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ASSOCIATION FOR THE STUDY AND CURE OF INEBRIETY

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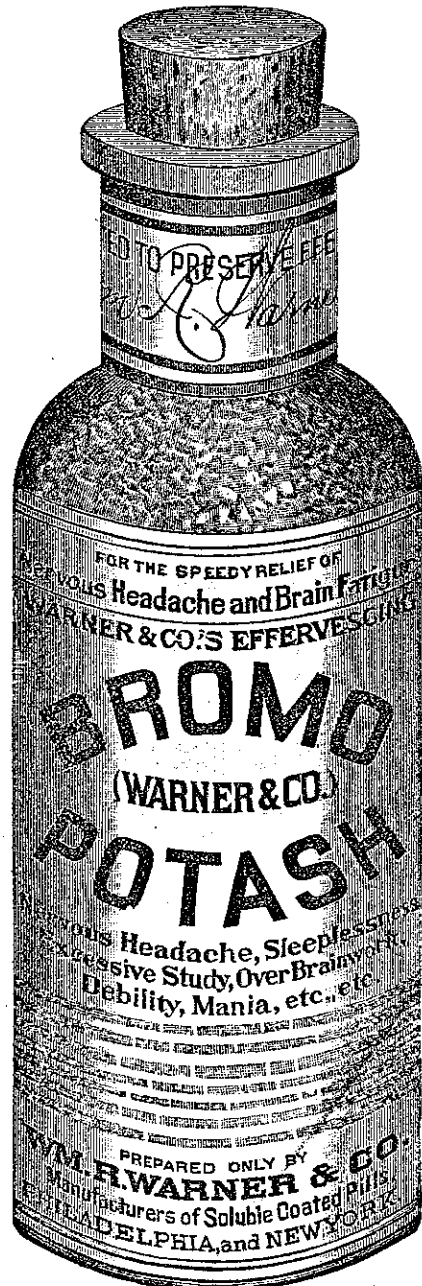
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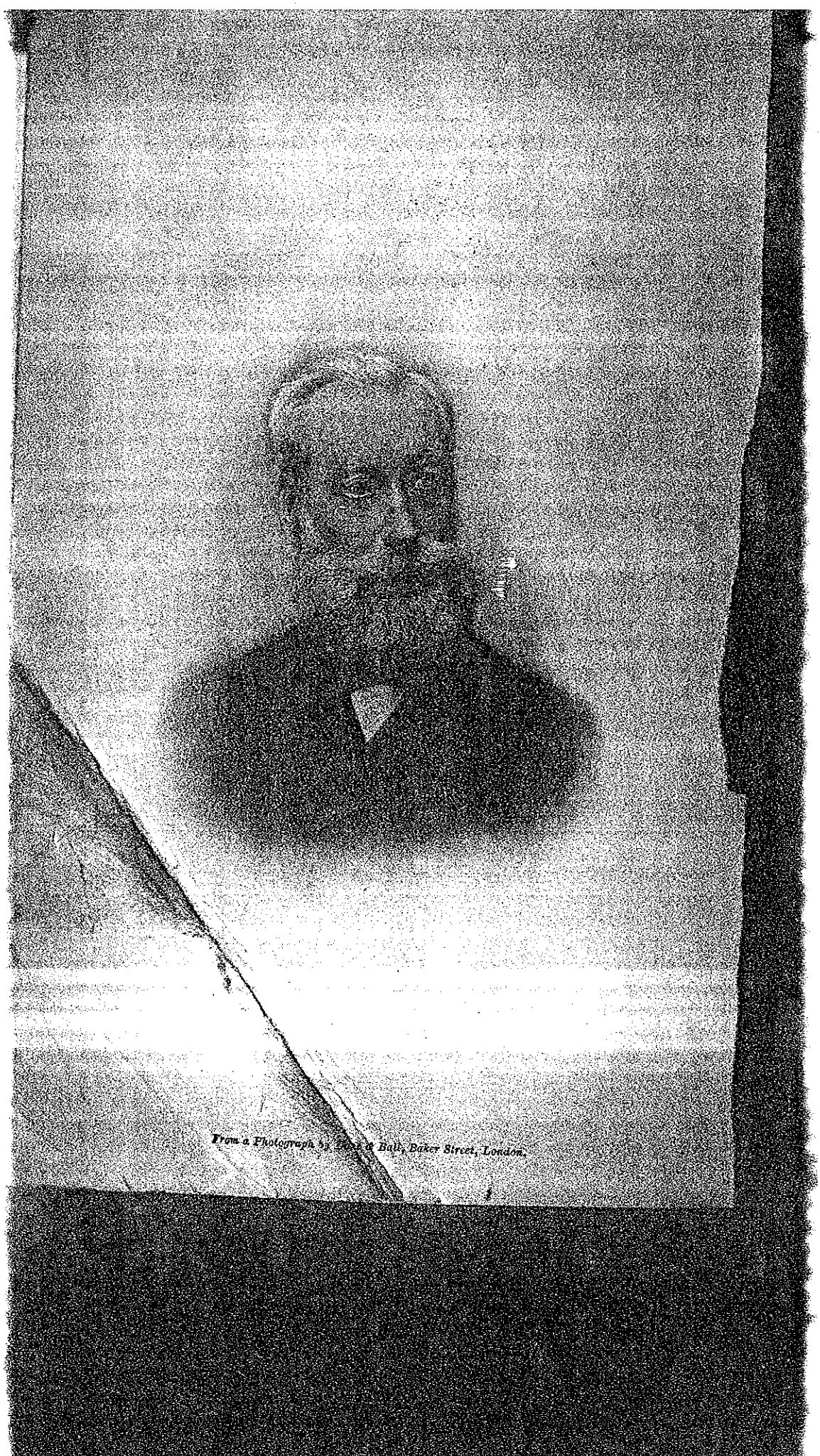
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QUARTERLY JOURNAL OF INEBRIETY.

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

AN ADDRESS ON THE TWENTIETH ANNIVERSARY OF THE AMERICAN ASSOCIATION FOR THE STUDY AND CURE OF INEBRIETY,

*Delivered before the Association, at a Meeting held in the New York Academy of Medicine, December 10, 1890.*

BY LEWIS D. MASON, M.D.,

*Consulting Physician to the Inebriates' Home, Fort Hamilton, L. I.*

A meeting of the physicians, superintendents, and board of directors of Inebriate Asylums in the United States, was held in the parlors of the Y. M. C. A., New York city, Nov. 29, 1870, at 12 o'clock noon.

We have, therefore, just entered on the twentieth year of this organization.

At this meeting the following Inebriate Asylums were represented, in most instances, by their medical staff and delegates from their board of directors:

*New York State Inebriate Asylum.*—Willard Park, M.D., president; D. G. Dodge, M.D., superintendent.

*Inebriates' Home for Kings County.*—Hon. J. S. Stranahan, president; Theodore L. Mason, M.D., consultant.



ing physician; Lewis D. Mason, M.D., attending physician; Rev. J. Willett, superintendent.

*Washingtonian Home, Boston, Mass.*—W. C. Lawrence, superintendent; Daniel Allen, R. K. Potter, Theodore Prentice, directors.

*Washington Home, Chicago, Ill.*—P. J. Wardner, M.D., superintendent.

*Greenwood Institute, Massachusetts.*—Albert Day, M.D., superintendent.

*Pennsylvania Sanitarium, Media, Penn.*—Joseph Parrish, M.D., president of the board.

In addition to the above representatives of asylums, there were present, C. L. Ives, M.D., Professor theory and practice of medicine, Yale College Medical School; Alonzo Calkins, M.D., author of "Opium and Opium Habit."

Thus six institutions were represented, having their location in the principal cities of this country, and the leading States, New York two asylums, Pennsylvania one, Massachusetts two, and Illinois one.

Dr. Willard Parker of New York was chairman of this meeting and Dr. Joseph Parrish of Pennsylvania secretary. A brief synopsis of the remarks of Dr. Parker may not be out of place, as they can best convey the object of the meeting and way in which the more intelligent professional mind of that day regarded this subject of inebriety.

On taking the chair, Dr. Parker made the following

ADDRESS.

*Gentlemen:*—The purpose of this meeting is the discussion of the subject of inebriety and its proper treatment.

It is not a *temperance* but a scientific gathering, made up of men having charge of the asylums and homes already established in the United States for the cure of the unfortunate victims of alcoholism.

In the beginning of the present century, insanity was regarded as a visitation of God's displeasure, and not as a

disease, the subject of scientific investigation and amenable to treatment.

The important subject of inebriety is regarded now as was insanity some seventy years ago; the disease being considered irremediable, and its victims as forever doomed.

At the outset we are met by the inquiry:

I. What is alcohol?

The answer is — a poison. It is so regarded by the best writers and teachers on toxicology. I refer to Orfila, Christison, and the like, who class it with arsenic, corrosive sublimate, and prussic acid. Like these poisons, when introduced into the system, it is capable of destroying life.

II. The character of alcohol being established, we investigate its physiological and pathological action upon the living system. In larger doses it becomes a powerful irritant, producing madness, or a narcotic, producing coma and death.

III. It being settled that alcohol introduced into the system improperly induces a general disease in that system, as well marked as intermittent fever, small-pox, or lead poison, the question here rises, Can that disease be cured? The answer is affirmative. Inebriety can be cured, like other diseases, however, subject to relapses.

IV. It will be the object of this meeting to inquire into the best mode of treating inebriety.

1. Whether the city or country offer more advantages.
2. Whether large or small institutions accomplish most cures in proportion to the number of patients.
3. What legislation is needed.

We may inquire also into the advantage of supplementing the asylums with homes in our large cities.

Finally, it must be the steady aim of this body to impart scientific truth, and thus enlighten the mind of the public, inducing it to move in its power, and demand protection against a disease infinitely more destructive than cholera, yellow fever, small pox, or typhus, which are now so carefully quarantined.

Eight essays were presented and read at the afternoon and evening sessions.

The principal essays were:

"The Pathological Influences of Alcohol and the Nature of Inebriety." N. S. Davis, M.D.

"Philosophy of Intemperance." Joseph Parrish, M.D.

"Restraint as a Remedy for Inebriates." D. G. Dodge, M.D.

"Inebriate Asylums in their Relation to Social and Political Economy." Albert Day, M.D.

All the papers being worthy of mention and dealing with the subject from various standpoints.

The key-note that sounded the principal line that the association should follow was struck by Dr. Theodore L. Mason, "*that one great object of this meeting should be to consider the question, what could be done to procure legislation that should recognize inebriety as a disease, as it does insanity, and make provision accordingly.*"

This principle was subsequently embodied in the plan of organization which was drawn up by the "committee on permanent organization" and presented in its report the following morning session.

Plan of organization, article three: after stating the name and conditions of membership, article three thus defines the *object* of the association:

"Its object shall be to study the disease of inebriety, to discuss its proper treatment, and endeavor to bring about a co-operative public sentiment and jurisprudence."

This article was embodied in the plan of organization as the working plan, and the center of life of the association, in regard to which all other objects were to be of secondary importance. The enunciation of this principle created no little disturbance in the outside world, and caused some defection even in our own membership.

The religious press was especially severe that we should characterize "a sin as a disease," and the columns of the



religious papers were pointed at us like so many parks of artillery.

Even many of the medical profession shook their heads at our presumption, and in certain quarters we were regarded as at least slightly fanatic, and we were assailed on all sides. A certain Dr. Bucknill, a leading specialist in lunacy in England, after a short and most indifferent inspection of inebriate asylums in this country in 1878, returned to London and published a small brochure entitled "Habitual Drunkenness and Insane Drunkards;" most bitterly assailed all attempts to treat inebriety as a disease, and especially our association.

In endeavoring to do so, his anathema is as follows, p. 55, chapter III:

Habitual drunkenness — a vice — a crime — or a disease?

He says:

A still more remarkable instance of the extreme position which has been taken on this question has been afforded in the proceedings of the "American Association for the Cure of Inebriates," *Cure* being italicized.

At the first meeting of this association a declaration was issued in which the dogma was solemnly propounded that "intemperance was a disease," and various papers were subsequently read by Dr. Parrish, the president, and others to explain and maintain this prime article of faith. He then referred to the withdrawal of a certain institution from representation in our society, because of their refusing to subscribe to the "Doctrine of Disease." The author then branches off into a sort of Fourth of July oration, quotes poetry, and concludes that America is not quite

"The land where, girt by friends or foes,  
A man may speak the thing he knows."

But all effusions similar to this and all opposition simply advertised abroad and at home our position, did not annul or weaken it. The cry of the patriarch, "O that my enemy would write a book!" found a responsive echo in the hearts and minds of those who established the association and whose life work was to study "Inebriety as a Disease." If Dr.

Bucknill and his coadjutors could look forth to-day on the neglected fields already white to the harvest, he would no longer see a few laborers, but an army of scientific men, coming up from all lands to occupy this new field of research.

The officers elected at this first meeting were :

*For President*, Willard Parker, M.D., of New York.

*For Vice-Presidents*, C. J. Hull of Chicago, Otis Clapp of Boston.

*For Secretary*, Joseph Parrish, M.D., Media, Pa.

*For Treasurer*, Theodore L. Mason, M.D., of Brooklyn.

The following preamble and declaration of principles were carefully considered and unanimously adopted :

WHEREAS, the "American Association for the Cure of Inebriates" having met and considered important essays on the various relations of inebriety to individuals, to society, and to law, and having seriously determined to use their influence in all suitable ways, to create a public sentiment and jurisprudence, which shall co-operate with true methods for the recovery of inebriates, do make the following declaration of their principles :

1. Intemperance is a disease.
2. It is curable in the same sense that other diseases are.
3. Its primary cause is a constitutional susceptibility to the alcoholic impression.
4. This constitutional tendency may be inherited or acquired.
5. Alcohol has its true place in the arts and sciences. It is valuable as a remedy, and, like other remedies, may be abused. In excessive quantity it is a poison, and always acts as such when it produces inebriety.
6. All methods hitherto employed having proved insufficient for the cure of inebriates, the establishment of asylums for such a purpose is the great demand of the age.
7. Every large city should have its local or temporary

home for inebriates, and every State one or more asylums for the treatment and care of such persons.

8. The law should recognize intemperance as a disease, and provide other means for its management than fines, station-houses, and jails.

We have thus given in detail the principal features of the first meeting of this association. The declaration of its principles has neither been annulled, corrected, nor amplified; they now stand, as they then stood, nearly twenty years ago.

These principles were, a year later at the annual meeting, reiterated by the following resolutions offered by a special committee :

WHEREAS, It is the practice of many persons to denounce inebriety as a crime, and inebriates as sinners, and

WHEREAS, Such persons are reluctant to admit the fact that inebriety is a disease, lest such admission should seem to palliate the offense and relieve the inebriate of responsibility; therefore,

*Resolved,* As the expression of this association, that we are dealing with inebriety as a disease, without reference to the motive or want of motive in the inebriate himself.

*Resolved,* That the effect of poison on the blood and nervous system, and the reflex action of this morbid agent upon the whole physical structure is the same in the *virtuous* as in the *vicious*, and that antecedent or subsequent moral conditions are incidental to the main fact of disease.

*Resolved,* That any average percentage of public crime being accounted for by the fact of the confirmed inebriety of the criminal does not, in our opinion, increase the responsibility, nor should it add to the punishment of such offenders.

*Resolved,* That we have no controversy with the dogma of criminality as applied to the act of drunkenness, while we do not charge the inebriate with being a criminal.

WHEREAS, Intemperance is a fearful drain upon the productive interests of the community, which is increasing in magnitude every year, and



WHEREAS, The measures hitherto adopted to suppress or even curtail this evil have been unavailing, therefore

*Resolved,* That in the opinion of this association it is the duty of legislatures, as a measure of State economy, to provide means for the erection and encouragement of hospitals for the detention and treatment of inebriates.

Thus this association spoke with no uncertain sound when it took its place and asserted its position before the tribunal of public opinion; no equivocation or retraction has escaped its lips since it commenced to speak on this subject; for nearly twenty years it has been consistent and faithful to its principles as already expressed. But the eyes of the Old World were looking upon this young and struggling association, and in about one year from the time it issued its proclamation and published its credo, a voice from England is heard, "Come over and help us."

Hon. Donald Dalrymple, Member of Parliament, author of a bill relating to habitual drunkards, and chairman of a committee of the British Parliament, intrusted with the question of establishing asylums for inebriates in England, sent to the "Business Committee" a series of questions to be answered by our association: Whether legal enactments should be passed controlling inebriates; whether the voluntary class should be also subject to legal enactments; whether inebriates should be treated in insane asylums.

The two former questions were answered in the affirmative, the latter in the negative. At the request of Dr. Dalrymple two delegates were appointed to visit England and give testimony before the special committee of the House of Commons, who were appointed to consider the best plan for the control and management of habitual drunkards. Dr. Joseph Parrish and Dr. D. G. Dodge were appointed such committee, and testified on the 3d, 7th, and 10th of May, 1872, before the special committee in London.

This committee contained names of world-wide celebrity, and we give the *personnel* of the committee, showing the character of those appointed to sit in judgment on this all-important subject:

Dr. Donald Dalrymple, *Chairman*; Lord Claud Hamilton, Sir Harcourt Johnstone, Colonel Brise, Major Walker, Dr. Lyon Playfair, W. H. Gladstone, Messrs. Clare Read, Miller, Downing, Wharton, Birley, Akroyd, Henry Samuelson, Mitchell, Henry.

This committee commenced its work on February 29th and their final report was adopted June 13th. During this time sixteen sessions were held, seventy-nine witnesses examined, 3,299 questions propounded, embracing every topic within the range of the enquiry, from pathology of inebriation to the practical usefulness of prohibitory laws.

In addition to the American experts, the following Scotch and English physicians gave their testimony: Drs. Boyd, Crichton, Peddie, Nugent, Mitchell, Forbes, Winslow, Dalrymple, McGill, Christie, Druitt, the testimony filling a Blue Book of many hundred pages.

And what was the result of all this expense and time? In brief this: in establishing and accepting the fact that "Inebriety was a disease" — that the inebriate was an irresponsible agent — and in recommending proper legislative measures for his control, and also hospitals or asylums where he could be treated.

Was not this a triumph for our association? Small minds or misinformed persons might snarl and cavil, but the leading intelligence, both lay and professional, of the most intelligent nation on the face of the earth, endorsed and sustain us. Of course, occasionally even a great mind may be so strongly prejudiced as to go astray on some single topic as this, but in this case we have a banding together of the leading medical minds of our own and other nationalities who agree with marked unanimity in this matter; and it is also a fact, that as a new recruit joins our numbers from the ranks of medical science, we find him a peer among his fellows and of an advanced and mature mind, accustomed in all departments of knowledge with which he is conversant to sway and mould public opinion. Surely from such a "court of appeals" there ought not to be any appeal.

But we do not propose to deliver an exhaustive historical sketch, time would not permit us; but as this is a sort of anniversary with us, and as we have taken shelter to-night, as it were, under the shield of this academy, so noble in its history, so liberal and advanced in its protection to all interests affecting medical science, we could not withhold showing our credentials, or *letters of marque*, so to speak, to testify we are not sailing under any false colors, and that this worthy institution contains no class of adventurers whose principles and practice may to-morrow pass into oblivion, but those who have fought and struggled for a principle for *many years* and at last have secured the respect of and a position in the medical world, and an influence both here and abroad, which grows stronger as time goes on.

To epitomize briefly, our position is as follows:

1. Beginning as an association November 29, 1870, we have held annual meetings since that date and occasionally special meetings.
2. We have published a quarterly journal during fifteen years of that period.
3. We have read and published as an association nearly two hundred papers bearing directly on the subject of "Alcoholic Inebriety."
4. Our testimony has stimulated inquiry and investigation all over the scientific world, and has influenced and secured the establishment of "inebriate asylums" and special legislation affecting inebriates here and elsewhere, and the organization of similar societies in England, France, Germany, and Sweden.
5. We have stimulated scientific research in this field of medicine by the proper award of prizes.
6. We have, by our special committee, advertised and exposed, by proper chemical analysis, many nostrums and proprietary medicines and so-called cures for the alcohol and opium habit.
7. The literature of inebriety has been greatly enhanced by the original observations of our membership, the subject-



matter of whose essays would fill many volumes and have been of great value to those who desire to study the subject from the files of back numbers of "THE JOURNAL OF INEBRIETY," the organ of the association. From these essays passages have been freely quoted by writers in France, England, Germany, and Russia.

8. And finally, we have put on a definite basis, amidst much opposition, the only tangible and true method of dealing with inebriety, namely, as a disease.

We propose to follow out the same line in the future as in the past. We ask the medical profession to assist us in so doing that the mantle of Rush, Valentine Mott, Turner, Mason, Parker, and numerous other worthies who have passed away, may fall even on worthier shoulders than ours, when we, too, who have borne the heat and burden of the controversy have ceased to labor. May the legacy that shall then pass from us rest in the strong arms and confident courage of those who shall follow in our footsteps.

To further this end, the executive committee of the association have issued the following circular:

SCIENTIFIC STUDY OF INEBRIETY.

*The American Association for the Study and Cure of Inebriety* will hold a series of monthly meetings, in the hall of the New York Academy of Medicine, for the medical study of Alcohol and Opium Inebriety. Special phases of this subject will be discussed each evening in papers by leading authorities, followed by remarks and reports. The first meeting, December 10th, "The Relation of Life Insurance to Alcohol and Opium Inebriety," will be presented. January 7, 1891, "Alcohol: Its Physiological and Pathological Action, and its Use and Abuse in Medicine," will be discussed. "Inebriety, its Etiology and History," will be the topic for February 18th. "The Curability of Inebriety, its Treatment and Relation to Other Diseases," will be the subject for March 18th. In April, "The Medico-Legal Relations of Inebriety," will be studied.

