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THE PATHOLOGY OF INEBRIETY, AND THE  
IMPORTANCE OF THE EARLY RECOGNITION  
AND REPRESSION OF THE DISEASE  
IN ITS EARLY STAGES.\*

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Before entering upon the discussion of the pathology of inebriety, I desire to say a word relative to the lack of interest in the disease of inebriety by the general profession.

When we reflect upon the fact that an insane temperament which may be transmitted to offspring may be established by the alcoholic habit; that the alcoholic appetite may originate in moderate indulgence to become fixed and hereditary, that epilepsy, hysteria, idiocy, and insanity result from the alcohol habit and become hereditary; that the people of the United States spend, in the period of eleven years, for alcohol, more than the entire value of their agricultural, mechanical, and manufacturing products; that thirty-three and one-third per cent. in New York, and probably a similar per cent. in every large city, of all deaths are occasioned directly or indirectly by the use of alcoholic drinks; that from thirteen to twenty-five per cent. of all

\* Read at the International Congress of Hygiene, London, England, July 6, 1887.

cases of insanity, according to different asylum superintendents, become insane through alcoholic drink; that the progeny of alcoholics are peculiarly liable to degenerations of the nervous system; that the alcoholic habit is antagonistic to the highest standard of bodily health and vigor, and of capacity for work of individuals and of communities; when we reflect upon these indisputable facts, then every thoughtful physician must realize that we have before us one of the deadliest evils that curses modern society, and we can but wonder at the astonishing apathy that exists in regard to the importance of a thorough knowledge of the disease of inebriety in the daily work of every member of the profession. The chief study in this direction ought not to be limited to the small band of specialists in the profession who are devoting themselves to the care and cure of inebriates. The disease of inebriety does not chiefly fall in its practical relations within the working limits of this exceedingly small band of specialists in the profession, nor is its study so difficult as to be at all impossible to the busy practitioner. He is the one who first meets with it in its early, curable stage, and it should be alike his duty and pleasure to instruct the public that the effect of alcohol penetrates to every part of the living body, that there are but few blood-vessels, not a muscle, not an active portion of any of the membranes, not a secreting gland, small or large, not an organ of sense, not a single viscus, whether pelvic, abdominal, or thoracic, which is not interpenetrated by alcohol, when the alcohol habit is indulged in. That it causes marked changes in the rate and force of the heart's action, in the tenuity of the muscular arteries; that it alters temperature, and causes changes in the rate of action of glands and muscles; that it causes changes in the varied forms of sensibility, from the most general to the most special; and that it causes the most grave changes of all in the most exalted of all functions comprised under the head of mind and mental operations, until finally the co-ordination function in the brain is overthrown, and the consciousness of personal identity and responsibility is destroyed.

We desire to say that from some years' experience in the field of diseases of the mind and nervous system, that we know of no disease of the nervous system more grave and more demanding a careful, methodical, intelligent plan of treatment than the disease of inebriety.

Let the profession regard inebriety in its true light as a physical disease, amenable to treatment, and aim to instruct the communities in which they practice medicine as to the physiological action of alcohol on the functions of the human body, and the science of preventive or sane medicine will owe an incalculable debt of gratitude to them for disease and death prevented, and much domestic misery averted. With these preliminary remarks we come to the subject of this paper, "The Pathology of Intebriety."

In considering the pathology of inebriety, we must look for a moment primarily at the complexity of the nervous system, its manifold functions and its extensive distribution.

We have the cerebro-spinal system, consisting of the encephalon, the spinal cord and the encephalic and spinal nerves, the organic system of nerves, consisting of the pneumogastric or vagus nerves, and the great sympathetic system, including the vaso-motor system of nerves. In the disease of inebriety the primary motor changes are not in the nerve elements themselves, or in the interstitial connective tissue of nerve, except in those who inherit a structurally degraded nervous system, but it is initiated by altered quality of blood and secondary disturbance of nerve function. The interference with the proper and well-balanced working of the nervous system in the disease of inebriety depends primarily upon the supply of blood to the different nerve centers, being neither definite in amount, nor uniform in quality. The proper nutrition of such centers, and their normal molecular mobility, is at once disturbed, and the maintenance of the accustomed degree of excitability in the different nerve centers is interfered with, and we get at once an exaltation, diminution, or other perverted activity of the whole nervous system. The variations taking

of the perverted conditions of the nerve centers involve a general altered action in that part, but a perverted action of a mass of all other related parts. Thus, in the case of inebriety we get the most varied grouping of the final phenomena, traceable to altered action in the nerve masses, and having for a starting point some perverted functioning of one or more nerve centers. We have in inebriety marked conditions of a progressive type, ending in several forms of atrophy and degeneration, showing themselves more especially in the nerve cells of the brain, spinal cord, and sympathetic ganglia.

Concerning the wide and varied phenomena of the disease of inebriety, we meet with perverted sensation and perception; perverted emotion and ideation; perversions of consciousness; perverts of motility; nutritive or trophic change and perverted visceral actions. In the class of perverted sensation and perception we have the special senses interfered with. In the class of perverted emotion and ideation we have a long range, from mere mood and display, to a total insanity. In the class of perverts of consciousness we see drowsiness, stupor, and coma. In the class of perversions of motility we see tremors, paralytic spasms, both tonic and clonic, and also co-ordinated spasms, as in the epileptiform attacks of inebriates, parastis and defective co-ordination of muscular acts. In the class of nutritive or trophic changes, we meet with degeneration of brain tissue itself, inflammation and congestion of the lungs, or as hemorrhages into these organs, thinning of hair and altered pigmentation of the skin. In the last class, that of perverted visceral actions, we see general activity of the stomach, intestines, bladder, and heart, and in women, of the uterus.

