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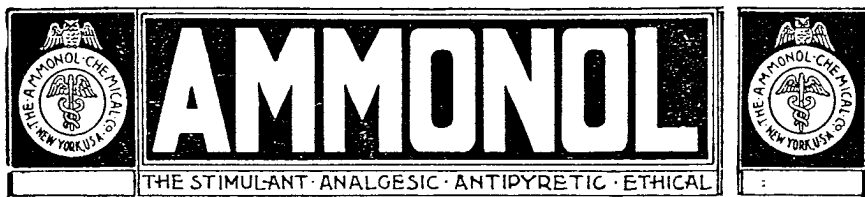
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A NOTE ON THE INFLUENCE OF MATERNAL INEBRIETY ON THE OFFSPRING.

By W. C. SULLIVAN, M.D.,

Deputy Medical Officer, H. M. Convict Prison, Parkhurst, England.

The object of the following paper is to present the result of a number of observations touching certain aspects of the question of habitual inebriety, notably the *rôle* of maternal alcoholism as an agent in race degeneracy.

It has been observed by most authorities who have studied the various classes of individuals characterized by their incapacity to adapt themselves to normal social conditions, that these classes are largely recruited from the offspring of the alcoholic. This holds true whether that incapacity depends on the most glaring states of organic degeneracy, such as idiocy, or on those slighter forms of mental inferiority which appear to exist in at least a considerable proportion of habitual criminals and prostitutes.

Thus, to quote a few of the more recent observations on this point, alcoholic parentage was noted by Bourneville in 62

per cent. of a series of 1,000 idiots examined by him; by Marro in 46 per cent. of criminals; by Penta in 30 per cent. of criminals; in the Swiss prisons for juvenile offenders in over 45 per cent. of the inmates; by Mme. Tarowsky in 82 per cent. of Russian prostitutes.

To observations of this kind it has been objected, and with some justice, that, as parental drunkenness is one of the most easily traced antecedents, it tends to figure disproportionately among the causes assigned in such inquiries; and in many cases it may get the credit of determining in the stock a degenerative tendency which really existed prior to it, and of which, in fact, it was merely a symptom.

To avoid this source of fallacy and to estimate more truly the importance of parental alcoholism among the factors which make for the deterioration of the stock, it is desirable to adopt an opposite standpoint, and to take as the end of investigation, not alcoholism in the ancestry of the degenerate, but degeneracy in the descendants of the alcoholic.

It has seemed to me that an inquiry from this point of view into the history of the offspring of the female criminal alcoholic might not only be of interest as a contribution to the study of that particular social category, but might also furnish results applicable, with certain reservations, to the general question of the influence of parental alcoholism.

For this purpose I have selected from the female population of Liverpool Prison, among whom habitual inebriety is very prevalent, a series of cases of chronic drunkards who have borne children; and from the history of these children, and more particularly from the indications given by the infant mortality, I have sought to illustrate the mode in which the maternal intoxication appears to have reacted on the development of the offspring.

In the selection I have endeavored, as far as possible, to choose cases in which alcoholism occurred uncomplicated by other degenerative factors. Thus I have excluded from the

series all cases in which there was a history suggestive of constitutional liability to tubercular diseases, and all cases where there was a suspicion of syphilis. I have further eliminated the subjects of markedly neurotic type, who, by their specially early and violent cerebral reaction to alcohol, by their heredity, and by the presence of other psychic anomalies, were clearly to be attached to the degenerate *sensu stricto*.

This process of selection avoids the more obvious sources of fallacy in such inquiries; but, of course, the general validity of the results still remains necessarily qualified by limitations due to the special characteristics and conditions of the class from which our cases are drawn.

Without discussing these characteristics in detail, it will be desirable to recall the fact that several of them are of a nature to aggravate the transmitted influence of the intoxication. Thus, prison drunkards belong, for the most part, to the lowest social grade, where even moderate alcoholic indulgence implies diminution of other food supply; further, their excesses are, as a rule, persistent and intense. Another peculiarity met with in individuals of this class, and one which probably favors the transmission to the offspring of the influence of the intoxication, is the special susceptibility of their nervous system to the effects of alcohol.

In the absence of statistics establishing the relative frequency in normal subjects of the different localizations of alcoholic lesions in the economy, it is impossible to offer a definite estimate of this susceptibility, but it is unquestionable that in the criminal, as in the insane alcoholic, the nervous manifestations of the intoxication occur with notable frequency, while non-nervous disorders are relatively rare and secondary.

This fact is, no doubt, an expression of that peculiarity of organization in virtue of which these individuals' intoxication tends to issue in obtrusive disorders of conduct.

In the cases comprised in our series the special nervous localization of the poison was very marked; thirty-one of the

women had suffered from one or more attacks of alcoholic delirium, while twenty-four others, without actual delirium, had occasional visual hallucinations. Suicidal impulses, disorders of cutaneous sensibility, cramp in the extremities, were noted in a considerable number of cases.

The same determination of the poison to the nervous system with comparative immunity of the other tissues, was equally notable in the case of alcoholic relatives of our patients.

Of course, with a view to the special object of our inquiry, cases were chosen in which the inception of the drink habit was either prior to or coincident with the commencement of the procreative career, at least not later than the first confinement.

The intoxicants consumed were in the form of beer, whisky, and rum; as a rule the patients drank any sort of liquor they could get.

(a) *Mortality of Infants of Female Inebriates.*—Among the 100 women of our series, twenty were able to give details of female relatives also of drunken habits, who had had children. Of these 120 female inebriates were born 600 children, of whom 265 (44.2 per cent.) lived over two years; 335 (55.8 per cent.) died under two years, or were dead-born.

(b) *Infant Mortality in Sober and Drunken Branches of the same Family.* — With a view to testing how far the high infant death-rate was in any way related to the maternal drunkenness, we may adduce for comparison the infant mortality in a number of sober families. Twenty-one of the women observed were able to give details regarding female relatives, sisters or daughters, of sober habits, who had contracted marriages with sober males, and had borne children. The drunken and sober families contrast as follows:

Drunken mothers (21 cases) 125 children, of whom 69 (55.2 per cent.) died under two years.

Sober mothers (28 cases) 128 children, of whom 33 (23.9 per cent.) died under two years.

Thus the death-rate among the children of the inebriate mothers was nearly two and a half times that among the infants of sober women of the same stock.

Of course, it has to be borne in mind in considering these figures that the high mortality shown, in so far as it is attributable to alcoholism, is not solely the result of the direct influence of the intoxication on the organisms of mother and child, but is also in part a consequence of the malign modifications of the environment due to the parental vice.

This latter unessential mode of influence varies in its gravity according to the normal milieu of the individuals concerned, and in the class from which our cases come is at its maximum.

We cannot, accordingly, assign a general validity to our statistics on this point without making full allowance for the social factor.

(c) *Progressive Death-rate in the Alcoholic Family.* — On the other hand, within the limits of a given class, the infant death-rate may be taken as a fairly accurate index of the transmitted influence of the parental intoxication. In this way we may use it to test the force of that influence at different stages of the parental alcoholism. For that purpose we shall class the children according to the order of their birth, and we shall compare the death-rates in the different groups so obtained.

In eighty cases in our series, omitting instances of mixed paternity, the number of children reached or exceeded three.

Grouping these, as we have indicated, we get this result :

	Cases.	Dead or dead-born.
1st born	80	27
2d "	..	40
3d "	..	42
4th "	64	43
5th "	47	30
6th "	33	20
7th "	22	15
8th "	17	13
9th "	13	13
10th "	8	6

330 *Influence of Maternal Inebriety on Offspring.*

The significance of this table will be better seen if we state the results in percentages. For this purpose, to secure a sufficiency of numbers, it is necessary to combine the figures of the smaller groups:

	Cases.	Dead and dead-born, per cent.	Dead-born, per cent.
1st born,	80	33.7	6.2
2d "	80	50.0	11.2
3d "	80	52.6	7.6
4th and 5th born,	111	65.7	10.8
6th to 10th "	93	72.0	17.2

These figures illustrate very clearly the progressively augmenting character of the influence of the mother's alcoholism. From that point of view it is especially noteworthy that the rate of still-births shows almost as marked a tendency to regular increase as does the death-rate among children born alive.

The type of alcoholic family suggested by these results — a type characterized by decrease of vitality in the successive children — is fully realized in many of our observations. For example, in one instance (Obs. 5 at end of paper) the three firstborn children are healthy, the fourth is of defective intelligence, the fifth is an epileptic idiot, the sixth is dead-born, and, finally, the reproductive career ends with an abortion. In another case (Obs. 10), after a firstborn child surviving to adult life and a second which dies of an infectious disease in childhood, we have two infants dying of convulsions in the first few months of existence, and after these a still-birth.

(d) *Influence of Early Development of Drink Habit.* — In confirmation of the results just cited, we find a sensibly higher infant death-rate in cases where maternal inebriety has developed at an early period. In thirty-one of the women drinking habits were well established at least two years before the first pregnancy. Of the 118 children born of these women, seventy-four died in infancy or were dead-born, a

death-rate of 62.7 per cent., as compared with a death-rate of 54.1 per cent. for the rest of the series.

(e) Influence of Sober Paternity. — In only ten cases of our series (omitting instances of mixed paternity) were the fathers of the children of sober habits. This is, of course, too small a figure on which to base any conclusions. In these ten cases (fifty-seven infants) the death-rate (57.8 per cent.) was practically the same as that of the whole series. If this result were confirmed by adequate figures it would suggest that, as regards the vitality of the offspring, the influence of maternal drunkenness is so predominant a force that the paternal factor is almost negligible. Such a conclusion would harmonize with the known facts regarding the gravity of inherited syphilis.

(f) Influence of Inebriety of Preceding Generations. — In thirty-nine of our hundred cases the parents of the women were, as far as ascertainable, of sober habits. Of these thirty-nine women were born 210 children, of whom 57.1 per cent. died in infancy or were still-born. The death-rate among the children born of the remaining sixty-one women — who gave a history of paternal alcoholism on one or both sides — was 56.2 per cent., that is to say, practically the same as in the infants of inebriate ancestry.

Of course, our method of selection excluded distinct manifestations of neurotic taint, and hence eliminated those cases in which parental alcoholism had exercised a serious influence. Accordingly, the women of inebriate ancestry who figure in our statistics would be those only who had suffered very slightly, if at all, from the action of the parental intoxication. The inference from our figures, therefore, is that, unless the fact of the drink habit were to be regarded as an evidence of hereditary influence, a purely gratuitous assumption, then their degenerative taint, if existent at all, was too feeble to exercise an appreciable effect on the death-rate of their offspring, being lost in the overwhelming importance of the

direct intoxication of the maternal organism and of the embryo.

(g) Influence of Intervening Circumstances. — For obvious reasons it is possible to detect only a very small number of even the grosser and more obtrusive conditions which exercise a special intervening influence on the normal course of maternal inebriety, and tend to exaggerate or to moderate its detrimental effect. In a number of our cases, however, it was possible to trace the operation of at least two such conditions of opposite tendency, viz., on the one hand the existence of a state of drunkenness at the time of conception, on the other hand enforced sobriety owing to imprisonment during a part of pregnancy.

With regard to conception in a state of drunkenness, it is a condition concerning which, of course, positive information can only be obtained in a limited number of cases. There can be but little doubt that it is an event of frequent occurrence in the class with which we are dealing, and the small number of our instances is no index to the actual importance of this factor. So far as they go, however, our observations as to this point are suggestive. In seven cases the condition was noted, and in six of these cases the children died in convulsions in the first months of life; in the seventh case the child was still-born. In four instances the child conceived in drunkenness was the firstborn, and in two of these cases subsequently born children survived to adult life. As we have seen that in the alcoholic family the earlier born child has a relatively good chance of life, these cases seem to indicate the decided influence of the factor in question. It is further to be noted that in three of the four cases this first pregnancy occurred before marriage. Possibly we should not be in error in attributing to conception in drunkenness a certain influence in the causation of the high death-rate of illegitimate children.

As to the second circumstance which I have mentioned — imprisonment during pregnancy — it is obvious that it can ex-

ercise a perceptible influence only in cases in which the incarceration extends over a considerable period of pregnancy, and occurs at a stage of the maternal career when the organic changes of alcoholism are not too far advanced. These conditions are, however, rarely united; as a rule, the graver offenses which entail long imprisonment are related to a chronic alcoholism; while very rapid relapses involving frequent short imprisonments, occur also at a late stage of the drunkard's life, and are not, moreover, in their favorable effect, at all to be compared with a single long term of seclusion.

Owing to these limitations, the determining of the reality of this influence hardly lends itself to a statistical inquiry; it is rather to be established by the details of individual cases. In the clinical notes appended to this paper will be found a number of such cases. In one (Obs. 5), where drinking habits had lasted about ten years, after four children dead-born or dying in infancy, a fifth child survives, the mother having spent all but the first fortnight of the pregnancy and having given birth to the child in the prison; a difference of paternity, however, qualifies, perhaps, the value of this instance. In another (Obs. 4), where the drinking habit dated from the first confinement, the first child lived, the second and third died in infancy; the mother spent at least two months of her next pregnancy in jail, and the fourth infant survived.

Similarly in Obs. 6, after the death in infancy of the first child, the mother serves eight short sentences in the early part of her second pregnancy, and then a longer sentence embracing the two last months of gestation; she is confined before release, and the child survives and develops healthily. In Obs. 2, on the other hand, though the woman was in prison during the last five months of her second pregnancy, and was confined before the end of her sentence, the infant died of convulsions at the age of a few months; in this case, however, the mother's drinking habits had commenced at the age of eleven years, fourteen years previously.

(h) Frequency of Epilepsy in Surviving Children. — In the conditions of our inquiry it was, of course, impossible to ascertain with any approach to accuracy what proportion of the surviving children were nervously defective. We may, therefore, limit our attention in this respect to the determination of the frequency of major epilepsy in our heredo-alcoholics, as the symptoms of that neurosis render its recognition practicable.

Of the children comprised in our series, 219 lived beyond infancy, and of these nine, or 4.1 per cent., became epileptic. This proportion is extremely high as compared with authoritative estimates of the frequency of epilepsy in the general mass of the population. Thus Bruce Thompson puts the ratio of epileptics to the population of England at less than 1 per 1,000; while the very liberal calculation of Rayer gives the proportion of 6 per 1,000.

On the other hand, our ratio is lower than that given in other published statistics of epilepsy in the children of the alcoholic. Thus, Legrain in his observations noted 12.5 per cent. of the epileptics among such children surviving infancy; and Demme in thirty-two surviving children of ten drunken families found five (15.8 per cent.) cases of epilepsy.

Both these observers, however, included in their series cases in which alcoholism was associated with neuropathic heredity and with other degenerative taints. It is further to be noted that a number of the children counted in our statistics as non-epileptic had not yet reached the age at which epilepsy most frequently appears; some of these children may quite probably have developed the neurosis later.

Finally, the infant death-rate noted by Legrain and Demme (who do not specially distinguish cases of maternal alcoholism) is very much below that in our series; it is possible that their lower death-rate was in part compensated by a higher ratio of degeneracy, including epilepsy, in the surviving children. From this aspect the enormous infant mortality in the

class we have examined may be to some extent a matter of advantage to the community.

(i) Mode of Death. — Of the 231 cases in our series, in which the children died under two years of age, the mode of death in 140 cases (60.6 per cent.) was stated to be by “convulsions,” convulsive symptoms being also present in a number of the others who died of the common diseases of childhood.

The term “convulsions” is, of course, used in such a very vague and expansive fashion in assigning the cause of death in infancy that it is not easy to attach a definite value to these figures. It is probable, however, that in a fair proportion of the cases the occurrence of this symptom is to be attributed to disorders of the nervous system directly due to the parental intoxication. The known influence of alcoholic parentage in the aetiology of epilepsy — to which we have referred above — would testify in this sense.

It is noteworthy that in no less than ten out of the hundred women in our series lost one of their children by violent deaths—through overlying in drunkenness, scalding, burning, injuries in drunken brawls, etc. As an illustration of the character of the milieu created by alcoholic parentage this is sufficiently vivid.

Conclusions. — The observations which we have thus briefly analyzed enable us to form a fairly clear idea of the mode in which inebriety reacts upon the offspring.

We are familiar with the fact, clearly established by Morel, that the chronic alcoholism of one or both the parents frequently appears as the first moment in the degenerative career of a family; that it represents a state of artificial degradation of the organism, capable of transmission in augmented force to the descendants, and culminating in some four generations in the extinction of the stock.

In the case of maternal inebriety we have the same mode of action to consider, but with it, and very much more potent, we have the continued toxic influence exercised on the developing

embryo throughout pregnancy. The brilliant researches of Féré in the field of experimental teratology have sufficiently demonstrated the gravity of this influence.

We have, further, to bear in mind the possible effect of alcoholic excesses during lactation.

Lastly, reinforcing all these modes of influence, we have the detrimental effects, positive and negative, of the deterioration of the milieu as an indirect consequence of the mother's drunkenness.

Applying these considerations to the interpretation of the facts which we have noted, we may advance these propositions:

(1) Maternal inebriety is a condition peculiarly unfavorable to the vitality and to the normal development of the offspring. Its gravity in this respect is considerably greater than that of paternal alcoholism.

(2) While its influence, particularly as measured by the test of infant mortality, appears to be exercised in considerable degree indirectly through deterioration of the milieu, a large part also depends on the primary action of the poison. The reality of this latter mode of influence is evidenced by the tendency to still-births and abortions, by the high rate of epilepsy in the surviving children, by the prevalent mode of death, by the effects of modifications of the intoxication.

(3) This primary influence of alcohol is due in part to the permanent effects of the poison on the maternal organism, inducing a transmissible degenerate condition; in part to a direct toxic action on the embryo, owing to continued excesses during pregnancy and lactation.

(4) The first of these modes of primary influence is, by its nature, permanent, with a tendency to increase. The second mode, while tending also to a constant and constantly increasing operation, is susceptible of temporary augmentation or diminution.

(5) Under these combined modes of influence the normal tendency of the family with alcoholic maternity is towards a type the inverse of the syphilitic family; that is to say, the

first-born children are normal, then come more or less defective children who live beyond infancy, then children dying in infancy, then still-births, and, finally, abortions.

(6) Deviations from this type are probably due in many cases to oscillations in the intensity of the second mode of influence. Deviations originating in this fashion may be seen, for instance, in the death in infancy of the earliest born children of the family, as a result of conception in drunkenness, and in the survival of late-born children when the mother has been imprisoned during part of the pregnancy.

It is hardly necessary to point out in conclusion the evidence which these observations furnish as to the social gravity of female inebriety, and the social profit in its removal. In suppressing the female drunkard the community not only eliminates an element always individually useless and constantly liable to become individually noxious; it also prevents the procreation of children under conditions most apt to render them subsequently, if they survive, a burden or a danger to society.

Notes of Illustrative Cases. — To illustrate the points referred to in the preceding paper, I append a short *résumé* of the notes of a number of our cases.

Obs. 1. M., aet. 42; drunkard since first confinement, twenty-four years ago; beer chiefly; suffers from cramps, cutaneous anaesthesia of extremities; night terrors; no D. T. Mother died of effects of fall while drunk, that being her usual condition; father relatively sober; sister drunkard; husband drunkard, son of a drunken mother. Ten children: first burned to death at eight years of age during mother's drunkenness; second, third, and fourth living, aged twenty-one, eighteen, and sixteen years, stated to be healthy; fourth conceived in drunkenness, died of convulsions in the first year of life; sixth, seventh, and eighth died of convulsions in infancy; ninth and tenth dead-born, the latter five years ago.

Obs. 2. D., aet. 50; previous imprisonments, sixteen.

Drinking since age of eleven; beer and spirits; has intercostal and ovarian pain, muscular cramps, dyspepsia; hallucinations of sight recently. Parents drank, but did not suffer from delirium; surviving brother and sister drunkards; sister has had five children, of whom four died in infancy; D's husband a drunkard, but not easily "alcoholizable." Four children: first born thirty years ago, scalded fatally during mother's drunkenness, three years old; second born five years later, died of convulsions at seven months (born in prison, where mother spent last five months of pregnancy); third and fourth died of convulsions at six months, the last twenty-one years ago.

Obs. 3. D., aet. 36; previous imprisonments, forty-four. Drunkard before marriage, chiefly whisky; suffers from muscular cramps, intercostal and ovarian pain, etc.; visual hallucinations latterly; has made two attempts to commit suicide, and has recently suffered from convulsions while drunk; parents drunken. Five children, the first four by a drunkard who suffered from D. T.; the fifth by another male, also drunken; first and third children dead-born; second and fourth died of convulsions under three months; fifth living and healthy, aged ten years (child born in prison, where mother spent entire pregnancy except first fortnight).