It is the purpose of this association to confine these discussions entirely to the medical and scientific side, with the view of reaching some general conclusions from which more accurate researches can be made.

A cordial invitation is extended to all medical and scientific students to be present and join in this special study of the "Drink Disease and its Problems."

By order of Committee,

T. D. CROTHERS, M.D., *Secretary,*  
*Hartford, Conn.*

In view of all this, it is the hope of the association that physicians and those who desire to study from a medical standpoint alcoholic inebriety or opium, morphine or cocaine, or chloral addiction, as well as the effect of all other drugs to which there is a possibility of becoming habituated by constant use, either as such addiction may affect the individual or the relation which society holds to the inebriate or to persons habituated to the use of any of the drugs as specified, may be induced to attend these meetings and identify themselves with our association either as active or associate members.

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MORPHINOMANIA. — Urgent representations are being made to the French government to have put more stringently in force the decree which the Council of State ratified last May, making it penal for druggists to sell morphine to any one who is not provided with the signed prescription of a duly-qualified medical practitioner. Morphinomania is greatly increasing in France, as it is in Germany, England, and other European countries; though not, perhaps, to the extent that the same killing disorder is increasing in the United States. A calculation, based upon the medical reports, gives it out that there are 50,000 in France who dose themselves with morphine. In this case, in order to check the evil, a yet sterner decree is wanted. The druggist should be forbidden to sell it to any but doctors.—  
*Temperance Record.*

ACQUIRED COLOR-BLINDNESS FROM THE  
ABUSE OF ALCOHOL AND TOBACCO.\*

BY J. H. THOMPSON, M.D., KANSAS CITY, MO.,

*Surgeon Wabash Railway.*

My purpose is to call your attention to a question, which as far as I am able to find out in general medical literature, has been scarcely mentioned. It is this: Under certain circumstances color blindness can be acquired when the power to distinguish red and green is lost, either temporarily or forever. The importance of such a statement is the excuse I offer for this thesis, which, under ordinary circumstances, could be of little interest. But, inasmuch as our responsibilities do not begin or end with our labors in the hospital, it is as much our duty to avoid accident as it is to care for the injured after a wreck which may have followed a false interpretation of signals. We all recognize how very important it is to the traveling public that in railroad and marine service every employe should be absolutely perfect in his color sense, so much so, that I doubt if one of us would trust life or limb on a night express train, if we thought for a moment that the man at the throttle was uncertain of the color of the lights used as signals. Thanks to the interest taken in this matter by corporation surgeons, a most careful examination is now made of all applicants for employment on railroads, and it is doubtful if any man with imperfect sight is ever now received. But we are in error if we believe that that examination, however searching, can alone guarantee absolute safety; for it is possible for a man accepted to lose completely, or in part, the power to recognize a pure green or a red signal at 100 yards on a clear night, and what

\*Read before the Railway Surgeons' Association.



makes it especially dangerous is, the individual may be unconscious of his defect.

It is true this is an uncommon experience, but inasmuch as total daltonism can be acquired, incomplete or partial color amblyopia may be acquired also, and affect a larger per cent. of men than is generally supposed. Indeed the amblyopia may be transitory, and escape the observation of the most observant. What can be the cause of this peculiar blindness? All competent authority is unanimous in attributing to the abuse of alcohol and tobacco, a certain remarkable derangement of the optical apparatus called the central color scotoma, which is in a measure characteristic of alcohol poisoning.

Since the central scotoma is the diagnostic system, its description is necessary to an understanding of the subject. We mean by scotoma, a circumscribed blindness, total or incomplete, dependent upon some abnormal condition of the retina, which is recognized by the individual as a black or gray spot upon his field of vision. If the defect depends upon disease near the macula or center of vision it will be very annoying, for the blindness nears the point of fixation, or should the disease be limited to the macula itself, the eye for all close work would be practically destroyed. The scotoma, therefore, is an indication of interocular disease, and is a word rarely used to express partial blindness from central causes. The central scotoma of tobacco and alcohol amblyopia differ from the above in two remarkable instances, — 1st, it is a scotoma which involves the color sense principally; 2d, it is binocular and regular in its position, being placed between the optic nerve entrance and the macula lutea. The most noteworthy peculiarity of the central color scotoma is that over a certain area of the retina the sufferer is partially color blind, especially for green and red, it being impossible for him to correctly appreciate a pure green or red ray of light focused anywhere within the area of the scotoma, while if the same ray be directed to any other part of the visual field it can be seen and correctly defined. For-

merly we were taught that the scotoma was situated between the optic disk and the macula lutea ; that it was oval shaped, its long axis horizontal reaching from the nerve to the *fovea centralis*, and the short axis vertical. Beyond the fact that the scotoma involves that region of the retina, there is no certainty that its shape or extent are identical in all cases.

To Samelsohn of Cologne we are indebted for a very complete description of the color scotoma. According to that author the defect is not always oval, nor does its long axis invariably correspond to the horizontal diameter of the eye. If we make a careful examination of the special textbooks we will find under the head of color blindness a description of the color scotoma, which, at best, is incomplete, since its relation to the center of vision is not definitely established. If, as is thought by many, the defect in the visual field is eccentric to the point of fixation, or that this point lies at the edge of the blind area, the subject could be of little interest to us, for, however well marked it might be, the individual would not be strictly color blind, for red and green signals could be distinctly seen. For a long time I have been persuaded that the color scotoma often involves the macula, since in many cases I have found that the blind area covered the exact center of the visual field. So when I find that Uhthoff, in a paper published in Graefe's *Archives of Ophthalmology*, and Samelsohn in the same journal, have by similar experiences arrived at the same conclusion, I am better prepared to say that the scotoma in tobacco and alcohol amblyopia often includes the *fovea centralis*, which makes the color blindness central and extremely dangerous. Having admitted the existence of the color scotoma, it is interesting to know the condition of sight, irrespective of the color sense.

According to the pathology of the disease it is evident that the central scotoma for green or red cannot exist with perfect sight for ordinary white light. I have never seen an example of this disease, but at the same time vision was very much affected, so much so, that most of the cases I have attended have come to me because of failing sight, when in an

examination to discover the cause of the amblyopia I found that both alcohol and tobacco had been abused. If this were invariably the case, the subject would be of little interest to railroad surgeons, for common blindness would soon lead to discovery. Inasmuch, however, as the general amblyopia is not proportionate to the color blindness, it is instructive to know if good or fair vision is possible with defective color appreciation. In all the cases I have studied the blindness for green and red was total over a certain area of the visual field, yet, with slight enlargement of the text, reading was possible.

All things being equal, it is probable that in the early stage of the disease, an incomplete scotoma for red and green exists which may be the only apparent symptom long before the disease has reached a stage when sight for ordinary purposes is insufficient. *Therefore, it is possible for an engineer or brakeman to acquire a serious defect of vision and at the time be innocent of anything wrong.*

A very important point connected with the subject is the cause of the amblyopia and the pathological condition found in the nerves and retina. To Leber, Uhthoff, Samelsohn, and Hutchinson we are indebted for what we know of its pathology. According to these investigators we find in alcohol blindness marked changes in the optic nerves, chronic inflammation of the neurilemma and subsequent atrophy of the nerve fibres from compression. The most marked changes are seen in the center of the nerve in the bony canal through which it passes from the brain to the eye. In many of the cases examined the disease tissue was too pronounced to permit any doubt of the character; the parts were in a state of subacute inflammation, true chronic neuritis; so it is probable that the beginning of the alterations was localized congestion. In the examination made by Samelsohn, wherein the above conditions were discovered, the subjects were chronic toppers, and in all of them the ante-mortem diagnosis, alcoholic amblyopia, had been recorded. It is very probable, therefore, that we are not mistaken if we attribute to alcohol the power

to affect the circulation and nutrition of certain nerves, particularly the optic, which places the disease under the denomination acute neuritic. If in the beginning of the disease it is impossible to discover by the ophthalmoscope any interocular changes, it will not be long before alterations of structure will be apparent. So in advanced and hopeless cases we usually find evidences of atrophic disorganization of the interocular end of the nerves, due undoubtedly to destruction of certain bands of fibres above. It is evident that under such conditions the retina must suffer also, particularly that part supplied by the diseased fibres, which make up that part of the membrane external to the optic disk extending from the nerve entrance beyond the macula.

As above suggested, before such changes are apparent the individual is too blind to deceive himself or his acquaintances. It is in the beginning, during the formative stage, or period of neuritic congestion, when incomplete or transitory color amblyopia may be expected.

The relation between chronic alcoholism and disease of the connective tissue supporting nerve fibres, ganglion cells and the parenchyma of organs is well established. In some organs the irritation is kept up by the continued bathing of the parts with dilute alcoholic fluids, for instance, the liver, wherein we are acquainted with the different stages of the diseased processes, acute congestion, chronic congestion, interstitial inflammation, and finally cirrhosis. The same in the kidneys, which are undoubtedly irritated during the elimination from the system of the ingested alcohol and its irritating compounds. So, too, in nerve centers and commissures, which, if inflamed, are diseased because of the local effect of the poison and not the result of vaso-motor disturbances. Therefore it is not presumptive, if, in an endeavor to simplify the pathogenesis of bilateral optical neuritis, we say that alcohol can, by a purely local irritation, which it excites in the central commissure uniting the brain and eyes, cause a typical neuritis with its peculiar and remarkable symptoms.



In the experience of the last few years it has become evident that alcohol alone was not in all cases the cause of acquired color blindness; that very often the abuse of tobacco had much to do with it. Therefore authorities to-day are not in accord regarding the position alcohol and tobacco hold in the pathogenesis. To those who insist that alcohol is the existing cause, the writings of Mackenzie, Trenchell, and Nettleship are in opposition, who, in the support of the tobacco theory, advance such strong arguments that some now doubt if alcohol has any part in the causation. Unfortunately, however, their experiences are purely clinical, and at no time, if I am not mistaken, have they based their opinions on pathological or microscopical demonstrations.

Edmonds does report the examination of the optic nerve in a case in which before death the diagnosis tobacco amblyopia had been made. Here the pathological condition of the nerve corresponded in some respects to the disease found in toppers, but since he does not distinctly say whether the individual drank or not, it is impossible to eliminate alcohol as a cause.

Be that as it may, we cannot ignore the statement of some recent authorities who advance and support the tobacco theory. At the last meeting of the American Medical Association, Dr. Conner, of Detroit, presented a paper on tobacco amblyopia, wherein he reported several cases of undoubted tobacco blindness. The gentlemen referred to were W. E. Cant (*Ophthalmic Hospital Reports*, vol. ii, p. 71), Farnsworth (*American Medical Times*, October, 1862), Griffith (*British Ophthal. Society Reports*, vol. vii, p. 83), J. J. Chisholm, of Baltimore, and others. The most instructive case was narrated by Dr. Chisholm during the discussion. A lady 40 years old had visited him from a distance for treatment. Her bearing and language indicated a person of culture. She said that being aware that at about her age glasses would be needed, she applied to an optician for aid, in vain. Her distant as well as her near vision was befogged, and she was no longer able to read with ordinary comfort. After a very careful examination, ophthalmoscopically and

physically, he had determined that he had to deal with a case of tobacco poisoning, but dared not make the accusation. He, however, stated that, were she a man, he could tell at once what the matter was, but in the case of a lady he was altogether at sea. She said at once, "Call me a man, and tell me what is the matter." He finally said, "You smoke too much." She laughingly acknowledged that she did smoke, having acquired the habit through the persuasion of her husband, who continually used tobacco. It would be instructive to know did she drink. Dr. Blitz also reported an interesting case of a woman 35 years old, who lived in the mountains of Tennessee. Her sight had been gradually failing for six weeks, but three days before he saw her she had become totally blind. He made a careful examination of the eyes, but could find no lesion to account for the amaurosis. He discovered accidentally that she habitually dipped snuff; she was denied her luxury, given strychnine and electricity, and recovered completely in four weeks—an undoubted case of tobacco poisoning which cannot in any sense be compared to the interesting cases of alcoholic amblyopia as reported by Uthoff. At this time I desire to mention a peculiarity of tobacco amblyopia which merits attention. It is: there is a sympathy between diabetes and chronic nicotine poisoning.

Diabetes is at most a remarkable disease, and at no time during its course is the patient safe from strange and complicated disorders, especially of the nervous system. Quite a number of cases of tobacco amblyopia have been seen in diabetics, and, although no positive relation can be stated to exist between the two disorders, it is evident that the former disease predisposes the latter. May not the same relationship exist between chronic alcoholism and tobacco amblyopia? Some are strongly inclined to favor that idea, and, although I think that a pure and simple alcoholic blindness exists, yet I am forced by reading and experience to think that the excessive use of tobacco is more prone to affect the brain of toppers than to disorder the special nerve centers of teetotalers, and *vice versa*. There can be no disputing the fact that

nicotine has a marked influence on the vaso-motor centers, so that the conclusion is not forced if we state that alcohol can more readily excite those pathological conditions of the optic nerves above referred to, when, by the abuse of tobacco the normal tonicity of the capillary walls is destroyed.

Inasmuch as alcohol and tobacco are both poisons which can exert their deleterious influences on the nervous system, it does not follow that the use or abuse of either is responsible for all the ills man is heir to, or that chronic toppers and inveterate smokers are blind; far from it. Amaurosis is only found in a very small per cent. of indulgers, and then by no means is the disease proof positive of the abuse of these agents. We may say that the color scotoma is an accidental phenomenon which, although it may follow the abuse of intoxicants, is not an indication of the amount of poison absorbed. We are taught by therapeutists that the equivalent to one ounce and a half of pure alcohol can be consumed by the system *per diem* without endangering the economy. This may in a measure be true, but, I take it, every observant physician knows that with some men alcohol, even in small quantities, acts more like a poison than a food. So there are many who cannot drink at all, as there are some who cannot smoke. Unfortunately but a very small per cent. of men have such finely-balanced nervous organizations that they are painfully aware of their incapacity to indulge in the two drugs; a great many are equally susceptible to the poisons, but derive pleasure from their ill effects; so it is among these we must seek the disease we are now considering. The inordinate drinkers are watched, but the steady half-full engineer, fireman, or operator is countenanced, for at no time is he too intoxicated to neglect his duties even in the slightest detail. It is amongst such drinkers we have found the alcoholic amblyopia; so it is in the rank and file of the steady drinkers we must search periodically for the color blind, remembering it is probable that in the beginning, during the congestive stage, the amblyopia is transitory, or too slight to be easily detected. Regarding the abuse of tobacco, pretty much the

same may be said, but I cannot fairly discuss the status of nicotine amaurosis, for, as above remarked, we are uncertain of its pathology, even as we are of quinine blindness. I may say, I have never seen a case of tobacco scotoma. My experience has been limited to drinkers, and, although I have attributed the disease to the abuse of alcohol, yet all my patients were smokers, some excessive, others moderate. It is for this reason I have not been able to differentiate the diseases, but think that those who drink and smoke are more susceptible *than those who do either alone. When alcohol and tobacco are deleterious if used at all, they are abused.*

Regarding the diagnosis of intoxication amblyopia, it is hardly necessary to preface my remarks in an attempt to explain the theories of the sense of color, inasmuch as there are several, and no one can be said to explain the phenomenon without contradiction. We only wish to know is the subject color blind, and if so, is it congenital or acquired, and the cause. Many who are inexperienced in examining the sight may think it is always easy to detect color blindness, especially when the reds and greens are mixed. Not so; there may be great difficulty to decide, more particularly if the subject is aware of his failing. As a rule, however, alcoholic amblyopia is easily detected. According to the pathology of the disease, it is evident that complete daltonism cannot exist with unimpaired sight; so defective vision in hard drinkers is suspicious, when it is only necessary to test the sense of color with colored lights and variegated wools, and if the field of vision be examined by green and red objects, the scotoma can be localized. Such subjects are not the kind we especially seek; they are soon discovered; it is the apparently sound drinker we are after, whose eyes are healthy, with good vision, but with doubtful color sense.

To make the examination we use green and red lights, all colors and shades of wool and small colored objects, preferably colored disks painted or pasted on white card-board. I think the easiest and perhaps the most simple methods are as follows: 1st. Ask the individual to pick out of an assort-



ment of colored wools all the greens and reds and their shades, both light and dark. It is not necessary for him to name the colors, but simply arrange them. One who is color-blind will mistake the greens and their compounds. Equally situated shades of green, pink, brown, orange, and red will so confuse him that a mistake is unavoidable. Although this test is simple it is very severe, and, if successfully passed, demonstrates good color-sight at the macula lutea.

2d. Take four cards—business cards—on which is painted or pasted in the center a colored disk, one blue, one red, one green, and one yellow. The disks should be about one-third inch square, or, if round, in diameter. The color must be pure, but not too intense. To examine the left eye close the right with a balled handkerchief, and place the patient in front of you about eighteen inches; then in the right hand hold one of the cards so that the disk is toward the individual, who, during the examination, should look the surgeon in the eye. In this manner explore the entire field of vision, and especially the color sense near the center of the field. If the scotoma exists, as it commonly does, between the macula lutea and the optic nerve entrance, the color on the card will be lost when the disk is immediately to the right of the visual line, if it be the left eye; *vice versa* if it be the right. Try in this way the four cards, alternating the green with the red, the blue, and yellow. With a little care and patience a color scotoma can be mapped out.

3d. In a large, dark room place a small lighted candle, twenty or more feet from the individual to be examined; give him an opera glass and, while he looks at the flame through the inverted glass, cover the light with different colored glasses, mixing in green and red. By using the opera glasses in this way we apparently throw the light afar off, making a candle flame at twenty feet simulate a lantern a quarter of a mile or more down the track at night.

There are other tests recommended by authorities, but they are very complicated, although exact. Of course to correctly map out a scotoma on the visual field instruments of precision

are necessary. But inasmuch as we are only interested to know if an individual can recognize a common colored light or signal flag under all possible atmospheric conditions, mathematical accuracy is uncalled for. In suspicious cases we should be prepared to detect the central color scotoma, remembering that there is danger that direct sight will soon be involved if a well-defined defect neighbors the visual point. No man can tell by an ophthalmoscopic examination that any unusual details are due to the abuse of alcohol or tobacco. The disk may be blurred, pale, or congested, and at the temporal edge show nerve atrophy. More can be surmised from a negative picture and a history of gradually increasing blindness in a hard drinker or smoker, than is possible from the most pronounced changes demonstrable with the ophthalmoscope. I have now in mind four recent cases of alcoholic amblyopia. The scotomate for green and red were well marked, wherein it was impossible to discover any disease about the optic nerve, or throughout the retina. Therefore, for our purposes the ophthalmoscope can only aid us by bringing to light those interocular diseases which cause poor sight, but which cannot possibly cause the scotoma for red or green.

It is evident that the prognosis and treatment of intoxication amblyopia depends on the pathological condition of the optic nerve and retina; therefore, whenever we find pronounced amaurosis, with or without objective symptoms, caused by the long abuse of alcohol, the chance for a permanent improvement in sight is very slight, since the nerve has undergone atrophic changes which cannot be removed by any treatment. If, however, we are so fortunate as to recognize the disease in the early stage, the total withdrawal of all alcoholic drinks, together with the administration of the iodide of potash, will cure the patient, but a favorable prognosis depends entirely upon the continuance of total abstinence. Strychnine in the early treatment is contradicted, but may be advantageously administered when we are confident that the acute interstitial neuritis is relieved. I have been unfortunate in my cases of alcoholic amblyopia, since I

have not succeeded in getting my patients to quit drinking. They have all improved somewhat, but the color scotoma has remained a permanent defect. Those who have abused tobacco, but have used alcohol in moderate quantities, have improved very much under the internal administration of strychnine, with total abstinence; but however well they may afterwards see, I generally find that they are doubtful of the reds and greens. A disease once excited in an organ by any toxic agent, even if cured, will be very apt to return if the poison be again administered. Tobacco and intoxication amaurosis are good examples of this law; therefore, if an individual once suffers, he is extremely liable to have a relapse on the slightest provocation, and inasmuch as we know from experience that the drinking and smoking habits are very rarely permanently overcome, we cannot be in error or work a hardship when we advise that all employes of railroads, or at sea, who drink or use tobacco in excess, be critically, and from time to time, examined, especially for the sense of color, and if it is found that there is any reason to believe that the scotoma for red or green does or has existed, it is best to give our corporations the benefit of any doubt by striking all such suspects from the rolls.

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A POOR woman in Glasgow, Scotland, exasperated beyond all measure at the continued drinking of her husband, deliberately broke his leg one day. He was forced to remain in the house for two months, and fully recovered, and was temperate ever after. This was a very effectual remedy, but not a practical one to recommend to others. Many of the extraordinary remedies urged for the cure of inebriates are equally absurd, and yet they are supported by histories of cases and by many good but unreasoning men.

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EARLY delirium in pneumonia suggests a history of excessive use of spirits, according to De Costa.

PATHOLOGICAL LESIONS OF CHRONIC  
ALCOHOLISM.\*

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DR. GEO. T. KEMP,

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Alcohol has been a convenient scapegoat for many pathological lesions found in men who have been addicted to its use, and since to discuss the whole subject of "Lesions attributed to Chronic Alcoholism," would be to far exceed the time of such a paper as I am expected to read to-night, I shall confine myself to such lesions as are pretty generally conceded to be produced by the long-continued use of alcohol.