Inebriety is a disease caused by heredity, by defective nutrition, by cerebral shock, by physiological crisis, by visceral diseases, and by structural changes in the brain. We may find a plethora of the brain in inebriety, with the blood in the capillaries deficient in quantity and defective in quality; we may have secondary atrophy of the brain; we

may have hyperaemia of the brain, with increase of quantity of blood in the capillaries, with symptoms either of excitement or depression. We may have edema of the brain, with infiltration of it and of the pia mater with serum, especially when the case of inebriety is associated with Bright's disease. The cerebral substance itself is not infiltrated. In these cases we see a slow diminution of mental power and motor force. We may have softening of the brain from vascular obstruction, depending on vascular degeneration, causing thrombosis, or valvular disease of the heart causing embolism. The former in inebriates is the usual form, and it is associated with chronic alcoholism and Bright's disease. There are generally the premonitory symptoms of mental deterioration, numbness, pains in the limbs, and pains in the head, in the brain, softening of inebriates. Subsequently we see mental dullness, defective perception, growiness, loss of memory, slight delirium, emotional attacks, headache, articulation and handwriting bad, the delicate motor acts badly performed, and less of physical power. Dementia may end the scene.

Inebriety is a disease exhibiting certain essential psychic and physical signs. It is a disease in which the tone and power of the nerve centers are lost. There is generally, and I believe always, could we get at the true family history, an inherited neuropathic constitution; but here, as in insanity, it is in the higher classes very difficult to elicit the whole truth from the relations. It is a disease, perhaps, more than any other excepting insanity, requiring for its cure time, and long-persisted hygienic influences to restore the normal vasomotor condition, affecting the nutrition and circulation of the brain and nerve centers. The importance of the early recognition and the repression of the disease of inebriety in its incipient stages, has thus far received very little or no attention, even at the hands of those who have written extensively on the subject.

Inebriety is, like insanity, a psycho-neurosis, which either attacks an intact brain, or more frequently a brain not

infect, but predisposed to the acquisition of inebriety by hereditary or acquired vices of conformation or nutrition.

It has an early prothromic, very curable stage. The same remarks, which in my writings on insanity I have applied to that disease, apply with equal force to the disease of inebriety, that there is an early, neurotic, equivocal state, afflicting but little from perfect sanity, but which is the earliest phase of mental alienation, and if recognized by the general practitioner and promptly treated in this incipient stage, subsequent trouble might be averted. A very careful study and comparison of the two diseases of inebriety and insanity has shown conclusively that in both alike we have early prodromatory symptoms, which, unrecognized and unchecked, lead or lapse into active inebriety and dipsomania upon the one side and into insanity on the other. They are grave physical symptoms, and should lead to an early diagnosis by an intelligent physician, especially if he suspects that his patient has been previously a so-called moderate drinker. As I shall show presently in detail, in this early stage of the disease of inebriety we have general malaise, impaired nutrition and assimilation, muscular atonicity, changing the facial expression, and neuralgia. There is at times cerebral anemia, and there is mental depression and insomnia. There are profuse perspirations and a loss of the normal elasticity of the skin. There are periods of marked mental inactivity, alternating with a hyper-activity of the mental functions. There is physical and mental prostration, muscular feebleness and mental dullness. There is, or may be, vertigo and confusion of mind also. Dyspepsia is also often present.

Inebriety is to-day a neurotic affection, preceded by a distinct interval of morbid nervousness. In the American of to-day, and I think in the Englishman also, there is a greatly augmented susceptibility to the action of stimulants and narcotics. This is due to the increasing complexity of the nervous system, and to the increased complexity of life. Our brains, as Sir Grichton Brown has truly said, are finer in structure, more subtle in mechanism, and also more unstable

than were those of our ancestors. The conditions of modern life acting on our complex and extensible nervous systems, cause our increased nervous diseases, prominent among which stand inebriety and insanity. Given in a certain case an inherited neurophatic constitution and dipsomania will appear in the exhibition of the slightest exciting causes. This causes an important feature of the disease. Cosmical influences operate with great readiness in producing an outbreak of the disease in persons thus predisposed to it. The phenomenon of nervous exhaustion, which one who inherits this neurophatic constitution generally exhibits before the actually developed disease, are certain functional disturbances of the whole bodily organism. There is a relaxation of the general muscular tone which gives rise to partial or total loss of voice, generally painful, the chest bones being weak, relaxation of the facial muscles, giving the face an enervated, spiritless appearance, relaxation of the orbicular and orbital muscles, giving a tired worn-out expression to the eye, and this same relaxation of the general muscular tone in extreme cases may produce involuntary debecation and emaciation. There is cardiac stimulation and palpitation, the palpitation being the more prominent. Irregular action of the heart best expresses this state. I refer to "If you command the individual to hold out his hand and arm perfectly straight before him with the palm downwards you will perceive that the hand trembles visibly." This is a very good test for the general relaxation of muscular tone all over the body, and a very simple one. There is vocal tremor, trembling of the legs especially about the knees, atony of the digestive excretory, and other organs producing a general malaise, idiopathic fits of perspiration and rigors. There is also great irritability of the cerebral cognizant centers, evinced by flights from slight causes. These persons have fears of inability to perform certain acts and the fears of involuntary performance. There are muscular twitchings, a hasty or imperfect utterance, and a quick agitated manner. If from this simple state of neurosthenia our patient passes into the

graver state of hysteria or hypochondriasis, according as it is a female or a male, we shall now observe more complex phenomena which may or may not usher in the paroxysm of dipsomania. There will be local pain due to visceral disease. There will be pains referred to parts not diseased, due to transference of the nerve force or vascular disturbance of nerve centers. There is defective functional action of viscera due to reflex action. There are disordered muscular movements due proximately to reflex action or vascular disturbance of nerve centers. Aside from heredity, excessive sexual indulgence, loss of blood, excessive mental and muscular exertion, or any painful disease may be the cause of the neurasthenia or nervous exhaustion which ends in intebriety.