Obs. 4. S., aet. 36; previous imprisonments, thirty-seven. Drunkard since first confinement, twenty years ago; drinks anything, usual symptoms; has had two attacks of D. T.; father relatively sober; mother a chronic drunkard; husband drunkard, suffers from hallucinations after drink, his parents sober. Four children: first living and healthy; second and third died in infancy; fourth living and healthy, aged sixteen (mother in prison for at least second and third months of this pregnancy).

Obs. 5. S., aet. 34; previous imprisonments, forty-one. Drunkard since first confinement; beer and spirits; suffers from cramps, gastric catarrh, ovarian pain; one attack of D. T.; attempted suicide twice; convulsive hysteria for past year;

parents sober; father died of bronchitis, mother of apoplexy; husband drunkard, never delirious; his parents sober. Six children: first, second, and third living and healthy; fourth, aged six, of low intelligence, suffers from incontinence of urine; fifth, aged four, epileptic idiot; sixth, dead-born: has recently had an abortion.

Obs. 6. W., act. 30; previous imprisonments, 109. Drunkard before marriage; chiefly spirits; very violent after drink; no D. T.; one attempt at suicide; father relatively sober; mother notorious prison drunkard; husband drunkard, has had D. T. Three children: first born nine years ago, died when a few days old; second living and healthy, aged three (born in prison, where mother spent last two months of pregnancy, and also eight short sentences in early part of same pregnancy); third, dead-born.

Obs. 7. B., act. 37; previous imprisonments, forty-four. Drinking before first pregnancy; beer and spirits; suffers from cramps in legs and hands; ovarian and intercostal pains; gastric catarrh; no D. T. Father drank, died of heart disease; mother sober, died in childbed; two sisters, of whom one, sober and married to sober husband, has had eight children, all living and healthy; the other, drunken, has had five children, three of which survived infancy; also one brother, an epileptic idiot. Husband chronic alcoholic, drowned while drunk; no D. T.; his father also drank. Six children: first conceived in drunkenness before marriage, dead-born; second living, aged eighteen; third died of convulsions at six weeks; fourth living, aged sixteen; fifth died of convulsions at six weeks; sixth dead-born.

Obs. 8. R., act. 30. Previous imprisonments, thirty-four. Drinking since age of fifteen; chiefly spirits; suffers from cramps, anæsthesia of extremities, ovarian pain; D. T. a year ago; four years ago severe head injury, since which R. suffers from attacks of petit mal. Parents living, drunken. Three children: first born thirteen years ago, conceived prob-

ably in drunkenness, of a drunken male, died in convulsions at thirteen months; second living, stated to be healthy, aged eight; third living, aged six, is epileptic (father of these two children less alcoholic than father of first).

Obs. 9. M.M., act. 60; previous imprisonments, 167. Drunkard since first confinement; chiefly beer; suffers from cramps, tremor, intercostal neuralgia, gastric catarrh; no D. T. Father drunkard; knows nothing of mother; husband drunkard. Seven children: first and second living and healthy; third scalded to death at three years; fourth, fifth, sixth, and seventh died of convulsions under one year.

Obs. 10. S., act. 42; previous imprisonments, twenty-three. Drunkard since first confinement; beer and whisky. Suffers from gastric disorder, ovarian and intercostal pain; no D. T.; has made recently grave attempt (unconscious) to commit suicide. Parents sober; sober sister has eight children, of whom six are living and healthy; S's husband is sober. Five children: first living and healthy, aged twenty-two; second died of measles at three years; third died of convulsions at seven months; fourth died of convulsions at six months; fifth dead-born.

Obs. 11. C., act. 35; previous imprisonments, eighteen. Drank before marriage; beer and rum; usual symptoms; two attacks of D. T. Parents sober, other relatives sober; husband drunkard, has had D. T.; his parents alcoholic. Four children, first living and healthy, aged eleven; second, third, and fourth died of convulsions in infancy; since birth of fourth has had two abortions.

Obs. 12. G., act. 45; previous imprisonments, twenty-three. Drank before marriage; beer and spirits; usual symptoms; one attack of D. T. Father drunken, mother sober, brothers and sisters sober; husband a chronic alcoholic, no D. T.; his father also drunkard, hanged for murder. Five children: first living and healthy, aged twelve; second died of bronchitis at three years; third and fourth, twins, died at fourteen months; fifth died of convulsions at eighteen months.

NEW PHASE OF CRIMINAL MORPHIMANIA.

BY T. D. CROTHERS, M. D., HARTFORD, CONN.

The physiological action of the opium and its alkaloids, with symptomologies, are becoming more familiar with the increasing frequency of cases and studies of many persons. As in other fields of research there are vast stretches of unknown lands, awaiting discovery, and many new facts in the etiology, progress, and treatment to be seen and described. My purpose is to point out a new phase in the symptomology, and describe a condition which has been noticed, but not defined or studied before. I shall use the term "Palsy of the higher psychical centers" to describe in part this condition. The former personality of the person is lost in part, the person acts from a different point of view; his conduct and thoughts vary widely from former conditions, and seem to have new purposes and changing motives, foreign to any previous life. These strange inconsistencies of conduct and thought come into legal notice, in the question of responsibility in crime. The apparent cunning, honesty, and reasoning is so unusual and foreign to all theories of mental failures, that the expert is unable to detect any defined insanity, and yet, he cannot doubt that some condition of brain disturbance is present.

One of these cases was a woman who, after using morphine, went about the house secreting things of value and locking doors and windows, putting away matches, and covering up the fire, fearing robbers and fire. This was a clear, defined period of several hours, during which she appeared most

rational, and talked clearly of other matters, as well as the danger from these sources. Then she relapsed into her former indifference.

A still more prominent case was that of a noted banker retired from business, who became a morphine taker, following the constant use of spirits. He never appeared to be other than sane and clear on all matters. Occasionally he was stupid at night, at home, but always appeared well in public. Finally, he was detected setting fire to a building. He was found to have been the author of numerous fires in the villages about. He would go to a distant town, and rise in the middle of the night, start a fire in some old building, return to his bed, and so secretly as to disarm all suspicion. He was caught in the act and stoutly denied it, and explained his presence in the most plausible way. The result of investigation showed that after using four or five grains of morphine, he would become very secretive and go about in a stealthy manner, but never at a loss to explain his conduct, or appear other than natural to others. He would show unusual cunning and frankness if found in some suspicious place, and yet, without doubt, set fire to old buildings, such as barns and outhouses, with every opportunity. A number of experts could not find signs of insanity, and yet when the morphine was withdrawn there were many symptoms of dementia and mental instability. The morphine roused up another personality, and gave clearness and power to his brain, and broke up all sense of right and wrong. He acted when under these pyromaniacal impulses with unusual cunning and judgment, and seemed to reason that it was clearly his duty to do so. When away from the morphia he had a confused notion of his conduct, and was filled with remorse at the changed conditions of his life. When under the influence of morphia a new personality came in, one of expansive character. He seemed to have a desire to clear up and burn down old unsightly buildings.

A patient under my care for excesses in spirits, suddenly

became a speculator, buying stocks on a margin. Fortunately his resources were limited, but the mania continued in lottery tickets and bucket-shop ventures. This was so foreign to his past conduct and character, and was unexplainable until his secret morphia addiction was discovered. He left, and two years after began a career of cunning, sharp, dishonest speculations, and was arrested. On trial the resumption of the morphia addiction was shown, but the mental power and skill displayed indicated unusual ability, and he was convicted. I saw him in jail later when the morphine was taken away, and the evident unsoundness of his mind could not be mistaken. A third case came under my notice as an expert.

A graduate and prize-man of a college, who married wealth, and spent two years traveling, suddenly left his home and began a career as a confidence-man and forger. He traveled around under assumed names, passed bogus notes, raised checks, and when caught gave such clear explanations as to disarm all suspicion. Finally he was arrested and held for trial. As long as he could procure morphia he was calm, clear, adroit, and possessed of unusual brain power, but after his sentence and removal to prison, he became a partial dement, and was very feeble mentally. In this case the morphia developed a new personality. He acted and talked as if he believed most firmly the honesty of his career, and never doubted his ability to deceive and falsify, acting as if he was thoroughly in earnest. When confronted with his deception did not recognize it, but showed the greatest skill to justify and explain it, never displaying any visible consciousness of the dual life, but always appearing as if he was honest and frank to an extreme degree. He passed a forged note, went out on a back street, changed his dress, put on false whiskers, and came back on the street, walking about with extreme coolness. He went into a store, bought some morphia, and then purchased a pair of shoes, giving a forged note as before. A detective who had followed him closely arrested him, and after a

short examination before the chief of police he was discharged. His earnest, frank manner convinced them that he was not the man. The next week in a neighboring city he did the same thing, was arrested and discharged as innocent. Finally, a detective followed him and found that he was constantly changing his dress, and assuming different disguises, buying clothes and other things, which were finally pawned, giving checks, some good, others bad, making deposits at banks and drawing them out. During this time he bought morphia freely, but never seemed other than calm. He was finally arrested, and after serving a short sentence disappeared. While using morphia he appeared very frank and honest in his manner and conduct, especially in public and in conversation with others. He carried cards and bill-heads of different well-known firms far away, and represented different members of the firms or traveling men connected with them. He always carried an overcoat and had several means for suddenly changing his dress and appearance. When under the influence of morphia he appeared to be possessed of unusual clearness and cunning with a most contagious frankness and honesty. There seemed to be no consciousness of the duplicity in his talk or conduct. When the morphia was taken away the very opposite appeared. He was remorseful and depressed, timid and shrinking, displaying his motives and thoughts in a most marked way.

Another case reported to me was of equal interest. A series of very remarkable swindling operations was carried on, on the Hudson River and night boats on the Sound. The detectives were unable to fasten the crime on any one, until finally, a young man of refined, delicate appearance, was arrested for passing a forged check. It was ascertained that he was the probable author of all the swindling for the past two years. He was a morphinist, and had an income from an annuity. He spent his time traveling around, appearing to be a clergyman and actor and business man, and talked

freely with every one, inquiring very minutely into the personal history of persons and offices. He would secure advances on brass watches, bogus diamonds, and pass worthless checks and railroad tickets; solicit loans and give as security worthless bonds and stocks; buy goods, giving bogus checks, and receiving money in return; show bank deposit books of large sums, and leave them as security; make the acquaintance of some rich man, and after swindling him disappear. He changed his appearance frequently, wearing spectacles and false whiskers and wigs, appearing as a large, fleshy man, then wearing half military suits. His wardrobe was composed of a great variety of theatrical suits, and he claimed to be an actor. In jail he was identified by many persons as assuming different disguises and defrauding them in various ways. As long as he could procure morphia, he was genial, self-reliant, open, honest, and very frank. He never appeared to be deceitful, and always acted and talked as if he firmly believed everything he said and did. The most careful questioning and efforts to have him explain his conduct left a strong impression of his honesty, although it did not explain his life and conduct. The detectives called him an honest rogue while using morphia. His manner on the witness stand was so frank and clear that the mystery of his conduct deepened, and the jury was half-inclined to think that some mistake had been made. He was sent to prison, and the morphia removed, and all his manner changed. His frank, honest, clear thought and talk disappeared, and the fawning, lying hypocrite appeared with all the criminal instincts. He is still in prison, and is regarded with much suspicion by the keepers.

While these may be considered extreme cases, they are types of an unknown state, following the use of morphia. I find from inquiry that morphia criminals are regarded as the most dangerous by police authorities. They have full control of their nerves, and can act a double part so clearly as to disarm suspicion. Such cases are bold, defiant, and adroit, and

possess a rare power of deception entirely foreign to other criminals. This is sustained in the ordinary medical treatment of such cases. The cunning deception and the unconscious reasoning and concealment of their plans and motives, seemed to point to some local palsies of certain brain functions. Where a patient is suffering from withdrawal symptoms, and suddenly becomes cheerful and quiet, and is loud in his protests against the suspicion of having used any morphia, some condition of psychical palsy exists. Innumerable instances of the most cunning intrigue, and seductive falsehoods, are common in such cases. They act and talk with the certainty of truthfulness, and seem unconscious of the deceptions they practice. One such case was detected by examination of the urine, finding morphine reaction. For a long time it was impossible to detect the source and the way in which she secured the drug. Her earnest, emphatic denials were clearly impossible to a normal mind, and showed some obscure palsy of the high centers. Yet, during this period she went about in her usual way. She was a most earnest, praying christian, whose high ideals of truth and honesty were beyond question or suspicion. This case aroused some bitterness among her friends. Her husband and family could not believe that it was deception, and when the morphine reaction was shown, thought it a fraud. She finally went to a secluded place in the country, and after a time the morphia reaction symptoms appeared. Then all her former self-possession and boldness disappeared. She became very penitent and was a different person in every way. The mystery of this deception was called by the clergyman "A possession of the Devil." It was a trance state literally, in which reasoning and consciousness of her relation to others was suspended. Her mind was concentrated on procuring morphia and concealing it from others. This dominated every other consideration, and was probably considered a sacred duty to be carried out above every other thing.

In such cases the morphia seemed to rouse a mania for

deception and double life. The gains procured were of minor consideration, but the greatest pleasure came from taking advantage of the credulity of others. In one case the confusion and mystery which followed the deception seemed to be the most enjoyable part. He would stand around and talk about the act and show sympathy with the sufferers. I cannot find any cases where capital crime was committed in these morphine states. Thefts, swindling, and general falsehoods, with concealment of motives and conduct, seemed to be the most common. I have met with two cases where a will mania followed. Both, men of some property, made from seven to eight wills a year for several years. These were concealed, and at their death one was brought to light. The other recovered and ordered them all destroyed.

The fact of complete absorption of the idea, without regard to other conditions, is most interesting. The cunning, skill, and ability displayed in the deception, must apparently be based on the dominance of the idea as true and real. No shadow of the real condition or the danger of exposure was apparent. Each case acted only as persons do who are fully possessed with the honesty and reality of their notions. A noted physician under my care displayed extraordinary deception to conceal his real condition, and was fully unconscious of his acts or the consequences. Even when he was convicted of his deception, seemed roused to greater efforts for concealment. No reasoning or counsel could displace the mania for deception. On other matters he was in no wise disturbed mentally; reasoning and acting with excellent sense and judgment. He could discern motives and deceptions in others, but was unable to realize his own condition. When the morphia was removed this changed, and he realized and acted differently.

In another case, a man of noted honesty and strong character denied all use of morphia, and when a quantity was found on him, persisted in explaining in the most adroit way.

He seemed actually to believe his own statements and could not be convinced otherwise. The foolish deceptions of alcoholists are quite different. They display a consciousness of their real condition and the concealment they are practicing. All morphinists do not exhibit this special phase, like the alcoholists. They are weak and childish in deception, and show by their conduct a consciousness of their real condition and the efforts to cover it up. But these cases differ in thought and act, appearing to be thoroughly impressed with the idea of the correctness of the act and unconsciousness of the deception and danger of exposure, at the same time using wise precautions to make the act appear real. Two of these cases seemed to realize the danger of exposure in the unusual precaution to make their conduct appear honest. With this was a perfect self-possession and command of themselves. It was noticed that they took morphia frequently in small doses. When the amount taken was followed by the symptoms of narcotism they disappeared, and remained in bed until the effects wore away. This state has been noted in long intervals in others. Thus, a physician displayed great harshness to his patients and family at times, then he would recognize it and be very penitent for his conduct. On one occasion he drove his wife away from the house, and two hours later went after her, showing great tenderness. This was not a so-called mania seen in alcoholics, but a calm, reasoning, morbid impulse, carried out deliberately and with every appearance of sanity.

In a case to which I was called in consultation, a delusion of sudden death occurred at stated intervals. The patient demanded most unusual preparations for a death-bed scene. Clergymen were called, and a large family gathered to witness his exit. Finally, a slight interval of sleep would bring a change and a desire to live again. This was not hysteric, and emotional, but a calm, reasoning, hopeful interval of several hours. He gave no signs of mental disturbance or seemed unreasonable in his thoughts or conduct. He was known as

a moderate user of morphine, and was never seen stupefied by its results. He was under treatment for its removal by the family physician, and was secretly using it when these trance periods arrived. He had only a faint recollection of these events afterward, and attempted foolish explanations, showing he did not realize his condition.

In another case after using a certain amount of morphia a quiet, unassuming dentist became a strong religionist. He would march with the Salvation Army and make eloquent prayers and exhortations. This would last for several days, then he would relapse to his former quiet life again. In this religious period no signs of mental failure or weakness appeared. He seemed every way clear, sensible, and earnest, and explained his change of conduct in the most plausible way. These cases illustrate the mental state I wish to make prominent, and, I believe, occurs not infrequently among neurotics of the higher classes, and persons with culture, and more than usual mental development. They are called by the detectives "Dangerous first-class criminals" when detection only follows the limitation or withdrawal of morphia. The confinement of such a case for a few days with removal of all sources for procuring drugs, reveals the real condition. This condition resembles reasoning mania, only the usual signs of mental defects are wanting. There is mental calmness and self-possession; the brain operations seem clear and rational. The strange acts and conduct are explained with a conscious honesty and difference that is convincing. It would seem that a new personality is involved, and that some ideas or motives take full possession of the mind, and all other conditions and surroundings are ignored. Yet with this appears the unusual cunning to make act a success.

In a recent murder trial, a morphinist who had evidently been associated with crime in some indirect way, displayed masterly ability in the explanation of his conduct. He shed tears and created a strong feeling that he was the victim of

deception by others. After the trial the facts of his complicity came out, but he continued indifferent. He, no doubt, actually believed his own statements, and used cunning measures to make them appear true. A man under observation has on several occasions sent startling telephone news, which was false. He has defended his acts with unusual plausibility, and his associates believe him. He is an editor of ability, and user of morphia. The same apparent notion of enjoyment in the emotion produced by such news was possible. He talked of this false news, and seemed as startled as others at the time. He is under medical care, though working at home daily. There are no theories to explain this condition other than some obscure palsy of certain brain-centers, which breaks up consciousness of right and wrong, or suspends reasoning on the nature and consequences of acts. It may be a state of local poisoning which centers in some psychical function, giving prominence to some idea and defending and explaining it with all the force of a normal brain. The usual efforts to explain and defend acts committed when under the influence of alcohol and opium are so crude as to carry their own refutation. The morphinist in this state, as long as he can secure a sufficient amount of the drug, makes few mistakes and shows no weakness in making his position and conduct clear and sensible.

There may be many inconsistencies and acts not common to the average man, but he has no difficulty in explaining them to his apparent satisfaction.

The clinical fact I wish to make prominent is, that in certain conditions of morphine addiction, a new personality appears; some psychical trance state, in which great mental clearness, self-possession and cunning, with unusual frankness and candor, are the prominent symptoms.

Criminal acts and purposeless deceptions are common. Forgery, swindling, and manias for certain acts, and adroit concealment of them, have appeared so far. In the court cases no study has been made, the only recognition is that they are most dangerous criminals in their superior capacity to lie, steal,

and cheat. Dangerous because they appear to be honest and have no conception of the nature of their acts. In the medical cases no one has studied this symptom of deception. It is even doubted by some persons whose experience should have taught them differently. It is a distinct pathological condition which may be understood, and is the most significant of the brain defects and degeneration.

Morphine may be said to cultivate the crime instinct. At all events, it prepares the way to certain criminal acts, which often have some previous predisposition. The perversion and damage to the higher centers which govern the ethical relations of life are always associated with morphinists. The criminal side of these cases is the psychical wreckage and relations of the higher operations of the brain. The criminal who is a morphine taker is such a wreck. No exhibition of mental power and acuteness in such cases is evidence of clear sanity.

Again, I wish to emphasize the need of exact study of these cases; of the delusions, of the manias, of the strange symptoms of strength, cunning, and weakness, that indicate the possibility of medical means for relief. The criminal side of morphine cases is practically a sealed book, awaiting psychological research and study, and promising a new field of the most practical facts.

According to *Health* the treatment of habitual drunkards in Germany is provided for in the sixth paragraph of the new code which will come into operation in 1900. Among the persons liable to be interdicted — the interdiction involving being placed under a guardian who will be empowered to place the individual anywhere for treatment until discharged from guardianship by the court — inebriates are specifically mentioned. The exact description is, "He who, in consequence of inebriety, cannot provide for his affairs, or brings himself or his family into the danger of need, or endangers the safety of others."