*General Systemic Disturbance.*—The system is profoundly affected by chronic alcoholism, a decided state of cachexia being developed, which is sometimes spoken of as the "alcoholic cachexia." The resistance of the system to diseases in general is diminished, and many diseases assume a much more virulent form in alcoholics than in other conditions. Probably the form of degeneration most generally produced by alcohol is a fatty metamorphosis. The tendency to the formation and deposit of fat is so strong that even the blood is said to contain an abnormal amount of fat. The bloated, sleek, greasy appearance of alcoholics at this stage is too well known to need further comment, and we need only to remember that fatty deposits are being made in many of the most important viscera as well as in the subcutaneous tissue and omentum, to form a tolerably vivid impression of the condition of the organism at this time. This fatty condition may continue until death, and may hasten death by weakening some vital organ, as the heart; but if this is not the case, the tendency is for the fatty metamorphosis to be followed by sclerotic changes, or more rarely by parenchyma-

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\* Read at January meeting of the Association in New York City.



tous inflammations. The blood becomes watery, and the number of red corpuscles diminish, thus producing anæmia. This is added to disturbances of digestion and circulation, and all combine to reduce the fat, and to give us the picture of the pale, flabby victim of intemperance, dull in intellect, shattered in constitution, and suffering from all the ills which such a dyscrasia is liable to produce.

In considering the pathological changes which alcohol produces in the different organs, we will, for the sake of system, take up each organ separately.

*Stomach.* — The stomach is the seat of many severe disorders produced by the abuse of alcohol, but there is no pathological lesion in this viscus which can be said to be characteristic of chronic alcoholism. More or less chronic gastric catarrh may be mentioned as the most common lesion, but even this is not found often enough to be called characteristic. A dilated stomach has been attributed to the effect of alcohol in beer-drinkers, but it is not improbable that the amount of beer, put into the stomach habitually, does more to cause dilatation mechanically by distension than by the action of its alcohol.

*Intestines.* — The small intestines are singularly free from pathological lesions from alcohol. The large intestines are often the seat of a chronic inflammation marked after death by dilated vessels, and areas of hyperplastic thickening in the mucous membrane and submucosa. Pathological changes in the liver, by impeding portal circulation, doubtless have much to do with producing these changes. The solitary glands of the large intestine are not uncommonly enlarged.

*Liver.* — The liver is quite commonly the seat of pathological changes in chronic alcoholics. The fact that the alcohol goes directly from the stomach and intestines to the liver, has been generally accepted as an explanation of this fact. The first change produced in the liver is congestion; this is followed by fatty infiltration, or by hepatitis, or by both. Both varieties of hepatitis are found, viz.: parenchymatous inflammation, and sclerosis. The latter is more common. While sclerosis of the liver is a common lesion of alcoholics,

I think the general impression of its frequency gives it too great importance. My attention was first called to this by Dr. Formad, while I was associated with him as a colleague, at the University of Pennsylvania, and what observations I have made since that time have borne out his idea. This opinion is also indorsed by Dr J. C. Wilson, president of the Pathological Society of Philadelphia. Of fatty changes, which are probably the most common lesions of the liver in alcoholics, the form most frequently met with is simple fatty infiltration, although the genuine fatty degeneration in which the protoplasm of the cell breaks down into fat is also described as occurring.

*Spleen.* — There are no characteristic lesions in the spleen of alcoholics.

*Lungs.* — The lungs are very often found in a state of hypostatic congestion in cases of death of old alcoholics, after a spree. This, however, can hardly be called a lesion of chronic alcoholism. Fibroid phthisis has often been ascribed to the use of alcohol as a predisposing cause. There is no doubt that many cases of this disease occur in alcoholics, but these cases are often found in knife grinders, coal miners, and others whose daily work subjects them to conditions which are known to produce interstitial inflammation in the lung.

These men are often hard drinkers, but the disease occurs in those who are not intemperate as well as in those who drink to excess. A carefully prepared table of the number of cases of so called "fibroid phthisis" occurring in men engaged in occupations subjecting them to the inhalation of fine sharp particles of iron, coal, etc., giving the relative number of cases in which alcohol was used to excess to those where the man was temperate, would be very interesting.

The long continued use of alcohol produces a tendency to hyperæmia and interstitial inflammation which leads to fibroid changes. This is true of the lungs as well as elsewhere, and alcohol may not be without influence in producing a tendency to fibroid phthisis rather than the more acute forms of the dis-

ease, but our knowledge of this subject at present hardly warrants us in making a positive assertion.

*Heart.* — The lesions of the heart may be given as obesity of the heart, fatty degeneration, chronic myocarditis, and hypertrophy.

In obesity of the heart the fat is deposited all over the heart in yellowish masses, and is also found between the muscle bundles. In fatty degeneration the muscle fibres themselves break down into fat. In chronic myocarditis we have a process of sclerosis, or what is often called fibroid degeneration. The heart muscle is often seen alternating with bands of fibrous tissue, which gives us a streaked appearance. Hypertrophy of the heart has been ascribed to chronic alcoholism, but on this point there is a difference of opinion. Fatty hearts and fibroid hearts are very much weakened and often cause death by failure.

*Blood Vessels.* — Alcohol produces a dilatation of the capillaries, and a tendency to extravasations of blood. In this the impoverished condition of the blood probably plays a part also. In the larger vessels, alcohol lowers the tone of the unstriped muscle and produces a tendency to atheroma.

*Kidney.* — Bright was of the opinion that a large number of cases of the disease which bears his name was due to the abuse of alcohol, and, I suppose, that accounts for the firm hold which this idea has on the profession. Certainly pathological examination will not bear this out. Fatty infiltration and fatty degeneration are *par excellence* the renal lesion of chronic alcoholism. The kidney, in these cases, has a more or less characteristic shape, which Formad has, not inappropriately, called "big-back."

*Brain.* — The greatest effect of alcohol, functionally, is on the nervous system, and different changes have been described as occurring in the brain of chronic alcoholics, but no constant lesion, gross or microscopic, has yet been demonstrated to be characteristic. The meninges are usually the seat of hyperæmia, and the outpouring of fibrinous lymph. Pachymeningitis hæmorrhagica interna is also found in these

cases. The bad condition of the blood, arteries, and capillaries favor the exudation of serum, and we not infrequently have a large effusion such as to exert considerable pressure on the brain.

*Spinal Cord.* — The same may be said of the spinal cord as of the brain. There is great functional disturbance but no pathological lesion yet shown to account for it. The meninges are involved just as in the brain.

*Peripheral Nerves.* — Degeneration of the peripheral nerves has been described by several observers, who have made special examination on this point in chronic alcoholics.

Before closing, I wish to say a word as to the importance of making more careful investigations on this question. There has been a great deal of statistical evidence gathered which is untrustworthy because we do not know the history of the patient. Many cases of Bright's disease have been reported, which were complicated with histories of severe cold, exposure, and other causes, which would be more apt to account for the kidney trouble than the alcohol. These had to be excluded by taking cases where such complications did not enter, and observing that, in these, alcoholism failed to produce morbus Brightii. Another set of observation we greatly need, is on well-to-do patients, who have not been exposed to all sorts or inclemencies of weather, mal hygiene, etc., and to determine the difference in effect of different liquors, and even the same liquor of different grades.

That the action of common liquors, which contain higher alcohols than the ordinary (ethyl) alcohol, is more harmful than that of purer liquors or of pure alcohol, has often been noticed. Dujardin-Beaumetz has made some interesting experiments on animals to show this. The animals chosen were pigs, because their food and digestion, more than that of any other animal, resembles that of man. He found that with ordinary (ethyl) alcohol, any considerable interstitial hepatitis, thickening of the stomach wall or ascites, was absent, even after two and one-half years of alcoholism.



With the higher alcohols congestion of the stomach and of the liver were produced, in a marked degree, and in a very short time.

In some experiments which I saw made by Prof. Martin, at the Johns Hopkins University, the effect of the different alcohols was very strikingly shown. The action of these alcohols was tested on the mammalian heart, isolated according to Prof. Martin's method, and separated from the influence of the nervous system, except its own intrinsic ganglia. One of these alcohols, which is sometimes found in liquors, was so deadly in its influence as to paralyze the heart when present in such small proportion as one drop to several pints of blood. Of course we do not get one drop of these higher alcohols in one or two glasses even of common liquor, but there is abundant evidence of the damage they do even in the minute proportion in which they occur. After all, we are to look to neuroses rather than to pathological lesions for more valuable working data for those interested in the study of inebriety. Many of our most dangerous mental diseases have no pathological lesion by which they can be recognized, and yet the clinical signs are most striking.

If by careful study we can show that the lesions of alcohol are functional diseases of the nervous system, rather than those marked by any anatomical change, we place them, I think, much nearer where they belongs.

Dr. Weeks remarked on the "Prize Essay" as discussed by Dr. Kemp, and this paper as follows:

The statement that the form of neuritis met with in chronic alcoholics is not peculiar to this condition, corresponds to the conclusions arrived at by other observers. He has dwelt at length on the changes produced in the nerve fibres themselves, but has not emphasized the marked influence in the production of sclerosis or hyperplasia of connective tissue so frequently noticed in the nerve trunks and in other tissues affected by the long-continued use of alcohol. As an oculist, I am naturally most interested in the effects of alco-

holism on the nerve trunks passing to the eye and its appendages. It seldom happens that neuritis, due to alcoholism, is observed in affections of the eye muscles. Transient paresis of the accommodation and of the extrinsic eye muscles due to the direct toxic effect of alcohol, shortly after its ingestion, is common, but permanent effects are rarely seen. Interstitial neuritis, however, not infrequently affects the optic nerve. It is known under the name of post-bulbar neuritis, due to alcohol, and manifests itself subjectively by the production of a central scotoma, in the field of vision, complete for red and green in its early stage, showing impairment in the function of the temporo-macular nerve fibres. This gradually deepens to a central scotoma for all colors and an extension to all parts of the field, resulting in complete blindness if the use of alcohol is not discontinued. Objectively, the first indication of any effect on the nerve is usually a paling of the optic disc in its outer lower quadrant. The study of the changes taking place in the optic nerve, due to alcohol, has been carefully carried out by Uthoff of Berlin, who examined many hundreds of insane patients at the Charité. Of these patients quite a number were chronic alcoholics, some of whom presented the peculiar form of neuritis of the optic nerve. Three of these last came to section. Uthoff found that the lesion consisted in an interstitial neuritis, the peripheral part of the nerve to the temporal side being the first affected. The process was one of sclerosis, connective tissue taking the place of the nerve fibres; the size of the nerve was slightly reduced. The varicose changes in the nerve fibres and in the axis cylinders, as mentioned by Dr. Kemp, were observed, but the chief agent in the production of the loss of function was the increase in connective tissue, its subsequent contraction producing strangulation of the nerve fibres.

If, as the remarks made by Dr. Kemp lead us to infer, the change in the nerves, due to the influence of alcohol, first begins in a degeneration of the nerve fibres themselves, it is hard to account for the subsequent recovery of

function in those cases where it is already partly abolished. It is found, that in cases where we have a central scotoma, with vision reduced to  $\frac{2}{200}$ , total abstinence from the use of alcohol, in connection with a regulation of the diet, will bring about partial or complete restoration of vision. The following is an illustrative case :

R. S., an artist, age 40 years. Has been a moderate drinker for years. He was first seen on May 7, 1888. The history was that of a gradual failure in vision, extending over a period of some months. Lt. Pr. vision in the left eye equaled  $\frac{2}{100}$ ; right eye,  $\frac{2}{200}$ . Complete central scotoma for red and green. Ophthalmoscopic examination showed a paleness of the optic disc in the outer lower quadrant. Diagnosis, interstitial neuritis of the optic nerve from the effects of alcohol. Treatment, abstinence from alcoholic drinks and small doses of the iodide of potash. On July 1, 1888, the vision equaled  $\frac{2}{20}$  in both eyes. About one year later the vision was  $\frac{2}{20}$  full in both eyes. Paleness of the outer lower portion of the disc still remained.

It has been my fortune to see cases of neuritis of nerve trunks other than the optic nerve where abstinence from alcohol did not result in recovery from the paresis. Is it possible that the change in these nerve trunks is of a different character ?

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THE official report of crime in France for 1887 shows that inebriety has diminished steadily from 1873. The average number of inebriates arrested for crime of all kinds from 1873 to 1875 was over eight thousand. From 1875 to 1880 it was seven thousand five hundred. From 1881 to 1885 it was six thousand seven hundred. From 1885 to 1887 it was five thousand nine hundred.

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THERE were confined in English prisons and workhouses December 1, 1890, 241,877 persons, who came there directly or indirectly from excessive use of spirits.—*Canon Gloister's address.*

ACTION OF ALCOHOL ON THE THROAT.

By DR. G. B. HOPE,

*Surgeon of Metropolitan Throat Hospital, New York City.*

In presenting the short paper, which I have the honor of reading before your society this evening, I am disposed to offer an excuse for the narrowness of the special topic as affecting so limited an area as the throat, simply. But when considered from a broader standpoint, the subject matter, "Alcohol, its physiological and pathological action, and its action and abuse in medicine," finds perhaps here a particular material, not alone in rounding out the effects and results of a general physical character, with its central degenerative changes, but it places on record a breathing, speaking testimony as to forms of catarrh which are unmistakable in their causation, important in their issue, and often irremediable in their treatment. No scalpel is necessary in following the line of the disease, or the microscope in determining the finer order of tissue degeneration. We have clearly under the eye certain characteristics of color, form, and action which point as absolutely to alcohol abuse as if the letters were stamped by the congested vessels on the thickened and relaxed mucus membranes.

Although, as times are, laryngology has passed to a full stage of development, and the corps of its followers has easily attained the point to which a generous rivalry of procedure reaches out to new formulas of treatment and new ideas of the development of disease, it seems strange that so little has been added in this direction to a literature that deals so exhaustively, in all other regards, with all the ills our flesh is heir to.

Such mono-theorists, who are disposed to find in the doctrine of hereditary syphilis the starting point of every catarrhal action, appear to lose sight of the very fact of the general



law that underlies their first principle and dominates peculiarly in the alcoholic constitution: if nature, following out her plan of natural selection, imprints the outward resemblances in the arrangement of pigment and cell, and so presents a reproduction of that from which it took its life, there is no cause for wonder if the materials in their elements should bear a like resemblance. The vigor of the cell presupposes the vigor of the elements of which it forms a part, and on which, in later days, we feed our strength. Is its source rich and pure, so will the developing tissue take to itself a more perfect outline and a more enduring structure. It is not contended that alcohol alone is the feature, approximate or remote, of the multitude of chronic affections that afflict the functional uses of the respiratory and phonatory organs, but only to recognize in it an unmistakable and frequent cause, and, as such, deserving to hold a high place in the list of pronounced causation, as well as affording the hereditary disposition to arouse to activity and laryngeal pulmonary diseases that might otherwise have long lain dormant.

The functions of the upper air passages relate to those of respiration, phonation, the sense of taste and smell curiously commingled—all disposed to temporary disturbances of ready causation. Throughout, a surface of continuous mucus membrane, with its delicate epithelium, furnished so abundantly with vascular, glandular, and nerve supply, as if intended to serve as the uncompromising guardian to the inner man against the approach of all improper foods and noxious vapors. If sometimes lenient to the abuse of the master, it yet surely undergoes structural changes which culminate in the development of a fixed and progressive disorder, including more or less of the normal functional activity of the parts involved. The mucus membrane of the mouth and fauces has been compared to one large tract of thirsty sand, ready to absorb, by means of the free distribution of the lymphoidal follicles, fluid and solid particles alike. Here comes into play the direct action of concentrated stimulants, both as the result of contact as well as by continuity of tissue in

gastric irritation, in the formation of catarrh—the *κατα-ρεω*—that relates incidently to alterations of secretion, but also, in the career of the series of histological changes that are undergone, to passive congestion, infiltration, and fibrous thickening. The toxic effect of alcohol on the vaso-motor system also bears its contribution in heightening the disposition to vascular engorgement. The flushed face and the rubicund nose have, from time immemorial, been the accepted signal of intemperance, and the dread of its votaries.

We have consequently in the mucus membrane a soil peculiarly adapted to the exhibition of the various features of nutritive organization, on the rational adjustment of which depend so many of the special senses which are accessory to these parts. The familiar instances of diminished hearing following alcoholic abuse, are features of well-established observation; the senses of taste and smell progressively demand increased stimulation in order to excite an appreciation of sapid or odorous particles; the voice is changed, and even respiration may become embarrassed.

The disposition to adventitious diseases is notably increased, partially on account of mechanical obstruction to normal respiration, as from intrinsic loss of tissue resistance. Sore throat, so-called colds, passive pneumonia, glandular disturbances and ulcerative lesions are ever present menaces which belong to the servant of the alcohol habit. Moreover, it may be claimed that chronic bronchitis is an almost invariable accompaniment to the vanities of the drunkard's cup.

Hospital histories of pulmonary phthisis abound with cases in which inebriety forms a distinguishing nucleus in the departure of the formative period of the disease, and Dr. Edward Smith testifies that among a thousand such patients examined twenty-four per cent. were classed as free drinkers.

The consideration of the elements affecting the use and preservation of the voice, possesses a living interest to a large class of professional speakers and vocalists, among whom many have been led astray by popular fallacies, or by the in-

judicious advice of medical practitioners, who are readily disposed to find in alcohol a vocal tonic of immediate service, and too often meeting with the personal agreement of their patients. The common failing of human nature is to accept without question the time-honored maxims that concern the familiar habits of living, and in some way to turn them into arguments to excuse whatever excess a generous interpretation may have provoked. In this manner, no doubt, the recurring association of song with wine has done much to pave the way to a belief that a moderate alcoholic stimulation is disposed to strengthen the voice and add a lustre of tone to the natural quality. Particularly is such treatment recommended where great exertion, or where fatigue or exposure has temporarily produced a superficial catarrhal disturbance.

It is strongly insisted that even the emergency employment of alcohol is to be regarded in the light of an *excitant*, and not a *tonic*, of muscular contraction, and, in this sense, provoking a speedy reaction with increased vascular engorgement. Certainly, we are not to ignore the frank assertion that comes from the practical experience of vocalists of established reputation, who are best able to judge from the subjective standpoint, that the reliance upon alcoholic stimulants is the beginning of the downward road, broad, and easy, that leads the more swiftly to decay.

Such, then, is a free-hand sketch, reproducing in a degree the results of established clinical details, which, however varied, present the same foundation element of infection.

"Every inordinate cup is unblessed, and the ingredient is a devil."

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JUDGE SALMON P. CHASE, while Governor of Ohio in 1857, strongly urged the Legislature to make an appropriation for a State inebriate asylum. He was the first Governor who called attention to this subject in this country.

ACTION OF ALCOHOL ON THE RED BLOOD  
DISC IN LIVING MAN.

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BY EPHRAIM CUTTER, M.D., LL.D., OF NEW YORK.

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In order to properly understand the subject, a brief description of the inspection of the normal red and white blood corpuscles will be given, and this compared with the blood of a drunkard after drinking one and a half pints of whisky in the course of an hour.

*In Healthy Blood.*

The red discs appear biconcave, with edges well rounded out, clear, distinct, and well defined. Their color is a deep lustrous ruby red, appreciable only by actual observation. Their size varies in the same individual whence taken, average  $\frac{1}{164}$  inch in diameter. Their number in the field varies with the mode of manipulation. If the drop of blood is large for the cover they will be numerous, if small, they will be fewer. In this estimate of number, care should be taken to have the films of blood composed of the same thickness and equally diffused. Resort may be had to the hematometer of Hazen and Nacet, which is the most accurate instrument devised for measuring the number of the red discs. It is liable to error, as curiously enough it assumes the discs to be uniform in size, or rather affects to make them so by artificial means. Also it makes no allowance for the white corpuscles which form an important element and fractional part of the whole blood mass. But, not to be too captious, it is better to accept the estimate of 5,000,000 red discs in one-fifth of a cubic centimeter of human male adult blood as the standard.



The colored corpuscles appear *nucleated* sometimes. This nucleus has been repeatedly, not always, seen in my own blood. The writer has seen it in profile. It has been photographed.

*Movements.* These are caused by the clotting process, by capillarity, by evaporation, and by drying under the microscope. The red discs move in masses swayed to and fro like a collection of old bottle corks floating on a river. In themselves they are very passive. Thus they differ from the colorless ones. They are usually regarded as not possessing any amœboid movements. But the writer is inclined to think that they possess some vital movements of their own, as he has occasionally seen them move with the independence of the white corpuscles. The crenation and the bossed or spike-like prominences which are associated with drying must be vital—as they are not seen when in a thin uncovered film and dried quickly.

*Arrangement of healthy red discs.* They are discreet, distinct, segregated, and uniformly diffused through the field, or they are arranged in nummulations or rouleaux like coins of money.

This is due to the fibrin filaments being small, weak, and few.

*White corpuscles. Features in health.* 1. Their color is white. They are rightly named. This is shown with wonderful beauty in the photographs. Any objective that does not bring them out in their true color with beautiful whiteness is not a good one for blood study.

2. They vary in number relatively to the red discs. One white corpuscle to three or four hundred red corpuscles.

3. Their size, in health varies less than in disease. Rarely are they smaller than the red. Usually they are much larger. Perhaps they may be rated at  $\frac{1}{2200}$  inch on an average.