The heart, the spinal cord, and the brain, all functionate abnormally in the neurasthenia of intebriety, and all the forms of fear of which I have spoken are the characteristics of debility of brain, due to general failure of the normal appropriating power of the brain, and all this is very often directly traceable to the daily use of alcohol in some shape, in what is conventionally termed moderation, but which has nevertheless paved the way for the establishment of the disease of intebriety. What physician of experience has not witnessed in the neurasthenia of the dipsomaniac and insane man alike that change of the mental character in which irresolution has replaced former decision of character? As acute dipsomania or insanity appear well developed all the psychological characteristics of the prodromic neurasthenia of which I have spoken, increase. I would therefore insist on the existence of this early neurasthenic stage of intebriety — especially when occurring in those who daily use alcohol in moderation — as one of the most important points in the pathology of the disease a stage which the general practitioner should regard as the danger signal of active dipsomania not far off, although the irresistible craving for alcohol which is the great diagnostic mark of dipsomania, may not yet have been actively displayed. Now is the time to prevent the neurasthenia of intebriety from lapsing into the actively developed disease.

The constant current of electricity, a centric galvanization and cerebral electrization will do much to antagonize the symptoms of this early stage, while attention to rest, sleep, mental hygiene, cod liver oil with the free use of malt and hypophosphites, strychnia, iron and arsenic, zinc and phosphorus are all indicated as circumstances may dictate, both to combat the disease and build up and restore the shattered nervous system. The fluid extract of coconuts also at times very valuable, as is also Warburg's tincture and gumme. A single teaspoonful of Warburg's tincture taken before breakfast daily, is one of the most efficient nerve tonics with which I am acquainted. In the children of even moderate drinkers who have never been suspected of being intebriates I have witnessed the neuropathic constitution strongly marked. The phenomena which I have seen have consisted of sleeplessness, and night terrors, and emotional outbursts in early childhood, the brain obtrusive phenomena in cases treated becoming gradually intensified and becoming well marked at the age of puberty, when a disposition to either recurrent mania or dipsomania may appear. There are vasomotor neuroses with recurrent cerebral hyperemia, the outward expression of which state may be either the development of a true periodic insanity, or dipsomania, as the case may be. The phosphates and cod liver oil should be used in such children from the earliest childhood, so that nature, if possible, may restore herself to the normal standard, and overstimulation of the brain in too premature education of such children be avoided with like care.

The great danger to American children to-day is in the subtlety of the neuropathic diathesis which will if not antagonized as they grow up, tend to make many of them intebriates and mentally insound. This is particularly true of the refined and cultivated classes, where by premature and stimulating processes of education, an elaboration of cerebral structure is forced, and the functional activity of the brain in children hastened, overstraining the brain centers in their nascent period, thereby dwarfing and weakening

them, disturbing the balance of mind by seriously interfering with the natural sequence of the evolution of the brain centers, and preparing the child to fall an early victim to some of the modern nervous diseases. Careful building up of the nervous system and a careful direction of the mode of life and observance of the rules of mental hygiene may, even in children who inherit the neuropathic diathesis, restore functional energy, mitigate the morbid psychosis, build up the nervous centers, and prevent much inebriety and mental disease in later life. Preventive medicine is a wide field for study, and by such study must inebriety and mental disease be stamped out if they are to disappear. I have endeavored to be as brief as possible in these remarks on the Pathology of Inebriety, and the importance of the early recognition and repression of the disease in its early stages.

The fully developed disease exhibiting the great nervous irritability and restlessness, the unnatural sensations, the uncontrollable desire for alcoholic stimulus, and the disposition to frequent fits of intoxication, are familiar to all here present. The great salient point to me in the Pathology of Inebriety is, that there exists a departure from a healthy structure of the nervous system, and that it is this abnormal condition of the central nervous system demanding stimulants that is essentially the disease. How far and to what degree the phenomena of inebriety are controlled by constitutional influences, such as electrical phenomena, lunar attractions, velocities and directions of winds, geological formations, elevations above the sea level, the approaches of storms, barometrical changes and temperature are most interesting questions, for the complete elucidation of which time is yet required. Accumulated results of experience indicate, however, decisively that the propensity for drink in this disease arouses the appetite, overcomes the will, blunts the moral sensibilities, and makes everything else subservient to its demands. The will power of the individual is overcome by the force of the disease precisely as in mental disorder, and

just as the periodically insane man has free intervals of comparative sanity, just so does the dipsomaniac have free intervals of sobriety, when the irresistible craving for stimulants passes away, to return again, however, with the next paroxysm, unless the proper remedial measures are applied. If this morbid craving for stimulants is clearly traceable to a brain condition, what is the mental responsibility of the inebriate? To me a modified responsibility in the disease of inebriety is clearly demonstrated, and we hope the day is not far distant when the protection of the courts will be extended to the inebriate.

The study of the Pathology of Inebriety would lead us if carried out to its fullest extent, through inquiries into physiological action of alcohol with its stage of vascular nervous excitement, the cerebro-spinal changes induced, the fall of animal temperature, the collapse of the volitional nervous centers, modification of animal habitation and structural degeneration. The study of the functional disease from alcohol would reveal the diseases of the digestive system, the result of alcohol, the sensory changes, the vascular changes in the skin, alcoholic thirst, and early systemic failure. The organic disease from alcohol would show us fatty and diseased hearts, weakened and diseased blood vessels, alcoholic phthisis, diseases of the liver and kidneys, diseases of the eyes, and serious deterioration of cerebral structure. The nervous diseases would reveal aside from insanity, epilepsy, paralysis, and *dementia nervosa*. We may see optic meningitis, with impairment of memory, dullness of intellect, bordering on dementia, torturing gait, hesitating, stammering speech, and other symptoms indicative of gradually progressing paralysis. Softening may also occur from the slight atelects of cerebral hemorrhage not infrequent in inebriates.