IS THERE ANY CAUSATIVE OR ETIOLOGICAL RELATION BETWEEN THE EXTENSIVE USE OF ALCOHOLIC DRINKS AND THE CONTINUED INCREASE OF EPILEPSY, IMBECILITY, AND INSANITY, BOTH MENTAL AND MORAL, IN ALL THE COUNTRIES OF EUROPE AND AMERICA?*

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While the great and continued progress in the various departments of science, and their rapid application to improvements in every branch of human industry and art have characterized the last two or three centuries, especially in the leading countries of Europe and America, there is much evidence that in the same countries mental disorders, usually grouped under the heads of epilepsy, imbecility, insanity, and moral perversion or criminality, have been increasing in a ratio greater than the increase of population. It is true that the records concerning mental defects and disorders and the statistics of crime in the various countries of Christendom, are too imperfect to constitute a basis for accurate comparison through long periods of time. Yet careful examination of the decennial census returns of the United States of America, the vital statistics and health records of some individual states and cities, and similar statistical records to be found in Great Britain, France, Germany, and other countries of Europe, will show conclusively that during the present century, at least, the ratio of mental disorders, degeneracy, and crime has increased to such an extent as to attract the attention of statesmen, socio-

* This paper was read in the Seventh International Congress against the Abuse of Alcoholic Liquors, Paris, April, 1899, except the two last paragraphs.

logists, and philanthropists in many countries. Why this should be so, during a century characterized by greater progress in the general diffusion of knowledge, in the greater productiveness of human industry in providing for all the necessities and comforts of life and the facilities for their distribution, and by a greater decrease in the ratio of mortality with the lengthening of the average duration of human life than in any preceding century of human history, is a question demanding serious investigation. Indeed, if the mental and moral perversions enumerated had maintained only a ratio equal to that of the population instead of a marked increase during such a century as the present, it would still constitute a problem of great importance. The extent to which human knowledge has been increased and applied in advancing all lines of human industry, including the wider diffusion of the principles of Christianity and the adoption of such hygienic and sanitary improvements as greatly lessened the prevalence and destructiveness of epidemic diseases, especially in Europe and North America, would legitimately lead us to expect not only the rapid increase and concentration of wealth and the moderate prolongation of human life which has resulted; but these same influences should have had the additional effect of banishing poverty, diminishing mental anxieties, and, above all, of promoting the intellectual and moral health of all classes of the people.

Instead of these results, however, we see in every country only concentrations of wealth alongside of poverty, degradation, and discontent; and all varieties of mental disorder and moral perversions increasing faster than asylums, reformatories, and prisons can be constructed for their proper care. To say that these evil results are only the natural outcome of man's selfishness and love of wealth and power is only a confession of existing mental and moral perversion. It leaves the question, why is man's unbridled ambition and selfishness still filling all Christendom with poverty, disease, and crime after nineteen centuries of the proclamation of the Gospel of "Peace

on earth and good will to man " without answer or explanation. The evils in question cannot be attributed to any form of government or to defects of social organization or climatic conditions, for they exist and increase alike under governments the most despotic and the most liberal; among people of different races and in all varieties of climate. We must, therefore, look for their real etiology among such articles of food or drink as are in general use by large proportions of the people in all the countries to which allusion has been made.

Turning our attention in that direction, we are directly confronted by two articles, namely, alcohol as it exists in all the various fermented and distilled liquors, and tobacco, the uses of which are indulged in extensively by the people of every country in Christendom and more or less by all classes of society. Opium, cocaine, chloral, and other narcotics are allies in the work of nervous and mental perversion, but are far less in general use. Ethyl alcohol, the only active ingredient in the fermented and distilled drinks, and nicotine, the active agent in tobacco, in their pure state, are described by all chemists, pharmacists, and toxicologists as most virulent poisons, speedily destructive to both animal and vegetable life even in moderate doses. When, however, they are largely diluted and taken in small doses they produce that diminution of nerve sensibility and relief from mental anxiety, that by repetition soon establishes a feeling so fascinating that resistance becomes so difficult that all other interests of the individual are made subordinate to its gratification.

Having been introduced into general use long before the modern facilities for chemical, biological, and physiological research were known, the influence of the alcohol as an anaesthetic diminishing the sensibility of the nerve cells of the cerebral hemispheres, the material seat of man's consciousness, created the universal belief that its internal use was warming, strengthening, and nourishing to the living human body.

Yet, simple observation alone had clearly proved that the more alcohol the man consumed, the more quickly he suc-

cumbed to cold; the less work, whether of mental or physical, could be accomplished; and the more readily he yielded to attacks of disease of every kind. All this apparent contradiction was fully explained when in the progress of chemical, physiological, and therapeutic researches of the last half of the present century it was demonstrated that alcohol possessed a strong affinity for water and albuminoid substances, and when taken into the living stomach was rapidly transferred, by absorption, to the blood with which it was carried to every organized structure of the body, exerting a deteriorating influence on the organized protoplasm or cells of both blood and tissues. By its influence on the hemaglobin and protoplasm of the blood, it lessened the capacity of that fluid to receive oxygen from the air cells of the lungs and to distribute it to the various tissues, and thereby it diminished the processes of oxidation and metabolism. By its contact with the nerve structures it lessened their functions, both of sensibility and transmission, and thereby impaired nerve sensibility, muscular strength, and mental activity, according to the quantity of alcohol taken. It was this impairment of sensibility in the cerebral convolutions that rendered the individual less conscious of cold or heat, of weariness or pain, and thereby destroyed his ability to judge correctly concerning his own condition or that of his surroundings. The same dulling, paralyzing influence extends to the moral faculties, impairing the sense of propriety and self-control, and encouraging inconsiderate and often reckless or immoral conduct. When but a single dose of the alcoholic liquor is taken, it, like other toxic agents, is generally eliminated or destroyed by the various oxidizing and eliminating organs within twenty-four or thirty-six hours, and no appreciable permanent changes, either mental or physical, ensue. If, however, the dose be repeated from day to day, thereby keeping the alcohol constantly in contact with the protoplasmic cells of the blood, the brain, and the various secreting structures, slowly but inevitably the hemaglobin and corpuscular elements of the blood diminish, the leucocytes are

less active, the products of tissue waste are less oxidized and excreted, and the new material for tissue repair elaborated in the processes of digestion and assimilation is less perfect, and consequently a degenerating influence is traceable more or less in every structure and function of the body, and the individual's vital resistance to all toxic or morbid influences is diminished. Thus, it is shown by the vital statistics of every country where such records have been kept, that those who habitually use alcoholic drinks are more liable to be attacked by all infectious diseases, and furnish annually a higher ratio of mortality than the total abstainers living otherwise in the same environment. The same statistics also show that a much greater ratio of the children born of drinking parents die under five years; and of those who pass the period of infancy, a larger ratio become affected with tuberculosis, epilepsy, feeble-mindedness, and all grades of mental and moral perversion. This is in exact harmony with the effects of alcohol upon the structures and functions of the individual who takes sufficient alcohol in either fermented or distilled drinks to keep it in daily contact with his primary protoplasmic cells for any considerable length of time. In such, the microscope reveals in the parenchyma of all the important organs a deficiency of nucleated cells and relative increase of fibrous and adipose structure, that is, a degeneration from the higher and more vitalized to the lower grade of organized matter. This is everywhere acknowledged as the result of chronic alcoholism or the *abuse* of alcohol, but chronic alcoholism is only the gross development of the long-continued use of a protoplasmic poison that commenced with the impression of the first glass. Consequently, the first drink was as truly an *abuse* as the last.

That the alcohol in half a pint of beer or a single glass of whisky lessens the rapidity of nerve transmission, mental perception, acuteness of the special senses, and muscular strength, has been abundantly demonstrated by the application of instruments of precision. That the same amount of alcohol perceptibly diminishes man's mental inhibition or sense of pro-

priety and deludes him with the impression that he is stronger and more active when he is actually doing less, is a fact familiar to all who have given attention to the subject.

The only rational conclusion, then, is, that the degenerating influence of alcohol upon man, physical and mental, commences with the beginning of its use, and increases in proportion to the quantity used and the length of time it is continued.

As the primary deteriorating effects of alcohol are displayed on the cell protoplasm of both blood and tissues, it would necessarily affect the germinal cells of the ovum and the spermatazoa of the semen, and thereby extend hereditary imperfections to the offspring. Proof of this, as shown in the vital and health statistics of different countries, has already been alluded to, and further proof has been furnished by experiments on animals. Thus, eggs incubated in an atmosphere containing the vapor of alcohol, have developed a very large proportion of imperfect or unhealthy chickens, and breeding dogs given daily a moderate amount have uniformly brought forth pups many of which died during the first few days after birth, many others became affected with epileptic or convulsive paroxysms, and very few arrived at maturity in a healthy condition. Many cases are on record affording equally direct evidence of the deteriorating influence of alcohol on the health and viability of the children begotten by fathers habitually using alcoholic drinks, or born of intemperate mothers. Thus, Dr. Anthony in *Centralblatt für Synakologie*, Oct. 16, 1897, says a healthy woman, and temperate, married a man of excessive drinking habits by whom she had five children. Four of them died within the first ten days after birth, and only one lived nearly five years. The husband died and the woman was married again, this time to a healthy non-drinking man, by whom she has had two children, one now four years old, and the other fourteen days, both healthy.

An eminent specialist in diseases of children has noted the progress of twelve families with parents who were habitual

drinkers of alcoholic drinks, and of twelve families with total abstaining parents. During the twelve years these families were under his observation the twelve first named gave birth to 57 children, of whom 25 died in the first week after birth; 5 were idiots, 5 were dwarfs, 5 later became epileptics, and later one had chorea ending in idiocy, and 5 others were more or less deformed and unhealthy, leaving only 11 of the 57 children to arrive at maturity in a healthy condition of body and mind. The twelve families with temperate parents during the same period of time were blessed with 61 children, of whom only 6 died during the first week after birth, later 2 only showed inherited defects of the nervous system, leaving 53 of the 61 healthy in body and mind. My own observations during a continued period of sixty-two years of medical practice, fully corroborated the inferences to be drawn from the foregoing statements.

But the more direct object of this paper is to invite attention to the effects of alcohol, not only directly on the nerve cells of the brain connected with the manifestation of the higher and more distinctive mental and moral faculties of man, but also to the perpetuation of these perverting and degenerating effects by hereditary descent from generation to generation. Communities and nations are all composed of individuals. Consequently, whatever is clearly traceable from parent to child in the family, is equally applicable to the aggregation of families composing the nation.

The history of the notoriously intemperate woman and her descendants, given by one of the professors of the University of Bonn, is only one of many that might be cited to illustrate this subject. It is stated that the woman was born in 1740 and died in 1800. Her descendants during the past century have numbered 834, of whom 709 have been traced from their youth. Of these, 7 were convicted of murder, 76 of other crimes; 142 were professional beggars, and 64 lived on charity, and 180 of the women led disreputable lives. In 1894 the legislature of the State of Massachusetts directed Horace G.

Wadlin, Chief of the Labor Bureau, to ascertain "how much crime and pauperism is due to alcoholic drinks." He consequently made a careful examination of the inmates of all the public charitable institutions, prisons, and asylums for the insane in that state in 1895, and made his report in 1896. The number of paupers examined was 3,620, sixty-five per cent. of whom had been addicted to the use of alcoholic drinks; forty-eight per cent. had one or both parents likewise addicted to the same drinks. The whole number confined under conviction of crime during the same year was 26,672, of whom eighty-two per cent. were more or less under the influence of liquor at the time of committing crime; 4,852 others were under the influence of liquor when the intent to commit crime was formed, making ninety-four per cent. of the whole users of alcohol. And of these, fifty-eight per cent. had drinking fathers, and twenty-one per cent. drinking mothers. Of the insane, 1,836 cases were examined, of whom fifty-two per cent. had been addicted to the use of alcoholic drink. Of these, sixty-eight per cent. had one or both parents addicted to the same drink, and fifty-one per cent. had grandparents with like habits.

Mr. Wadlin's conclusions were that the use of "Alcohol tends directly to create a permanently pauperized population," and "to create criminal instincts." The same direct and thorough examination would show the same or worse results in every state or country in Europe and America. How could this be otherwise, if, as shown by Dr. Debove from the most authentic sources, the amount of absolute alcohol consumed annually in France is 14 liters for every man, woman, and child; in Belgium and Germany each 10.5 liters; in the British Isles 9.25 liters; Switzerland 8.75 liters; Italy 6.60 liters; Holland, 6.25 liters; United States of America, 6.10 liters; Sweden, 4.50 liters; Norway, 3 liters; and Canada, 2 liters. When it is remembered that in all these countries there are many men and a much larger number of women and children who drink no alcohol, the total amount drunk is such as

could not fail to produce the most important degenerating influence on both the mental and physical condition of those who do drink it. Indeed, the facts to which we have already alluded are sufficient to show that if those who do drink any kind of alcoholic liquors were compelled to intermarry only among themselves, their part of the population would become extinct in one or two centuries. The free intermarriage with total abstainers is all that has prevented their extinction long ere this; and yet, it is this that has enabled them to diffuse or propagate their moral and physical degenerations through all ranks of society, and to fill more almshouses, asylums, reformatories, and prisons than there are schoolhouses and churches; and to fill important space in almost every daily newspaper with accounts of vicious revelry, burglaries, highway robberies, murder, and suicides occurring in even the very centers of population and wealth, at the end of the nineteenth century of our boasted Christian civilization. The earth brings forth annually enough food and clothing to supply the necessities of the whole human family, and there are abundant facilities for their distribution if properly used. But so long as enough such food material is destroyed to make millions of barrels of alcoholic drinks, and billions of dollars are paid by those who consume it annually, so long will poverty, imbecility, insanity, and crime increase. Nothing but the direct and indirect, or hereditary, deceptive, and perverting influence of the alcohol contained in beer, wine, whisky, brandy, rum, and gin drank by so large a part of the people could have so dulled the public conscience or perverted the sense of right and justice as to permit and even to license for a pecuniary fee, the manufacture and sale of such liquors and at the same time multiplying poor-houses, asylums, and prisons to accommodate the victims. When we add to the foregoing effects of alcohol the soothing, dulling *don't-care* effects of more than \$800,000,000 worth of tobacco annually by the people of our own country, and an equal or higher ratio in other countries, we have a rational explanation

of the startling and otherwise inexplicable fact, that throughout Christendom, at the end of the nineteenth century of the Christian era, aided by the most liberal systems of education that could be devised, mental degeneracy, poverty, vice, and crime are increasing faster than the populations.

If it be thus true, that the constantly increasing consumption of alcohol and tobacco has been running parallel with the increase of poverty, imbecility, insanity, and crime, in opposition to all the civilizing, educational, and Christianizing influences of the nineteenth century, the only effectual remedies are too obvious to need discussion here.

ALCOHOL VERSUS ACETIC ACID.

At a recent meeting of the New York State Medical Association, Dr. E. R. Squibb said that it might be of interest to learn of the work being done in the way of retiring alcohol as a menstruum for exhausting drugs. A good deal has been accomplished in this direction in the last two or three years. Of the other menstrua experimented with up to the present time, that which had given the best results was acetic acid in various strengths. It had been discovered that a ten per cent. solution of acetic acid was almost universal in its exhausting powers. There were now in use in veterinary practice and in some hospitals extracts made with acetic acid. They were made according to the requirements of Pharmacopea except that acetic acid was substituted for alcohol. Acetic acid when used with alkaloids gave the physicians certain advantages in prescribing, owing to their being fewer incompatibles. In small doses the percentage of acetic acid in the extract was so small as to be hardly appreciable, and when larger doses were required the acetic acid could be neutralized by the addition of potash or soda.—*Medical World.*

LEGISLATION FOR THE WELL-TO-DO INEBRIATE.*

BY J. F. SUTHERLAND, M.D.,

Deputy Commissioner in Lunacy for Scotland.

The closing year of the 19th century has witnessed a great and important step taken by the legislators of this country to deal rationally with habitual drunkards from the lower stratum of society. The act of last year, hailed with satisfaction by every thoughtful citizen, was passed in the interest of the inebriates themselves, of their families and dependents, and of society. Is it too much to hope that the opening year of the 20th century will witness the conferring of a like legislative boon upon the well-to-do inebriate, in which the element of compulsion will, for the first time, most righteously and properly find a place? His case and condition from every point of view is as claimant. Were the urgency of the case and the absolute reasonableness and justice of the proposals which I shall submit for your judgment the guiding principles in securing legislative interference, then, assuredly, the answer of your lawmakers would be in the affirmative.

The act of last year was not obtained without the expenditure of many, too many, years of labor, not made easier by many experiences of hope deferred, on the part of zealous advocates, of the besotted and submerged thousandth in our midst. Society has looked on with a strange apathy, *laissez-faire* has prevailed, and the alcoholic derelict has drifted like tangle in the tide. Among the band of true psychologists and social reformers who were in the front rank throughout

* Read before the British Medical Association at Portsmouth, England.

many campaigns was the late Norman Kerr. In spite of failing health he rendered yeoman service to the cause. Than he, it will readily be acknowledged, there seldom rode forth to wrong's redressing a worthier paladin.

Compulsion, as you are aware, will now be applied for the first time to the drunkards who fall frequently into the hands of the police, followed by a detention in reformatories for a maximum period of three years. Occasionally, very rarely I should say, a well-to-do inebriate will get caught in the meshes of this act. But it is not intended for them. The mesh is too wide.

I cannot too strongly impress upon you the fact that falling into the hands of the police is a mere accident or incident of the alcoholic habit. Among the poorer classes, the house accommodation and the means of the wage-earner do not admit of that safeguarding and sheltering which are the lot of the more fortunate and better circumstanced classes of society, who, in consequence, escape the solicitous attentions of the guardians of public order and of the new legislation. . . .

One thing, however, is pretty certain, legislation cannot rest where it is in a free country, just as it has not rested in other free countries. Sanitary, lunacy, and criminal laws do not stop at one class, but apply to all. The obvious corollary and necessary complement of the act of last year is an act dealing with the well-to-do inebriate, which can be so constructed as to be free from every possible and real objection.

It is safe to say that the vast number of the well-to-do inebriates will never voluntarily submit either to the deprivation of the control of their affairs, or to lengthened confinement in retreats. In a word, compulsion might mean, as a first step in the process of intervention, the appointment by the court of something in the nature of a *conseil de famille*, and, failing in the success of that after trial, a committee of the estate, or its equivalent, and if neither of these are going to succeed, the seclusion of the inebriate himself would become

a necessity. Nothing but much hurt to all concerned (the individual and society), so far as I can see, is to be gained by delay in bringing this class within the pale of legislation. Perhaps on the whole it might have been better if compulsory legislation for the well-to-do inebriate had come first, because in that case there would not, so far as this country is concerned, in the experimental stage now entered upon, be the difficulty and reluctance of local authorities to provide retreats. It is safe to say, once the element of compulsion for the well-to-do inebriate is part of our law, retreats will soon spring up to meet the demand.

From long and close observation of this problem I should be inclined to say that of chronic inebriates whose case and condition call for urgent interference, there are approximately in England 10,000, in Scotland 2,000. They are in the proportion of one to nine insane. There is no possible mistaking this lot. Specimens are to be met with in every town and parish in the ratio of something like 1 to 2,000. They are marked men and women. Their habits of inebriety are notorious, leading to all disregard of personal honor, of family and social obligations, and to the wasting of their substance and the wreckage of their homes.

To talk of doing an injustice to such individuals, or to suggest that seclusion obtained in open court and before a jury is an interference with the liberty of the subject, is to burlesque the sacred name of justice, and to drag the high ideal of the liberty of the subject — the palladium of every Britton — through the mire of unrestrained license. The kind of men and women to be scheduled for a fair and thorough inquisition will recur to every one of you. Doubtful cases I would not be inclined to meddle with. But, then, we are asked about the incipient cases, and those whom some might think bad enough for interference? Are they to be allowed to go on unchecked until they pass into the class ripe — and more than ripe — for compulsion.

With Sir W. T. Gairdner and Sir Dyce Duckworth, I would be inclined in their cases to make drunkenness *per se* as an offense or vice deserving of punishment, to be met by, first, exposure in a court of justice, and sureties and recognizances; secondly, by fines; and, perhaps after trial of these, thirdly, by remission to a higher court. Society would thus adequately and justly mark its sense of displeasure of the overt act of drunkenness, whether accompanied by incapacity or disorderly conduct and violence, or not. If punishment is going to be effectual in preventing such from falling into the ranks of the notorious inebriate, for whom seclusion for long periods has become a necessity, the kind and extent I have indicated should suffice.