4. Their form is usually globar, but when dead or dried, varies constantly. Sometimes they are triangular, oblong, obovoid—are surrounded with a deeply cut and irregular

margin forming objects of weird, bizarre, awry character difficult to imagine or describe. Indeed the grotesque changes of outline go beyond the imagination. Sometimes they will push out long lines of substance like an arm or a handle to a pan. Sometimes they will project themselves like a leech, and change their place. Indeed this is so wonderful as to demand a separate paragraph.

5. *Amœboid Movements.* *Amœba* signifies change.

*Locomotion.* The colored corpuscles move among the red discs like policemen in a crowd. They break through or penetrate fibrin filaments. They push the red out of the way. They go over or under them and pursue their straight onward movement like a determined officer, but they can do more than any such functionary. For they can divide themselves up into parts—separate to considerable distances—travel on and reunite their separate segments and move on again apparently whenever they will to do so. No law seems to govern their movements save independent volition, if such a term can be used in relation to such minute bodies. For example, the writer has seen a colorless corpuscle break up into (first) two parts and reunite; (second) into three parts and reunite; (third) into four parts and reunite; (fourth) into six parts and reunite. During these acts the corpuscle made an excursion over the field like the letter V. It started from the end of one leg and traveled to the end of the other leg, going to the angle of the V and then proceeding backwards over the other leg. While a white corpuscle is executing these movements their granular contents may be seen (with an exceptionally good objective) whirling and pushing along in currents and vortices of great visual violence and force. These compared with like movements seen in vegetable cells are much more impressive and independently vital. Indeed, putting out of sight the relations of the white blood corpuscles to man they appear far more fairly entitled to be considered living animals than some of the rhizopods. It takes time to observe these changes. At first they appear slow, but when size is considered they are rapid.

Throwing them on a screen by sunlight has been found a good method of observation. In one case the movements were so rapid as to tax a skilled draughtsman to follow their outlines with a pencil in tracing them on paper.

6. On the other hand, the white corpuscles present a phase directly opposite to that just described. When not undergoing movements they stick fast to the slide and hold on to their place as if they would move only when they mean to do so. While the red discs are rushing helplessly along in swift torrents the colorless corpuscles will be seen underneath still and quietly resisting the charges and onsets of the scudding movements. They split the stream of red discs as a rock divides the rapids of a river. They will also stick in the vacuoles or air-bubbles of drying blood. In the blood vessels they adhere to the walls and in inflammation break up and migrate out through the stomata of the epithelial lining. Certainly this sticking power compared with the amoeboid movements are two remarkable features to occur in the same bodies.

7. Besides, the white corpuscles undergo in health changes in their substance that appear like vacuoles—called by the late Dr. Louis Elsberg, "bioplason." This is often shown in disease; also in alcohol yeast plants in active work converting colloid into crystalloid and making alcohol. These facts invest the white blood corpuscles with great interest. Their study in health is a delightful pastime. It is more. It is inspiring and impressive. It is like mountain scenery to a dweller on the plains. It brings one into intimate communion with our great Creator. The autonomic movements of such minute bodies, parts and parcels of our life and bodies, even when partially understood, compel our admiration of Him "in whom we live and move and have our being."

*Action of alcohol on the red blood discs live, and in situ naturali.*

It is difficult to describe what the photographs show; the language of the eye is not that of speech. These photos

were taken by G. B. Harriman, D.D.S., of Boston, in 1879, and I can vouch for their correctness. Dr. Harriman is a good observer and it is a pity that he does not continue his studies for the benefit of human knowledge. These photos are the only ones ever taken of the kind or with such high powers, to wit — the  $\frac{1}{50}$  and the  $\frac{1}{75}$  inch objectives of Tolles.

In the photos on the screen the observer will note that the greatest changes are in the form of the red disc when a pint and a half of whisky was drunk in divided portions by a hard drinker. The protoplasm acts as if it were subjected to a chemical or to heat. It shrinks in size as the protoplasm of the tomato, for example, shrinks in cooking. But it shrinks irregularly and seems, in some cases, to partly disappear.

Again the protoplasm of the red discs, under the action of alcohol applied *in situ naturali*, acquires amoeboid movements somewhat like those that naturally belong to the white blood corpuscles. It projects in budding masses of irregular shape. It projects in arm-like processes as the white corpuscles do. Such phenomena were pointed out by the late Dr. Louis Elsberg of New York, when blood was brought in contact with a solution in water of the bichromate of potash.

When it is remembered that alcohol can be drunk so as to accumulate in the blood enough to burn, as was testified to the writer by the late Dr. Adino B. Hall of Boston, who saw blood drawn from the basilar vein of a drunkard into a bowl take fire when a match was held in the bowl over the blood.

We must then conclude that alcohol in excess acts chemically and physiologically on the blood discs as shown by the abnormal shapes and motions conferred; somewhat analogous to the action on blood of the bichromate of potash, which, in large doses, is a virulent poison.

The subject is well worth working up further. Would that some friend of temperance would furnish the means to do so!



LIST OF LANTERN SLIDES OF MICROPHOTOGRAPHS EXHIBITED BY EPHRAIM CUTTER, M.D., LL.D., JANUARY 7TH, BEFORE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIETY.

All of these microphotographs were taken in 1876:

1. Dog, healthy blood; one-fiftieth inch objective.
2. Ox, healthy blood; same power.
3. Horse, healthy blood; same power.
4. Horse, healthy blood; same power.
5. Pig, healthy blood; same power.
6. Frog, one-fifth inch; Army Medical Museum.
7. Man, blood in health; one-tenth inch objective.
8. Man, white corpuscle; one-fiftieth inch objective.
9. Man, white corpuscles; amœboid movements.
10. Photograph of drawn outlines of amœboid movements of white blood corpuscle in an American's blood.
11. The same of white corpuscles of Frenchman's blood.
12. White blood, disc in human tuberculous blood; one-fiftieth inch objective.
13. Another of the same; one-fiftieth inch objective.
14. Three white corpuscles *tuberculous*, one-fiftieth inch objective.
15. The same with one-seventy-fifth inch objective; highest power in the world.
16. White blood corpuscle, one-seventy-fifth inch objective.

THE FOLLOWING, TAKEN BY GEORGE B. HARRIMAN, D.D.S., OF BOSTON, IN 1876, OF THE BLOOD OF A CONFIRMED DRUNKARD; AT THE TIME OF PHOTOGRAPHY, MAN WAS DRUNK.

17. With one-sixteenth inch objective.
18. Another specimen; same power.
19. With one-fiftieth inch objective, showing peculiar shrinking and contractions.
20. With one fiftieth inch objective, showing a peculiar arm-like projection of red corpuscle, resembling amœboid movements of white corpuscle.
21. The same with one-seventy-fifth inch objective.
22. With same power, showing peculiar loss of substance of white corpuscles.
23. Another with one-sixteenth inch objective.

THE MATTISON PRIZE.—OPIUM ADDICTION AS RELATED TO RENAL DISEASE.—A PRIZE OF FOUR HUNDRED DOLLARS.—With the objective of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn offers a prize of \$400 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries :

Will the habitual use of opium, in any form, produce organic renal disease?

If so, what lesion is most likely?

What is the rationale? )

The contest is to open for two years from Dec. 1, 1890, to either sex, and any school or language.

The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a New York medical journal, *Brooklyn Medical Journal* and JOURNAL OF INEBRIETY.

Other papers presented are to be published in some leading medical journal, as their authors may select.

All papers are to be in possession of the Chairman of the Award Committee on or before Jan. 1, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, President New York Academy of Medicine, Chairman; Drs. H. F. Fromad, Philadelphia; Ezra H. Wilson, Brooklyn; Geo. F. Shrady and Jos. H. Raymond, editor *Brooklyn Medical Journal*.

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THE Austie's limit of health was two ounces of alcohol a day. This quantity would increase the pulsations of the heart five thousand beats, and diminish the exhalation of carbonic acid from the lungs twelve per cent. The people of England, according to statistics, are using on an average over three ounces daily of alcohol.

## REPORT OF THE MASON PRIZE ESSAY.\*

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UNDER THE AUSPICES OF THE "AMERICAN ASSOCIATION FOR  
THE STUDY AND CURE OF INEBRIETY."

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Dr. L. D. Mason offered in October, 1889, a prize of one hundred dollars for the best original essay on "The Pathological Lesions of Chronic Alcoholism Capable of Microscopic Demonstration," the object of the essay being to demonstrate,

First, Are these pathological lesions due to chronic alcoholism?

Second, Are these lesions peculiar or not to chronic alcoholism?

A committee of the "*Medical Microscopical Society of Brooklyn*" consented to act as judges of the essays submitted, and award the prize: *Chairman*, W. H. Bates, M.D., F.R.M.S., London, England (Pres. Med. Microscopical Soc., Brooklyn), 175 Remsen street, Brooklyn, N. Y.; John E. Weeks, M.D., 43 West 18th street, New York; Richmond Lennox, M.D., 164 Montague street, Brooklyn, N. Y.

The privilege to compete for this prize was extended to all medical microscopists, and the time was limited to Oct. 1, 1890.

In response to the circular an essay was received by the special committee, entitled, "*Ueber die Einwirkung Reinen Alkohols auf den Organismus und Insbesondere das Peripherische Nerven system*," having a private motto, "*Wissenschaft ist Kosmo Politisch*," dated September, 1890, and accompanied by six lithographic drawings of microscopic slides, and six photographs, the successful competitor being Dr. Pierre Francois Spaink of Baarn, Holland.

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\* Read by Dr. Kemp at the January meeting of the Association in New York City.

The essay has been printed for private use by the author, and is a pamphlet of 112 pages and an index, and contains the illustrations already mentioned; to this essay the prize was awarded. A synopsis will be of interest, in lieu of a complete translation, which may be provided at a later date.

Title. On the Action of Pure Alcohol.

Part I. Experiments on living animals, with autopsies.

Part II. Microscopical examinations of the peripheral nerves of the animals experimented on.

#### PART I.

The object of the experiments is to decide if degeneration of the peripheral nerves follows long-continued administration of pure alcohol. For this purpose a number of rabbits were daily given alcohol in gradually increasing doses, and for greater accuracy rabbits of the same brood were used and cared for in exactly the same way during the entire time of experimentation. Each brood served for one series, of which there were five. In each series, before beginning the experiments, one animal was killed for the examination of the peripheral nerves, and the remainder formed two groups, one of which was treated with alcohol, while the other served for the *control*. Alcohol was administered through a 16 Charrière catheter passed into the stomach of the animal, the mouth being held open by a clamp, and the rabbit confined in a specially constructed wooden case, great care being taken in all the manipulations not to press or injure the nerves of the extremities in any way. Rabbits were chosen for the experiments as emesis does not occur in them, and an exact quantity of alcohol could therefore be daily administered. The animals were otherwise well nourished and cared for. The *control* animals were also catheterized and treated in every way similarly to these under experiment, save that no alcohol was given them. Each animal was weighed before the catheterization. In order to avoid all possible post-mortem changes, with a few exceptions all the animals were killed.



The first series consisted of six rabbits of the same brood, —one examined at first, two as *control* animals, three alcoholized (receiving on the average about two and one-third cubic centimeters of 95 per cent. alcohol a day). In all the series careful records are given of each animal, with the post-mortem appearances.

The second series consisted of five rabbits, of which, however, four died before the beginning of the experiments. They are alluded to solely for the sake of completeness.

The third series included six rabbits, of which three were alcoholized, receiving an average of nearly 3 cubic centimeters of alcohol, two as *control*. One was killed for examination before the beginning of the experiments.

The fourth series consisted of nine animals. One for examination, four for *control*, four alcoholized (average daily administration being about  $6\frac{3}{4}$  cubic centimeters).

Fifth series, six rabbits. One for examination, two for *control*, three were alcoholized, and received a daily average of 8 cubic centimeters.

## PART II.

### a. *Technical Methods.*

The auricular, tibial, and pneumogastric nerves were removed from the animals as soon after death as possible, being first bound to a small grooved piece of wood, and then immediately placed in Fleming's solution, in which they were allowed to remain for eight or twenty hours. Then, after prolonged washing in running water (at least forty-eight hours), they were kept in absolute alcohol. The corresponding nerves of the opposite side were in each case similarly treated with Erlick's solution, and then placed directly into absolute alcohol. Only a few were, however, actually examined, as, after all the associated staining, the clearness of the resulting section was not satisfactory, although axis cylinders and nuclei were as a rule visible.

After Erlick's solution, were used :

Aniline blue	Nigrosin
Eosin	Nigrosin-Safranin
Fuchsin	Picrocarmin
Haematoxylin	
Kernschwartz	

The staining of the axis cylinders after Fleming's solution, requiring tedious and repeated attempts, succeeded, however, after many combinations, in a quite constant and satisfactory way. Now and then while one or more of the axis cylinders were more or less distinct, the remaining nerve elements, notably the outlines of the fibers, and of the myelin could not be clearly seen, as stains were used alone or in combination.

Fuchsin	Kernschwartz
Borax carmine	Methyl-aniline
Nigrosin	Cochénille-alum
Safranin	Picro-carmine
Safranin and Methyl blue	Haematoxylin
Alum carmine	
Safranin aniline	
Aniline blue	
Eosin	

Of these, picro-carmine, haematoxylin, nigrosin-safranin-alcohol produced the best results.

#### MICROSCOPICAL APPEARANCES. KIND AND DEGREE OF NERVE DEGENERATION.

*Microscopical examination gave positive evidence that after long-continued exhibition of pure alcohol on rabbits nerve degeneration ensued.*

Series one and three are, on account of their short duration and the small quantity of alcohol used, scarcely worthy of mention, and in them the results of the microscopic exam-

ination were too slight to admit of any farther reaching conclusions being drawn from them. Series four and five, however, are worthy of a more detailed review, as here the *degenerations were almost exclusively found in the alcoholized animals, and often in large numbers.* Out of 119 preparations from series four of alcoholized animals, 64 showed, as a rule, advanced degeneration, and in 78 control preparations from the same series only 8 degenerations (and those slight) were found. In the fifth series 40 out of 43 preparations from alcoholized animals showed degenerations, while 13 control preparations showed absolutely none. The kind and degree of these degenerations are tabulated by the author. From the table it is easily seen that they consist essentially in a splitting or fissuring of the nerve, with the appearance of elongated, usually large, collections of myeline, thickened or thinned parts of nerve fibres, myeline drops, or simply neurilemma sheaths. Very rarely could any increase of nuclei be observed.

*b.* Spiral or corkscrew axis cylinders. A large number (32) of preparations made from the alcoholized animals of the fourth and fifth series showed, in addition to the above described degeneration, a further peculiarity. This was a twisting or looping after a corkscrew fashion of the axis cylinders. These corkscrews recurred at varying distances on the same or neighboring fibres. At these twisted spots the axis cylinder appeared thicker, broader, and more diffuse than when their course was direct. Sometimes, in badly-stained preparations these corkscrews were all that could be seen of the axis cylinder.

The question naturally suggests itself as to whether this striking appearance is a form of degeneration or a consequence of the treatment of the fibres during their preparation. From the use of the different methods of staining may at once be concluded that its cause does not lie in any particular method, for the spirals were found after any of the stains above enumerated. The preservation of the nerves in Fleming's solution could also have no influence in the produc-

tion of these spirals, for they were observed only once in about 500 preparations made from the *control* or from the slightly alcoholized animals of the first and third series. Again, the spirals were not found on nerves exsected during life or soon after death, while they were beautifully marked on nerves which had been cut off, and some time afterward removed from the living animals, such nerves not having been placed at all in Fleming's solution. The sodium chloride used in absolute alcohol for dehydration could not have caused the spirals, for they appeared without the addition of sodium chloride.

One might ascribe some influence to the handling of the rabbit during the experiments, especially to lifting them by the ears. This was, however, done equally and often to the *control* animals, and, as a matter of fact, the spirals appeared less often in the auricular than in the tibial and vagus nerve. Special care was taken not to injure the extremities of the animals during their confinement for the purpose of catheterization. It follows, therefore, that we have to regard this formation of axis cylinder spirals as an appearance associated with the nerve degeneration, and certain of the preparations represented favor this view. An attempt was, however, made to directly prove, or at least to render probable, this association. For this purpose the auricular nerves of different living rabbits were cut through, and examined after 3½, 6, 43, and 68 hours. This examination both of teased preparations, as well as after fixing in Fleming's solution, showed the presence of the spirals as follows: in 30, after 3½ hours; in 31, after 6 hours; in 30, after 43 hours. On the strength of these results it may for the present be accepted as not improbable that *the spiral loopings of the axis cylinders should be included in the category of degenerative appearances.* An assured proof of this belief is naturally only to be reached by longer and more elaborate experiments. The intention of the present paper is but to give a brief report of the above results.



## CONCLUSIONS.

1. Long-continued injection of pure alcohol will produce in the rabbit tremor of the tongue and of the mucous membrane of the cheeks, often also in the extremities, or even the entire body.

2. Even delirium tremens may be thus produced.

3. During alcoholic intoxication in the rabbit the ciliary reflex is more lasting than the corneal reflex.

4. Pure alcohol causes, when continuously administered to rabbits, nerve degeneration.

5. A sometimes very beautiful stain of the axis cylinder may be obtained by fixation of the nerves in Fleming's solution, with subsequent use of haematoxylin, (one-half watery sol.) or nigrosin, safranin, alcohol; three parts, one part, one part, respectively.

6. The examined nerves of alcoholized animals very often showed a spiral or corkscrew-like looping of the elongated axis cylinders, an appearance probably directly connected with the nerve degeneration.

Therefore, there are pathological lesions due to chronic alcoholism, but such lesions are not peculiar to it.

The conclusions at which Dr. Spaink arrived were the result of careful and laborious effort, extending over several months of research and experiment, and carefully excluded all conclusions that could not be satisfactorily proven. Dr. Spaink has limited his observations to the action of alcohol on the peripheral nerves. This is much better than if he had attempted to prove too much by diffusing his efforts of a too extensive field. He set about to demonstrate that alcohol, habitually injected for a certain period, does produce pathological lesions of the peripheral nerves, and he has satisfactorily done so. But his observations are but the entering wedge to a more general and equally conclusive experimentation, as to the effects of chronic alcoholism on the cerebro-spinal system, either in its entirety or upon isolated portions of it; for it is upon the nervous system that alcohol produces its most rapid and destructive effect. It is well for the

scientific world and for the community at large that such observers as Dr. Spaink have entered this comparatively new field of medicine, and the members of this association, as well as similar bodies elsewhere, should congratulate themselves that so able a scientist has become interested, and furnished original observations in this department of medical science.

After reading the above report Dr. Kemp of Brooklyn, N. Y., offered the following criticism on the prize essay, as a whole:

"The work which forms the basis of the paper bears every evidence of having been carefully done, and though the forms of nerve-degeneration described here are not those of nerve degeneration as we ordinarily see it, and though the corkscrew forms, pictured in the plates, strongly resemble certain forms often taken by the axis cylinder of nerves under manipulation, yet, from the general care with which the work was carried out, together with the fact that these forms did not occur in the *control* rabbits, to which no alcohol was given, I am not inclined to attribute them to unskillful handling in the methods of preparation; or, at least, he should have the benefit of the doubt until shown by further experiments to be in error.

"The results reached are necessarily but a very small part of what we wish to know; they are but one brick in the wall. They are the results of a continued acute alcoholism, which has hardly lasted long enough to be called chronic. On the other hand, the acute alcoholism was maintained more rigorously for the time of the experiment than we usually find in man. The most ardent worshiper of Bacchus has seldom, I dare say, maintained a rousing celebration to that God for three months, without intermission.

"The disease known as polymyelitis potatorum presents symptoms which may well go with such pathological lesions as Dr. Spaink describes in his paper, and as this polymyelitis of drunkards follows the greatly excessive use of spirits, rather than other forms of alcoholism, the analogy is all the more striking. This form of neuritis tends to recov-

ery, or to development into chronic nervous lesions, and, by the time a post-mortem examination can be made, it is too late to judge of the state of the nerve at the time the lesions might possibly have corresponded to those of Dr. Spaink's rabbits. A few cases have been reported where the disease has involved the phrenics and vagi, and death has resulted, but, so far as I know, there was no careful examination of the nerves made immediately after death. It is not impossible that, among the various neuritic diseases of the stomach, some may be associated with nerve lesions more or less resembling those under discussion."

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PUBLIC opinion is gradually getting to recognize that chronic inebriety is a form of imbecility calling for appropriate treatment, though this has only been accorded, so far, in a restrictive and tentative manner. It is but a step further to appreciate the argument that such a condition of mental degradation ought, *prima facie*, to justify divorce in the case of married people. It is true that under present circumstances even downright lunacy is not always regarded by the law as a reason for divorce, conclusive as are the arguments—social, physiological, and humane—in favor of such a view. When our legislators can be induced to introduce this, among other much-needed reforms, the propriety of placing chronic inebriety in the list of disqualifications ought to receive serious attention. Anything more dreadful than the fate of the man or woman who is linked to a lunatic or a hopeless inebriate it is impossible to conceive.—*Hospital Gazette.*

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The *Popular Science Monthly* has become a necessity for every student of science. The January and February numbers are volumes in themselves of great and increasing interest. Every asylum and physician should have this monthly.

THE TWENTIETH ANNUAL MEETING OF THE  
ASSOCIATION FOR THE STUDY AND CURE  
OF INEBRIETY.

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The first quarter of a century of this association was celebrated by a dinner given by Dr. Crothers, the secretary at Walnut Lodge Hospital, Hartford, Connecticut. Dr. Mason, the vice-president, took the chair; after some congratulatory remarks, the secretary read the following letter from Dr. Parrish, who was unable to be present on account of illness:

VINELAND, N. J., November 3, 1890.