Finally, I would speak of the great importance of the recognition of the mental condition that inebriates is the precursor of actual insanity. I have had the opportunity of studying carefully several such cases, many of whom I have been so fortunate as to restore to home and society. The

clinical manifestations which I have observed in these cases have been depression, unwonted excitability, disregard of the minor properties of life, a change coming over the warmer affections, quick changes and rapid transitions in the current of the feelings, sleeplessness and a complete change of character and habit; the person meanwhile entering no delusions, but occasionally losing his self-control, the general acts and manner at such times being strongly expressive of the inward emotion. There are intervals of perfect calmness and self-control, during which the person clearly discerns his true relation to others, and even perhaps recognizes the influences which the incipient disease exercises over his feelings and actions. In those cases where insanity appears, we see the utter downfall of the intellect manifested by the fury of mania, or the moodiness, suspicion, depression, and impulse toward self-destruction, of melancholia. All these are the successive links forged in the chain of the insanity of the inebriate, the study of which is full of interest, not alone to the student of mental pathology, but to everyone who desires to lead the wandering mind out of the darkness and mazes of disease back into the light of reason.

The inebriate is always unconscious of the influences which are determining his actions. He seeks reasons to explain the act after, and is indignant when told that diseased impulses control and thins his own conception of his acts far more accurate than that of others. It is impossible for him to detect the real condition and causes which control him.

To reason abstractly as to the nature and causes of inebriety without first having found what these actual conditions are is to plunge into a fog-bank of error and misconception that is fatal to all true, practical realization of this subject.

## THE RELATION WHICH DISEASE BEARS TO ALCOHOLIC INEBRIETY.\*

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Disease may act as the predisposing, exciting, or complicating and protracting cause of alcoholic inebriety. The disease may be inherited or acquired. It is proverbial that the progeny of insane or inebriate parents frequently become insane or inebriate, either at or near puberty or middle life, when the exciting causes are presented that develop the latent tendency. As many are born imbecille, epileptic, or idiotic, because of some defect in the procreating power, so many are born who inherit an "inebriate diathesis"—it is their sad birthright. They are the product of a defective and degenerate parentage. Of several hundred cases of inebriates whose ancestral record we have noted, over one-third had either insane or inebriate parents, the latter being in excess.

While we may regard inebriety or insanity in parents as the principal predisposing causes of alcoholic inebriety in their offspring, we should also include among the predisposing causes of a hereditary character, only secondary in importance to those mentioned, all neurotic tendencies, all hereditary diseases accompanied by degenerative changes, congenital syphilis, tuberculosis, epilepsy, or other neuroses. The subjects influenced by such diathesis are born with a defective nervous system. They have a low resisting power to the inroads of disease that still further degenerate the nervous system; they are congenital neurotics; they have a

\* Read at the International Congress of Inebriety at London, England, July 6, 1887.

natural tendency toward drugs, either stimulating or narcotic, and readily become insane, or inebriates, or opium habits, whenever a sufficient exciting cause is presented.

In brief, then, any disease of a hereditary character, acting either directly or indirectly upon the nervous system, while it may not be as important as hereditary insanity, or inebriety, in determining the channel in which the future life shall drift, nevertheless it imposes upon that life a diminished resisting power to the use of alcoholic stimulants or narcotics, and so predisposes the individual to inebriety.

Let us now consider those circumstances which may be denominated the *acting causes* of alcoholic inebriety, and these we shall find are *hereditary* in the form of disease or injury by the person at some period of his life antedating his inebriety.

These exciting causes may operate upon a person predisposed by heredity to inebriety, and so precipitate or hasten a tendency that might have manifested itself later, or they may act upon one who has not any hereditary tendency to inebriety, but who becomes an inebriate from disease or injury.

These exciting causes may be divided into—  
*Physical.* Those that operate immediately upon the cerebro-spinal axis, as cerebral concussion, fracture of skull with or without depression, sunstroke, cerebral syphilis, or other disturbance of the encephalon more or less profound; and

*Mental.* Of any disease or injury not producing direct changes on the cerebro-spinal axis, but localized outside of it and operating upon it by reflex influence, viz.: painful ulcers, neuritis, neuromata, urethral stricture, and dysmenstrua. In brief, any distressing or painful condition, acting thus indirectly upon the nervous system.

In our experience "head injuries" hold an important place among the *direct acting causes*. At least one in six had received blows on the head, forty-one of one hundred and twenty-three cases of head injuries recorded at Fort Hamilton, were fractures of the skull. In four of these

cases there was loss of bone; seventy-one of the one hundred and twenty-three became habitual inebriates, the balance periodical.

*Syphilis.* Our records show only a limited number of cases assigned to this cause, but we believe that further research in climates where it is of more common occurrence, might give it more prominence as one of the exciting causes of inebriety.

*Syphilis.* About one in four of the cases entering our asylum were syphilitic. Syphilis is not infrequently the exciting cause of inebriety, more especially in the later stages, when the nervous system becomes involved. We have cases on record in which the syphilitic did not become an inebriate until the nervous system was affected. At whatever stage the disease may manifest itself it should always be regarded as a complication and receive proper treatment.

*Mental Shock.* Resulting from sudden or excessive grief or joy may be an exciting cause of inebriety, acting as it does directly upon the nervous centers by vaso-motor disturbance.

The relation which insanity bears to inebriety and the reverse, is one with which every asylum superintendent is familiar. The distinction to be made is whether the inebriety is causative or preceded the insanity, or whether contributive, that is, accompanies and is due to the insanity.

The history of a sudden transition from habits of sobriety to the reverse, especially if preceded and accompanied by marked mental changes, we should regard as strong presumptive evidence in favor of the insanity, not arising from alcohol; whereas, in chronic alcoholic mania or dementia, there is the evidence of intemperate habits extending over a long period antedating the mental alienation. The history then of the patient preceding his insanity will enable us to determine the relation that alcohol may have to the insanity.

The differential diagnosis is more readily made in the



more acute forms of mental disturbance that arise in connection with alcoholism. When an insane person has been using alcohol over an extended period, it is somewhat difficult at first to determine what part alcohol holds in producing the mental trouble, so that it is necessary to keep such cases under observation for a while after the withdrawal of the alcohol, before determining whether it is causative or contributive to the insanity.