It is said difficulties would at once present themselves in any attempt to define drunkenness. I admit the force of that, and, therefore, would leave it to the definer — the magistrate — with the aid of witnesses. The view of the toper in the Greek epic recurs to one :

The rule I think is right,
Not absolutely drunk, nor sober quite.

No doubt there are degrees of drunkenness, just as there are degrees of insanity. Yet it is not maintained that all certifiable insanity must come up to a pattern.

Like insanity and most things, drunkenness is relative. But it must be held that a state of drunkenness, like a stage of insanity, implies certain well-defined manifestations, some or all of which are present.

I will content myself with alluding to speech which is indistinct, to unrestrained garrulity, to incoherence, to locomotion (inco-ordination more or less), to eccentric, foolish, and it may be criminal, conduct (conduct quite unlike the usual or normal), to a diminished regard for the proprieties and decencies of life.

The drunkard may be noisy short of the degree required

to constitute a charge of riotous conduct, and not be incapable to that extent which would render the charge of incapacity a relevant one. All of these and other evidences betoken a loss of the controlling or inhibitory power which is in evidence in sobriety. Unlike insanity, sobriety has a standard to go by.

But in the penal or therapeutic treatment of drunkenness, the vice — I am not speaking of it now as the disease, which it unquestionably is, the lash must have no place. We are two centuries beyond that, whatever philosophic and well-meaning persons may think of the stimulating and salutary effect of the lash on the gray matter of the brain of the sot, it is certain beyond the shadow of a doubt no parliament in this country will sanction such a corrective. And if that be so, *a fortiori*, it is an outrage upon ethics and humanity to propose flogging for the chronic inebriate, upon whose mind and body years of indulgence has left indelible impressions, even if as yet in this, the era of pathological psychology, the microscope and the specialist have not in every case detected lesions indicative of structural and functional change. To suggest the lash for the inebriate requiring compulsion and seclusion is to betray a superficial acquaintance with his psychology.

Let me invite your attention for a moment to the indifference between the chronic inebriate who falls into the hands of the police, and for whom the legislature has made provision, and those who do not. It is one of circumstances rather than degree. The proximate results of ethylic alcohol upon the nervous system and viscera, and through these upon conduct, like the indirect results indicative of pathological changes, are much the same in all grades of society. There is this marked difference, however. In the case of the well-to-do inebriate, his incapacity is hidden from the public gaze, and his violence is either restrained by timely intervention or concealed if it has been used against members of his household

or others. Thus it is he escapes the solicitous attentions of the authorities, and does not, except in very few instances, become offensive or dangerous to society.

It is far from my intention to enter upon the fruitless task of attempting to determine whether the chronic inebriety, which I am anxious to see restrained, is a disease or vice, or both, further than to say that in those cases where the evidences of vice are strong, the vice if long indulged leads in all cases to disease, even if to ordinary as well as to extraordinary observers, the nervous and other systems do not present distinct evidence of degeneration, and in a large number of cases to mental and bodily change. You will see I have said nothing about the part biology, heredity, and diseases present before the habit has been acquired, play in the role of inebriety. In all these aspects there is not only room for differences of opinion, but considerable doubt. My case is strong enough without their aid, and the views I have just put forward will, I think, meet with the acceptance of all reasonable men, whether lay or medical. The individuals for whom I bespeak your aid to secure speedy legislation are, by long indulgence of the habit, diseased both physically and mentally, and are fit subjects for the care, protection, and treatment I now advocate, and which would be secured with safety to every interest, including the highest of all — the liberty of the subject — by the methods which time will only permit the outlining.

Just a word about the "liberty of the subject," which in this country is an axiom, and like many axioms, apparently simple, transcends ordinary intelligence. Of the antithetical truths — the rights of the individual and the rights of society — some people have no difficulty in appreciating the one, but find it all but impossible to grasp the other. The rights of the individual must be subordinated to the rights of society. That is the object of government. But our laws do present striking incongruities, and none more difficult to justify than the refusal to accept intoxication as an excuse

for crime, and the treatment of intoxication itself as beyond the jurisdiction of the law, although with many the certain avenue to crime. No less incongruous is the law which makes attempted *felo de se* a punishable offense. And yet for this slow *felo de se* of getting habitually inebriated the law has no penalty. Of habitual drunkards there are two classes (when temperament and disposition are made the dividing line) — those who get drunk and remain peaceable and guiltless *quod ultra*, and those who get drunk and commit a statutory offense or crime. Those in the second category alone are dealt with, and then only for the resultant offense or crime, which is largely, as I have explained, an accident or incident of the bout. The law pounces upon the habitual drunkard who is reported as guilty of beating his wife and children. But if he, to the knowledge of the authorities, breaks their hearts and harries their home by years of dissipation, the law is not only too magnanimous to punish him in the mild manner I have suggested as a first installment, but it hesitates to pronounce him a diseased subject, and schedule him for compulsory seclusion.

Very briefly let me put before you an outline of the legislation which would meet the case and safeguard every interest. (1) Definition of habitual inebriate (Acts of 1879 and 1888). (2) Inquisition at instance of public prosecutor, based upon the precognitions of witnesses, with the approval of revising crown counsel. (3) Constitution of the court — a county court judge or sheriff, chairman of quarter sessions, or stipendiary, each sitting with a jury *in camera*, or otherwise, as the alleged inebriate may elect. (4) Witnesses, ordinary and medical, to be examined upon oath. (5) Chronic inebriety having been established to the satisfaction of the court, the judge would be empowered first of all to appoint a committee of the estate or judicial factor, or something in the nature of what the French law provides, namely, a *conseil de famille*, and, should trial of these methods fail, compulsory seclusion of the well-to-do inebriate under proper safeguards.

(6) The right of appeal to a higher court. Of course, if relatives do not come forward, and from mistaken notions shelter the drunkard, then the law which might save him and them will, unless he commits an offense or crime, remain a dead letter. — *British Medical Journal*.

EXPERIMENTS WITH AND WITHOUT ALCOHOL.

By order of Field-Marshal, Lord Wolseley, British commander-in-chief, careful and exhaustive experiments were made with a view to ascertaining the relative effects of alcohol and of total abstinence upon the physical endurance and staying qualities of the troops. One regiment was deprived of every form of alcoholic drink, while another belonging to the same brigade was allowed to purchase, as usual, malt liquor at the canteen, and another would receive a daily ration of whisky. In each instance the experiment showed that, whereas, at first the regiment which had received an allowance of grog surpassed the other in dash and in impetuosity of attack, yet, after the third or fourth day, its members began to show notable signs of lassitude and a lack of spirit and endurance. The same manifestations, though in a minor and slower degree, were apparent in the regiment restricted to malt liquors; whereas, the men who had been kept from every form of alcoholic drink increased in staying power, alertness, and vigor every day. The results of these experiments led the British War Department to decide, not on the ground of principle, but solely for the sake of maintaining the power of endurance of the troops now engaged in the Soudan campaign, not to permit a single drop of alcohol in camp save for hospital use.

“Spirits, wine, and malt liquors have been declared from the officers' mess table, as well as from the regimental canteen; and from generals in command down to the drummer boys and camp followers, liquid refreshments have been restricted to tea and oatmeal water.”

PROFESSIONAL DOUBTS CONCERNING THE EXISTENCE OF HYDROPHOBIA.*

By H. D. DIDAMA, M.D., SYRACUSE, N. Y.

I have been reading of late a very interesting pamphlet entitled "Hydrophobia as a Simulated Disease." The name of the author is modestly concealed. Evidently the brochure was prepared to convince sensitive people that the so-called disease is a frightful story with no real foundation, and that "what the newspapers describe as hydrophobia is a mere hysterical excitement, a dread of the disease acting upon the imaginations of persons scratched or bitten by animals suspected of rabies." Several physicians of established eminence, including such as Hiram Corson, Traill Green, Matthew Woods, Spitzka, Charles Dulles, Parvin, Morton, Mills, Hearn, Solis-Cohen, and Thomas Mays, men of keen powers of observation and extensive hospital and private practice, testify that during periods varying from 20 to 70 years, with opportunities to examine hundreds and thousands of suspected cases, they have never found a single genuine case of hydrophobia in man or rabies in a dog.

One of these distinguished witnesses inclines to the view that there is no such malady, and another asserts that "the bite of a dog is no more dangerous than the scratch of a pin."

To this list of competent observers, a thousand names of equally trustworthy physicians and surgeons and ministers of the gospel might be added.

The testimony seems to be overwhelming. In Constantinople, where the dogs, almost as abundant as the fleas, lie

* Read at the Columbus meeting of the A. M. T. Association.

curled up and sleeping on the sidewalks by day, and wander around howling and fighting all night long, no dog or man was ever suspected of having hydrophobia. And yet, in spite of the premeditated and fixed opinions of the multitudinous doubters, fortified by centuries of Turkish experience, there are a few credulous people who really believe in Pasteur and his statement that annually hundreds of dogs and wolves and a large number of human beings do die of this dreadful disease. These disciples of Pasteur earnestly argue that, although the bite of an angry dog may not be a serious affair to a canine or a human being, the bite of a rabid dog has certainly caused hydrophobia resulting in the death of many very young children who have very little imagination, and of dogs and other animals which have no imagination at all. It must be confessed, however humiliating to us, that the weight of testimony is not always determined by the number of witnesses. The opinion of a hundred agnostics may not be as valuable as that of one man who knows. The story told by a truthful traveler of the existence in Africa of a whole tribe of dwarfs was discredited by millions of bright and worthy people who had never crossed an ocean. But the dwarfs were, and are now, actually there all the same. The prisoner who had been indicted for stealing a pig insisted that his attorney should secure an acquittal. "It cannot be done," said the lawyer, "for the district attorney has an unimpeachable witness who will swear that he saw you steal the pig." "I know that," replied the culprit, "but what of it? I have ten awfully good and respectable witnesses who will swear that they didn't see me steal the pig; and ten ought to overbalance one." In some roundabout way this reminds me of the testimony regarding the use of alcohol in the treatment of disease. A few hundred men, of fair judgment and considerable experience,— "may their tribes increase," and their tribes are increasing every day—assert that, whereas, they formerly followed the universal practice of giving alcohol in every possible disorder

attended with cardiac weakness, now — thoroughly convinced that tradition, however antiquated, may be erroneous, and that alcohol is not the best and safest stimulant, if indeed it be a stimulant at all — they never administer it; and they further assert that the results of this non-use are satisfactory and successful. . . . On the other hand, thousands of wise and famous men — including professors and writers in medical journals — although they have never once practically tested the claim that the non-alcoholic treatment is the better — declare with much earnestness of speech if not with unnecessary vehemence, that they have unbounded veneration for the most inerrant, if not inspired, opinion of the fathers, and that, avoiding the narrow path of cranks and reformers, they shall continue to walk in the good, old, broad road of the broad-minded multitude.

CONVULSIONS IN A CHILD DUE TO INTEMPERANCE IN THE NURSE.

Dr. Meunier (*Jour. de Med. et de Chir.*), reports the case of an infant five weeks old which developed obstinate convulsions which resisted all kinds of treatment. Acute hydrocephalus was thought of, and lumbar puncture was suggested. The nurse was removed and the convulsions ceased. It was proved afterward that the convulsions were unmistakably due to the nurse's indulgence in intoxicating liquors. The author analyzes three similar cases from the literature, and concludes: 1. Convulsions due to drunkenness in the nurse are usually accompanied with gastro-intestinal disorders or fever; the nutrition is satisfactory and the increase in weight is greater than the average. 2. If kept up long, the child may pass into a condition of constant tremor, interrupted occasionally by severe eclamptic seizures. 3. In the presence of hereditary neurotic predisposition, the child may get convulsions even if the nurse drinks but moderately.— *Mass. Medical Journal.*

THE TOXICITY OF TOBACCO AND A METHOD OF
ERADICATING IT.*

BY HEINRICH STERN, PH.D., M.D., NEW YORK.

The Spanish monk who found, in the year 1496, a solanee in the province of tobacco, in San Domingo, which he afterwards brought to Europe as a remedy for ulcers, certainly did not dream of the importance his discovery would gain in the years to come, and when in 1559 the ambassador of the king of France to the Court of Lisbon, Jean Nicot, in whose honor the isolated alkaloid of this solanee nearly three centuries afterwards was named, presented to Catherine di Medici the first living tobacco plant ever brought to the shores of Europe, he could not have had the remotest idea what far-reaching consequences his unique gift would have; for tobacco has become the unmerciful despot of many a man and many a people, and while it is true that employment is given to thousands by the raising of the plant and the manufacture of its products, the sales of which also materially contribute to the finances of governments, it is equally true that much misery and many ills and the spiritual and moral lethargy of nineteenth century mankind, in part at least, can be traced to the influence of tobacco.

Nicotia, or nicotina, $C_{10}H_{14}N_2$, is the substance upon which the greater part of the physiologic properties of tobacco seem to depend, though the latter contains a number of other organic constituents, as nicotianine, $C_{22}H_{32}N_2O_5$, volatile oils, protein, acids, starch, sugar, pectin, and wood fiber.

*Read before the St. Louis Academy of Medicine, March 21, 1899.

Nicotina is of an alkaloidal character, isomeric with the two hexa-hydro-dipyridyles, and occurs in the green tobacco leaves in from 0.5 to 8 per centum. Tobacco from Virginia contains 6.87 per cent. of nicotia; that from Kentucky, 6.09 per cent.; that from France, 4.94 to 7 per cent.; that from Maryland, 2.29 per cent.; and that from Havana, not even 2 per cent. Turkish tobacco contains hardly any nicotine at all, and is very mild, and I. Nessler did not find a trace of it in tobacco grown in Syria, although the latter produced stupor on being smoked. Hence the cheaper grades of tobacco contain nicotina in greater abundance than those of Havana or of Turkey.

In dry snuff nicotia is present to the amount of 2 per cent., and in moist snuff to that of 1.3 per cent. In tobacco smoke this alkaloid has been erroneously supposed to be the only toxic element.

Nicotina resembles hydrocyanic acid in two respects, viz.: it contains only carbon, hydrogen, and nitrogen, and no oxygen, and its poisonous qualities act in the same rapidity; still, cattle can consume large amounts of green tobacco-leaves without experiencing serious after-effects.

The green tobacco-leaves do not possess the flavor of nicotine, and the characteristic bouquet of tobacco is only developed during the process of fermentation which is undergone by the dried leaf. It is probable that the nicotine of the unfermented tobacco is united to another constituent of the leaf, possibly to one or the other of its organic acids. In such a combination nicotina seems to possess little or no toxicity.

Pure nicotina is transparent and nearly colorless, but turns brownish red when exposed to the air. It possesses a peculiar volatile character, is liquid and has the consistency of a light oil. Paper is stained by it as with a greasy substance; the stain, however, disappears soon on account of its volatile nature. The alkaloid is readily soluble in water, which it absorbs from the atmosphere. It is also soluble in alcohol and ether; the latter may be employed for its removal from the

watery solution. Its specific gravity at 15° C. is 1,011, and it boils at 241° C. Nicotia possesses a pronounced tobacco-like flavor, and the odor is still perceptible in an aqueous solution very much diluted. It is dextrarotatory, and its salts do not readily crystalize.

The physiologic action of nicotina is identical with that of tobacco, as the latter's physiologic properties seem to be derived almost exclusively from its energetic alkaloid. Nessler's observations, however, do not stand unconfirmed; many other investigators side with him, concluding that the lauded effects of tobacco are not due to its nicotina, but to its volatile oil, of which it contains the insignificant amount of 0.03 per centum.

A fatal dose of nicotia for a dog varies from 0.03 to 0.1 gram, and for rabbits from 0.006 to 0.015 gram. Smaller birds perish if a grass tube dipped in nicotine is brought near their beaks. The smallest lethal dose for man has not been conclusively determined as yet, very pronounced symptoms of toxicosis having been observed after the administration of 0.003 gram; analogous symptoms of poisoning are called forth by tobacco itself.

The action of tobacco upon individuals not accustomed to its use is that of a powerful depressant, producing sudden faintness, nausea, vomiting, and vertigo.

Large quantities cause an aggravation of these symptoms, and, in addition thereto, mydriasis, with loss of ocular reflexes and impairment of sight, a very rapid and often scarcely perceptible pulse, dyspnoea, muscular relaxation, abdominal pain, and purging, involuntary micturition, loss of power, and muscular contractions in the limbs, coldness of the surface, which latter becomes moistened with a clammy perspiration, tremor, delirium, convulsions, paralysis, and finally complete collapse.

Taylor (*op. cit.*, p. 766) and others think that tobacco may act as an irritant poison. This may be so in some instances, but I have never seen a case of complete tobacco toxicosis which I could definitely ascribe to tobacco as an irritant. Long before its irritative properties make themselves felt, tobacco

has acted as a systemic toxicant, affecting principally heart, brain, and the nervous system in general. It seems doubtful that tobacco, if employed in the usual manner, acts as an irritant poison. It is true, tobacco and its smoke are irritating enough especially to the mucous membranes, but this does not justify us in classifying it among the irritant poisons. Only if large draughts of a rather strong infusion or decoction of it are taken, do I think its action as an irritant poison possible. Even the cases of toxicosis on record following tobacco enemata I consider as the result of a general narcotic poisoning. The local application of a tobacco preparation upon an integument whose continuity is impaired does not infrequently give rise to severe systemic disturbances.

The favorite unguentum tabaci of our elders has undoubtedly done a great deal of harm, not so much as a local irritant but as a systemic poison, and I verily believe that death or disease which was attributed to other causes was in many instances the consequence of the local employment of tobacco as a remedial agent.

The vapor of tobacco is undoubtedly poisonous. It affects the novice in the tobacco warehouse or factory in a greater measure than the older employees, though I know of instances where cigar-makers or tobacco house-laborers who, having been in the business for many years, had to quit on account of continued bad health. Some recuperated almost spontaneously when they stopped working for a number of days, or when they took active exercise in the open air.

Tobacco vapor and its toxic effects are more noticeable and powerful during the heated season than in winter, as heat increases the volatility of nicotina. The vapor calls forth about the same distressing symptoms as does the use of tobacco itself, viz., hæmicrania, nausea, lassitude, anorexia, etc.; a decline of the systemic vigor very often follows this train of symptoms. In this condition the organism is susceptible to a great number of nutritive and nervous disorders, and offers little resistance

to the entrance of the gonorrhœal poison. The saturation of the system with nicotina, which latter is lauded as one of the most powerful antiseptics known, not only does not prevent the gonococci from entering into the organism, but actually favors their introduction into the latter. I have had occasion to repeatedly observe this fact.

Another result of the perniciousness of tobacco vapor is the decline of visual acuity and the production of other ocular disturbances in those who are continually exposed to tobacco inhalation. The affections are very often ascribed by ophthalmologists to other causes but the real one. I am, however, convinced that tobacco vapor is injurious to the eyes, as these become normal again in most instances when the patient is no longer exposed to the inhalation.

The fact of the toxicity of tobacco vapor has led to the subject of chronic tobacco poisoning. Besides, from the causes just mentioned, this originates mostly from the habitual and excessive smoking, and from the chewing of tobacco.

If the organism is accustomed to the consumption of large quantities of the fermented weed, it will tolerate the poison to a greater degree, and for a longer period. The same is the case with animals which become gradually accustomed to the poison. It is believed by some that the tolerance of nicotina is possible on account of the production of a systemic antidote. Lewin,* deeming this assumption absolutely untenable, points out that such a tolerance means an adaptation of the affected organ to the poison. My views upon this question concur with those of the last-named author; the system adapts itself in a measure to the obnoxious influences, which *a priori* is indicative of the production of a more or less pronounced pathologic state.

Chronic nicotine poisoning originating from smoking will hardly ever occur when the smoker uses a water-pipe; it occurs but rarely when the common pipe, especially in the long one, is

* *Lehrbuch der Toxicologie, Zweite Auflage, 1897, p. 352.*

employed; it is more frequent after the excessive use of cigarettes, but in the great majority of instances it is the consequence of the consumption of cigars. The fumes of the burning tobacco leaf, according to Zeise, contains very little, if any, nicotina, as this is readily decomposed by the heat. They do contain a series of volatile picolin bases, among which pyridin, collidin, picolin, and lutidin are the most important ones; the fumes further contain compounds of carbon and sulphur, minute quantities of acetic, oxalic, and hydrocyanic acids, and a number of gases.

Pyridin C_5H_5N is produced by the dry distillation of certain nitrogenous substances, and is said to be the result of the decomposition of a number of alkaloids, principally of nicotina. Without going any further into the production, physiologic action and therapeutic indication of this volatile liquid, I wish to draw the attention to the fact that it has been recommended of late as an anti-gonorrhœic to be used in a three per cent. solution as an urethral injection. I have no reason to doubt the efficiency of pyridin as an anti-gonorrhœic when so employed; still, I repeat my former statement, that nicotism favors the production of gonorrhœa.