*My Dear Dr. Crothers:*

Believing that the time has come for me to withdraw from the presidency of our association, I desire that this letter may be offered at the next meeting as my formal resignation.

In reviewing the past twenty years, during which you have honored me with this mark of your confidence and esteem, I have been so impressed with certain facts that it would give me pleasure to recall them at this time for our encouragement and instruction. But I can only refer briefly to the following as furnishing remarkable evidence of the fact that the motives which are at the foundation of our cause are calculated to promote unity and fraternity, and that such result is decidedly manifest in our history to this time.

In the beginning, we had but one object in view — one objective point — namely, the public sentiment of the American people. Indeed, at that time, popular opinion on the subject of our specialty, may be said to have had no visible existence. What was needed, was an arousal first, and then a shock. Our Declaration of Principles had the effect at once to awaken and enliven public thought, and from then till now we have had the public ear, and in considerable measure the public heart.



Coming together as we did, and for the first time assembled from different parts of the country, what was our position? We met face to face with a new and untried problem, which no previous age had attempted to solve, and face to face with ourselves, each with his peculiarities of character and personal prejudices and preferences, his separate habits of thought, and lines of pursuit. With strong convictions and positive views, differing in age, circumstances, and experience, it would have been no marvel if in a short time confusion had entered in, and weakened or broken our ranks. But it was not so. A cementing force was at the bottom of the entire movement, which admitted of no element of disaffection or mistrust. During the score of years that are passed, there has not been a single breach in the mutual confidence and loyalty which were productive of the harmony of our actions and the unity of our conclusions. Here is a testimonial that verifies the oneness of purpose, and unalloyed principle which at the bottom of the cause enabled us to anticipate such success as has been realized.

The public mind has been educating itself, for it only needs intelligence, thoughtfulness, and virtue without prejudice or jealousy, to bear upon this subject to ensure for it acceptance and belief. These qualities belong to the American people, and in the main to all peoples, and in proportion to their prevalence will be the acceptance of the doctrine which it is founded to promulgate. I cannot withdraw from active service without expressing my hearty appreciation of the constancy of your friendship and the unfailing urbanity and kindly consideration and forbearance which you have shown me in the discharge of the responsible duties of the office which I now surrender, hoping with all my heart that whoever succeeds me will witness more fruit-bearing than we have had so far. Still more let me say, that I thank you for consenting to my resignation, while such memories as have been alluded to are still fresh in my mind, and though my health and strength have for some time past been declin-

ing, I can but hope that I may so far escape mental failure as to enable me to cherish such memories to the end.

Yours in fraternal friendship,

JOSEPH PARRISH.

After some remarks, Dr. Crothers offered the following:

*Resolved,* That this association notes with regret Dr. Parrish's letter of resignation, and desire to place on record our unanimous wish that his letter be returned, and his name be continued as president.

As founder of this association, and most intimately identified with all its interests for a quarter of a century, his resignation cannot be accepted without leaving an inference unjust to all. While most kindly dissenting from his expressed wish, we take great pleasure in conveying our most sincere congratulations that he has been spared to see the association attain its present age, and become a permanent working force in the scientific world. We also express our confident hope that he may be permitted to share in our future successes, and see still greater advances of our association and work.

Remarks were made by Drs. Day, Mason, Shepard, Mattison, Quimby, and Russell, after which the resolution was unanimously passed.

A report on the "Mason Prize Essay" was read and ordered printed. The committee on secret drugs and nostrums made a preliminary report, and was continued for the coming year. (These reports will appear in the JOURNAL.) The old board of officers were re-elected for the coming year.

Dr. Thwing gave a short address "on Inebriety and Insanity in Japan." Dr. Mattison read some remarkable histories of *opium and other narcotic inebriates.*

On motion of Dr. Crothers a committee was appointed to arrange for a series of monthly meetings in New York city for a more exhaustive discussion of the many phases of inebriety, and also to celebrate the first quarter of a century in the history of the association.

A committee, consisting of Drs. Crothers, Mason, and Mattison, was appointed.

Resolutions of thanks to Dr. Crothers was passed, after which the society adjourned.

The committee to arrange for a series of anniversary monthly meetings decided on five separate meetings at the hall of the Academy of Medicine in New York city. The first meeting was held December 10, 1890. Dr. Mason presided, and delivered an address, which appears on another page; after which Dr. Crothers of Hartford, Conn., read a paper "On Alcoholic Inebriety and Life Insurance."

The second paper was read by Dr. Mattison of Brooklyn, on The Relation of Opium Inebriety to Life Insurance. (These papers will appear later in the JOURNAL.) After a brief discussion the association adjourned.

The second meeting was held January 7, 1891. Dr. Mason, in the chair, remarked that this was the first effort in this country to discuss the pathology of alcoholism for an entire evening.

The English Pathological Society two years ago spent two evenings in the study of this subject. Most naturally, our society should lead all others in this field, and we have done so along the lines of clinical study, and to-night we turn to study some of the latest facts which are known on the effects of alcohol on the system. We approach this topic with great confidence, that we are no longer alone; a constituency that is rapidly increasing every year are following us with deepening interest and sympathy. At last this great topic must come under the full blaze of scientific light, the facts cannot evade or escape the sharp scrutiny of the army of pioneer workers who are pressing on over the frontiers of science more rapidly every day.

Dr. G. T. Kemp read the report of the Mason prize essay, then discussed the latest conclusions of science on the pathology (see papers in this JOURNAL.) Dr. Weeks and others discussed the paper.

Dr. G. B. Hope read a paper on "The Action of Alcohol on the Throat," also published.

Dr. Mattison, in the absence of Dr. Wright, read his paper on "Brain Palsies."

Dr. E. Cutter read a paper describing healthy blood, and illustrated it by the lantern, showing the blood naturally and the effects of alcohol on the red corpuscles.

The association then adjourned.

#### ALCOHOL AND CHILDHOOD.

Professor Demme of Berne, at the recent International Alcohol Congress at Christiania, presented an interesting report of an investigation which he had made as to the influence of alcohol upon children. Having unusual opportunities for this study from his position as superintendent of a hospital for children, he selected two groups of ten families each, under similar external environment. One group of fifty-seven was manifestly affected more or less by alcohol; the other of sixty-one was unaffected, or at least very little affected. Of the fifty-seven who exhibited the effects of alcoholism, twenty had inebriate fathers, the mothers and grandparents being moderate drinkers. Only 45 per cent. of these (nine) had healthy constitutions; thirty-one had inebriate fathers and grandfathers, but temperate mothers and grandmothers. Only two of these, or a little over 6 per cent., were healthy. Six children had parents and grandparents intemperate; one of these survive, a sufferer from epileptic seizures. In remarkable contrast is the state of the sixty-one children belonging to temperate families, 82 per cent. of whom enjoy good health, three have died, and eight are in bad health. Professor Demme also reported the results of an experiment on several children, from whom all intoxicants were kept during eight months, and to whom the usual allowance of wine and water was given during the remaining four months of the year. These children were reported to have slept more soundly and longer, and to have appeared in better spirits and more active, during the non-alcoholic eight months than during the alcoholic four months.



## Abstracts and Reviews.

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### THE CURE OF THE MORPHIA HABIT.

This little work, by Dr. Oscar Jennings of Paris, brought out last year, has several features of value worth noting.

It details the Jennings' method of treating morphinism — the morphine *disease, not* habit — which consists in a decrease of the drug during one, two, or more months — at first hypodermically, if so habitually taken, and later by mouth or bowel. When reduction is nearing completion he employs sparteine and trinitrine — nitro-glycerine — the former by mouth, five to six centigrammes, thrice daily, as a cardiac tonic, and the latter with, or without nitrite of amyl, as a substitute for the morphia stimulus to the brain.

Drs. Jennings and Ball, by means of the sphygmograph, made the ingenious discovery that the pulse of a morphia habitué in the abstinence stage presents a peculiar, depressed plateau, due to cardiac weakness and arterial resistance, which is quickly restored by re-using the drug, and they found by experiment that sparteine and nitro-glycerine produced an effect on this tracing very like the habitual opiate.

Reasoning from this analogy, they employed these drugs, and with success. Dr. Jennings says, however, "sparteine and trinitrine are not *substitutes* for morphia, and will not take its place as long as a vital necessity for it remains, but when the weaning is almost complete they relieve the morbid craving . . . to a sufficient degree to enable the patient earnestly desirous to quit the drug." Several tracings illustrate these cardiac conditions.

He further thinks they afford proof as to an honest decrease. "If the plateau is not obtained when the patient ought to be in a state of want, he takes morphia secretly."

He advises treatment in special asylums, where patients are few, and, very wisely, insists on a proper, regular plan as regards drug decrease, both as to extent and time of taking, and the need of patients appreciating this, and assenting to it. And the same care and regularity should obtain as to food and sleep; no digestless meals at uncanny hours; no retiring and reading in bed under pretext of waiting for sleep. He is right. Boulimic indulgence should end; patients should go to bed at a proper hour, and lights out with the going. If at first unable to sleep they must persist in the effort, and the morphia effect expended in reading will be diverted to its proper channel and slumber come. Those who have had experience with these cases know how late and irregular their sleep-time is, and the break up of this bad practice should be complete.

He refers to another class — those who know more about their disease and its treatment than the doctor. There should be no half-way measures with such patients. They must be made to understand that, for the time, *their* ideas are to be in abeyance, and, if having confidence in their medical adviser, and hope of success, *he* is to direct. Dr. Jennings emphasizes this point by citing thirty-two cases treated during the past three years, six of which—some five, ten, and fourteen years' duration—faithfully followed instructions, and were cured. The others did not, and failed.

Dr. Jennings is in error when he says that the Mattison method consists in giving the bromide of sodium for "a week or so," and then reducing the morphia. The essential and original feature of that method is to reduce the opiate and give the bromide *at the same time*, during several days; increasing sedation with increasing reduction — not consecutive taking — so that one effect counteracts and controls the other.

He advises quitting the syringe and taking the drug by mouth. There is no question as to the wisdom and value of that change. Against the gastric disorder that may arise he uses soda-bicarb. freely in the form of Vichy water, and lin-

seed. Of the latter, he says, "both for morphia habitués and others, I know of no medicine to equal it in slow, laborious digestion with pain or heaviness, and in flatulent dyspepsia, with constipation or diarrhœa."

For the unrest of the closing period, he advises the hammock, and with some, the tricycle.

To control insomnia of the crucial quitting, he formerly used drugs, but now relies on the hot air bath, repeated, if needed, and followed, when proper, by a cold douche.

The unwisdom of free alcohol during treatment, and the special risk in its use by ex-poppy habitués is rightly insisted on.

We advise all who have a personal or professional interest in the subject to read this little book. MATTISON.

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#### CHRONIC INTOXICATION FROM MORPHINE.

This is the latest work from French sources by Dr. Reginier of the Paris Academy of Medicine. Time and space are not now at command for a review. His conclusions — to some of which we do not assent — are :

1. The prolonged use of opium or its salts cause a chronic intoxication called morphinism.

2. Every one who uses the drug is more or less liable to this result.

3. There are two causative factors — desire and need.

The difference in cause produces difference in symptoms — *i. e.*, two forms of intoxication, one free from accessory element, the other with a morbid appetite added.

5. This distinction is important as regards prognosis and treatment.

6. Patients of the first class are distinct from the second by absence of intoxication symptoms and mental manifestations, and by lack of special symptoms that may become grave on quitting the drug.

7. The disease is characterized by a sense of need ; by the almost constant presence of a nervous condition, heredi-

tary or acquired, or by physical or psychical signs of degeneration, and symptomatically by a mixture of physco-sensorial phenomena with those of morphia intoxication, pure and simple.

8. The quitting of morphia causes in the first class, a group of special symptoms that, as regards their intensity, are independent of the extent of the daily dose or the duration of the disease.

9. Morphinism will not absolve a person accused of crime, under pretense of lack of conscience or the force of irresistible impulse. It never causes irresistible impulses.

10. Morphinism alone seldom induces mental ravages up to entire irresponsibility.

11. It can, however, lead to mental modification, during which resistless impulse is possible. The mental symptoms caused by abstinence, more or less complete, should be considered in determining responsibility.

12. Morphine should be avoided or closely watched, even when the disposition to it seems slight.

13. Morphinism is a grave disease—not only as to individuals, but in its social and medico-legal bearings. It is rebellious to treatment and easily recurs.

14. A pre-requisite to success is careful surveillance to avoid secret supply.

15. The patient, however, should not be put among the insane or confined against his will, unless he presents symptoms dangerous to himself or to others. Then he is demented and asylum care is legally just.

16. Morphinism being so important as regards public health and morality, and especially decrease of population, it would be wise that stringent laws should forbid the illegal sale of morphine. The ease with which it can be gotten apart from medical advice is the leading cause of the growth of morphinism.

17. The prospect of success in severe cases is not good. Entire quitting is not always possible. Recurrence is likely. Complete cure cannot be hoped for save in recent cases without ancestral or acquired nervous taint.

MATTISON.



DISEASES OF WOMEN AND UTERINE THERAPEUTICS; BY H. MACNAUGHTON JONES, M.D.  
Bailliere, Tindall & Cox, King William Strand,  
London, 1890.

This well known manual of diseases of women has now reached the fourth edition, which is good evidence of its great value. The Fellows Hypophosphite Co. of New York are sending out complimentary copies of this work to their friends. No more practical gift could be made, and this company is doing good service to science wherever this work is sent.

IN DARKEST ENGLAND AND THE WAY OUT;  
BY GEN. WILLIAM BOOTH. Funk & Wagnalls,  
18-20 Astor Place, New York City, 1891.

This is literally one of the great books of the day, calling attention to the problems of pauperism, criminality, and charities, particularly of London, and suggesting remedies and means for relief. The medical reader is astonished at the broad views of the author and the practical scientific measures of escape.

Referring to inebriates and prostitutes, and the heredity which controls them, he says:

"Thousands upon thousands of these poor wretches are 'not so much born into this world as damned into it.' The bastard of a harlot, born in a brothel, suckled on gin, and familiar from earliest infancy with all the bestialities of debauch, violated before she is twelve, and driven out into the streets by her mother a year or two later, what chance is there for such a girl in this world?—I say nothing about the next. Yet such a case is not exceptional. There are many such, differing in detail, but in essentials the same. And with boys it is almost as bad. There are thousands who were begotten when both parents were besotted with drink, whose mothers saturated themselves with alcohol every day of their pregnancy, who may be said to have

sucked in a taste for strong drink with their mother's milk, and who were surrounded from childhood with opportunities and incitements to drink."

In a graphic, forcible way he calls for a million dollars to carry out his plan of establishing Rescue Homes in the city, and farm training schools in the country, and farm colonies in distant countries. He urges asylums for inebriates with equal clearness, and believes no reformation can be effectual unless it approaches the subject from the physical side. This work clearly outlines the most advanced views of the greatest thinkers, and will amply repay a most careful reading.

EPILEPSY, ITS PATHOLOGY AND TREATMENT ;

By H. O. HARE, M.D. F. A. Davis, Publisher, Philadelphia, Pa., 1891.

This little work is a prize essay, and an admirably condensed statement of the clearest authenticated facts on this subject known. The author is evidently a master in the art of clear, condensed statements of what is known, and he could do a great service to science by "boiling down" some of the thousand-page volumes that are coming from the press. This work is of great value to all physicians who wish to have the facts concerning epilepsy in the most available form.

The following extract on *alcoholic influences* gives the reader a good idea of the work and what is accepted as established up to this time :

"Another form of hereditary taint in this disease is the alcoholic habit in the parents, and here we are brought to another cause of epilepsy, which may be placed under the class of predisposing causes or heredity. It is evident, too, that in this condition epileptic children may result from the insanity of rum as well as the ordinary type of insanity.

"The relation of epilepsy to alcoholism does not end here, for the drug may not only produce epilepsy by inheritance, but directly in the drinker himself.

"As the two subjects are so inseparable they will be considered together.

"The alcoholic beverages which are particularly efficient in the production of epilepsy are those containing some aromatic, and of these absinthe is certainly most remarkable in its power. When injected into the veins of a dog or monkey it produces violent epileptic convulsions, which are eventually followed by death.

"In connection with the influence which alcohol exerts in producing epilepsy directly in the drunkard, it may be said that in nearly all such cases there must be lurking somewhere a tendency toward that form of nervous disturbance which breaks forth under the influence of the alcohol circulating in the blood, or is set going by the depraved state of the nervous system, the result of frequent debauch.

"Echeverria has analyzed 572 cases of alcoholic epilepsy; 307 were males and 265 females.

"Divided into classes 212 belonged to the middle or upper classes, 306 to the lower classes, while 108 were uneducated, and 57 were outcasts."

Dividing all the 572 cases into three classes, he finds :

Two hundred and fifty-seven could be traced directly and entirely to alcohol.

I. One hundred and twenty-six, in which there was also an associated history of syphilis in 67 and traumatism in 42 as an exciting cause. Of the remaining number of this group ague was given as an additional cause in 2 males, sun-stroke in 9 males, and the excessive use of tobacco in 1 male. Mental anxiety was also an exciting additional cause in 5.

II. One hundred and eighty-nine cases, 92 males, and 97 females, in whom alcoholism was the result of the epilepsy, quite as much as the epilepsy was the result of the alcoholism.

Of the first class 92 had alcoholism present, alone or with epilepsy, in the parents, while in 86 cases of division three a tendency was inherited from insane or epileptic parents or

grandparents. From these 225 cases he summarizes as follows:

In 39.33 per cent. there was a direct hereditary tendency to epilepsy or to alcohol and epilepsy.

Parental intemperance solely originated the predisposition to epilepsy in 17.30 per cent.

Parental intemperance associated with epilepsy or insanity existed in 15.96 per cent. of the males and 19.24 per cent. of the females, making a total of 17.48 per cent. of the entire number of cases. Parental epilepsy was found in 12.7 per cent. of the males and 15.84 per cent. of the females.

Parental insanity and epilepsy, without any history of alcoholism, was met with in 4.54 per cent. of the entire number of cases. The reader will note the difference between the percentage of males and females.

Parental intemperance, not ingrafted into insanity, without any history of alcohol save in the parents (not grandparents), is 2 per cent. lower in females than in males.

In the aggregate number of cases of intemperance in the parents, irrespectively put together, there is an increase of 15 per cent. in the males over the females. A preponderance of 3.28 per cent. again on the female side when intemperance is associated with heredity, or insanity appears as the hereditary cause; and this difference in favor of females is almost the same in relation to patients sprung from parents tainted with epilepsy.

Clarke has shown that this preponderance of hereditary epilepsy among females rises to a considerably greater extent as a predisposing cause of epilepsy and crime, being 66.7 per cent. among females against 38.1 per cent. among males.

Of the 139 epileptics of the first division with hereditary taint, 64 per cent. of the males and 82.2 per cent. of the females suffered from convulsions in childhood, although they did not become epileptic until after 18 years of age, and then in consequence of intemperance.

In most of the 86 cases of the third division who had hereditary taint epilepsy was developed in childhood, or before 15 years of age; and it is remarkable that every one of these had suffered from fits in childhood, while in addition 14 had left hemiplegia and 3 right hemiplegia and idiocy.

Four had wasting paralysis of one arm, 5 palsy of one leg, 4 Pott's disease of the spine, and 5 facial palsy. Five had strabismus, and 5 deafness and otorrhœa, all dating from infancy.

The chief point in the 67 cases of the second division, complicated with syphilis, is that in 49 of them the fits were followed by palsy.

Mental disturbances were more severe in these cases than in those of pure syphilitic brain-lesion.

In the third division there are still 103 cases to be accounted for, in which the cause was ascribed to head injuries and climacteric change.

Drouett collected 445 cases of alcoholism in males, of which 45 were epileptic from alcoholism alone, while in 87 female alcoholics 9 were epileptic. As to the age most common to alcoholic epilepsy, he finds that below thirty years the proportion is 1 in 15; between 30 and 50 years it is 1 in 8.

Moeli has studied the same question in Germany, and reaches the conclusion that alcoholic epilepsy is common, and that from 30 to 40 per cent. of all persons with delirium tremens are epileptic.

Martin has collected interesting facts as to the influence of parental intemperance in the production of epilepsy in children. In 150 cases of insane epileptics at the Salpêtrière he found 83 with such a history. He divides them into two classes, the first comprising 60 cases, or over two-thirds, in which alcoholism in the parents was a certainty, and, second, those in whom such a history was not so clearly defined.



The 60 cases belonging to the first class had 244 brothers and sisters. Forty-eight were afflicted with convulsions in early infancy. One hundred and thirty-two were dead in 1874 and 112 still living, nearly all of them young and nearly all with damaged nervous organizations. Of the second class there were 83 brothers and sisters, of whom 10 were epileptic and 46 still living.

These figures do not include the patients themselves, and all the patients were from different families.

When we summarize, we find that, in 83 families with 410 children, 108 were epileptic, more than one-fourth.

In 1874, 169 children were dead and 241 living, but 83 of these were epileptic, more than one-third.

An interesting case, which, to the author's mind, indicates disease followed by alcoholism, rather than alcoholism followed by disease, is one recorded by Bourneville, of a child aged about 4 years. There was marked alcoholism, produced by large quantities of white mice, for about one year before the attack of epilepsy, but at the autopsy there was found a softened condition of the brain and destruction of the cortex, the result of meningo-encephalitis.