But while mental shock, if it does not kill outright, may precipitate the subject of it into insanity or inebriety, and while the first overt act of the insane may be an outbreak of intemperance and licentiousness in a person heretofore temperate and moral, these exciting causes of inebriety are insignificant when compared with *neurasthenia* or *neurasthenia*: a prolonged vaso-motor disturbance of the cerebral circulation, resulting from under-feeding and overworking and worry or other depressing causes, producing physical weakness, want of mental energy, and almost total inability to perform the ordinary duties of life; under these conditions alcohol is sought for its stimulating effect. It is the spur by which the tired heart and wearied brain are goaded on in the treadmill of routine and daily toil. These galley slaves are chained to the desk and to the ledger, they carry their task into the small hours of the night, they rob the body of its needed rest until wearied nature refuses further to carry on the unequal conflict and a protracted illness ensues, or a cerebral effusion or the failure of a weakened heart ends the scene. If these crises are past, these unfortunates join the ranks of the continued inebriate, the staff on which they leaned for support becoming a rod of torture. It is for the neurasthenic we invent the "rest cure," "massage," "systematic feeding," and happy is he who seeks it early, before the chains of habit and disease engendered by habit, have made him fast a prisoner.

The social customs and tendencies of the age in which we live are oftentimes the foundation causes of neurasthenia, the fierce rush in the race of life for wealth, position, and

"that honor that comes from men," is so great that to oustrip our fellows, the words "rest," "diet," "recreation," must be erased from our vocabulary. We have presented a few of the principal direct exciting causes of alcoholic inebriety, let us now consider those exciting causes that operate *indirectly* or by *reflex influence* upon the cerebro-spinal axis. Some of these have already been mentioned: painful ulcers, neuromata, neuritis, in its multiple forms, urethral stricture, dysmenorrhoea, diseases which are accompanied by much distress or pain, and which are often and necessarily chronic.

A case entered the Fort Hamilton Asylum some years since, which at the time impressed me very much. The patient, a young man affected with tertiary syphilis, manifesting itself in a severe neuralgia of the face and neck. [This had yielded partially to the usual treatment, but not so as to give the patient permanent or satisfactory relief. He assured me he drank for the relief it gave him, and—he was only free from pain when "comfortably full"—to use his expression, and that his pain made him drink. He further stated that he had tried opium, but did not like its effects.

Cases are on record where an inebriate cured of his stricture was cured of his inebriety also, and of one who was relieved of his inebriate tendencies by the passage of a tape worm. We might multiply examples, but let these suffice. We desire, however, to suggest that this return to habits of sobriety after the relief or cure of some painful disorder is oftentimes so marked, that with a fair family and personal history and absence of alcoholic changes, we can almost guarantee a cure of the inebriety coincident with a cure of the co-existing disease, and this cure is often so prompt that there seems to be a compensatory influence between the relief from the depression incident to a painful disease, which more than balances the depression that would naturally follow the withdrawal of the alcoholic stimulant, hence the rapid recovery from the inebriety.

Having pointed out, briefly, the relation which *disease or injury* may hold to *alcoholic inebriety*, as its predisposing,

causing or protecting a cause, let us reverse the consideration, and see what relation *alcohol drunk to disease* as its exciting cause.

Before considering the special effects of alcohol on the various organs or tissues of the body, we may remark that alcohol is no respecter of tissue, while it has some habits or habits in which it seems to prefer to exert its effects, and is probably more rapidly destructive there than elsewhere, and in this respect may be local in its action: it is general also. There is not any tissue or organ of the body that escapes its deteriorating effects.

As to the cerebro-spinal axis upon which its most profound effect is felt, we note its action on the cerebral vessels, as seen in vaso-motor paralysis and its sequence, or fatty degeneration of the capillaries, and leakage of the watery constituents of the blood, constituting serious apoplexy or wet brain, a not unusual, and, in our experience, fatal form of cerebral displacement in the inebriate.

*Asphyxy* is one of the most common of the neuroses due to alcohol. About one in fourteen was the proportion in several hundred cases of inebriety recorded at Fort Hamilton, and exclusive of a few complicated cases resulting from traumatism, all were due to alcohol as the exciting cause.

The relation of alcohol to the various forms of acute and chronic mania, as the exciting cause, is shown in the many types of mental aberration peculiar to alcohol. These are: mania-a-potu, delirium tremens, chronic alcoholic mania, chronic alcoholism; but we are not limited to these special manifestations of alcohol on the nervous system, resulting in mental disturbance; we can also recognize its causative effect in other diseases of the nervous system which also arise from other causes, namely, general paresis, hemiplegia, and the multiple forms of neuritis, etc.

Whether these results be due to the direct effect of alcohol acting as a poison on the nervous centers, or to degenerative changes, we must nevertheless recognize the fact that alcohol cannot be ignored in its causative relation

to most, if not all, diseases originating in the nervous system, and that it impresses its special characteristics on these, whether it be an exciting cause, or contributive only in its action.

Passing then to consider the effects on other organs of the body, we find gastric derangement, dyspepsia, atony or actual degeneration of the mucous coat, and glandular structure of the stomach, so that the organ is rendered incapable of performing its simplest function. This condition is oftentimes secondary to acute or chronic hepatic derangement. A serious complication, and in the latter stages of inebriety, hastening the end of a patient, owing to the inability to retain or assimilate proper nourishment.

As to the frequency of chronic gastric disturbance, or serious liver complications, our experience does not coincide with the general impression, that these conditions are extremely frequent. Indeed, serious disturbance of the stomach, intestines, or liver, are much lower in the scale of fatality in inebriety than in disease affecting the lungs or nervous system. At least this observation applies to our asylum experience.

Private or public inebriate asylums, in which cases are taken for reformation, if we can use that expression, as a rule are privileged to receive selected cases only, and also to discharge cases affected by incurable disease. Indeed, such cases are often removed by the friends, preferring that the inebriate shall die in his own home. Hence the death rate is small, and the opportunities for autopsical research are limited, or only occasional.