Some of the volatile products of distillation are deposited on the opposite side of the burning leaf, among them that quantity of nicotina which had not become decomposed by the heat, and while thus nicotina itself may not be contained in the smoke, its decomposition products will be. Besides, the effect of nicotia may become the more pronounced, especially when cigars are smoked, as it may thus come in direct contact with the organism. Tobacco smoke also contains carbon monoxide, and to this constituent many of the poisonous qualities of the former may be attributed.

Among the symptoms of chronic nicotism I enumerate: Catarrhal conditions of the upper parts of the respiratory apparatus, dyspepsia, asthma, smoker's heart, muscular tremor, decline in body and weight, decrease of sexual excitability, and

paralytiform atony of the sphincter muscles. Disturbances of vision occur still more frequently from the smoke than from the vapor of tobacco. In severe cases we may meet with certain neuroses and psychoses. It is the general consensus of opinion that the latter occur mostly in those individuals who excessively chew or snuff tobacco.

It is not my intention to dwell on the treatment of the different conditions which are the result of chronic nicotism; however, that functional disorder known sometimes as "smoker's heart," where the heart-beat suddenly grows much stronger, indicating augmented heart activity as the consequence of a toxicosis, is such an interesting and often perplexing phenomenon that a prescription for its amelioration may be here in order:

R.	Adonidini	0.005
	Ammonii carbonici	0.1
	Camphoræ	0.03

M. Ft. pulv. d. tules. triginta.

Sig. One powder three times daily.

A vast number of interested ones, both scientists and laymen, felt called upon to devise means how to eliminate, if possible, the toxic principle or principles of tobacco. Some succeeded better than the others — nobody, however, to such an extent that his process has found more than ephemeral approval. To my knowledge, almost every attempt made to overcome the poisonous qualities of tobacco consisted merely in the more or less complete obliteration or elimination of nicotina. To this alkaloid, however, is due, as we have seen before, the greater part of the physiologic characteristics of tobacco. To eliminate the nicotina, or to neutralize it completely, means, therefore, to deprive the tobacco of its most peculiar and precious element, of the element without which the tobacco leaf possesses little relish. It is true that some tobaccos do not contain any nicotia at all, and still they are largely used by the natives in whose countries they grow.

Moreover, as we have seen, nicotia is not the only toxic ele-

ment of tobacco; the empyreumatic, acrid substances liberated on burning or heating the leaves possess poisonous qualities. This fact, when intending to effect a *conditio non-perniciosa* of tobacco, has to be taken in due consideration. The production of certain toxic compounds, occurring in the smoke, especially as, for instance, carbon monoxide, can never be completely prevented, for the reason that it is a direct result of imperfect combustion. A process for the treatment of tobacco-leaves, preventing in a way the injurious action of nicotina and of the acrid empyreumatic products was devised some years ago by Professor Gerold of Halle. As I have seen no account of it in any of the journals, and as I deem this method superior to any heretofore employed, I shall give a short description of the same in the following:

The originator employs for eight kilograms of tobacco leaves, containing the average percentage of nicotina, a decoction which is prepared thus: Fifteen grams of tannic acid are boiled with one and one-half kilograms of water until the weight is reduced to one kilogram: then thirty grams of the essential oil of *origanum vulgare* are added, after which the decoction is immediately removed from the fire. Having stood for some minutes, the mixture is filtered and allowed to cool to about 16° C., when the preparation is ready to be spread over the previously weighed tobacco.

When the absorption of this mixture by the tobacco leaves is completed, they are subjected to slight pressure and moderate heat, after which they are ready for the manufacture of the diverse tobacco products.

I have repeatedly treated tobacco leaves in aforesaid manner in a small way in my own laboratory, and on a larger scale in one of the New York cigar factories. Some of the tobacco thus prepared I have had made into cigars, by the assistance of which I studied its physiologic effect. The cigars were given to a number of patients of mine, who are markedly idiosyncratic against tobacco. While the cigars were smoked I made

frequent observations as to the heart-beat, pulse rate, frequency of respiration, and the body temperature. Each patient had to smoke three cigars in succession, and I failed to notice any functional alteration, which ordinarily would occur in these individuals after taking a few puffs only from a cigar; the nervous system appeared not to be affected at all, and hæmicrania, of which every one of these patients invariably complained when he used tobacco not prepared in this manner, was not present in a single instance.

Tannic acid, we know, is an antidote for nicotine poisoning, and the use of the acid for preventing the injurious action of the energetic tobacco alkaloid is by no means original with Gerold. What he has pointed out is the proportion necessary to effectually avert nicotine distillation in a given quantity, as too small amounts of tannic acid exert no influence whatsoever upon nicotina, while excessive quantities deteriorate the tobacco. The undistilled nicotina is neutralized in its toxic quantities only by the tannic acid, which does not influence at all its peculiar odor nor most of its other characteristics. In this respect it is aided by the essential oil of origanum, the employment of which for this purpose is also original with Gerold. The oil, which is a valued stimulant, counter-irritant, and an active diaphoretic, does not produce a spicy flavor, nor does it call forth the formation of crystals when subjected to heat, as is generally the case with the other essential oils. The oleum origanum seems also to combine with the empyreumatic substances rendering the same either totally or at least relatively innocuous. In concluding this fragmentary sketch, let me once more draw attention to a melancholy fact: Tobacco is the relish for most of us; many of us are its victims, soul and body; and while we are happy in the belief that we have conquered the American aborigines with our fire-water, *they* are the real victors, for they have enslaved us with their "weed of the gods."

ALCOHOL ON THE MIND:

BY DR. A. FOREL,

Professor of Psychiatry, University of Zurich.

The following abstract from a lecture by Prof. Forel of Switzerland is of great interest in showing the views of one of the foremost teachers of physiology and psychology. Dr. Forel has written very clearly and emphatically against the use of alcohol, and has made many experiments showing its injurious influence on the organism.

“ Destruction of the mind is much worse than impairment of the organs of the body. Alcohol affects the mind more than any organ. All the alcoholic beverages cause more or less disturbance of the mind and of the nervous system much the same as the blood permeates every organ of the body. That the manifestations of the mind become impaired can be proven by the symptoms of intoxication, and by the effect upon the ethical, the aesthetic ideas of the good and beautiful. This injury is not necessarily limited to a regular drunkard, but is common in moderate drinkers; and is seen in this way. He becomes not as truthful as he used to be. His interest in the family becomes lukewarm, careless about the future of the family and the children, and already at a comparatively young age shows symptoms of senility. He becomes more irritable. He may be often jealous, always thinks he is right, fights for his right, and exhibits many other signs of failure.

This alcoholic intoxication of the human nervous system is soon noticed from the use of small doses. The action of the nerves becomes impaired. The injury is first noticed in that which is finest and most complicated, that is, the aesthetical

ideas, the conscience, and the reason. The human will is always influenced by a different complexus of particularly the conscious or unconscious feeling of ideas. Such persons believe that all action of the mind is by molecular action of the brain. Bunges claims that even very small doses of alcohol manifest their effect on the brain and its action is deranged and increased. They get talkative and quarrelsome. The stage of talking he calls also the motor activity, that is, a motion of the tongue. Greater motion becomes degrees of paralysis. The first alcoholic poisoning of the brain is the beginning of grave disease. More crimes are committed from the effects of alcohol, particularly crimes against other people, than from any other cause. From sixty to seventy-five per cent. of the criminals are more or less inebriates. Among counterfeiters and swindlers there is only twenty-four per cent. It is found that acute inebriety is followed by more crimes than from old, confirmed drunkards. In Europe the mass of crimes are committed on Sunday, Saturday evening, and Monday. If you enter a hall full of drunken people it will remind you of the violent wards of an insane asylum. The highest degree of drunkenness resembles the coma which precedes death; and often ends in real death.

The German language has introduced into psychiatry the expression "the pathological drunk." Particularly in men who generally can bear but very little alcohol but begin to drink when the mind gets affected. The name "berserker" means one who destroys everything in his way, being frantic and frenzied. In this condition he may commit murder. This is not descriptive of "a normal drunk." Such intoxication is caused in two ways: by frequent, repeated intoxications; and by daily drinking a moderate quantity of alcohol, both of which will end in inebriety. These latter are not called drunken, but are under the effect of spirits all the time. In these chronic alcohol intoxications there are two classes: those which can be repaired, and those which cannot be repaired.

To the first belong those who seem insensible to larger doses of alcohol, and who are insanely addicted to the desire for alcohol.

Second, those who are incurable. They are the ones who have contracted dementia alcoholica senilis before forty years of age as manifested by impairment of the brain, and characterized by mental bluntness. They have been hard drinkers, and show signs of contraction of the brain, such as shrinking, with impairment of the memory. These conditions have great similarity to that of softening of the brain. Appear in old people, but may do so in quite young people. It is incurable.

Another paralysis of the brain which the author calls alcoholic pseudo-paralysis, with thick speech, and insanity of greatness, exists. Also, those with individual predisposition and hereditary transfer.

The more one studies the poisoning of alcohol the more will one be convinced of the different predispositions of the individual, in other words, that the reaction of alcohol varies exceedingly in the different cases. One becomes drunk by small quantities, and the public considers him very weak in resisting the deleterious effects of alcohol, but this is not so noticeable in those who have a good foundation of inherited vigor and ethical makeup, and possesses a strong will power and small taste for drink. Persons who apparently can bear large quantities become stupid after a short time. This develops very early an irresistible desire for more and more alcohol. They are called "sots" who have such desire. This intense and early development of alcoholic craze is always a proof of strong hereditary vice. It sometimes appears periodically. Some of these are "quarter drunkards" — those who drink every three months. These are the ones most likely to become incurable.

The first class are not easy to get drunk, do not become particularly stupid. From birth they are defective ethically, weak in character, careless, unfit for intellectual work, and

always in great danger from frequenting saloons and following the courtesies of drinking in high society. Such men very easily become regular drunkards. But in the majority of others, they are really the victims of human imitation of seeing others drinking, whether in society or not.

The public believes that to use alcoholics will give bodily strength, it acts on this belief.

Another danger is for those who can stand comparatively great quantities without becoming drunk. In the end they, too, become inebriates. They become chronic alcoholics insensibly. They seduce others who try to drink the same quantity without getting drunk.

Their progeny always become affected by this alcoholization of their own tissues.

They also show a marked degree of brain atrophy.

Poverty and misery often accelerate drunkenness, particularly in people who have been in better circumstances. As a rule drunkenness is the cause of the poverty and misery.

Chronic alcohol intoxication causes degeneration of the semen of the man, and of the ovary in the woman.

Many other diseases follow, as impairment or faulty development of the body. This is seen in the descendants, idiots, and insane children born of alcoholic parents. The father and the mother of such children need not be regular sots yet, but simple ordinary drinking people without any drunkenness. The child may become abnormal and diseased, with very poor resistance to alcohol.

Chronic alcohol poisoning develops delirium tremens. The psychopath — one is “nervous” — and partially insane, as a rule, stands alcohol very poorly. Such persons have many disorders not caused by alcohol, and often become steady drinkers without being sots. Small doses are sufficient to bring out symptoms of acute poisoning. I have seen attacks of severe delirium tremens in a psychopath after taking only an extremely small quantity of fruit wine. The most prominent symptom of alcoholism in psychopaths is the prominence of

mental disturbances and nervous perturbations generally. These are so characteristic that they become manifested before the tissues of the body are soaked with alcohol. You can even claim that there are two forms, that is between alcoholic and non-alcoholic, that the abuse of alcohol in a very small degree very often is the last straw to break the camel's back, which wakes up a slumbering epilepsy or other psychosis. The effect of alcohol often has a hereditary disposition to epilepsy or perverse sexual desires. I have often seen alcohol cause the outbreak of latent disease which disappeared on the total cessation of the alcohol. This proves what the cause was.

Mental disturbances are always increased by alcohol. The insane and those weak in mind can never use alcohol moderately, but will become excessive users of it.

The alcoholically poisoned becomes a psychopathist and propagates psychopathists, who should early receive care and have their liberty diminished.

At the Medical Society of the Hospitals at Paris, France, Dr. Jacquet said that he had investigated the antecedent history of seventeen phthisical patients, and found that in sixteen instances they had at some time been users of large quantities of alcohol. They all drank brandy or rum, and the most of them absinthe as well. In most of these patients the period of ulceration and cavity formation came on rapidly, one or two years after the beginning of the disease, thus showing that it is not true that phthisis has a fibroid tendency in alcoholic drinkers. In many of these patients there was a hereditary tendency toward tuberculosis or alcoholism, but, making due allowance for this as well as for the fact that alcoholism is common among the population from which these patients came, it nevertheless remains true that phthisis is frequently contracted "over the bar." — *Medical News.*

HEREDITY AS A CAUSATIVE FACTOR OF
INEBRIETY.

BY F. C. MYERS, M.D.

That heredity is a comon cause of alcoholism, and that alcoholism is a disease, is becoming apparent to many medical men of the present day.

In that good old book, the Bible, we are told that "The sins of the parents are visited upon the children to the third and fourth generations." That has been proven to be a fact, in the evil effects produced upon the system by the use of alcohol; the person whose brain and nervous system have been injured, and whose moral and will powers have been weakened, and whose stomach, liver, and other organs have become de-ranged by the use of alcohol, will transmit some of these de-rangements to his offspring.

The modern study of the therapeutics of alcohol has proven, without a doubt, that it is not a stimulant or tonic, but an anesthetic and a narcotic, and that it should be classed, in our works on therapeutics, as one or the other of these; and it has also been proven that it is a remedy of but little therapeutic value and one that could be dispensed with, even for medicinal purposes, with universal benefit to mankind. It is not my purpose in this paper to discuss the therapeutics of alcohol, but to prove, if possible, that the influences produced by alcohol are handed down from generation to generation.

The principles of heredity must have been known in ancient times, and undoubtedly gave rise to family names among the Romans, and in the present age the Bourbon nose and the Hapsburg upper lip are well-known family character-

istics; while some families are characterized for such virtues as business integrity, truthfulness, temperance, and frugality, others are as equally marked for dishonesty, mendacity, and drunkenness. A marked physiognomy and proneness for commercial pursuits have been Hebrew characteristics from time immemorial. The transmissibility of an alcoholic inheritance has been very generally admitted by many writers, among whom are Aristotle, Darwin, Rush, Morel, Grenier, Carpenter, Richardson, Thompson, and Forel. The number of cases in which an ancestral history of alcoholism has been traced is probably much below the actual amount, as it is difficult to get relatives to admit the existence of an alcoholic taint. It has been found by studying the subject, that the proportion of hereditary cases has increased five per cent. over the acquired during the past twelve or fifteen years. Norman Kerr says: "In over 3,000 cases of chronic alcoholism I have found fully one-half with an inebriate ancestry," and about the same proportion has been the experience of others who have studied the subject in America and Europe. Kerr again says: "I have observed children born more than a year after the father had been attacked by a brain disease or inebriety, exhibit from their earliest years propensity for intoxication, and in more than one family the children could, only by constant supervision, be kept from strong drink as soon as they began to crawl." And he says also: "Nearly two-thirds of the cases of inherited alcoholism are due to the alcoholism of one or both parents." I believe it has been fully proven that the child of an inebriate, born after the lesion has been established, inherits some nervous diathesis, and that the only security is by life-long abstinence on the part of the child. Beran Lewis attributed 64 per cent. of cases of chronic alcoholism to parental inebriety, some form of transmittal neurosis, or insanity. Piper puts the proportion of hereditary to acquired cases as two to one.

In the examination of two groups of ten families each,

in a children's hospital of London, one group of 57 was affected more or less by alcohol, the other of 61 was unaffected, or slightly so. Of the first group 20 had inebriate fathers, the mothers and grandparents being moderate drinkers; only 45 per cent. of these had healthy constitutions; 31 had inebriate fathers and grandfathers, but temperate mothers and grandmothers; only two of these, or a little over six per cent., were healthy. Of the 61 children belonging to the temperate families 82 per cent. were in good health.

The customary drinking of light wines and champagne at banquets and public dinners has been thought by many worthy people in the past to be perfectly harmless, but as more light is thrown upon the subject of heredity and the therapeutic action of alcohol, that custom will gradually be abandoned: in fact, it is becoming less customary at the present time. There has never been a time in America when every indication pointed so strongly to a decrease in intemperance as at present. There has never been so little drinking as at present, and never such a strong tendency toward moderation in quarters where alcoholic indulgence is general. The most careful figures bear out this statement. That hereditary craving for strong drink can be transmitted by parents who have not that craving, but who drink very moderately, has been proven. Forel says: "Hereditary craving for alcohol may proceed from parents neither of whom possessed this craving, but were drinkers only by custom or sociability."

A typical case came under my observation a few years ago. A man, born and educated in Edinburgh, Scotland, whose parents were wealthy people, but who had been in the habit of using light alcoholic drinks in the form of wines — as many Scotch families do — came to this country, entered business, and was a very bright business man and honest in all his ways, but from every month to three months — never going over three months — he would leave everything and enter upon a drunken spree. It made no difference how much was involved

in business interests. As he was under my observation for two or three years, I know that it was against his will and purpose, and that he made every effort to overcome the hereditary power that was controlling him. It was usually from two to three weeks before he was ready for business again. He was a person of much moral purpose and great business integrity when himself, and has told me many times that he always had a periodic craving for alcohol ever since he could remember; he had one daughter born to him who is a nervous, uncontrollable child.

Another case of a bright young lady was under my observation for a year, who, every few weeks, from her earliest memory, had such a craving for alcohol that it seemed impossible to resist it. After taking a few swallows of diluted whisky she was satisfied, the craving for it ceased and her nerves became quiet. As she was a person who had never been in the habit of drinking, only in this way, the craving was undoubtedly from a hereditary source. Many other cases might be referred to, but as there are those here who have made that subject a special study and who would naturally see many more cases of the kind than a general practitioner, that part of the subject will be left for their consideration.

In conclusion I would ask: If one of the principal causes of inebriety is heredity, how is this form of inebriety to be cured and our future generations saved? I know of but one way, and that is to stop the drinking habit at once. As it has been proven that: 1. alcohol is not a food; 2. it does not promote digestion; 3. it does cause gastric disturbances; 4. it does not increase muscular strength; 5. it is not a tonic or stimulant, therefore, I believe medical men ought to do all in their power to educate the rising generation in regard to these facts, and that alcohol should be classed in its proper place — with anesthetics or narcotics — and everything possible done to prevent its universal use as a common beverage in social and political life. By so doing, inebriety may be practically wiped out of

existence in one generation, and a blot removed from this fair earth of ours, which would be an untold blessing to thousands of families.

POINTS IN FAVOR OF THE USE OF ALCOHOL AND
THEIR REFUTATION.

Dr. Bienfait, according to the British *Medical Journal*, offers the following objections to the use of alcohol:

1. Is alcohol a digestive? No; its indigestion produces a passing excitation; interrupts the proper action of the muscles of the stomach, because alcohol acts as an anesthetic after having irritated the walls of this organ; and it drives the blood to the skin, and so interferes with the action of the gastric juice.

2. Is alcohol an appetizer? No; it produces an excitation of the stomach which causes a sensation taken for hunger.

3. Is alcohol a food? No; it does not correspond to the definition of a food, and the heat that it seems to produce does not serve as actual warmth.

4. Is alcohol heating? No; it causes a flow of blood to the skin and lowering of temperature.

5. Is alcohol a stimulant? No; in no case, either physical or mental.

6. Is alcohol a protector against contagion? No; it predisposes the body to contagion.

7. Can we live without alcohol? This idea that we cannot live without alcohol is a prejudice that numerous facts contradict.

8. Is alcohol good for children? It should never be given to children.

9. Does alcohol increase longevity? According to reliable statistics alcohol diminishes longevity.

LEGISLATION FOR INEBRIATES IN GREAT
BRITAIN.*

BY NORMAN KERR, M.D.,

President of Society for the Study of Inebriety.

Only some thirty years ago the great majority of the people of England looked upon habitual drunkards as badly disposed persons, who, from pure wickedness of heart, delighted and ardently looked forward to get drunk as often as they ever possibly could.

Gradually, and chiefly by the efforts of the medical profession, a revolution has taken place in medical and public opinion, till, at the present day, the overwhelming majority of professional and philanthropic persons, as well as social and political reformers and the governing classes, has demanded and has received certain new laws, which are based on the opinion that many of the most confirmed drunkards are drunken, not of choice, but of an imperious impulse arising from mental and sometimes bodily disease.