The cunei were very small, blindness having been present for some months. Microscopical examination revealed sclerosis of the pyramidal ganglion-cells, most marked in the cortex in the occipital region.

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**NERVOUS EXHAUSTION; BY GEO. M. BEARD, M.D.**

E. B. Treat, Publisher, No. 5 Cooper's Union,  
New York City, 1890.

This work, written some years ago, is still of great value, and the leading book on this topic to-day. A new edition, edited by Dr. Rockwell, greatly enhances its usefulness. It is safe to say that no physician can be acquainted practically with this form of disease unless he has read this work. No other book published covers the same field so clearly and exhaustively.

A TREATISE ON HEADACHE AND NEURALGIA, ETC., ETC.; BY J. LEONARD CORNING, M.D., Author of Brain Rest, Treatise on Hysteria and Epilepsy, Etc. E. B. Treat, Publisher, No. 5 Cooper's Union, New York City, 1890.

This work is a fair resumé of the general facts and methods of treatment known and practiced in these most intractable disorders. The author is exceedingly practical and devotes most of the work to measures of treatment, many of which are new and original. As a whole this work is a valuable addition to the literature of this subject.

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THE ORIGIN OF THE ARYANS.—An account of the Pre-Historic Ethnology and Civilization of Europe.—By ISAAC TAYLOR, M.A., LITT. D.—Two double numbers (130 and 131) of the Humboldt Library. Price 30 cents each. The Humboldt Publishing Co., 28 Lafayette Place, New York.

The last ten years have seen a revolution in the opinion of scholars as to the region in which the Aryan race originated, and theories which not long ago were universally accepted as the well established conclusions of science, now hardly find a defender. The theory of migration from Asia has been displaced by a new theory of origin in Northern Europe. In Germany several works have been devoted to the subject, but this is the first English work which has yet appeared embodying the results recently arrived at by philologists, archaeologists, and anthropologists. This volume affords a fresh and highly interesting account of the present state of speculation on a highly interesting subject.

The publishers are to be congratulated on the new cover, which is truly artistic and durable.

MENTAL DISEASES; BY CHARLES F. FOLSOM, M.D.,  
Professor of Mental Diseases at Harvard College.

This is a very valuable condensed statement of the general facts of the most common diseases of the brain and the principles of treatment. "The Early Stage of General Paralysis," "Disorders of Sleep and Insomnia," by the same author, are two very suggestive monographs that should be read by all practical physicians.

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THE EVOLUTION OF SEX. BY PROF. GEDDES AND  
THOMSON, HUMBOLDT PUBLISHING Co., 26 Lafayette  
Place, New York City. Publisher, 1891.

This is another of those very choice scientific works issued by this firm, and sold for 30 cents a volume in two volumes. It is a most excellent work, well illustrated, and is replete with very valuable facts.

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TEXT BOOK OF HYGIENE, A TREATISE ON THE  
PRINCIPLES AND PRACTICE OF PREVENTIVE MEDICINE  
FROM AN AMERICAN STANDPOINT. BY GEORGE H.  
ROHE, M.D., Prof. of Obstetrics and Hygiene, at the Col-  
lege of Physicians and Surgeons, Baltimore, etc. Second  
edition. F. S. Davis, Publisher, Philadelphia, Pa., 1890.

This handsome volume of over four hundred pages, with good clear type, reflects great credit on both publisher and author. The arrangement of the chapters and the discussion of the topics, are practical and concise, and in most cases embodies the latest facts and views of all authorities up to date. It is a source of pleasure to find a classical work on this subject by an American author, and we most heartily recommend this work to all our readers, as deserving a place in every library of scholars and physicians. We shall notice this work again in the next issue.

The *Physician's Visiting List* of P. Blakiston Son & Co., has reached its fortieth year of publication, and is one of the most complete and compact in arrangement of any published. It is literally a volume of most practical facts in addition to the patient's list. Send for a copy.

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#### A MUCH NEEDED LEGISLATION.

The following editorial in the *Southern Medical Journal* of Atlanta, Ga., by Dr. Griggs, has the true ring of the twentieth century :

"Now that the representatives of the people are assembled at the capital in the capacity of legislators, it is in order for us to make such suggestions as will more fully acquaint them with our wishes and necessities.

"Some provision ought to be made for the care-taking and reformation of the unfortunate inebriates of the State. It is a crying shame that nothing has been done in the empire State of the South to give this greatly-needed relief. The world is very uncharitable towards the victims of alcohol. Prohibitory laws have proven a failure; public sentiment is morbid on the subject. Temperance union movements have done much good in educating public opinion, but cannot reach these poor, ruined individuals. What shall be done with them? If inquiry be made, it will show that a large per cent. of the crimes committed—especially the homicides—are due to the effects of whisky, or some other alcoholic liquor. The sale of intoxicants is licensed and the revenue turned into the public treasury, but there is no provision made to reform the miserable drunkard. Why is this? It is because of the *false opinion* that is abroad that drunkenness is a *sin*, but not a *disease*. Such belief obtains only among the uninformed. But we will not stop here to discuss the question. We know whereof we speak when we say that inebriety is one of the most intractable diseases known to the science of medicine. It makes a physical, mental, and moral

wreck of the individual, unless restored by appropriate treatment. Leaving all other questions aside, we feel that if the State of Georgia would establish and endow an asylum for these unfortunate citizens, it will prove a most economic legislation. The cost of keeping and prosecuting criminals, and providing for the insane in the asylum, would soon diminish sufficiently to admit of the establishing of suitable hospitals for the inebriate without any increased expense to the State. Humanity cries out, the heart-broken wives cry out, and the worse than fatherless children cry out for something to be done in this behalf. Legislators have promised to make needed reforms. Here is their golden opportunity. We are confident that Governor Northen will stand by them; that the people will give them their hearty endorsement, and when they return to their homes, it will be said, 'Well done, thou good and faithful servants.'

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MERCANTILE SPELLER, is a work compiling words and their prefixes used mostly in correspondence, and published by the author, Mr. Edmund Blunt, 159 Front street, New York City. It will be found of the greatest practical value as an office work. Send to the author for a copy.

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*Dr. Beaumetz* says, in a recent lecture, excessive alcoholic drinkers are diabetics often, and are able to use excessive quantities of spirits because of the functional activity of the kidneys to eliminate it quickly. When persons are found capable of taking large quantities of spirits without the usual intoxication, it is a hint of disease of the kidneys. Alcoholism and diabetes are frequently associated.

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The laws of *Draco* in force at Athens, condemned to death any person convicted of being drunk. Persons who were seen to enter a drinking house were dishonored ever after. Notwithstanding this, inebriety steadily increased, and became alarming in its extent and publicity.



*Editorial.*

## THE OUTLOOK IN 1891.

A quarter of a century has passed since the Association for the Study and Cure of Inebriety was organized. On a bleak November day in 1870, a small company of physicians formulated the first authoritative declaration of the disease of inebriety and its curability. For two thousand years this fact had been floating round the currents of scientific thought, alternately seen and doubted, described and denied. At last the time came for its permanent recognition, and the occasion, and the little group who realized its import, became a great historic landmark for a new and wider field of psychological research.

In January, 1871, the religious reform, temperance press, and daily papers, followed by the great army of "time servers and camp followers" of all progress and civilization, uttered loud protests and contemptuous sneers at the idea of the disease of drunkenness. This infant association was overwhelmed with reproaches, and many of its early friends deserted, and joined the ranks of the doubters.

Twenty years have come and gone, and the association numbers among its members leading physicians in every State of the Union. Among its corresponding and honorary members are some of the most distinguished scientific physicians of the world.

This issue of the *JOURNAL OF INEBRIETY* will be read by over two thousand physicians in every civilized country, and be found in nearly all the leading libraries, and asylums for insane and inebriates.

The early storms of opposition have not yet died away. The silent contempt of the older physicians (who are often mentally unable of recognizing new truths), like receding

storm clouds, still hang over the horizon. Mutterings and sullen echoes, denying the disease and curability of inebriety, except by moral means, are heard at longer and increasing intervals.

The army of scientific advance has taken up a line of march toward the solution of this "drink disease" from the physical side. The history of this march is the purpose and object of this JOURNAL.

A new era begins with this anniversary of the first quarter of a century, in the monthly meetings of this association for the special study of different phases of inebriety.

Abroad, both the *English, German, French, and Swedish* societies are manifesting great activity. Their reports and journals are replete with new and startling facts. Every year the scientific advance removes the subject farther from the realm of morals and ethics, to one of accurately observed facts and their meaning. To-day, inebriety is a question of *heredity, environment, defective* brain and nerve vigor, and mental contagion. The extent and popularity of the association is of small moment compared with the fact that its principles and workings *are right*. After a quarter of a century of bitter persecution, it is still leading all scientific work in this field, and the many discussions of particular phases of the subject is the unmistakable evidence of this fact. This is an advance of all other societies of the world. The JOURNAL warmly shares this honor with the association of following up this new path of psychological advance toward the solution of one of the greatest problems of modern times. Both JOURNAL and association send warmest greetings to its readers and members.

The approach of the new century brings with it greater promise, and greater interest in the possibility of stamping out inebriety and curing the victim, and changing all this terrible mortality, sorrow, and loss. Broad scientific study of facts and conclusions will point out the way and practical measures to secure this end.

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It is our painful duty to announce the death of Dr. Joseph Parrish at his home in Burlington, New Jersey, January 15, 1891. For over two years he had been suffering from organic disease of the kidneys, yet during this time he continued his literary work and interest, with much of his old time energy, up to the end of life. He was born in Philadelphia, Pa., in 1818; his father was a distinguished teacher and practitioner, and his early training and preparation for professional work were very superior.

He began the practice of medicine in Burlington, New Jersey, the home of his wife. Later he was called to the chair of Diseases of Women and Children in the College of Physicians and Surgeons in Philadelphia. After a time his health failed, and he resigned. Two years later he came back to his home at Burlington, and started the *Medical and Surgical Reporter* of Philadelphia, Pa., a very prominent and influential journal up to the present.

His health becoming impaired again, he went to Europe, and was soon greatly interested in hospitals and asylums, and spent two years visiting and studying the different institutions of the old world.

On his return he organized and conducted the Pennsylvania Training School for Idiots. During the war he was a member of the United States Sanitary Commission, and did much field service. After the war he organized and conducted the first private asylum for inebriates in the country at Media, Pa. In 1870 he organized the American Association for the Study and Cure of Inebriety. He was called a few years later as a special witness to go before the English Parliamentary Committee on Habitual Drunkards.

Still later he organized the Maryland Inebriate Asylum, and conducted it a few years. His wife became an invalid, and he went back to Burlington, where he passed the remainder of his life. Here he organized an asylum for

nervous invalids, which has been in successful operation up to the present.

Through all these busy years Dr. Parrish has led an active literary life, contributing essays, reviews, and original studies on many topics. He has visited Europe a number of times, and in 1879 he was given a public dinner in London by the English Society for the Study and Cure of Inebriety.

Dr. Parrish will be remembered more for his work in the Association for the Cure of Inebriates, and for his very suggestive studies along this new line of research. In 1883 he published a volume called "Alcoholic Inebriety from a Medical Standpoint," which was well received, and as a pioneer work was really remarkable for its clearness and scientific grasp of the subject. Like all others who lead human progress on new lines of thought, Dr. Parrish had some bitter and unfair opponents, largely from the ranks of so-called temperance reformers. With a generosity and kindly spirit that was rare, he seldom replied or referred to this, except to pity the ignorance and want of true scientific spirit of these critics. In both public and private life, Dr. Parrish was ever the same quiet, genial, magnetic man, who lived on a sunny plane, that was felt by all who came in contact with him.

Our society will ever be a monument to his genius, and far-seeing judgment, that recognized the time had come to organize the truth into the field of practical life. Farther down in the future a more accurate estimate of Dr. Parrish and his life-work will be made. At present we can simply note the fact that a really great student of the new realm of psychology has put off all that is mortal and passed away. He has left the world better, and raised the plane of scientific study into a new and wider field, and left behind him a flood of pleasant memories that will go on down with this generation to its close.

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## NORMAN KERR, M.D., F.L.S.

Our readers will be interested in the strong, attractive portrait of Dr. Kerr of London, in this issue, and be pleased to learn something of the personal history of the man who is now so prominent as a leader in the scientific study of inebriety.

Dr. Norman Kerr was born in 1834, in Glasgow, Scotland, and graduated from the university of that city in medicine, in 1851. After several years of study and travel on the continent and in America, he began active professional work at Bedford, England. A few years later he went up to London, where he soon built up a large general practice. His reputation as an advanced thinker in the medical study of inebriety began in student life; but a paper read in 1876, questioning the value of "stimulants in work-houses," and soon after two papers "On the Mortality of Inebriety," read before the British Medical and Social Science Associations, attracted wide attention and gave him prominence as authority in this field. These papers were widely circulated, and translated into other languages.

From this time, Dr. Kerr has been a voluminous writer and lecturer on all the varied phases of inebriety and alcoholism. He has persistently urged, with a marked clearness, that inebriety was a disease, and that inebriates should receive medical care and treatment, and also that alcohol was at least a dangerous remedy.

While these facts are not altogether new to science, they are really revolutionary to the public sentiment of the day, and of necessity bitterly opposed, and treated in many ways with contempt. But opposition never crushes out any real truth; it only gives it firmer root and growth, and rouses for its defense men of "heroic cast," with faith and courage that rise far above the levels of current thought. Such defenders are the great pioneer leaders of human progress, whether recognized or not in their day and generation.

In 1881 Dr. Kerr delivered an address "On Wines,



Scriptural and Ecclesiastical," which became a volume of unusual critical interest among scholars and theologians. The numerous pamphlets, papers, and addresses which followed each other in rapid succession, from Dr. Kerr's pen, were finally all condensed in a large volume, entitled "Inebriety, its Etiology, Pathology, Treatment, and Medical Jurisprudence." This work has already reached the second edition, and is recognized as the leading text-book on this subject, and is practically a monument of the author's genius and scientific discernment in this field.

Dr. Kerr was one of the founders of the Dalrymple Home, and much of its success is due to his untiring energy and skill. He is president of the board of management and consulting physician, and is practically the creator of this, the model asylum of England to-day. In 1884 Dr. Kerr organized the second society in the world for the medical study and cure of inebriety, of which he has been president ever since. This society and its work have attracted great attention all over Europe, and its papers and transactions are read with increasing interest. In 1887 Dr. Kerr was president of the first International Congress for the study of inebriety, which held a two days' session in London. This event marked a new era in the scientific study of inebriety, which has been felt all over the world. Dr. Kerr is an honorary member of many of the leading societies of Europe and America, and also of the American Association for the Study and Cure of Inebriates, and his papers in the *JOURNAL OF INEBRIETY* always attract wide interest and attention.

Although pursuing the general practice of his profession, Dr. Kerr's writings have placed him among the leading authorities of the world, and brought a large clientage among the alcoholic and opium inebriates; this, with the active care of the Dalrymple Home, and the growing demands for papers and lectures on this topic, make him one of the most busy men of the day. Fortunately, Dr. Kerr is of vigorous constitution, and is most happily situated in his social relations, having an accomplished wife and family, who most enthusi-

astically share all the trials and triumphs of his work. The pioneer teacher of the disease of inebriety in England has a harder task to overcome the errors and superstitions of long centuries than in America. Both have to struggle against fierce opposition, and endure the sneers and misrepresentations of cotemporaries.

While the truth may be accepted and endorsed by large numbers, the few pioneer defenders are still the objective points of attack for the doubters. Dr. Kerr has not yet escaped the fires of persecution which burn about every new advance of science. From all sides it is evident that the disease of inebriety and its curability is no theory and individual opinion, but a fact that can be demonstrated in every circle of society. Dr. Kerr's work along this line has given him a national reputation, and been of inestimable value to science and humanity, and his American cotemporaries fully recognize this, and with gratitude join in the warmest tributes to his praise. Dr. Kerr is yet in the prime of life, and the advanced work already done gives promise of a more brilliant future. The frontiers of the subject have been scarcely crossed, and among the few "videttes" who are marking out paths for the army of scientific advance Dr. Kerr will be remembered for his work far down into the future.

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#### ETHER INEBRIETY.

Dr. Hart's address on ether intoxication, before the English society for the study and cure of inebriety, has called renewed attention to ether drinking in the north of Ireland. The result has been that government has placed ether among the list of poisons, which makes it a severe penalty to sell it except for legitimate purposes and to responsible parties. This is practically prohibition, that will force the use of the drug into greater concealment, and possibly may break up its use in some measure, but cannot be an effectual remedy. The demand for ether as a beverage has existed in certain

sections of Ireland for at least a quarter of a century. While it never became very prominent it was ascertained that increasing quantities of ether were sent to these and other sections. Dr. Hart gave many facts and statements from which a most reasonable inference was drawn, that ether drinking was slowly increasing in other parts of the British isles. The cheapness and rapidity of narcotic action of ether, and also the rapid recovery from the intoxication seems to have made it a popular drink. Dr. Kerr in a recent paper expresses surprise that it has not spread all over the world ere this as a narcotic drink. One reason is that its manufacture is limited and difficult, and although it can be produced cheaply, unless the demand is prominent manufacturers will not supply it. It is said on good authority that the demand for these cheap methylated spirits has become very active in this country. The strong inference is that it is used as a beverage. Beyond a few cases of chronic alcohol and opium inebriates, who change from one narcotic to another readily, ether drinking seems to be unknown in this country. The spread of this new intoxicant will depend largely on the daily papers. If some unfortunate victim should become prominent and have his history and drink mania written up by the daily press, a large army of neurotics would be attracted to test the drug and use it ever after. Cocaine inebriety became prominent from this source. Hundreds of new recruits to this mania followed the widespread publicity of the history of a poor victim greatly exaggerated by himself and the daily press. Ether inebriety is clearly a threatening peril among neurotics in this country. The only remedy is to treat them as diseased and irresponsible from the beginning. Deprive them of liberty and place them in hospitals under exact medical hygienic and mental care.

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THE delirium and stupor from excessive use of spirits should be called poisoning, rather than intoxication. It is literally this, and no other term is more exact.

OUR association is to be congratulated on the effort to bring the study of inebriety more prominently before the profession by monthly meetings in New York. The success of the first two meetings clearly indicates that the profession are ready to welcome every new advance in this field. We are also much gratified to find among leading physicians in other fields less of the old time doubts and denials, and an expectant interest that, at the least, gives new encouragement to all our efforts.

The moralists and reformers have the same old suspicion that in some way we are supported by the dealers of spirits. On the other hand several papers have indicated that our work was simply prohibition and radical temperance effort in disguise. The old charge that our work was simply a personal advertisement, based on a doubtful theory, reflects the ignorance of the accusers, and is not worthy of notice. Our history for a quarter of a century is on record; our work and its influence has passed far beyond the region of doubt, and this last new movement to rouse a wider and clearer interest in the laws and forces which are at the foundation of inebriety can not be checked or influenced by individual opinion or theory. The papers read at these meetings, with the exception of Drs. Wright's, Crothers', and Mattison's, which will appear later, presented in this journal, are sufficiently clear in indicating the possibilities of the future, and the near approach of a great advance of medical interest and enthusiastic research into the malady of inebriety and its treatment and prevention.

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A NUMBER of excellent papers appear among our exchanges. Some of them preach very clearly righteousness, temperance, and judgment to come, and in the advertising pages teach rascality, drunkenness, and childish credulity. See the opium and whisky specifics, the consumptive and epileptic cures, and the vile books giving the worst kind of misinformation. Also see the offers of many dollars' worth

of books and goods for a dollar cash subscription to their paper. See also the land schemes, of free building lots, free tickets to some far-away country, where a human paradise is to be planted, etc. Life is very short and human nature is very weak, and the good editors of these papers will wake up some day and find they have been laying a heavy store of wrath against the day of judgment.

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DR. CARPENTURE of London, in a recent paper on sanitation, says: "The effect of intoxicating spirits is hereditary and much of the shortening of life is due to this cause. . . . To all nervous and hysterical persons, stimulants and narcotics are, even in small doses, absolute poison. . . . The increase of hysteria and nervous maladies are the legacies from drinking ancestors, and those who have violated laws of health.

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DRUNKENNESS in Edinburgh is not a punishable offense. Persons found in this state are arrested for their own protection and released upon recovery. In this country the punishment of inebriates as criminals is thought to be deterring force to check inebriety. The practical result is that the inebriate is educated into a criminal, and becomes a dead weight on the community.

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A WEEKLY return of the deaths in London and twenty-seven other great towns of England and Wales, show the highest mortality where the greatest amount of drunkenness prevails. The records of the police court are taken as an indication of the extent of inebriety.

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*The Cosmopolitan*, the new illustrated magazine published in New York city, has already taken rank among the great monthlies of the day. Its contents and illustrations are of the highest quality and character. A year's subscription is only \$2.40, and is a most valuable present to any one.



## Clinical Notes and Comments.

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### LEGISLATIVE CONTROL OF HABITUAL DRUNKARDS.

BY T. S. CLOUSTON, M.D.,

*Superintendent Royal Asylum, Edinburgh.*

The chief points in regard to which the treatment of insanity and the administration of the lunacy acts have special concern are :

1. Will habitual drunkenness be considered and treated legislatively as if it were a form of insanity?

2. Will the measures that attempt to control habitual drunkenness be available for the control of those bouts of drinking that so often cause actual insanity in predisposed subjects, when such bouts can be clearly shown to have caused attacks of mental disease?

3. Will our present asylums be used in any way for the custody and cure of habitual drunkards? And will the machinery provided by the lunacy acts be used in any way for this purpose?