It is in large hospitals and pauper asylums that such research can be carried on, to any extent, and to those we must look principally for the pathological effects of alcohol. We therefore take pleasure in presenting here "An Analysis of 350 Autopsies on Drunkards, Illustrating the most Prominent Anatomical Lesions of Chronic Alcoholism," by Dr. H. F. Formad, at the stated meeting of the Philadelphia Pathological Society, who presented specimens and read a

paper with the above title. We will give a brief synopsis of the paper and the discussion of it as published in the Society's proceedings:

Dr. Formad considered the most conspicuous lesions to be cyanotic induration of the kidneys, fatty infiltration of the liver, and mammillated stomach. His cases had been those in which there had been a history of a long-continued series of debauches; the subjects often dying in one of these debauches, and did not include moderate drinkers or those who perished after inhibition of an enormous quantity of alcohol without any previous chronic causes. He thought that the exposure, irregularities of diet, etc., incident to a state of drunkenness, had much, probably more than the alcohol itself, to do with the production of the lesions, but it was not at all possible to separate one from the other. He gave a long list of lesions considered by various authors to be results of chronic alcoholism, among which the cirrhotic liver, with contraction, held a prominent place. He had himself at one time considered cirrhosis a very frequent, if not almost necessary, concomitant of long-continued excessive use of alcohol, and had even testified in court, that a certain person was not likely to have been a hard drinker because at the autopsy no cirrhosis of the liver was found. He had thought, too, that the connection between the two was so close that it was impossible to have a case of cirrhosis without a previous history of alcoholism, as is held by various authors. Therefore, it was surprising to him to meet in his 250 autopsies with only six cases of cirrhosis of the liver with contraction. In 220 cases the liver was considerably or even very much enlarged, the enlargement in most cases proving to be due to a fatty infiltration. Cyanotic induration of the kidney, and chronic gastritis with mammillation of the stomach, were found in nearly every case. This cyanotic induration is peculiar, and differs from the cyanotic induration due to heart disease. At a future time he will give a detailed account of the above lesions, and a more extensive analysis of the cases.

Dr. James Tyson could not speak from a systematic observation of a large number of autopsies in the cases of confirmed drinkers, but he remembered distinctly being surprised, in several cases, by the absence of cirrhosis where he confidently expected to find it.

Dr. Wilson said that Arncliffe, in the article on alcoholism in Reynold's System of Medicine, had called attention to the comparative infrequency of contracted liver in confirmed drinkers. This observer in an extensive out-patient practice in London had seen large numbers of cases of alcoholism, but very few among them presented the physical signs of cirrhotic (contracted) liver. The experience of the staff at Blockley Hospital confirms this view. There, many of the patients are soaked with alcohol, but even among those whose death is directly or indirectly due to alcoholic excess, fatty liver is much more common than contracted liver.

Dr. Gisler thought the experience of pathologists and morbid anatomists with histories of patients not of the most satisfactory character, he often having had cases to dissect where he knew very little of the history. Before saying these cases were chronic alcoholics, Dr. Formad should present more specific statements about them. His own experience with livers, in a large number of autopsies on cases of chronic alcoholism, had led him to divide them into four classes: 1. Those in which the condition of the liver is pretty satisfactory, some of these cases may take alcohol for many years and yet the liver pass muster. 2. Fatty cirrhotic livers, the cirrhosis may not, perhaps, be distinct to the naked eye, but plainly shown by the microscope, this is the largest class. 3. Fohball livers, these he would say were much more common than in Dr. Formad's series. 4. Hypertrophic cirrhotic livers. The difference between his observations and those of Dr. Formad, might possibly be accounted for by a difference in the form of alcoholic beverage taken. He had not observed the special form of kidney described by Dr. Formad. In reply to a

question he said, in order of frequency he would place them, fatty cirrhotic, lobnari, hypertrophic, cirrhotic, apparently normal."

"Dr. S. Solis-Cohen said that there were certain theoretical considerations which suggested themselves in this connection. The text-books teach that the lesions of alcohol are of two kinds, sclerosis and steatoris. It is known that in some organs the fibrous change precedes the fatty one. The latter is the higher grade of degeneration. The subjects of Dr. Fornad's autopsies were confirmed whisky-soakers, in whom one would expect to find more intensity of degeneration than in those whose use of alcohol, though persistent and excessive, was not so outrageous. Another point which had not been alluded to was the fact that some lesions might result from a local action of the poison upon the tissues; while others might be due to its systematic action. No study of the subject could be complete in which these points were overlooked."

"Dr. B. A. Randall suggested that the point touched upon by Dr. Osler, 'the character of alcoholic beverage,' might be very important. In Vienna, among beer-drinkers, he had found the fatty liver much more common than the cirrhotic, while in England, where much gin is drunk, and he should suppose in Scandinavian countries, where they drink altogether strong spirits, the cirrhotic liver is doubtless comparatively frequent."

"Dr. Musser had recently had to go over the records of the Pathological Society, especially in liver diseases, and had found the total experience of different observers the same as Dr. Fornad's, and also in those cases cirrhotis was caused not so much by heavy drinking as persistent drinking of spirits on an empty stomach."

The effect of alcohol on lung tissue results in fibroid degeneration, interstitial changes, hence the term "fibroid phthisis," "chronic interstitial pneumonia." It is bilateral, fine crepitant rales are diffused over both lungs, the sputa is limited or largely bronchial mucus, not marked by pro-

ducts of disintegration; temperature and pulse progressively high. Dyspnea become more and more marked, the disease in the latter stage becoming rapidly fatal. This is an intractable and inevitably fatal form of phthisis. As to the prognosis, the question is not whether the inebriate will become sober but only how long he will live. The mischief is done and is beyond repair, irremediable tissue changes have taken place; alcohol is master of the situation and to withdraw it would simply mean to hasten the death of the patient.

About one person in twenty who enters our asylum has phthisis in some form.

The origin of these cases could be traced in some instances to a tubercular or syphilitic diathesis, although a certain proportion were produced by the long-continued action of alcohol on lung tissue.