The Inebriates' Act, 1879, legalized a new principle in England, the surrender by a man or a woman of his or her personal liberty for a period not exceeding twelve months, in the hope of cure of the disease of habitual drunkenness.

The Inebriates' Act, 1888, made the former temporary Act permanent, and enacted some amendments which improved the practical working of the first Act.

The experience of the Dalrymple Home at Rickmansworth, which was established by the Homes for Inebriate Association

* Read before the International Congress at Paris, 1899. The last paper written by Dr. Kerr before his death, May, 1899.

(a philanthropic association which desired to try the experiment of treating habitual drunkenness as a disease under the Inebriates' Act of 1879), has been most encouraging.

Four hundred and seventy-five patients (all males, no females having been eligible for admission) had been discharged up till January, 1898. Of these, 225 entered under the Inebriates' Act, and 250 were received simply as private patients. Of those under the Inebriates' Act, 82 remained twelve months, 11 nine months, 4 eight months, 63 six months, and 65 three months. Of the private patients, 44 remained twelve months, 15 nine months, 67 six months, 9 four months, and 115 three months.

The average age of all the patients was 35 and one-half years at entry.

Three hundred and thirty-five had a good education, 111 had gone through college, while 29 had only an elementary education.

There was a heredity of insanity in 33 cases, and of inebriety in 235 cases. In 207 cases no family history of insanity or inebriety was obtainable.

Four hundred had used tobacco, 6 chloral and tobacco, 6 morphine, 5 morphine and cocaine, 7 opium or chlorodyne and tobacco, 2 sulphonal, and 49 had no other apparent narcotic habit.

Three hundred and thirty-four were regular or constant inebriates, and 137 periodical drunkards. There were also 4 cases of morphinism without alcoholism.

The average period of addiction prior to admission had been seven and one-half years.

The indulgence was social in 441 cases and solitary in 34.

Thirty-one were wine drunkards, and seven beer inebriates, one drank abs-inthe.

The habitual drunkenness of 17 followed on injuries, and of 39 on ill-health.

The average term of residence in the Home was six and one-half months.

The after history shows a substantial record of good results, 187 being well or having improved.

The treatment has been hygienic, absolute abstinence from all intoxicating beverages has been enforced, and there has been no resort to quack secret remedies, so-called "cures" or hypnotism.

The English government, after the report of several commissions and committees, introduced into parliament and carried the Inebriates' Act, 1898.

By this Act, which came into operation on January 1, 1899, a new principle has been embodied in English criminal jurisprudence. Judges have the option of sending habitually drunken criminals to an inebriate reformatory for not more than three years, instead of to a prison, thus admitting the value of the curative detention of offenders against the law.

Also, after three convictions within twelve months, on a fourth conviction on a minor offense complicated with drunkenness, the offender can be sent to a reformatory for a similar term.

I do not hesitate to predict that this latest English Act will not only affect a revolution in the jurisprudence of inebriety, but, in addition, will so intensify and extend the rapidly growing public opinion in favor of compulsory dealing with all cases of habitual drunkards, as to, ere long, secure the enactment of legislation for the involuntary seclusion of non-criminal habitual inebriates.

THE WORKING OF ENGLAND'S INEBRIATE ACT.

An attempt has been made recently to get a woman of North London committed to an inebriate hospital, under the provisions of the inebriate act, which went into effect at the beginning of this year. It was shown that the woman had been convicted of drunkenness five times this year, but the magistrate refused to grant the request on the grounds that the act referred to respectable women who had fallen victims to the craving for drink, while the prisoner did not seem to him to be of that class. The case will be appealed.

CAN THE DANGERS AND EVILS FROM ALCOHOL
BE TAUGHT SUCCESSFULLY IN COMMON
SCHOOLS?

BY EDWARD C. MANN, M.D., F.S.S., NEW YORK CITY.

Member of American Association for the Study and Cure of Inebriety; Member Brooklyn Pathological Society, etc., etc.

In approaching this question, we must not fail to consider the very positive effects on a child's character that are produced insensibly by the circumstances of the particular circle of society in which he lives. The child is not aware of the modification which he undergoes. But if he enters a new environment or returns to an old one, it is revealed to him as he grows older, by the instant pleasures or aversions that he feels, how gradually and silently his character has been modified. And it is the same with temperance principles. The difficulty with teaching the nature and effects of alcohol in common schools has never been the enunciation of the lofty, general principle of temperance, but the application of the principle to the particular case, when the boy becomes the young man, tempted by the miserable American habit of "treating," when his action will depend upon whether there is something within, to vibrate in sympathy with that without, a pre-natal influence. John B. Gough used to say that all drunkards are made before thirty years of age. I hold that, owing to the scientific forces of psychic atavism and pre-natal influences, that most drunkards are made before birth: *i. e.*, that children are born either with good, sound, healthy nervous systems, fitted to carry them through the world successfully and over the crises that will assail them from alcohol, with its potential capacities and its active, imperative, irresis-

tible demands; or, on the other hand, owing to having mothers, who, while never intoxicated in their lives, have, during their pregnancy, always used the poison alcohol in what is conventionally termed moderation, have been born degenerates, with neither judgment nor will to meet the craving for alcohol, or with moral will and fiber to enable him to say "no," when asked to partake of the drug alcohol, which creates a new physiological want, a systemic demand, which becomes peremptory and irresistible, overbearing the person's will and judgment, until he ends up, a typical inebriate.

The dangers and evils from alcohol can be taught successfully in common schools, if only such facts are presented as are of practical value, and, secondly, if these facts are presented in a natural and logical order. No important scientific fact relating to the abuse of alcohol must be omitted. Don't tell children that to drink is wicked. You will never stem the tide of intemperance in that way. Give them facts, scientific facts and experiments performed before their eyes. Tell them that alcohol is a poison like chloral or prussic acid, and illustrate this fact by wetting earth worms with alcohol, when they will die, or put some flies into a bottle with alcohol, when they will be killed by its vapor; or give a dog two or three ounces of alcohol, when the animal will give a cry and fall lifeless. Can any one suppose that after seeing such experiments that any child will doubt that alcohol is a poison or that you can make them believe that alcohol has no dangers and evils? Put two plants in the schoolroom where the children can see them. Place the roots of one in water, and it will remain fresh for some time; now add to the water in which the roots of the other plant are placed even a small quantity of alcohol, and the plant will soon die, and the children will have received a lesson about alcohol they will never forget, and they will not doubt when told of the dangers and evils of alcohol to man and his offspring. Thus, and thus only, can we successfully teach the dangers and evils of alcohol in common schools.

BRITISH MEDICAL LETTER.

BY T. N. KELYNACK, M.D., M.R.C.P.
MANCHESTER, ENGLAND.

Interest in the scientific and practical aspects of intemperance is growing, and all sections of society are beginning to realize that it is a question for the most thorough investigation, and must be entered upon in a truly scientific spirit. Among recent literature in this country special reference must be made to the admirable and calmly judicial work of Messrs. Rowntree and Shevwell (*The Temperance Problem and Social Reform*, 1899). It will be likely to prove of considerable interest to our trans-Atlantic cousins, since American methods of restricting drunkenness are subjected to a lengthy criticism.

British Medical Temperance Association.

This body of medical men and students of medicine has recently issued its 23d annual report. Its objects are to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease. There are 484 members, and 495 student associates. It is doing much good work, as was fully evidenced by the testimony given at the recent annual breakfast held during the meeting of the British Medical Association at Portsmouth.

Heredity and the Drink Habit.

The interesting articles of Dr. Archdall Reid ("The Temperance Fallacy," *the Medical Magazine*, Jan., March, 1899), have centered attention on the question of the transmissibility

of the drink habit. At present there seems to be a considerable divergence of opinion. Dr. Reid and his followers oppose the Scriptural and supposedly orthodox views of heredity. At the recent annual meeting of the British Medical Association (*Lancet*, 1899, Aug. 12, p. 451), Dr. Reid expressed the opinion that it was most unlikely that the acquired effects of alcoholism, in the forms manifested to us in drunkards, were transmitted to the offspring. Dr. Andriezen contested these views, holding that "The inebriate as a result of his habits transmitted to the offspring a damaged or diseased germ (ovum or spermatozoon), and even the most healthy married couple could from temporary intoxication do the same and beget a child which might exhibit abnormalities." Dr. Fletcher Beach, as the result of his experiences at Darenth Asylum, had no doubt but that imbecility and even idiocy resulted in the children from parental intemperance.

Professor Sims Woodhead has also recently expressed his opinion on this matter ("The Influence of Heredity upon the Drink Habit," *Lancet*, 1899, July 29). He believed that "The disease was not transmitted, but only the weakly and unbalanced condition of the tissues: as a result of this, however, the patient was more susceptible to the more exciting cause of the disease: in a word, the predisposing cause might be transmitted, but the exciting cause never."

The whole question of the transmissibility of drunkenness is to be submitted to a committee for investigation.

The subject is one of such deep theoretical interest and grave practical importance that it is to be hoped that a thorough research into all aspects of the question will throw much light on what is admittedly a perplexing and obscure field of morbid psychology.

Scientific Basis of Total Abstinence.

Professor Carter of Liverpool has recently published an exceedingly able brochure ("The Scientific Evidence for

Total Abstinence from Alcohol," Liverpool, 1899), in which he brings forward with all the freshness of modern thought the medical arguments for abstinence. He conclusively shows that there is a constantly increasing proportion of people dying both directly and indirectly from the effects of alcohol, and that the general increase of mortality is advancing at a far more rapid ratio among females than among males.

Pathology of Alcoholism.

Dr. George Wilson, the physician-superintendent of Mavisbank Asylum, Midlothian, has contributed a valuable essay on the psychical and physical aspects of alcoholism, considered as "a disease of the nervous system" (*Encyclopædia Medica*, edited by Chalmers Watson, Edinburgh, 1899, Vol. I, p. 131). He expresses the opinion that "essentially the lesion of alcoholism is an *affection of the nerve elements* in the cortex." Vascular changes are of course most intimately related to the changes in the nerve cell and its processes. The view is expressed that it is "the function of physicians to bring about a state of society in which the risk of incurring alcoholic diseases is minimized." The author very rightly says that "this is a subject which only a few can approach in a scientific spirit. Apathy on the one hand, and fanaticism on the other, characterize much of the literature upon the question." The whole article will well repay careful perusal.

DETERIORATION BY ALCOHOL.

M. Jules LeJeune, ex-Minister of Justice, gives the following statistics of the conditions of Belgium: Seventy-five per cent. of all convictions in the criminal courts come from the use of alcohol. Seventy-nine per cent. of all paupers are drunkards. Eighty per cent. of all suicides have a similar origin. Forty-five per cent. of all lunatics come from the excessive use of alcohol. He concludes that the drink problem is a very serious question in the deterioration of the country. Yet, governments, national, state, and municipal, make no attempt to abate the evil, because its only method of dealing with it — high license — yields revenue! And yet this revenue is not sufficient to meet the costs of its own evil work. How long yet? When politicians no longer infest the land, we may look for the extirpation of the evil's nests.

Abstracts and Reviews.

ALCOHOL ONE OF THE CAUSES OF TUBERCULOSIS.

Dr. Thiron, of the Faculty of Medicine in Paris, has presented a very interesting paper on this subject to the recent congress against alcohol. The following are some of the facts discussed at some length:

The fact that alcohol predisposes to the contagion of tuberculosis has not been contested by any one. It has been pretended that rum, brandy, wine, and beer are useful in the amelioration and cure of diseases of the chest and tuberculosis. He considers that nearly all these cases simply add alcoholism to an already possessed disease, and thereby hasten a fatal termination.

Dr. Legendre says alcohol very often causes phthisis by weakening the lungs. Every year we see some patients who at first enter the hospital for alcoholism, who return some months later affected with phthisis.

In 1897 Dr. Destree, professor of the Faculty of Medicine of Brussels, by experiments conducted with great exactitude, has contended against the claimed salutary influence of alcohol upon muscular work, and has fully demonstrated its uselessness, and its harmfulness to the organism.

Professors Charcot and Bouchard (*Traite de Medicine*, Vol. II, "Alcoholism") write that alcohol favors pulmonary tuberculosis, making a fitting soil for receiving and fructifying the bacillus of Koch. (*Idem.*, Vol. IV.) The cause predisposing to pulmonary consumption is the influence of certain pathological states, particularly of alcoholism, for it plays a major role in the genesis of consumption.

Let us seek what is the bearing of the bacillus of Koch in relation to alcohol and if the latter can kill it, let us verify

the conclusion that alcoholic drinks are contra-indicated in the tuberculous. I cite in this connection (*Traite de Medicine*, Vol. I, Charcot and Bouehard): "Biology of the microbe of tuberculosis; it thrives in nutritive media containing starchy and sugary matter which it partially transforms into alcohol. This microbe not only does not die in this medium nor in the matters formed by it, but if, moreover, they filter an old culture and sow it again it develops as well as in a new medium. This is a result differing from that which obtains with the most part of microbes. It follows from this clearly that the microbe of tuberculosis is very resisting, that it is made of alcohol, *in vitro*, and with the strongest reason that it remains active *in anima vili* of the alcoholized individual, and that it thrives there."

Prof. Duclaux, director of the Pasteur Institute, says: (*Traite de Microbiologie*) that "the adult *Aspergillus* consumes ordinary alcohol as easily as sugar and even its growth seems to receive a beneficial effect; moreover, it stands very well a nutritive liquid containing six to eight per cent. of ordinary alcohol."

He also says (in *Traite de Bacteriologie* by Prof. Macé): "The bacteria can assimilate ethyl alcohol from its nutritive medium."

So the bacilli are not intimidated by alcohol.

Dr. Prevost, of the Faculty of Medicine of Geneva, sets forth (*Traite de Therapeutique Experimentale*, 1897) that in administering alcohol for several days consecutively to rabbits during gestation, and then killing them, that they have found alcohol in the amniotic fluid, the placenta, and the fetus."

Even the alkalinity of the blood is diminished in alcoholism, and the ingestion of the salts so necessary to the organism being decreased, it results in organic disturbances.

Conclusions.

Alcohol does not give force, it is not force producing, the seeming exciting impulse which it produces is but a fleeting

exaltation of the organism; after which comes the period of fatigue, weakness, and paralysis. The consumption of alcohol neither augments the physiological energy nor the muscular work.

Alcohol does not warm the organism, it is not a calorific or a thermogenic food.

Alcohol does not favor digestion. (Prof. Bunge.)

The alcoholic not only does not resist tuberculosis, but he acquires it with the greatest ease.

Alcoholic drinks are not nutritive, they are not transformed in our body, on the contrary they retard assimilation and nutrition. (Prof. Dr. Forel, Zurich.)

REPORT OF THE CANADIAN MEDICAL ASSOCIATION
ON THE TREATMENT OF PAUPER
INEBRIATES.

At the annual meeting of the Canadian Medical Association, held in Toronto on August 30th, 31st, and September 1st, last, Dr. James Thorburn, the Chairman of the Committee on the Treatment of Inebriates, submitted the report, which reads as follows:

At the Quebec meeting of this association a paper by Dr. A. M. Roseburgh was read by the secretary on this subject. This gentleman has for years taken a deep interest in the reformation of inebriates, and about eighteen months ago was commissioned by the Prisoners' Aid Association of Canada to visit institutions and interview specialists, with a view of enabling him to formulate a plan for the economic treatment of pauper inebriates. After visiting eight special institutions and conferring with the best known specialists in Canada and the United States, he found that about thirty-four per cent. of those subjected to scientific treatment appear to be permanently relieved from their infirmity. This percentage, he is convinced, may be very materially increased by the adoption of a modification of the Massachusetts Probation System — changing the environment of the patients and exercising judicious supervision subsequent to treatment. While he has for

many years recommended reformatory treatment with prolonged detention for the more hopeless class of inebriates, he is convinced that, for the incipient drunkard and the more hopeful class, a few weeks' hospital treatment will be effective in a large percentage of cases, more especially if the case be followed up by judicious management subsequent to treatment.

Since the paper referred to was read at Quebec, the matter has been considered by the Ontario Medical Association, and the plan therein outlined was fully endorsed and also recommended to the Ontario government for adoption. We learn that influential members of the Ontario government, to whom the scheme was submitted at an audience given by them to a committee of the Ontario Medical Association, expressed themselves as being very favorably impressed therewith, and that they were disposed to favor its adoption in Ontario.

The scheme endorsed by the Ontario Medical Association and recommended to the Ontario government, briefly stated, is as follows:

(a) The appointment by the provincial government of an inspector of inebriate institutions. This inspector should be a qualified medical practitioner, who has made the medical treatment of inebriety a special study.

(b) The inspector should organize in the city of Toronto a hospital for the medical treatment of pauper inebriates of the more hopeful class, and in other cities of the province an inebriate department in the existing general hospitals.

(c) The inspector should also arrange in connection with each institution, where inebriates are received and treated, an organization or agency for the adoption of the probation system, and giving a helping hand to the patients subsequent to treatment for inebriety.

(d) The inspector should provide for the adoption of a rational course of medical treatment for inebriates in accordance with the tenets of legitimate medicine only, to the exclusion of the use of any proprietary remedy.

Under the circumstance here cited, we beg leave to make the following recommendations:

1. While we are of the opinion that for the successful treatment of confirmed drunkards, prolonged removal from temptation in a properly equipped reformatory is very desirable, is not absolutely necessary, we would nevertheless be disposed to endorse the plan herein outlined for the economic

treatment of pauper inebriates of the more hopeful class, either in cottage hospitals or in a special department of general hospitals.

2. In case the plan of treatment of inebriates here referred to should be undertaken either by the Ontario government or by any of the other provincial governments, we bespeak for it the cordial co-operation of every member of the medical profession who is in a position to favor this important undertaking.

CARE, CONTROL, AND TREATMENT OF INEBRIATES.

It seems that new communities must take the lead in many important social needs. Old communities have crystalized around old ideals, while young communities are free to lead out with new plans and original ideas. They are untrameled by the customs and traditions of the old communities. In many ways the laws of the younger Western States are much more progressive than the laws of the Eastern States. New Zealand and parts of Australia are already putting into practical operation, in a moderate way, Henry George's land-value tax theory. We are indebted to the antipodes for the introduction and practical testing of many new social ideas; also for new and higher social *ideals*.

I have before me a bill which has passed the Legislative Council of New South Wales, Australia. We have said much about the duty of the state in the direction of the care, control, and treatment of inebriates, but for actual law on this subject we now have to go to the progressive antipodes. The following is an outline of the bill:

A Judge or Magistrate, on application, and after evidence of medical practitioner, and on inspection, may make an order as to control of inebriate.

Court of Petty Sessions may make an order in case of an inebriate frequently convicted of drunkenness.

Judge or Magistrate may make order as to property and treatment of inebriate.

Court in Lunacy jurisdiction may make orders as to property of inebriate who is incapable.

Directions may be given, and orders varied, renewed, or rescinded.

Order shall authorize attendant to prevent supply of intoxicant to inebriate.

Inebriate not to leave the Colony.

Inebriate escaping from custody may be arrested.

Inspector-general of Insane and other officers to inspect places where inebriates are under control.

Person supplying inebriate with intoxicant liable to penalty.

Proceedings not to be published without permission.

Judges may make rules.

Governor may license institutions for inebriates and may make regulations.

For the purposes of this Act —

“Inebriate” means a person who habitually uses alcoholic liquors or intoxicating or narcotic drugs to excess.

“Institution” means a place licensed under this Act or established by the Government for the reception, control, and treatment of inebriates.

Notice the definition of “inebriate” in this Act: it means the victim, not only of alcohol, but of “intoxicating or narcotic drugs.”

The question, “Are we our brother’s keeper?” is an old one. In civilized countries it has for many years been decided that we are our insane brother’s keeper, as many public institutions for the treatment and care of the insane testify. Is it not time that we were taking another step, and include the irresponsible inebriate? “The holy ones” will say: “They should not drink: it is their own fault if they do.” “If they have formed intemperate habits, they should not have done so.” “Such care would only encourage drunkenness.” “If drunkards prefer to wallow in the gutter, let them do so: I do not want to be taxed to take them out of the gutter — let them help themselves,” etc.

We doctors know that inebriety is a disease, sometimes inherited, sometimes acquired. We know that the average confirmed inebriate is just as unable to care for himself as the average insane man. Excesses in business, religion, sexual indulgence, etc., lead to insanity. We do not refuse care to these insane because "they should not have done so." We recognize that the thing has been done, and that the condition exists. So with the inebriate. When will we rise to that ethical height that will lead us to see the true condition of the inebriate and respond to it properly. When we do so, many valuable, but unfortunate, members will be restored to society. — Editorial in *Medical World*.

