be used with great certainty and without fear of addiction. Ammonol, the name of the drug, can be had from all druggists and its merits practically tested.

The *Sphygmomanometer*, sold by Eimer & Amend of Third Ave., is a most valuable instrument for the measurement of arterial blood pressure. In the study of inebriety it is one of the valuable means for determining the arteries.

Wheeler's Tissue Phosphate is a particular antituberculous remedy, and is used very largely with the greatest advantage wherever tuberculosis exists. Send for sample to the Wheeler Co., Montreal, Canada.

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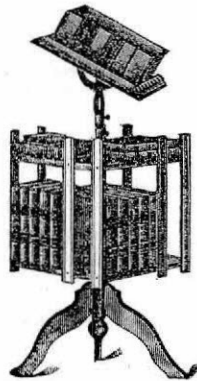
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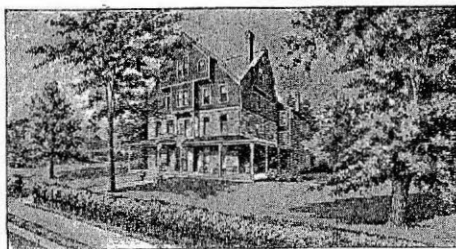
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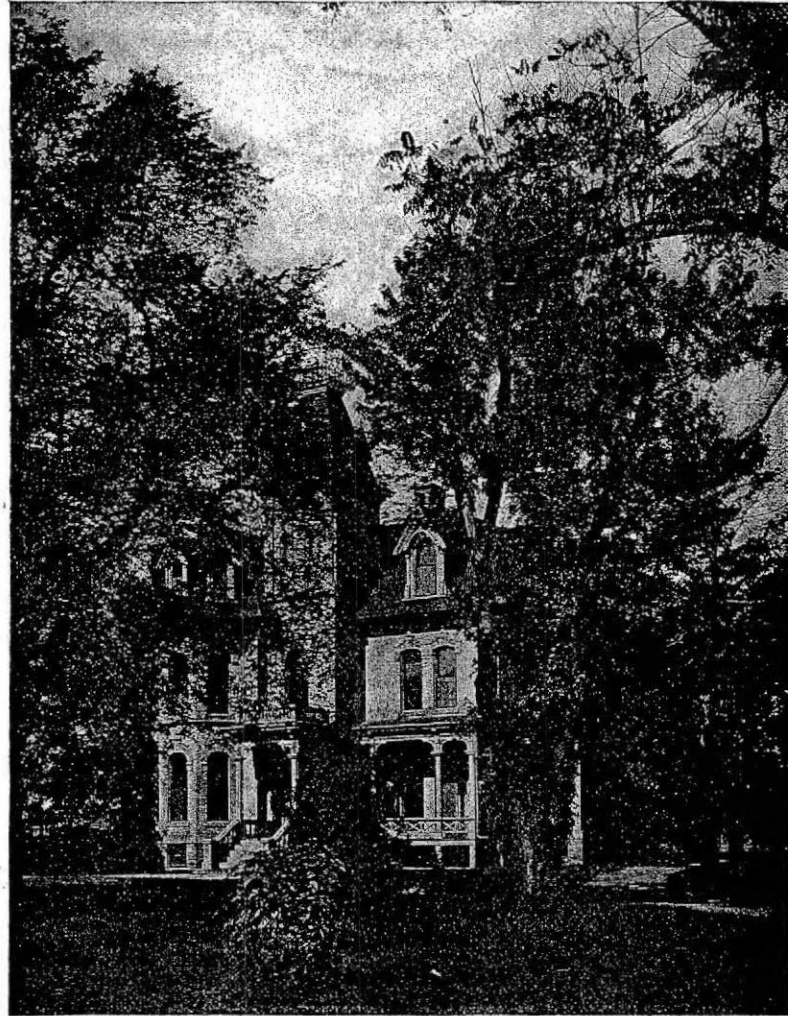
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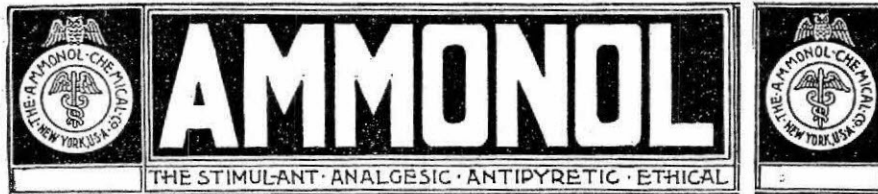
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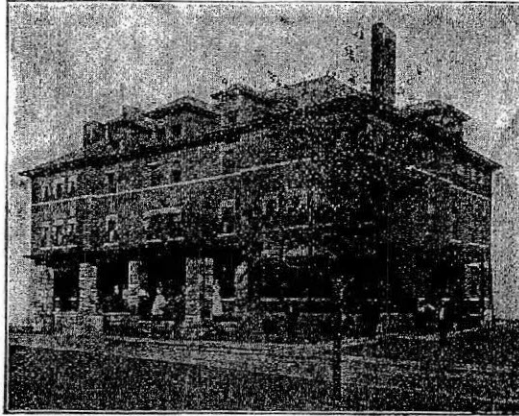
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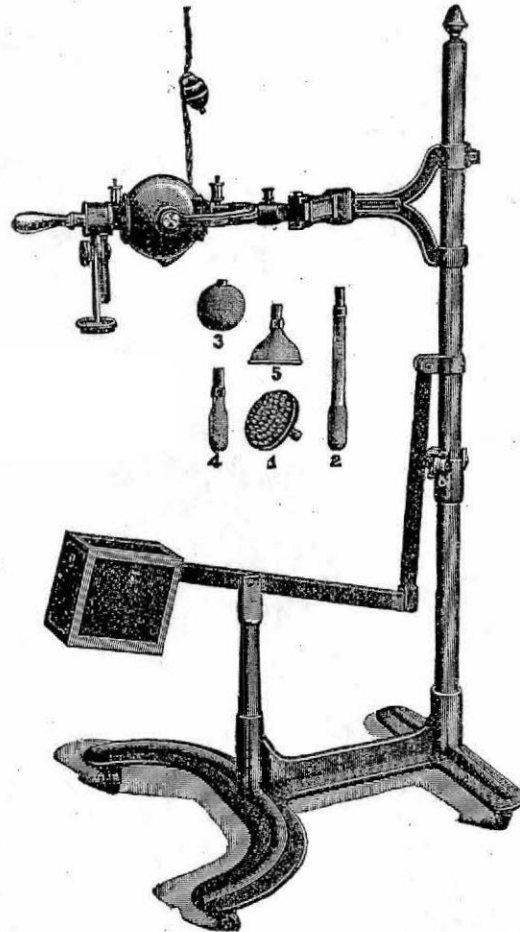
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