We have dealt with cases of phthisis under several conditions:

1st. Cases of inebriety have died in our asylum from phthisis, which they had contracted previous to admission.

2d. Cases of inebriety, complicated with phthisis, in the advanced stage have applied for entrance into our asylum and been refused, as improper cases for admission.

3d. Cases of inebriety complicated with phthisis have been discharged from our asylum as improper cases for further special treatment.

We cannot pass this phase of our subject without asking what relation the consumptive from any cause, not alcoholic, bears to alcohol? Whether ushered into the world with a tubercular diathesis or whether the phthisis be acquired in the ordinary catarrhal form from exposure, etc., he must face alcohol as a medical prescription, his case necessarily chronic, he must use alcohol for a long period. Query: A certain proportion of cases of phthisis prove fatal; a certain proportion end in temporary, if not permanent recovery; what proportion of those in whom the disease was arrested or reported cured, became addicted to the excessive use of alco-

hol, that is, became inebriates? It seems to me that this question might well be agitated in professional circles.

Whether then the alcoholic degeneration is fatty or fibroid whether it produces alteration of tissue or acts by vaso-motor disturbance, as in some cerebral conditions, *alcohol produces disease* and very destructive forms of disease, which in the advanced stages are irremediable and eventually fatal.

The question naturally suggests itself, why does the inebriate use alcohol, or why do people afflicted with disease use alcohol, and so eventually become inebriates? Without attempting to exhaust this question we shall at least give it a partial answer.

Aside from those who use alcohol as a beverage or from social custom, who belong to the great class of so-called moderate drinkers, we should say that a large proportion, larger than we are aware of, are addicted to alcohol because they are diseased and use it for one of two reasons:

*First.* As a stimulant, cardiac primarily, then upon the cerebral circulation. The neurosthenics already alluded to are of this class, also those who are suffering from physical weakness, engendered by exhausting or depressing diseases.

*Second.* A certain class use alcohol because it is an anæsthetic in painful or distressing diseases or conditions. A familiar example is the use of alcohol in dysmenorrhœa, an effective but dangerous remedy. How many women can trace the first use of alcohol to this cause? The decided anæsthetic effects of alcohol have been not only proven by the direct experiments of Anstie and others on the inferior animals, but the older records of surgery bear ample testimony to its anæsthetic effects upon the human subject. There is no doubt as to its pain-relieving qualities, and this does not necessarily imply a complete toxic effect or alcoholic coma. It is also known that tactile sensibility is much impaired in the habitual inebriate, indeed so much so as to constitute a diseased condition.

Without multiplying examples, or further demonstrating

the premises laid down, we have endeavored to impress the fact that disease, either hereditary or acquired, may be in a certain proportion of cases the underlying cause of the alcoholic inebriety, and that *alcohol*, by its well-known degenerative tendencies will produce disease, which when established, tends not only to produce, but also keep up habits of inebriety.

If these premises which we have presented and endeavored to prove as to the relation which alcohol holds to disease and the reverse, are correct, then we are warranted to draw the following conclusion:

"Alcoholic inebriety is often based upon and dependent on diseased conditions, and demands proper medical treatment to remove, if possible, these diseased conditions." "The inebriate is a diseased person, and the disease has either preceded the inebriety, or is dependent upon it."

The "moral view" has had full sway, the "moral responsibility of the drunkard" has been the topic of a century, institutions have been founded on the "moral basis," and society and the law have treated the inebriate, not as a sick man, but as a "moral delinquent."

The relation which morality bears to inebriety, ceases or assumes a secondary position when the inebriety is dependent upon diseased conditions. We do not desire to exclude those moral influences that operate on the higher and better nature of man, from our asylum, but would assign them their proper place. Let the authorities of the church and all philanthropic bodies and individuals be co-workers with us in the return of the inebriate to his normal condition, but let not means supplant the hospital, the physician, and the medical means used for his recovery.

There is not any quarrel between the true moralist and the true physician. The true physician is the highest type of a moralist; he is the exponent of right living and right thinking, and his foremost aim all that pertains to the physical and mental elevation of the race.

It is not extravagant to assert that the so-called "moral

treatment" of the inebriate has been the great obstacle in the proper treatment of inebriety. One of its evil effects has been inefficient, irregular, or improper treatment — worse than none — and the long delay that frequently elapses before the patient is placed under proper and systematic treatment and restraint. Hence the hospital and the physician that ought to have been placed first, have been placed last, and sought only when every other means have been exhausted. Our records show that the majority of inebriates do not apply for asylum treatment until the inebriety has existed a long time — in nearly all instances over five years, and in a large proportion of cases over ten years. Often during this period organic diseases, the direct result of the habitual use of alcohol, has undermined the system, and the patient is beyond relief.

It would seem almost puerile to bring before your association the various methods and expedients that society has invented to deal with the inebriate, and if possible to effect his reformation. They are simply the outgrowth of viewing and dealing with the inebriate from the "moral standpoint." There has been a fog of mysticism, not only among the laity, but in our own profession also, as to the exact status of the inebriate.

Let us now epitomize the facts that we have endeavored to demonstrate.

*First.* There is an "inebriate diathesis." A certain proportion of persons inherit a tendency to inebriety, just as others inherit syphilis, tuberculosis, or other disease, or tendency to disease, from parents.

*Second.* A certain proportion of persons become inebriates as the result of injuries or diseases affecting the nervous system either directly or indirectly, and these may operate on persons with a good family and personal history antecedating the disease or injury, or prove the exciting cause when a latent tendency or predisposition exists. In the first instance the inebriety may be said to be acquired; in the latter the tendency simply developed.

*Third.* Alcohol by vaso-motor paralysis, or degenerative

changes, produces disease. The disease so produced not only develops inebriety, but tends to protract it, and will do so until the person is relieved or cured of the disease.

*Fourth.* Disease associated with inebriety, whether it be hereditary or acquired, whether it be regarded as the exciting cause of the inebriety or not, must always be regarded as a complication protracting the inebriety, and rendering the recovery of the inebriate practically hopeless, unless the associated disease be removed or modified.