THE DRINK QUESTION IN BELGIUM.

For some time past the drink question has been exciting among thoughtful persons in Belgium serious reflections, and the figures collected by M. Jules Le Jeune, Minister of Justice, certainly justify them. The population of Belgium is still less than seven millions, although it will soon pass that total, but it can boast of 198,000 wine and beer shops, or one for every thirty-five persons, women and children included. The total drink bill of the country is valued per annum at twenty million pounds sterling. One-third of that sum is represented by gin in its several marketable forms alone, and from sources that cannot be impeached, the authority has no difficulty in showing that this expenditure does not represent all the loss to the country. To it have to be added the loss of time, the deterioration in the quality of the work, and the absolute incapacity for work that follow in the train of excessive drinking. But Mr. Le Jeune seeks to rivet public attention to the subject by producing further statistics to show that in seventy-four per cent. of the cases of convictions in criminal courts the cause of the crime is drink; that seventy-nine per cent. of the paupers living in the States were drunkards; that eighty per cent. of the suicides have a similar

origin; and, finally, that forty-five per cent. of the lunatics were victims to what is called the alcohol habit. If the drink question reveals a serious flaw in the prosperity of Belgium, it must also be allowed that many of her public men are fully alive to the peril, and seeking to combat it. — *Forward*.

EXIT "HUSA."

That little fairy tale which we all read a couple of years ago about a doctor traveling in Florida and discovering by the aid of a native a plant whose juices were antidotal to snake poisoning, and would also cure the opium habit, has at last come to an end. You remember how ingeniously it was worked up, how the native, when made drunk, said, "I calls it viellies an husar, and I gits it from de Semmes in de Dales." Well, that doctor was just coining money selling "Husa" to the afflicted over the United States, when Prof. John Uri Lloyd of Cincinnati investigated it, and found it to be a liquid consisting of a solution of sulphate of morphine and salicylic acid in alcohol and glycerine, with suitable coloring matter. The thanks of the profession are due to Prof. Lloyd for his excellent services. — *Medical World*.

THE HIPPOCRATIC OATH.

The Arlington Chemical Co. of Yonkers, N. Y., has just issued a most artistic reproduction of "The Oath," which every physician should possess. It is a very handsome picture for any office. If you have not yet received a copy, the publishers will gladly send you one upon request.

Dr. Ricketts, in an article on "Snake Bites" says "Overstimulation from alcohol and other agencies is oftener the cause of death than virus-inoculation."

The *Scientific American* is more valuable every week in its records and illustrations of the new advances of science. No more acceptable present can be made than that of a year's subscription to this journal.

Appleton's Scientific Monthly is more cosmopolitan every year in science. Its papers are broader and clearer and on wider lines. It is clearly an evolution in literature to read monthly such excellent papers.

The *Homiletic Review* should go into the library of every thinker who would keep up with the great lines of thought. Send to Funk & Wagnalls of New York city.

A YEAR'S SURGICAL WORK (400 SURGICAL OPERATIONS) UNDER NON-ALCOHOLIC MEDICATION, WITH A MORTALITY OF ONE PER CENT.
(Evan O'Neill Kane, M.D., the railway Surgeon, June 27, 1899.)

From June 1, 1898, to June 1, 1899, the author performed a few more than four hundred operations. Forty-nine abdominal sections, fifty odd more operations of a graver sort, one hundred miscellaneous of less gravity than above, over one hundred operations upon female perineum and uterus. Of the four hundred, more than three hundred demanded anaesthesia. There were but three deaths, making the mortality a little less than one per cent.

The author does not claim a phenomenally low mortality, nor does he claim specially brilliant results. He has to contend with unreasoning fear on the part of the patients for hospital surgeons, and also most of his cases had been in the hands of quacks and had subjected themselves to remedies prescribed by old women. Many cases came after the family physician had exhausted his resources. He thinks his results are considerably better than the average in hospitals and in country districts.

He calls attention specially to the fact that alcoholic medi-

cation was dispensed with entirely after the patients came under his care, and to this he attributes much of his success. He does not believe, that it is a stimulant or a tonic. On the contrary he believes that it retards digestion, arrests secretion, and hinders excretion. The courage and fortitude of his patients were lessened instead of increased by the use of alcoholic medication.

Pain is better borne, endured longer and more patiently when alcohol is not used.

He urges the practical surgeon to carefully weigh the subject of alcohol and verify for himself the expediency of its use. — Rogers, *St. Paul Medical Journal*, Sept., '99.

EXPERIMENTAL STUDY OF CHILDREN. Including Anthropometrical and Psycho-Physical Measurement of Washington School Children, and a Bibliography. By Arthur MacDonald, Specialist in Bureau of Education, Washington. Government Printing Office. 1899.

The work done by the Government Bureau of Education, while entirely unobtrusive, is most timely, thorough, and practical. This work upon experimental study of children is most important, and it is a far-seeing government which makes such work possible.

“Anthropometry is the measurement of the human body in general, a branch of anthropology, but independent in its purpose and methods.” Its application to the child at its various stages of growth and development is most important, and while apparently many facts are recorded, seemingly without import, they are of decided benefit. The standard by which physical development and growth are measured must be had, and this only by countless measurements of children at all school ages. Kindergarten work has done much to stimulate child-study, and the time has now come when the pedagogue and the physician must work hand in hand. Physiological psychology is the natural outgrowth of such

work as is recorded in this book. It has formerly been education at any cost; now it is the physical child which must be first considered. "What is the maximum work suitable to a child in the different periods of development, in its school life? Can this maximum be injurious at certain times, when all the vital force may be required for growth?"

These questions can only be answered after the normal growth is ascertained, this by the individual and collective methods of examination; tabulation of results and careful study of statistics from this. This work has been most painstakingly done, and should be placed in the hands of every educator for thoughtful and careful perusal. — *Louisville Monthly Journal.*

A TEXT-BOOK OF ANATOMY BY AMERICAN AUTHORS. Edited by F. H. Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Lea Brothers & Co., 1899, Philadelphia, Pa.

This work holds one's attention. Its first sentence, "Anatomy is the science of organization," stimulates thought. The impression made by the manner of presentation developed in a few opening pages is deepened as the mind is led on through the orderly sequence of the chapters. The arrangement is not new, but the terseness of description is when the amount of ground covered is considered. One is convinced of its fitness as a text-book after a brief study of the plan of teaching as described in its suggestions of "Methods of Study." It seeks to record the facts which are essential, and to avoid those which are exceptional in order that the seeker may readily find what he needs first. Perhaps the most striking feature is in the use made of diagrams, in which colors are freely used to bring out the idea meant to be conveyed. These occur in profusion, and are near the text which they illustrate. The one picturing the formation of the osseous structure is not soon forgotten. The cavities of the ventricles of the brain are brought out very clearly by engravings of casts of the

same. The artificial distension of the synovial sacs offers an excellent idea of their traumatic possibilities. The origin and insertion of the muscles are shown in color, the mass of the muscle appearing as a dotted line which also gives the relative size. There is no important change in the nomenclature. Whatever alteration has been made shows the preference of the Association of American Anatomists. The names "Sustentacular Tissues" and the "Blood-Vascular System" sufficiently display the careful expressiveness of the authors.

The chapter on the "Lymphatic System" is particularly good. A chapter on "Normal Skiagraphs" is the contribution of Science during the last three years. All Latin and Greek names of parts have their English equivalent given.

The authors and publishers are suitably praised by their work in the production of this text-book.

PRINCIPLES OF BACTERIOLOGY, by Dr. Ferdinand Hueppe, Prof. of Hygiene in the University of Prague. Open Court Publishing Co., Chicago, Ill. Price, \$1.75.

This little work of four hundred and sixty-five pages is very valuable to the physician and specialist, and is really one of the most important books which has come from the scientific press during the year. The bacterial causes of disease, and the immunity from disease, vaccination, inoculation, and the history of both the harmless and dangerous forms of germs, are new studies to most physicians. This book is a handy text-book for every physician, but not the most rigorous, scientific treatise on this subject. The translator, Dr. Jordan, Professor of Bacteriology in the University of Chicago, has made a very graphic, readable work. Send to the publisher for a copy.

THE EVOLUTION OF GENERAL IDEAS, by Th. Ribot, Professor in the College of France. Authorized translation by Francis A. Welby. Open Court Publishing Co., Chicago.

This work is a *résumé* of a course of lectures at the College of France, and takes up the different forms of abstraction con-

cerning speech in animals, children, and deaf mutes; and gestures. Other chapters refer to intermediate and higher forms of abstraction and their nature, and to evolution of the principal concepts of space, time, law, cause, and species.

The discussion of these topics is very interesting, especially to psychologists, and takes up several abstruse subjects, making them very clear. The author has a very clear, graphic way of presenting these facts, and the general reader will find much of great interest. Such works are always welcomed by an increasingly large class of students. The publisher has brought out an attractive volume.

The story of "Luke, the Beloved Physician," is a revelation even to Bible readers. The facts about this far-away medical man who is known more as a saint and apostle, are really very remarkable. They give us a picture of the practice of medicine, surrounded with a charming mysticism. The author of this little book, Dr. Culbertson, is well known in the literary and scientific world as the editor of the Cincinnati Lancet-Clinic. He has given in an unique way a graphic history of this old-time physician, who was not only a scientist in his day, but a preacher of the higher gospel of life and living. The author has culled from Biblical and Rabbinical lore a charming history which will repay perusal. This little work is a contribution which will be welcomed by all lovers of literature and bibliography. Price, 25 cents. Send to the author for a copy.

Few persons going through to the Pacific coast can realize the scenic beauty and richness of the country along the line of the Great Northern Railroad. Starting from St. Paul, and skirting the Canada border through the Red River district and the upper Rocky Mountain region to the Columbia River, it

is a continuous stretch of rich plains, and mountain and river valleys. The road is excellent, and the equipment is of the most modern, luxurious character. No other road across the continent has so many attractions for travelers. Write to the general passenger agent at St. Paul for circulars descriptive of the road.

ALCOHOLISM IN FRANCE.

In the opening lecture of his course Dr. Debove sounded a note of alarm. He declared that alcoholism was present everywhere in France — in the towns, in country villages, and among all classes. The resources and strength of the country were impoverished by this vice. It was no longer a condition of acute and sporadic alcoholism; alcoholism was now chronic in France. That country, according to Dr. Debove, has the unfortunate supremacy of being at the head of all the "ethylic nations." The proportion of alcohol at 100° drunk amounts in Paris to 14½ liters per head, in Belgium and Germany, 10 liters, England 9 liters, Switzerland 8, Italy 6, Sweden 4, Norway 3, Canada 2. This unenviable supremacy is on the increase, as it is in Belgium, the proportion in other countries being a descending scale. There are in France 500,000 wine shops: in the North of France one for every twenty-five adults: in the Seine Inférieure Department one for every twenty-two adults, in Paris one for every three houses, not counting the railway station bars. Dr. Debove told his hearers that no one escapes this epidemic; children, young girls, men, women, all suffer from it. In some parts of France nurslings are brought up by bottle *a l'alcool*. Dr. Debove calls upon the medical world by example and by carrying on a crusade against this invading tide of alcoholism to try to stem it. — *British Medical Journal*.

Editorial.

INEBRIETY IN NEWSPAPERS.

The conceptions of alcohol, opium, and cocaine inebriety which appear in the articles of the daily press are curious mixtures of half fact and delirious imagination. One author who writes of his own experience gives an excessively minute account of the impressions and reasoning of his own mind when under the influence of alcohol. Another tries to imitate De Quincey in a fascinating word description of his thoughts. Recently a reporter described cocainism and its effects, giving every detail of sensation and impression which fills the mind of the victim. These accounts are taken as true, and in some cases students of psychology have made them the bases of studies. One account relating to the delusions of cocainism has been printed extensively, and has appeared in several medical journals and in part in medical papers, and, no doubt, will later go into some text-book. This description was largely exaggerated, like all the others, although written with more art and skill. No one intoxicated with these drugs can write minutely of his thoughts and impressions except in some particulars. The brain is anaesthetized and is unable to analyze its own workings or to remember the mixed impressions of the senses. Even trained writers have failed, and could only write of themselves in a confused mixture of imagination and vague theory. The delusions and morbid impulse which fill the mind are rarely well defined and so fixed in the memory as to be repeated. There are rarely any fixed delusions common in all cases, even in alcoholics. But most persons read all that is written, and when they become intoxicated act out the delusions which they have read about. A newspaper article described a delusion of hail falling on the body. Soon after

this was mentioned by two cases under my care. The wild, lurid descriptions of the mind during drug intoxications are often fictitious at the beginning, but are accepted as real, and made so by others when intoxicated. The unconscious mimicry of drug-takers is sustained by these sensational accounts. De Quincey's story is unreal, and never seen in actual experience, and yet many cases who have read it will incorporate some of his descriptions. No newspaper account of the symptoms of inebriety can be trusted, and public opinion based on such literature is full of delusions and misconceptions.

THE INEBRIATE IN FICTION.

The inebriate in fiction always represents the author's convictions, experience, and observation of such characters. The theories of what inebriety is, gives prominence to certain phases of conduct in the character drawn. If the author is an inebriate or moderate drinker or one who has reformed, he will write his own personal history so accurately that it cannot be mistaken in his writings about drink victims. He will also show how far his knowledge is from reading and observation. In all cases, the character of the inebriate will be distorted, and while accurate in some particulars, will be unreal. In temperance and religious literature, the inebriate is made an object lesson to show the criminal, vicious, and degraded phases of his life. The opinion is that the more prominent this is made the more valuable the lesson.

Among the many authors, the late T. S. Arthur gave the most exact descriptions of inebriates in his stories. Some of his late works contained very striking psychological analyses of the conditions and progress of such cases. "The Demoniac" by Besant, gives an accurate picture of one phase of inebriety.

Other writers have drawn inebriate characters unknown in

actual life: some minor lines may have been correctly drawn, but the portrait was a confused mass of coloring. The inebriate characters in some of the popular works of the day are vague, disconnected recollections of the author's personal experience. Unconsciously he has written some part of his own life or the dominance of some theory of inebriety which he holds to be correct. It is not true that personal experience brings clearer insight and ability to describe such conditions except on certain lines.

The inebriate's description of an inebriate may be accurate in parts, but will fail in breadth and proportion. The point of view is narrow and unreal. Both on the stage and in fiction, the inebriate is a grotesque compound of maudlin stupidity and treacherous selfishness or generosity mixed with sanity and capacity to do differently. This comes from delusions concerning the nature and causes of inebriety, and the exclusive study of such cases from the theological and criminological side. The psychological side of the inebriate, with all its alternating phases of sanity and insanity, opens up a most fascinating field for fiction. An accurate picture of these phenomena would be far more startling than any work of fiction. The present coarse, distorted word descriptions of inebriety in stories and other literature are rapidly passing away. Already the inebriate is coming into clearer light, and the very realism of his condition will bring a new attraction to literature. A rich field awaits the coming writer who shall become acquainted with the facts and laws governing the origin, growth, and progress of inebriety.

COLD AND ALCOHOL.

It is generally admitted that the consumption of alcohol induces much less disagreeable consequences in the regions of the north than in southern countries. But from a statistical and besides a most interesting study belonging to a country

comprising the most varied climates, N. J. A. Sikorsky, of Kiev, demonstrates that this manner of presenting things is far from corresponding with the reality. *La Semaine Medicale* gives the following analysis of his labor:

“The number of deaths due to acute alcoholism in the southern provinces of Russia varies on the average from 15 to 22 per year for a million inhabitants; in the central provinces it fluctuates around 40, in those of the north 70 to 100. This difference is not at all connected, as one would suppose, to a greater or less considerable consumption of spirits, for, according to the statistics of the minister of finance, relative to the decennial period, 1881-1891, the average of consumption is lighter in the provinces of the north (except those of St. Petersburg and Moscow) than in those of the south where it equals 3.57 liters to 4.80 liters of absolute alcohol per capita, while for the first it varies from 2.46 liters to 3.07 liters.

So, in spite of this smaller consumption of alcohol, the cases of death from excessive drinking are more numerous in the northern countries where it is not known obviously to seek for a reason in thermic influences. In fact, the researches to this end undertaken by M. Sikorsky show that the number of the deceased of this class is far greater as the average temperature of the country is lower. This average temperature which for Southern Russia is 7.9 degrees, falls to 4.8 degrees in the central provinces, and almost to 3.08 degrees in the north. One sees that the general showing of these figures bears a striking resemblance to that which belongs to the number of deaths due to intoxication. Elevated temperatures then seem to hinder, in some manner, the pernicious action of alcohol.

Certain abrupt variations in the series of figures returned year by year equally confirm this view. Thus, for the provinces of the northwest the mortality from the abuse of drinks was in 1886 ten times less than the year following. But the meteorological reckonings returned by the St. Petersburg academy of science indicate that during the year 1886 the

temperature was particularly mild, while that of the year 1887 was very cold.

These facts are worthy of special attention, as they are in accordance with figures perfectly comparable since in Russia everywhere they drink chiefly brandy and so the variations which belong to the different toxicity of spirits are next to nothing.

Such will not be the case in France, for example, where the last element has, on the contrary, a very great importance, certain departments consuming alcohol chiefly, and certain others wine.

In summing up, M. Sikorsky thinks himself authorized to admit that external cold increases in a considerable manner the toxic effects of alcohol, and triples the chances of poisoning. Contrary to the opinion generally admitted, the use of strong liquors seems, moreover, so much the less indicated in cold countries since alcohol, far from contributing to the conservation of the heat of the body, exercises rather an anthermic action in paralyzing the vessels of the periphery, and in slowing the manner of the blood flow in the same way as organic changes. — *L'Alcool*.

PALSY FROM ALCOHOL.

A physician was invited to dine at the club with the dispatcher of a railroad. After dinner the dispatcher remarked that he must go to his room and lie down. The physician inquired the reason. He answered, "The wine I have used, although in small quantity, has bewildered my brain for accurate work, and I must rest. I would not dare to go on duty now. I should make mistakes and not know it at the time, and the mortification of having them corrected by my associates would confuse me still more." The physician thought, "I am going to make some very important calls in the homes of friends who trust me implicitly, and at the hospital where my

best judgment and skill is required. Is it possible that the wine I have used has made me unfit for this work?" Later, he met the dispatcher, and said, "You were right, and I have been taught a lesson I never will forget. That afternoon's work after the dinner cost me the loss of one of my best families by my indiscretion and anger. I realize now that I cannot use wine and have full possession of myself." This is a phase of the revolution of public sentiment which is coming into prominence among active brain-workers. At banquet tables this is apparent in the abstemiousness of the practical men. This is not from sentiment or theory, but from experience. They know the anaesthetic effects of alcohol literally, and have felt its depressing action on the brain and nervous system.

An old-time clergyman during pastoral visitation called on his drinking members early in the week so that the disability from the spirits used on these occasions would pass away before the time for preparation for the Sunday service.

A noted public man refused to attend public dinners because of the wines used. He gave as a reason that he could not use wines without injuring himself.

Science is receiving a strong confirmation of its conclusions from the experience of practical brain-workers and thinkers.

HEREDITY IN INEBRIETY.

To deny that the taste for alcohol is ever inherited is to oppose the facts of the history of many cases. It is true that the disposition and tendency to find relief in alcohol is common, and that children of inebriate parents are more susceptible to its influence. It is also true that a physiological immunity and antagonism to alcohol appears in children of inebriates. This revulsion often reacts in the next generation in extreme susceptibility to alcohol, showing that the heredity was latent in one generation, only to break out in the next.

The following example of the transmission of the taste for alcohol is not unusual. An infant six months old showed great pleasure and stopped crying when bay rum or cologne was used in the toilet. Later, when Florida water or some form of spirits was used the child would be quiet. The odor of spirits was so soothing that finally it was given on sugar, and found to be a most efficient narcotic remedy. At two years of age the child became intoxicated by bay rum left within its reach. From this time an irresistible craze for spirits appeared whenever the odor of alcohol was noticed. The slightest whiff of spirits seemed to awaken a latent frenzy to possess it. The child would cry and sob until the nurse would bring some alcohol or some confectionery that had been soaked in spirits. At four years, beer was given regularly at meals, and the child was uncontrollable without it. Finally, it died of scarlatina at six years of age. Both the parents of this child were inebriates, and died early.