That such legislation might affect this and every other asylum in the kingdom, if it mixed up ordinary mental disease, as we now understand it, and drunkenness, is very evident. No doubt there is a real connection between the two conditions, but there are also differences that seem to me essential, and that should be well considered before legislation takes shape.

The chief points of connection between excessive drinking and insanity are the following:

1. Alcoholic excess is the most frequent single exciting cause of mental disease, and it acts also as a predisposing cause in very many cases. During the past fifteen years we have had 837 admissions, in whom drink has been put down

as the cause, or 16.4 per cent. of all our admissions during that time. This may be taken as about the general experience of the country. Let us suppose that excessive drinking could have been put a stop to, would all those 837 persons have remained sane? It is certain they would not, but a large proportion of them would have done so. It must be clearly kept in view that such mental disease, so caused, is not "dipsomania," and may have little in common with it, and the proper treatment of such insanity is already provided for under the present laws.

2. Excessive drinking and mental disease are closely connected hereditarily in many cases. The children of drunkards sometimes become insane, and the children of insane people still more frequently become drunkards.

3. The same causes often tend to produce both, and in the same kind of people, viz., those of a too nervous constitution, whose power of control is innately below the average, or whose cravings are above it, of which causes the following may be taken as examples, viz., bad conditions of life, bad air, living too monotonous lives, over-work, over-anxiety, ill-health, injuries to the head, certain diseases of the brain, stroke, and in some cases the physiological crises and functions of life.

4. There are some cases of drinking that present some of the very same symptoms as many cases of mental diseases, viz., periodicity, impulsiveness, suicidal and homicidal feelings, loss of the natural feelings of affection towards wife and children and relatives, incapacity to do continuous work, mental or bodily, etc.

5. Many cases of actual insanity are accompanied by the drink craving. For such no new legislation is needed, however. The greater includes the less. In them the insanity is the disease; the excessive drinking is merely one of the symptoms.

6. Above all other resemblances we have this one, viz., that lack of the controlling power is the symptom most common to mental disease and drunkenness, and constitutes

along with a dominating morbid craving the disease itself in "dipsomania."

7. Mental disease always results from a pathological condition of the brain, and is a true disease, therefore, precisely of the same essential nature as many other diseases, and I think it is proved that habitual drunkenness often also results from a pathological condition of the brain, and is, therefore, in those cases a true disease. It is only when it is such a true disease that it is proper to call it dipsomania. This word is used at present very loosely and inaccurately, and often misleads.

On the other hand, the differences and distinctions between ordinary mental disease and habitual drunkenness, or even true dipsomania, are very marked. The following are some of those practical distinctions:—

1. Mental disease has not so commonly originated in the voluntary actions of persons suffering from it, as dipsomania; that is, much fewer cases of insanity could by any precautionary action have avoided the falling into the disease. Probably far more than one-half of all dipsomaniacs could at one period of their lives have so acted voluntarily as not to have become diseased drunkards.

2. The limited nature of the intellectual damage in dipsomania with the almost total moral damage is entirely different from most cases of ordinary insanity.

3. When the obvious symptoms of mental disease have disappeared under treatment, a certain short reasonable time only of convalescence and probation is needed before the patient can safely resume his work and place in society. He is then "cured" of his disease. But all experience of the dipsomaniac goes to show that a very long period of restriction of his liberty is needed for any possible cure. In him restriction of liberty of action is, in fact, the essence of treatment; while, in the case of the insane man, it is more of an accident, or adjunct of treatment.

4. The two classes don't do well together in the same institutions, and are apt to do each other harm. Nearly all

the experience of asylum physicians is in this direction. My own experience is so strong on this point that I never now take a true dipsomaniac who is not insane otherwise into the asylum if I can help it.

5. The medical and moral treatment is different in the two cases.

6. The public, and especially the lawyers, instinctively draw a marked distinction between the two, and have always done so. This must be caused by some real difference.

7. Intimately connected with the last fact and the first is the consideration that in regard to mental disease there is almost no room for any feeling but pity; while in regard to excessive drinking the feeling of blame also comes in, and should come in in the majority of cases. The feeling of censure is tonic and good for the patient. A dipsomaniac who does not take blame to himself is not in the hopeful way of cure. Making excuses for himself is commonly a part of his moral disintegration.

8. For the real cure of either habitual drunkenness or dipsomania we need in nine cases out of ten the patient's own determined effort, so far as he is able to put it forth, and his honest wish to be cured. Without that no power on earth will commonly cure him. This does not apply to mental disease to anything like the same degree.

9. In any ideal scheme for the treatment of dipsomaniacs and habitual drunkards, work, and the earning of their livelihood while under treatment, stand out much more prominently than in any such scheme for treating the insane.

10. Dipsomania, the real disease, cannot as yet be certainly distinguished from the vice of excessive drunkenness. They often need much the same treatment, and have far more points in common than dipsomania and ordinary insanity. Nearly all sound writers, such as Professor Gairdner, admit this. I certainly can't distinguish between the two in all cases.

I think there are two possible lines on which legislation might proceed in regard to this matter. The one would be to confine the provisions for treating cases to the true dip-



somaniacs who can be proved to be laboring under a real disease. If this were done, I think certain of the provisions of the lunacy statutes might be used. Notably for supervision the commissioners in lunacy might be available. But even then I should be most adverse to the present asylums being used as places of treatment, except in the limited class of cases to which I have alluded, where there has been a previous attack of actual insanity, and excessive drinking has been proved to have caused it, or to be essentially connected with it.

The other principle on which legislation might proceed would be that advocated by Professor Gairdner and others, viz. that as the distinction between diseased drinking and mere vicious indulgence is an "all but impossible distinction," and that it is in fact, "merely an academical question whether such an (incorrigible) drunkard is to be regarded as technically insane or not." Therefore it becomes "an expediency of the highest kind in respect of the victim himself and his family" to institute "a measure of legal restraint" to the otherwise incorrigible drunkard as such.

In Mr. Morton's bill the patients to be treated and reformed in the "Restorative Homes" proposed to be established are described as laboring under "a special form of mental disorder, the chief distinguishing features of which are excessive and secret indulgence in intoxicants, the craving for which is more or less persistent, or occurring in fits with remissions at intervals of time, and a marked change in the mental powers and moral character." This would open the door to contention in every case, whether it really came under the definition, while Professor Gairdner's scheme would avoid that. He, too, very properly urges that some more responsibility should be fixed by the new legislation on the sellers of drink in every case where intoxication has resulted from such sale.

I am greatly concerned that, whatever principle is adopted in future legislation in regard to the restraint of drinking, the 400 cases who year by year in Scotland are made actually insane by drink shall in some way be considered and



provided for, as well as the ordinary habitual drunkards. For their own sakes, and for the sakes of the rate-payers who have to pay for the process of cure in such cases, it is desirable that they should be prevented from obtaining the poison which has already upset their brain working. It should be made a penal offense to sell drink to any man who is known to have ever suffered from an attack of alcoholic insanity. It is yet doubtful how many dipsomaniacs and habitual drunkards can be cured; but it scarcely admits of any doubt that much insanity might be prevented were the facilities and temptations to drink to excess diminished, and drinking made a reasonable adjunct of social life, instead of the mere solitary gratification of a base appetite. — *Seventy-seventh Annual Report of the Royal Edinburgh Asylum for the Insane.*

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STIMULANTS AND WORK.— Different people will read with very different emotions of a plan of living by which the capacity for work may be rendered "almost unlimited." In the first place, a cynic philosopher has said that "leisure is the end of existence;" and in the second place, the means by which this illimitable power of work is to be attained involve the use of a drug belonging to the class which used to be called stimulants, but which it is now the fashion to call narcotics. Dr. J. N. Lane has published the result of his own experience; he recommends a cup of strong black coffee, without cream or sugar, preceded and followed by a glass of hot water, every morning before rising, or at least one hour before breakfast. The various secretions are thus stimulated, the nerve force aroused, and the day's labor rendered easier, no matter how the duties of the preceding day and night may have drawn upon the system. Another cup at four in the afternoon is, he says, sufficient to sustain the energies for many hours. Only recently, however, we commented on a paper by Dr. Mendel, describing the very injurious effects which an over-indulgence in coffee produced — general weakness, depression of spirits, aversion for labor,

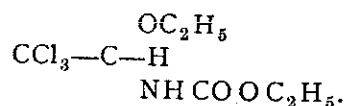
headache, and insomnia. Upon Dr. Lane's plan, somewhere about fifty grains of caffeine would be taken in each week, and the largest quantity noted by Dr. Mendel was sixty four grains, so that it would seem that the power of doing an illimitable amount of work is obtained only at the cost of going dangerously near the poisoning point. — *British Medical Journal*.

### NOTES UPON SOMNAL, THE NEW HYPNOTIC.

By FRANK WOODBURY, A.M., M.D.,

*Fellow of the College of Physicians of Philadelphia; Hon. Professor of Clinical Medicine in the Medico-Chirurgical College, etc.*

Last fall Radlauer,\* of Berlin, brought to the notice of the medical profession a new compound to which he gave the name of Somnal, in acknowledgment of the remarkable hypnotic properties which it appeared to possess. It was formed by the union of chloral, alcohol, and urethane, according to the original notice,† but is not a simple mixture of these bodies. It differs from chloral-urethane by the addition of  $C_2H_4$ , its formula being  $C_7H_{12}Cl_3O_3N$ . The method of manufacture is by direct combination of chloral alcoholate and urethane in a vacuum apparatus, according to its discoverer, who states‡ that its composition might be graphically represented thus:



Specimens of this new hypnotic having, through the courtesy of Messrs. Eisner & Mendelson Co., been placed in my hands for examination and trial, I will here very briefly communicate some of the results thus far obtained, reserving my final judgment upon the drug until experience has been more extended.

*Physical Characters.* — Somnal is a colorless liquid, resembling chloroform in its appearance and behavior when

\* *Zeitschrift des Apothekers-Vereins*, Nov., 1889.

† *Journal de Médecine*, Oct. 20, 1889.

‡ *Pharmaceutical Journal and Transactions*, Nov., 1889.

added to cold water, in which it forms globules and refuses to mix or dissolve. When shaken with water, the mixture is milky, but quickly separates. It is soluble in hot water and alcoholic solutions, and dissolves resinous substances and fats. The odor is faint, not very penetrating or disagreeable, and resembles that of the spirits of nitrous ether, or recrystallized chloral. The taste is very pungent; and for administration it needs free dilution. It may be given with whisky or solution of tincture of zingiber or syrup of licorice. Somnal is inflammable, burning with an alcoholic flame; it does not evaporate quickly, and leaves a greasy stain upon blotting paper. Specific gravity greater than water; reddens litmus paper slightly.

*Physiological Effects.*— In its action it resembles chloral in quickness of effect and naturalness of the sleep produced. No marked depressing influence was exerted upon the pulse or respiration rate, though it was noticed that the breathing became slower and the pulse slower and fuller as in natural repose. No disagreeable after-effects. The head was clear and the stomach was unaffected; the patients generally had an appetite for breakfast. No constipating effect. The kidneys acted rather more freely than usual. My colleague, Dr. Ernest Laplace, to whom I gave some of the drug for trial at the Philadelphia Hospital, writes as follows:

"I have given somnal a fair trial upon six patients at the Philadelphia Hospital. In no case were the patients told what was given them, so outside of the bare possibility of the patients' falling asleep through natural causes, somnolence was brought on by the drug. It was administered in a solution of tinct. zingiberis, in half-teaspoonful doses, and was found palatable.

"Administered at 4 P. M., at a moment when patients were not generally asleep, in four cases sleep came on within half an hour, which lasted from five to eight hours; the two other cases showed no effect from the drug. It is their habit to get at least gr.  $\frac{1}{4}$  of morphine sulph. to put them asleep

every night, as they are sufferers from intractable malignant growth.

"In no case was there any noticeable after-effect.

"I have not formed any opinion upon the length of time that the drug could be used daily upon the same patient.

"To this I might add that no depression of the normal temperature was noticed in any case in my hands, and thus far I have not used it in pyrexia."

*Therapeutic Application.* — The effects of somnal in producing natural sleep suggested its use in insomnia. The first case in which I used it was in a patient suffering with acute alcoholism, who had been under treatment for a fortnight in an institution where he had a free supply of liquor, and he came out rather worse than he went in. He was 39 years of age, very tremulous, and could not sleep, or if he dozed off would immediately wake up. I gave him, at about 3 P. M., thirty minims of somnal (or rather a drachm of a mixture of equal parts of somnal and whisky), well diluted, and went into an adjoining room to speak to an attendant. Upon my return I was surprised to find him fast asleep, although I had not been away from him more than fifteen minutes. He slept for four hours, and then was able to take something to eat. At 10 o'clock he had another dose and he slept until seven the next morning, having waked up once only during the night and insisted upon having another dose, and immediately after taking it he fell asleep again. The next night he was given a double dose at 10 P. M., and he slept all night without waking. No bad effects were observed. The somnal was given for four nights, when he was so nearly well that it was suspended, as he had good natural sleep at night and seemed quite restored. Alcohol was positively prohibited, the only substitute allowed being Elixir of Coca and Camellia (P., D. & Co.), in tablespoonful doses, in which it is true there was a small amount of alcohol, which was quite infinitesimal when compared with what he had been using. Somnal, therefore, acts well as a hypnotic in acute alcoholism as a tranquilizer and hypnotic.

In a case of neuralgia of the bowels (visceral neurosis of Allbutt), where the patient had a sleepless night, a dose of twenty minims relieved nausea and pain, and the patient fell asleep.

In syphilitic headache and insomnia, somnal in moderate doses failed to produce sleep, which was afterwards secured by potassium bromide and iodide, and antipyrine.

In cases of insomnia, fretfulness, and restlessness in young children, somnal with mint water and syrup offers better results than opiates, and is much safer. The same remark probably applies to the use of somnal in acute pneumonia, but I have not been able to confirm this yet by actual trial.

Without further going into detail it may be stated in conclusion that somnal acts as a hypnotic, but instead of depressing the system as chloral does, it slightly stimulates the gastric mucous membrane, relieves nausea and pain, improves the appetite, increases secretion (probably), does not cause constipation. The circulation, respiration, and temperature are not notably depressed after its administration. No disagreeable after-effects have been observed. As it is rapidly eliminated from the body it may be administered each night for a number of days without any obvious ill-effects. It acts very much like chloral, but is more pleasant to take and not so depressing in its effects upon the nervous system and the circulation.

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The *Pharmacology of the Newer Materia Medica*, published by G. S. Davis of Detroit, in monthly parts, is an exceedingly valuable contribution to this subject. It is the only publication of this kind published. The price is only two dollars a year.

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## SOME NOTES BEARING ON THE ADMINISTRATION OF IRON.

By JOHN AULDE, M.D., PHILADELPHIA.

Although iron is highly esteemed as a medicament, and is largely used for its tonic effect upon the system, so frequently does it occur that the patient objects, owing to some idiosyncrasy or fancy, that we cannot regard it wholly as an ideal hæmatinic. No apology, therefore, is required in offering to the profession a comparatively recent preparation which is free from some of the objections that have been urged against many of the iron preparations now in use. In order to make the reasons which I have to offer clear and distinct to the casual reader, I have deemed it wise to consider briefly some points intimately connected with the pharmacology of the drug. From this preliminary study we shall be in a measure prepared to estimate how nearly the new product comes to meeting the defects with which we have had to contend so long, and at the same time it may possibly lead to a more intelligent use of this well-known remedy. Besides the reduced iron, we have in general use the *ferric and ferrous* preparations, the latter being more mild, less astringent, and free from the objections to the ferric salts—that of coagulating albumen. Lethal doses of the ferric salts used intravenously in experimental investigations cause almost immediate paralysis of the central nervous system, fall of blood pressure, and death. Although the perchloride, when thus used, causes instant death by coagulation of the blood, it does not act in this direct manner when introduced subcutaneously; the nerves are unaffected, but at the points of elimination inflammatory action is set up, *e. g.*, the kidneys, liver, and intestinal mucous membrane show more or less effect.

Absorption takes place as a peptonate or albuminate, but it is taken up so slowly that no appreciable result follows,

unless, as just stated, it be used intravenously or subcutaneously. Absorption takes place more rapidly in catarrhal conditions of the intestinal tract, a fact to be borne in mind when exhibiting large doses, which cause gastro-intestinal catarrh. Small doses do not have this effect, nor does the metal appear in the urine from their administration, such as may be observed after the ingestion of large doses. It will be inferred from the foregoing that, by the exhibition of small doses of a soluble preparation of iron, it will be assimilated without causing derangement of the alimentary tract, and in this way the secondary effects — *i. e.*, the deposit of the metal in the system — may be avoided.

The fact should be kept constantly in view that metals have a poisonous action upon nerves, nerve centers, muscles, and upon all glandular structures; and as iron is a reputed hæmatinic, much harm may result from its injudicious employment, as there are evidently certain toxic effects following the long-continued use of insoluble preparations. This is a rule which applies especially to all insoluble iron preparations, and it is but reasonable to assume that whatever harm has been done through this means may have escaped attention, because few physicians are likely to investigate the presence of factitious diseases. Another factor which has contributed to lessen these evils is the slow process of absorption.

The foregoing observations apply with equal force to the effects of the drug upon the circulatory apparatus. While copper is an active agent in causing contraction of the blood vessels, iron produces slow contractions, showing that it is less irritant (stimulant) to the nervous system. This may possibly be accounted for on the hypothesis that iron is a normal constituent of the blood. Whether this effect is due to irritation (stimulation) of the vasomotor nerves — central or peripheral — or to a direct action upon the muscular walls of the blood vessel, is a question still in doubt. My own impression is that through the influence of the medication upon the nerve cells, the large doses (comparatively)

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arrest their function when contraction of the muscular structures in the vessels takes place. The ferric salts, owing to their property of coagulating albumen and blood, of course produce more marked effects than the ferrous salts. Digitalis and ergot among the organic, and barium chloride among the inorganic remedies, well known as vascular tonics, furnish apt illustrations of this important principle.

The effect of iron upon muscular structure has long been known to experimental physiologists, but I doubt if this knowledge is appreciated by many practitioners, who regard the possible benefits to be derived from the exhibition of iron preparations in proportion to the amount tolerated by the patient. Now, large doses, while they do not affect the irritability of muscular structure, lessen materially the amount of work it is capable of performing, while small doses increase the capacity of muscle for work. What is most to be desired, therefore, is a preparation not open to the objections inferred from these investigations; but owing to the necessity for consulting the palate of our patients, it is also desirable that the substance should be free from the nauseating effects which are so common to all preparations of iron. This combination I believe is to be found in that form known as levulose ferride, which was highly recommended to me several years ago by my friend, Dr. James Collins of this city.

Iron has a tendency to accumulate in the liver; small doses do not show this tendency, but they may serve to increase the functional activity of this organ, when given in a soluble, non-astringent form, by restoring cell nutrition to the normal.

The preparation known as levulose ferride is one which takes the place of a well-known and popular German product called Eisenzucker (iron sugar), very extensively used in domestic practice. I was led to the employment of iron sugar on account of its palatability, fastidious patients and children making no objections to it; but this has been supplanted by levulose ferride, which, in the form of tablet trit-

urates, will be taken as readily as chocolate bonbons. It is readily soluble in an excess of water, and practically free from any ferruginous taste or styptic effect when dissolved in the mouth, and is substantially a peptonate. The method of preparing is, briefly, as follows: To a certain amount of iron a measured quantity of malt-sugar (maltose?) is added and the mixture constantly stirred while exposed on a water bath. While it possesses all the desirable qualities mentioned, the presence of metallic iron may be determined by chemical analysis, the strength of the product being about three per cent.

This preparation, it will be apparent, will act much less actively as an astringent than even the ferrous preparations, but of course it cannot be expected to take the place of the ferric products which are sometimes demanded, as in the case of intestinal parasites (*sarcina ventriculi* and *lumbrioides*). On the other hand, it will be especially indicated for the relief of anæmia and chlorosis, owing to its ready absorption, lack of astringency, and its palatability. In all cases of defective nutrition from any cause, where the ingestion of any form of medicament is a trial to the patient, this product will be kindly received. A synopsis of some of the cases in which it is indicated, together with a summary of the effects following its employment, may prove interesting to the physician.

During the early summer months I had under observation a young mother with a six-months-old child, who presented a very anæmic condition. I had seen her but once since the delivery of her child, and anticipating that she would not be able to nourish it sufficiently and maintain her health, I had cautioned her in regard to the most appropriate diet. Notwithstanding every care had been used, she was finally compelled to seek medical aid or go to bed. All that this patient required was something for the purpose of increasing the amount of hæmoglobin, which would restore the integrity of the red corpuscles and improve the oxygen-carrying capacity of the blood. This being most readily

accomplished by levulose ferride, she was ordered to take tablets of this preparation, each containing three grains, after meals. To meet the emergency and increase the patient's strength until such time as the advantages of the iron would be apparent, small doses of strychnine ( $\frac{1}{60}$  grain) were administered along with the iron. Ordinarily this class of patients, when they begin in the early summer, suffer more or less from the effects of the heat, and become regular patrons of the doctor; but this patient did not make her appearance again for about two months, when she said she thought it was about time to have a little more of the same medicine. I may mention in passing that the first medicine was sufficient only to cover the first ten days, and the patient seemed greatly disappointed that she was compelled to return.