Example 2. A girl four years old began to drink beer and wine, and to secrete cologne and every substance which contained spirits, using it stealthily. When she could not procure spirits she was irritable, sullen, and would use strong condiments. For five years she was persistent and determined to procure spirits. Both the odor and taste seemed to create a desire to procure it by any means. Wine and beer was given in limited quantities daily, and the demand grew more and more imperative. At twelve she was intoxicated. At eighteen she married, and died later in childbirth.

Examples of a strong predisposition to use stimulants, with feebleness of resisting power when tempted are common.

Examples of immunity and physiological antagonism to alcohol are also noted.

A son of inebriate parents, brought up in a saloon, had an intense disgust for spirits, and would frequently vomit when the odor was strong or when it was given as medicine. As he grew up this disgust increased, and with this a vindictive

hatred of alcohol and its users. Of four children, two drank to excess in early life, and died, and one was a moderate drinker.

In one instance, a race of inebriates was followed by two generations of rigid abstainers and impulsive temperance men; then reversion followed. The children of the third generation from these inebriate ancestors suddenly developed a number of impulsive inebriates under the most adverse conditions.

An instance under my care of the only son of an immune clergyman at puberty suddenly developed an intense pleasure in the flavor and odor of alcohol, and would spend hours in sipping it. Later, he became a periodical drinker, drinking to excess and then abstaining. His grandparents on both sides were inebriates. His father had intense disgust for alcohol and its effects. The inheritance of the alcoholic impulse to use spirits is variable and complex. In some a taste for cider and acid wines is transmitted; in others sweet wines or spirits combined with sugar are called for. The children of beer-drinkers are often fond of bitter alcoholic compounds such as absinthe and vermouth. While these cases are exceptional, they exist, and are as startling as the inheritance of the form, features, and mental peculiarities of the parents. The breaking out of the drink impulse at the same time in the next generation, and the development under like conditions are startling hints of unknown laws of heredity. The direction and conditions which favor and develop the taste for alcohol exactly the same in two generations is another illustration. The degeneration and profound changes which follow the excessive use of alcohol can only be seen in the effects which are not accidental or by chance, but follow a uniform line governed by laws. Heredity is still an unknown field. From the study of the histories of the mental and physical characteristics of parents and children some glimpses of the minute laws and exactness of movement can be seen.

Dr. Read's recent papers denying the heredity of inebriety, with his views of the evolution of the drink problem and its biological bearings, have the far-away sound of one who has lost his bearings, and has forgotten that anyone has ever written on the subject before. It is possible that the facts and conclusions which have been verified over and over again by competent persons in different countries and in different conditions may be fogbanks of theory, but it is presumptuous to expect one to accept sweeping conclusions without other evidence than mere statements. Theories and theorists are rarely constructive, and conclusions based on isolated or half-truths are always dangerous and misleading. New facts and new conclusions must come from the observations of many accurate witnesses, and be tested by time and experience. Heredity and the drink problem generally have been, and are still, occupying the attention of many able men — men who are more and more unwilling to pronounce dogmatically on any phase of the subject. They are satisfied to slowly gather fact after fact, and from these to draw conclusions, and study their meanings. It is only from this side, and in this way, that any new views can be obtained.

A physician, who is a professor in a medical college, has recently published an elaborate argument to prove that inebriety cannot be transmitted because it is a nutritional disorder. An eminent divine discovers from the theological point of view that inebriety cannot be transmitted, and disposes of the subject in a bitter condemnation of the foolishness of students who are trying to know something of the subject from the physical side. A man of letters has joined the objectors to heredity, and with some feeling condemns all efforts to sustain what he calls a great delusion. A self-assertive editor has delivered himself in oracular sentences at some length along this line, and discovers much danger in the

heredity theory. Thus the tide of criticism goes on building up and strengthening the facts by denying their accuracy. In this way attention is turned to them, and new inquiry and new examination follows, and the facts become firmer and clearer and better known. Denials and contradictions of facts held as correct are never destructive, but always constructive if the facts are vital and real.

Dr. J. H. Kellogg, in a paper read at the Seventh International Medical Temperance Congress, Paris, April last, stated: "Every drug capable of producing an artificial exhilaration of spirits and pleasure which is not the result of the natural play of the vital functions, is necessarily mischievous in its tendencies, and its use is intemperance, whether its name be alcohol, tobacco, opium, cocaine, coca kola, or any other of the score or more of enslaving drugs known to pharmacology. . . . Artificial pleasure is obtainable only by borrowing a portion of the life and energy which properly belong to tomorrow. . . . All drugs which enslave are alike in this regard, however much they may differ in their physiological effects."

Clinical Notes and Comments.

INTOXICATION OF PHYSICIANS.

Judge Taylor in a series of most interesting papers in the *New York Medical Journal* on "The Law In Its Relations to Physicians," makes the following note on the subject:

"The fact that the fatal treatment may have been superinduced by drunkenness, or that the physician may have been in an intoxicated condition while rendering the services that resulted in the patient's death, would at common law be a circumstance for the jury to take into consideration in determining whether the defendant had been guilty of grossly improper conduct. The legislatures of several states have, however, expressly provided that a physician who administers while intoxicated a poisonous drug which results in death shall be held guilty of manslaughter, and many of the states have passed laws making it a misdemeanor for one to practise as a physician while intoxicated." Such acts have been passed in the States of California, Idaho, Michigan, Minnesota, Montana, Nebraska, New Mexico, New York, North Dakota, Ohio, Oregon, South Dakota, Utah, Washington, Wisconsin, and Wyoming.

THE INFLAMMATORY CONDITION IN PERITONITIS, ETC.

An interesting reference to an extensively prescribed remedy is found in that valuable text-book "Materia Medica and Therapeutics," by Finley Ellingwood, A.M., M.D., Chicago. The substance of the article is to the effect, that the influence as a pain reliever of the popular analgesic — Antikamnia — is certainly next to morphine, and no untoward re-

sults have been obtained from its use, even when given in repeated doses of ten grains (two five-grain tablets). It is especially valuable during the progress of inflammation, and given in pleuritis or peritonitis, it certainly abates the inflammatory condition, relieves the pain at once and the diffused soreness shortly, as satisfactorily as opium. It does not derange the stomach or lock up the secretions. It is also of value in pain of a non-inflammatory character, and is a convenient and satisfactory remedy in headaches without regard to cause, if the cerebral circulation be full.

I had a rather queer experience with your sample of *Ecthol*. I took it twenty miles north and gave it to Nicholas Diaz. He has had scrofula for four years, and has paid out in that time over one thousand dollars. He took a teaspoonful every two hours for four days, after that a teaspoonful every four hours until he had used two bottles. He walked in here to-day, cured. All signs of swelling and those awful scrofula sores and blotches on his face are gone. Of course, his soft palate was destroyed by the disease long ago, and he thought I could make him a new one. I replied only God can do that. He paid me enough, so I can buy more of your remedies, and I shall keep a supply on hand. I buy from Dr. Barry of Durango, Mexico, who orders for me from San Antonía, Texas.

Chas. A. Bailey, M.D.

A CASE OF INEBRIETY CURED BY BEEF AND HOT WATER.

A man thirty-five years of age, married some ten years ago into an English family of means. His wife was unaccountably and continuously ill, and, though he spent, it was said, some \$5,000 a year on her for medical treatment, it was of no avail, because he discovered her disease by coming home unex-

pectedly and finding her dead drunk on the floor. She was incorrigible, and he left her. Curiously, he became an inebriate himself, spent all his substance and went home and lived on his parents. He became so bad that his father turned him out doors and he was a ruined drunkard in the gutter. A connection of mine who has had great things done with beef and hot water under my care, took him in from the street on his saying he wanted to reform and was willing to obey directions, which regulated all his actions, and gave him a diet of beef and hot water. This was some three or four months ago. To-day he is reported cured, back in his old position of a drummer, going with his old cronies and not drinking at all. Ephraim Cutter, M.A., M.D., LL.D.

Two new combination tablets have been prepared by the Antikamnia Company, which come very highly recommended. We have found them very valuable, and take pleasure in calling special attention to them. We give the formulæ in full.

(A Laxative Analgesic and Antipyretic)

Each Tablet Contains:

Antikamnia.....gr. $4\frac{3}{4}$
 Cascarin.....gr. $\frac{1}{4}$
 Aloin.....gr. $\frac{1}{32}$
 Ext. Belladonna.....gr. $\frac{1}{32}$
 Podophyllin.....gr. $\frac{1}{32}$

Specify

"Antikamnia LAXATIVE Tablets."

(A Tonic Laxative, Analgesic and Antipyretic)

Each Tablet Contains:

Antikamnia.....gr. 3
 Quinine Bisulph.....gr. $1\frac{3}{4}$
 Cascarin.....gr. $\frac{1}{4}$
 Aloin.....gr. $\frac{1}{32}$
 Ext. Belladonna.....gr. $\frac{1}{32}$
 Podophyllin.....gr. $\frac{1}{32}$

Specify

"Antikamnia and Quinine LAXATIVE Tablets."

Dr. Rosenthal in a paper in the *Gynecological and Obstetrical Journal* draws the following conclusions: "Maltzyme is a powerful diastasic nutrient. It is acceptable to the stomach and causes a rapid increase in the patient's ability to take and digest food, and an increase in flesh and strength. It seems

to possess peculiar properties in maintaining nutrition in those patients suffering from serious organic and constitutional diseases, such as tuberculosis. It is the best malt preparation — in diastasic and nutrient properties — which I have ever used.”

Always use *Listerine* in all external injuries as a standard antiseptic. It is a uniform and positive mixture which can be relied upon.

Horsford's Acid Phosphate has reached a place where notices in the press simply express the general sentiment of every one who has used it, not that it is a specific or universal remedy, but it is an excellent, safe combination in many serious diseases.

Pond's Extract needs no mention, it is a household remedy. Wherever it is used once it stays as indispensable. Some idea of the demand for it is apparent in the fact that at the distillery where it is made, one hundred tons of witch hazel shrubs were used in six months.

We take pleasure in calling attention to the drug house of G. F. Harvey Co., of Saratoga Springs, whose excellent preparations are standard on the market. Lately, *Rickine* has proved to be a most valuable preparation. It should be tried for neuralgia and many nervous affections.

Fellows' Syrup of Hypophosphites was used as a specific for inebriety in a certain fake home-cure. The results were excellent, and the patients were given this medicine after when the facts came out. It was certainly a more exact and practical remedy than the so-called “Gold Cures.”

Borinine. The blood is literally ox blood taken direct from the arteries, and made palatable and portable, so it can be used as a medicine. The principle of introducing blood into the system is correct, and the practical results have been marked

and uniform. To prepare blood so that it can be used at all times is a triumph of art and an advance of therapeutics that should be more widely known and appreciated. In our experience this remedy has been very valuable in the exhaustion and debility following the use of morphia and other drugs. It seems to act as a tonic, and replaces the loss of blood-cells and vital force. In some instances of alcoholic inebriety the craving for drink was diminished and broken up altogether. In two cases all spirits were withdrawn, and the substitution of Bovinine seemed an excellent tonic, followed by rapid recovery. In all cases of drug addiction, there is a diminution of the blood corpuscles, and literally starvation and defective nutrition. Any remedy which will increase the oxygen carried to the centers, and also the nutrition, is valuable. Alcohol injures the blood-cells by abstraction of the water, and destroys their power to carry oxygen. Opium and other narcotics also act on the blood-cells, diminishing their nutrition. Bovinine brings blood-nutrient cells to the system to supply this want. This view is sustained in practice whenever it is given. The increase of blood pressure and of the weight and appetite, and the decrease of the pains and aches and anæmias are still further evidence of its value. Bovinine should be fresh and not be used long after it has been exposed to the air. It should be given in two-ounce doses with milk or hot water every four or five hours. In several cases Bovinine has been very palatable to the taste, and was used freely to the great advantage of the patient.

Don E. Ashley, M.D., Guy's Mills, Pa., says: "After the mania produced by improper use of alcoholic beverages has been controlled I know of no better compound than *Celerina* to restore tone to the nervous system and vigor to the whole human economy. I find it an excellent remedy for colliquative sweats, especially in convalescent cases of typhoid fever. I speak not from the experiences of other physicians, not from hearsay, but from knowledge obtained from the careful observance of happy results brought about by the administration of this useful medicine."

AMERICAN ASSOCIATION FOR THE STUDY
AND CURE OF INEBRIETY.

(Organized November 29, 1870.)

I. The active membership of this association is composed of the resident, attending, and consulting staff of all hospitals or sanitoriums, private or public, where alcohol, opium, or other drug neurotics are treated, either alone or in conjunction with other forms of nervous or mental disease.

II. All such institutions organized and conducted in proper conformity with the laws of the several states in which they are located are entitled to representation in this association.

III. The active membership of this association is composed of physicians in good and regular standing who are actively connected with such institutions or who have been honorably retired from active service in connection therewith.

IV. Physicians not connected with such institutions, and members of boards of direction of such special hospitals, asylums, etc., are eligible as associate or lay members of this association upon payment of the dues of membership.

V. The object of the association is:

First, to promote the scientific study of alcoholic inebriety and kindred drug habits, and to encourage desirable and special legislation with reference to the care and control of alcoholic and other drug inebriates.

Second, to isolate the chronic pauper inebriate from the insane and criminal class, and secure the erection and maintenance by the several states of institutions for the segregation and special treatment of chronic pauper inebriates, and to incorporate farm colonies, or other forms of institutional relief, which shall combine medical care with proper occupation, judicious control, and discipline.

Third, to secure in all states the special supervision and inspection of all institutions for the care and control of inebriates or other drug habitués.

Fourth, to discourage and prevent all efforts to treat alcoholic inebriety or the opium or other drug habits with secret drugs and so-called specifics, and to prohibit the sale of all nostrums which claim to be absolute cures and which contain alcohol, opium or its alkaloids, or other pernicious and harmful drugs, or which contain substances which are inert and so are fraudulent impositions on the public.

Fifth, to encourage, as an association, every individual and organized effort to study scientifically and practically all the various means and methods of both cure and prevention which may be used in the care and treatment of alcoholic and other forms of drug addiction.

There are many institutions in this country which wholly or in part treat the alcoholic and other forms of drug addiction. These institutions should be organized and follow some general principle and method of practical work. By this means public opinion could be more effectually influenced, and legislation secured, resulting in a great advance in the successful and scientific treatment of this class of cases. Every such asylum and institution in the United States is urged to join this association, and by their united effort lift the subject out of the realm of quackery and unscientific treatment into that of exact scientific work, and to place the status of the treatment of alcoholic inebriety and kindred drug habits on the same level with that of other similar diseased conditions, and secure the same medico-legal and institutional advantages. A membership fee of two dollars is charged yearly, which includes the annual subscription to the *Journal of Inebriety*, the organ of the association.


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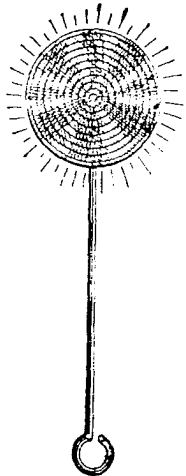
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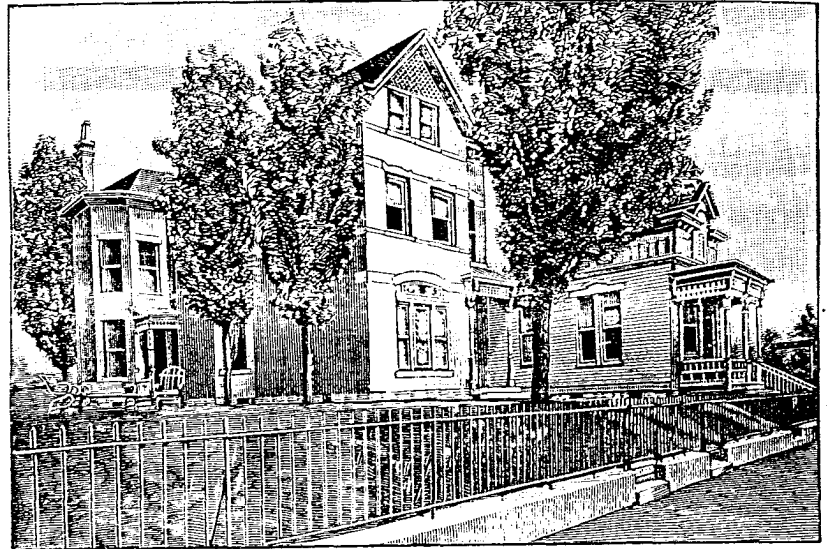
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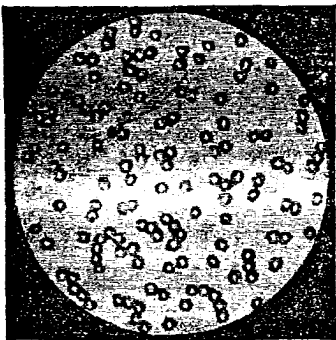
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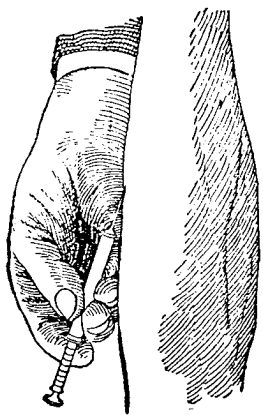
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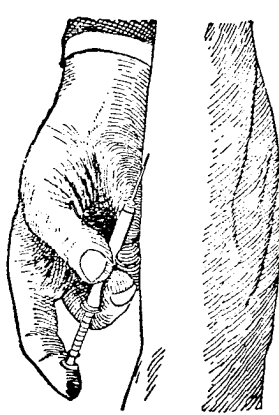
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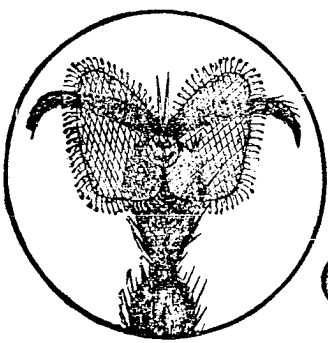
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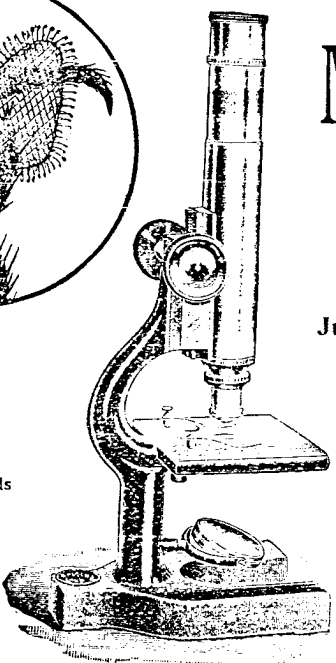
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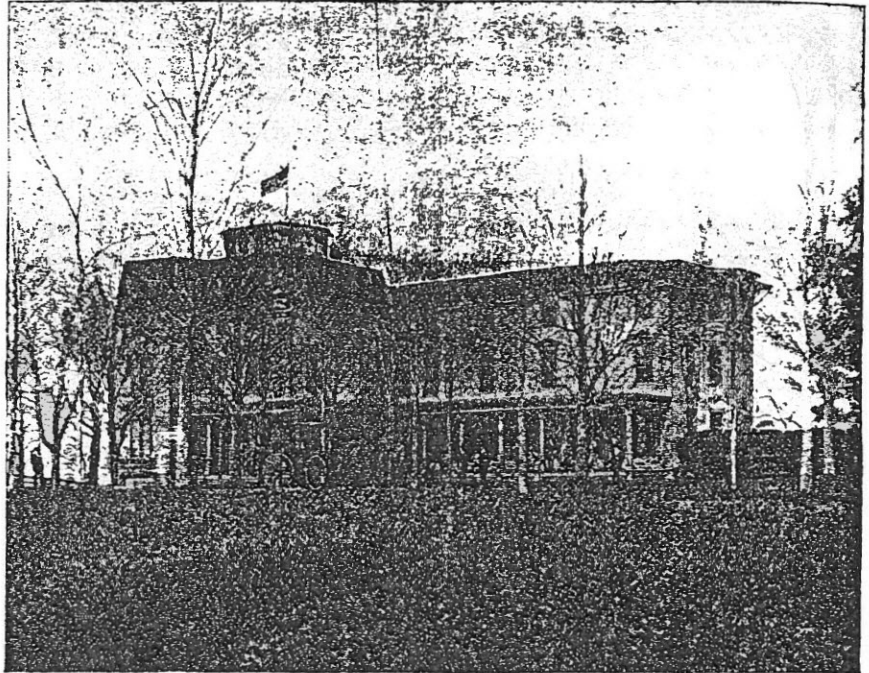
As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. *Fellows*."

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