So many children are so promptly benefited by the use of a small quantity of iron, that it is a great drawback to us that no palatable preparation has been discovered and put on the market. I have in mind a little fellow who has long been very much averse to eating meat, due, I presume, to defective digestion, but for the past few weeks, since he has been taking the levulose ferride, he seemed quite content to eat meat alone, and is becoming strong and robust. Not long ago I had a visit from a lady, who brought with her a young lad, age fourteen, who had a most forbidding, cadaveric expression, and he could eat no meat. His brother, I was told, had died at about this age from Bright's disease, and this one presented all the symptoms peculiar to the brother who died. Still, with attention to diet, outdoor exercise in the country, and a tablet triturate containing three grains of levulose ferride after meals, he made a prompt recovery. Although I was unable to discover any symptoms of Bright's in this instance, I was impressed with the depression due to the anæmic condition; and yet, without some readily assimilable iron preparation, it would have been a tedious process to start him on the way toward recovery.

Late in the spring of the year a gentleman, age about



thirty-five, called on me, complaining of dyspepsia, although he had been under the treatment of another physician for overwork for the preceding four years. After regulating his diet, and adopting treatment calculated to restore the activity of the digestive apparatus, he was placed upon levulose ferride along with strychnine sulphate (3 grains of the former in tablet form, and  $\frac{1}{60}$  grain of the latter), and did remarkably well on this combination. This product, like all other mild preparations of iron, is mostly indicated in cases of this class, and along with these may be mentioned chorea, convalescence from lingering diseases, like typhoid fever, and in all such instances I venture to anticipate that the results will be especially favorable where proper attention is given to dietetic measures.

The administration of the remedy may be confined to the use of the powder, which is taken dry on the tongue, dissolved in water or coffee, or it will be found more convenient in the form of tablets, each containing three or five grains. The dose for children ranges from three to ten grains, and for adults from five to thirty grains. — *Medical Record.*

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#### ALCOHOL ON THE TEETH.

Dr. McEhewney of Ottawa, Canada, writes to the *Woman's Journal*:

Alcohol is an active irritant, especially when brought into contact with such sensitive mucous membranes as those found lining the mouth, throat, and stomach. The first contact may not produce a serious result, but when the applications are continued from time to time, irritation is increased until the vitality of the parts become impaired, and then the irritation is self-sustaining, developing chronic inflammation. The effects of alcohol on this now chronic inflammation are disastrous in the extreme, the functions of the surface becomes impaired, and the secretions vitiated, leading to various and complicated disorders of the whole system. This, in

general terms, is the action of alcohol upon the stomach, mouth, and throat.

It is well known that there is a nervous sympathy between the stomach and the teeth, and between the mucous membrane of the mouth and throat and the stomach.

When the stomach is disordered by alcohol, the pulps, or what are commonly known as the nerves of the teeth, become congested and liable to inflammation, this being aggravated by the irritated and unhealthy state of the mouth, soon culminates in disease and death of the pulp. The teeth being robbed of that which supplies their nourishment and vitality, decay with great rapidity. Abscesses form on the roots and the whole mouth becomes the seat of active disease.

Nor is this process a painless one, for the nerves that supply the teeth are derived from the trifacial or fifth pair which also supplies a number of the muscles of the face and the sense of taste.

Herein lies the key to the excruciating neuralgic pains, contorted face, and impaired sense of taste that is the common lot of the poor inebriate.

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DR. NIMS, Superintendent of the Northampton Lunatic Hospital, remarks as follows on hospital treatment: "The man who lives beyond his income soon becomes bankrupt; so the man who expends his strength and vitality faster than he lays it up in store soon fails in health, physically and often mentally. It becomes an important question, then, in the treatment of insanity as well as in other disorders, how to preserve and restore the normal balance between the outgoing and incoming energies of the body. We cannot expect to overcome at once the morbid tendencies which are the result of unfavorable influences extending back through generations. We may not restore to soundness the organs which are structurally diseased, but we can, and often do, bring about more healthful conditions, and place the patient on the road to recovery.

"The medical service in a hospital has special advantages, inasmuch as the patient is under the direct supervision of the physician. Any case of illness may receive immediate and as frequent attention as the conditions demand. The administration of medicine is under his complete control. He can regulate the surroundings of the patient as to sanitary condition, diet, nursing, exercise, and occupation. The abridgment of personal liberty brings a very strong influence to bear upon the patient. The regularity of hospital life and discipline and restraint are often serviceable in correcting those eccentricities and peculiarities which the insane are so liable to fall into, and lead to the formation of habits which are necessary to physical and mental health.

"The opprobrium of hospital treatment is the small percentage of cures which are effected. It is unquestionably true that in the light of present medical knowledge a large proportion of the cases admitted to the hospitals are incurable when admitted. The entrance to the hospital is often the last resort, after all other known means of cure are exhausted. When the best efforts of medical skill have failed, and when the round of moral treatment has lost its charm, the patient comes to the hospital for help. Can it be wondered at that the last experiment so often fails? Yet statistics and experience show that the conditions of hospital life are peculiarly efficacious in benefiting and restoring to health thousands of cases which come under its supervision and care, and upon this must we rely until science shows us a better way."

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WHERE are our young men to-day, and what are they in character? In Washington are 30,000 young men, but less than 3,000 of them are members of the churches. On a single evening 168 young men entered ten church prayer-meetings, and the same evening, in one hour, 365 entered ten of the 1,000 saloons licensed by our government under the shadow of the Capitol. In a city of 17,000, 1,021 young

men entered forty-nine saloons in one hour, and in another city of 38,000, 600 young men were found in seven of twenty-eight saloons in one evening. In Leadville, Colorado, on a recent Sunday evening, 250 young men attended eight churches, and 2,000 entered six of the seventy-six saloons of the city. In Providence, R. I., on an evening not long since, 354 young men entered five of the 100 saloons of the city in two hours. Evansville, Indiana, has 237 saloons, and on a recent Saturday evening 450 young men entered four of these saloons in two hours. In Carlisle, Pennsylvania, in three hours on a certain evening, 1,358 young men entered eleven saloons. Our young men do not march in force toward the doors of the sanctuary, but in fearful numbers they are marching toward the saloon dens of death.—*Boston People.*

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#### TORONTO SANITARIUM. — FOR THE TREATMENT OF ALCOHOL AND OPIUM CASES.

THE Toronto Sanitarium Association, chartered over a year ago by the Ontario Government as a joint stock association, have secured the site for their institution, which will be the first of its kind in Canada for the treatment of narcomania. Though the undertaking is of a philanthropic character, its basis is commercial. A number of such institutions in the United States have obtained most satisfactory results in the treatment of persons suffering from the effects of alcohol, opium, morphia, cocaine, chloral, etc. The victims of these narcotics are diseased, and their disease will, it is held, succumb to treatment just the same as any other form of disease. The Toronto sanitarium will be situate at Deer Park in the late residence of Mr. George Hague. Grounds three acres in extent are attached and will be laid out in the most approved style of landscape gardening. The house, before being fitted up for its new use, will be enlarged to more than twice its present size. The company have a capital stock of \$50,000, enough of which is subscribed to insure the success of the enterprise. The institution will be

ready for the reception of patients at an early date. The following are the new board and officers :

Board of Directors.—Ald. Gillespie, B. H. Dixon, K.N.L., Hon. Charles Drury, Hon. S. H. Blake, N. W. Hoyles, H. O'Brien, W. G. Storm, C.E., Stapleton Caldecott, R. Kilgour, D. W. Alexander, T. J. Wilkie, J. A. Carlaw, C. S. Elliot, George Hague, Kingston ; George Foster, Brantford.

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Medical Superintendent, Dr. C. Schomberg Elliot.

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DRINK AND MURDER. — A whisky drinker will commit murder only under the direct excitement of liquor ; a beer drinker is capable of doing it in cold blood. Long observation has assured us that a large proportion of murders, deliberately planned and executed without passion or malice, with no other motive than the acquisition of property or money, often of trifling value, are perpetrated by beer drinkers. We believe further that the hereditary evils of beer drinking exceed those proceeding from ardent spirits — first because the habit is constant and without paroxysmal interruptions, which admit of some recuperation ; secondly, because beer drinking is practiced by both sexes more generally than the spirit drinking, and thirdly, because the animalizing tendency is more uniform, and the vicious results are more generally transmitted. — *Pacific Medical Journal.*

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Parke, Davis & Co. have put on the market a new preparation of great value. It is called *Mosquera's Beef Meal*, and is a perfectly pure, predigested meat, containing all the nutritious constituents of good lean beef, half of which are in soluble form, ready for immediate assimilation, and the other half easily digestible by the gastric and pancreatic



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Dr. O. J. PRICE, Chicago, says: "I am using it either alone or in combination with such agents as quinia, nux vomica, pepsin, etc., in certain forms of dyspepsia, characterized by lack of tone, or deficient muscular power, and have derived very satisfactory and beneficial results."

Dr. A. S. MAY, Forest, O., says: "I find it an excellent menstruum for the administration of comp. tr. cinchona, in recovery from malarial fevers, where there is impaired digestion."

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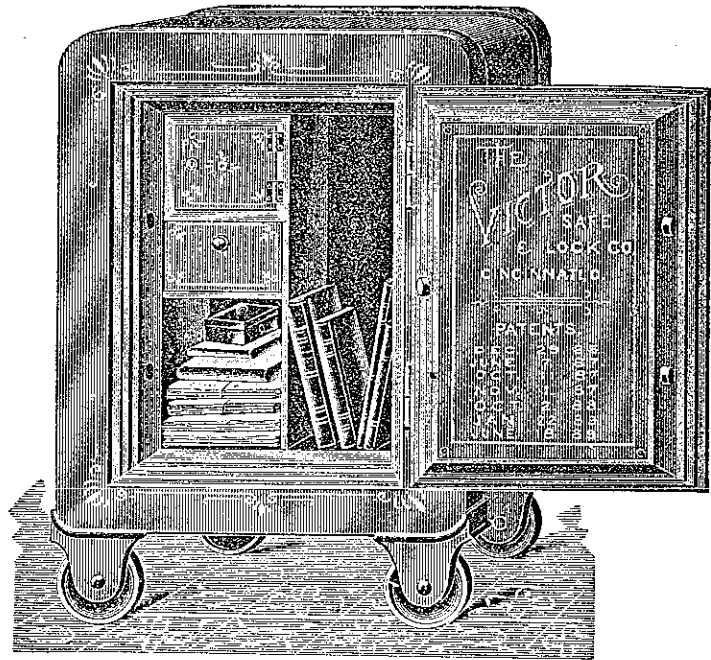
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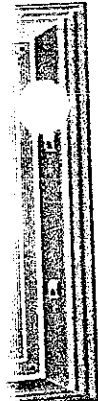
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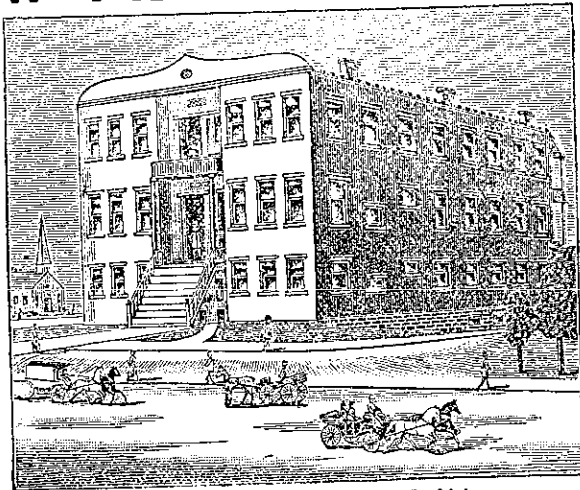
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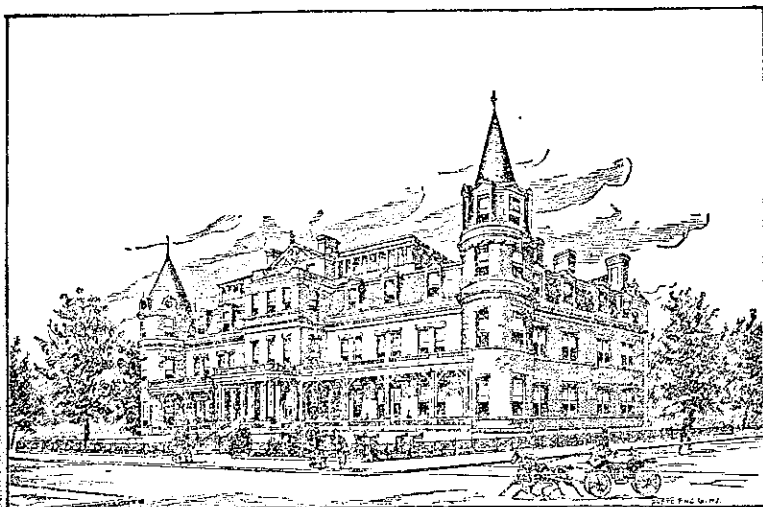
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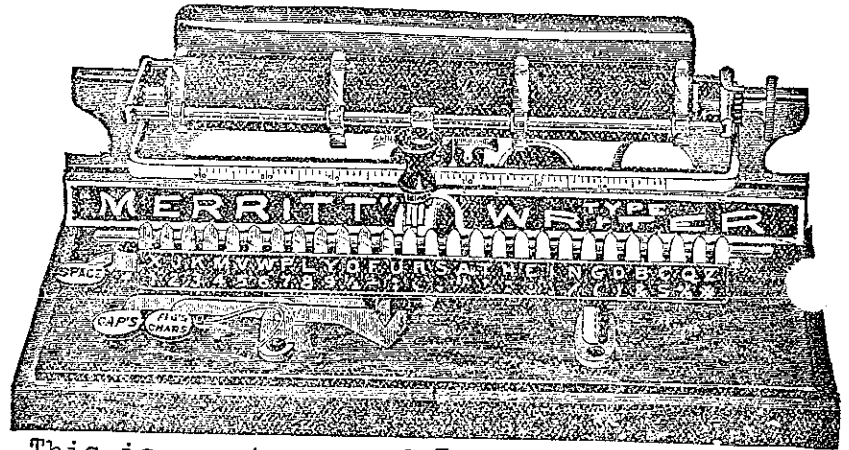
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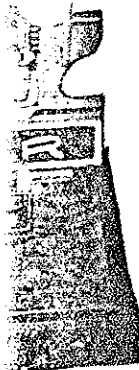
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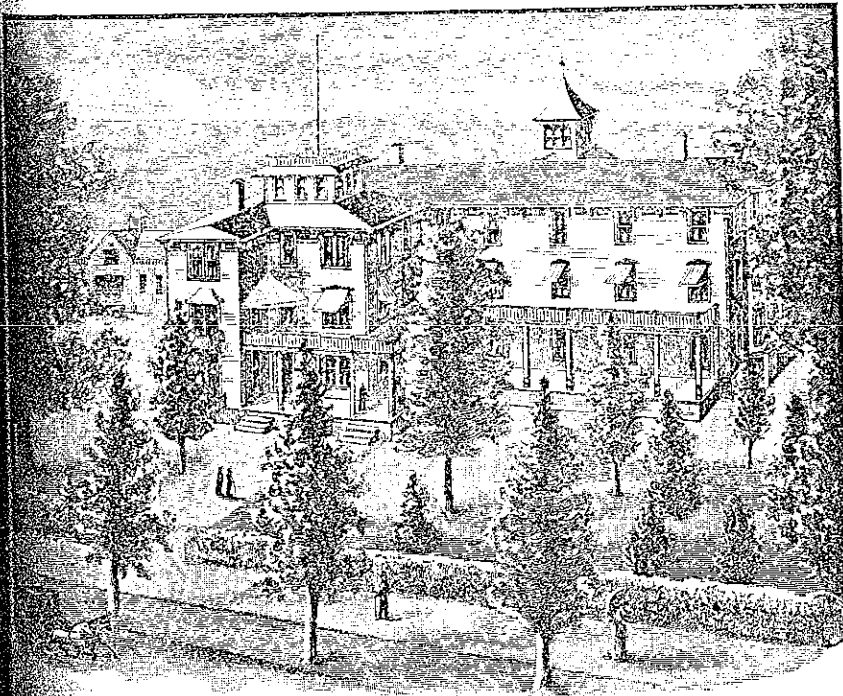
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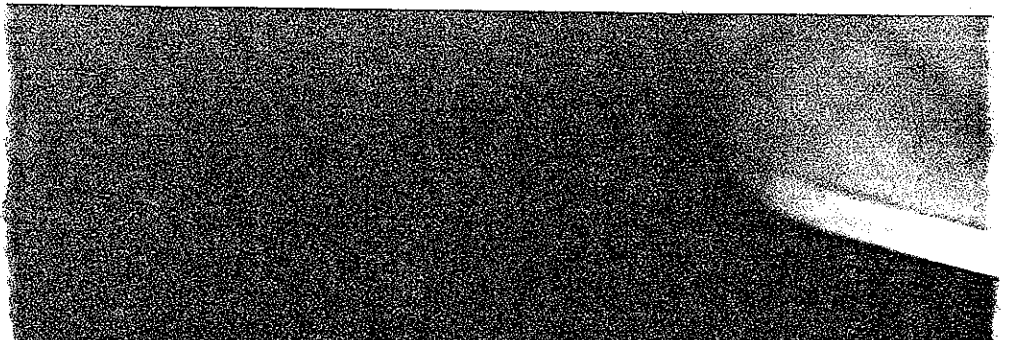
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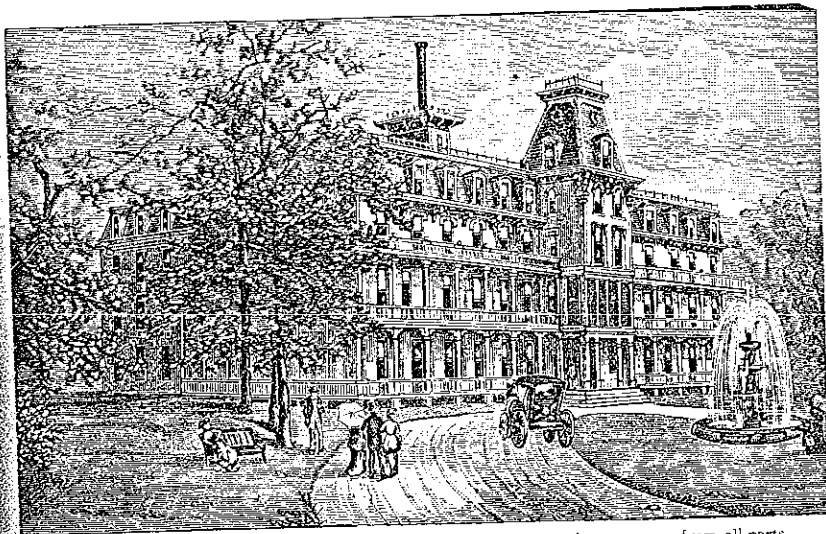
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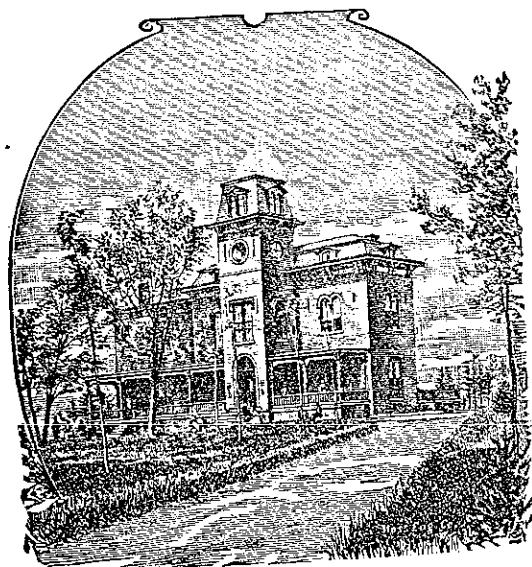
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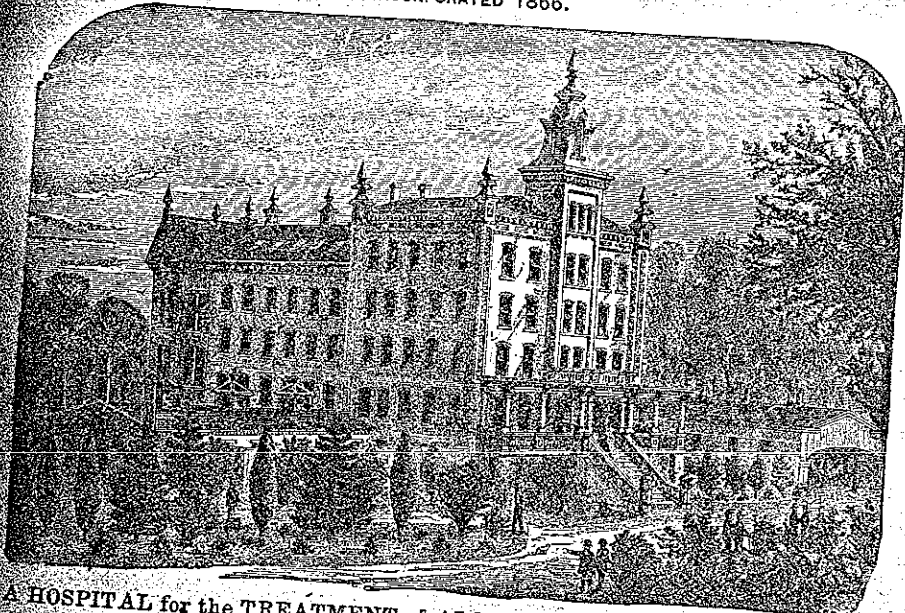
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