We have endeavored in this paper to give a general review, rather than an elaborate and exhaustive presentation of the facts herein embodied. Our object has been mainly to give prominence and emphasis to a few observations accepted by the profession, here and elsewhere — at least that portion of it who have given especial attention to the "cause and cure of inebriety."

We have endeavored to demonstrate the relation disease bears to alcoholic inebriety, and thus answer in part at least, what is the "Etiology of alcoholic inebriety," a question we cannot ignore nor refuse to answer, that precedes all others in point of importance, a problem the solution of which cannot be delayed, as it is one that affects not only the well-being of society, but the destiny of the race itself.

The following papers, read at the International Medical Congress at Washington, will be of interest as showing the drift of medical thought towards inebriety and its disorders: "The Application of Alcoholic Stimulants to Medicine, or the Therapeutics of Alcohol in Disease," by Dr. E. N. Litchell. "On Alcohol in the Organism," by W. Hudson Ford, M.D., St. Louis, Mo. "Pathological Anatomy of Alcoholism," by Henry F. Formad, M.D., Philadelphia, Pa. "The Relation of Psychological Medicine to the Disease of Inebriety," by Edward C. Mann, M.D., Brooklyn, N. Y. "Cocaine Inebriety, its Cause, Consequence, and Cure," by J. B. Martinson, M.D., Brooklyn, N. Y. "The Disease of Inebriety, and its Treatment," by T. D. Croiners, M.D., Hartford, Conn.

LEGISLATION FOR INEBRIETY\*

By Dr. PERTHMAN.

*President, National Association for the Reform and Humanization of the Law.*

Of recent years this question has ripened. Alcoholism has augmented in frightful proportions. The number of lunatics, suicides, insanities, and crimes it causes is frightful. Shall we continue to cross our arms, to let the people become willingly deprived, or have we the right, to have a supreme peril to save him in spite of himself? *Scholarly Reporters.* Let no one say that the nations can always save themselves, and that liberty and instruction are sufficient to cure them. England and Netherland, these two classic countries of progress and liberty, have not hesitated to make repressive laws for alcoholism. France has preceded them. We must not remain behind these sister nations. The same blood is flowing in our veins, the same spirit inflames us; we wish absolutely like them, the progress of liberty; but there is neither progress nor liberty for the civilized nations.

Needless to show all the marvels of industry, all the treasures of our soil, make the proud statistic of the national riches; there is, besides, morally and physically profound miseries, madness, phthisis, scrofula, brain-illness, incontinent degeneracy of the race. It is important to determine the present situation of the alcoholized man, if it be possible. When this will be determined, we shall recognize the impertinence necessary to take immediate preservative measures for family and society. They will constitute by themselves, if they be energetic, the best prophylactic of alcoholism.

At present the alcoholized man who is not yet arrived to the last period is not dealt with. He does not really enjoy his free will; this delicate property of will, which to the most

\* Read before the International Congress at London, England, July 2, 1887.

advanced spiritualist point, requiring a rare concurrence of circumstances, has left him. There is no more personal determination, or deliberation, or a thorough knowledge of the matter.

The alcoholized man being not free, is no more responsible; and, nevertheless, he continues to take part in civil and politic life. He has the direction of his family, the administration of his goods, he is elector, he is jurymen. Is it possible? Yes, it is possible; and every day we ascertain it. Unless he be completely mad, it is even forbidden to indict him, according to the civil code. The mental state is neither madness, nor fury, nor imbecility. That is a special and indefinable situation in the actual terms of law, but which ravish their responsibility and culpability, in allowing him the means to commit the most criminal acts. Every day he is running and disgracing his family, he robs and he kills. Nothing can stop him. What do I say, he is excused, as one may say, by the tribunals? He is alcoholized. The barristers never want to plead irresponsibility, and they succeed to make acquit all the infamies, all the most detestable faults; and they have reason, because, till this moment, this new disease, characteristic of our epoch, could not receive in our civil or penal laws the place it ought to occupy. First, the alcoholized man, whose state is medically and legally recognized, must be interdicted; second, when he is interdicted, one must have the power to close him into a special establishment where he should be treated, and obliged to work, according to his strength.

There are two propositions which must be introduced in our laws, and if they are adopted, they would already constitute a mighty curb for alcoholism. They would diminish, by ball, criminality, and prevent incalculable damages.

How is it possible to arrive to the interdiction? We must not leave to the family only the right to provoke it. Even I should say, in order to prevent reproach and vengeance, always to be feared in such a situation, that the public attorney, as representing the social interests, ought before

all to ask and to bring it before the court of first instance, conformably to article 491 of the civil code.\*

But this article gives only the right to act in case of fury or imbecility. These warped or odd designations do not create a sufficiently strict duty. Alcoholism constituted a better determined state for the physicians; and the alcoholized man can instantly commit all the faults, without being imbecile or furious before their perpetration. The alcoholism is a chronic poisoning, so well defined in its lesions or symptoms, as the typhic, phobic, or mercuric intoxication. The question is to obtain a simple addition to the article 489,† and thus to deprive, by judiciary way, the alcoholized man of all his rights, to make of him an underage.

The article 510‡ says that, according to the character of the disease, the family council could decide that the interdicted man should be treated at home, or in a lunatic asylum, or in an hospice.

It is yet evident that the public attorney, enlightened by the legal physician, is more able to determine such a measure, and that it is greatly preferable to leave to justice the care to provoke it.

But what will this asylum or this hospice be that the legislators wish for the alcoholized man? The hospital and the asylum are actually closed for him. Unless the diseased man have arrived at mania or madness, the directors of these establishments, the special physicians, do not dare to receive them. We do not imagine the difficulties that present every day similar cases.

\* Article 491.—In the case of fury if the interdiction is provoked neither by the husband or wife, nor by the parents, it must be so by the procurer of the king, who, in the case of imbecility and madness, can also provoke it against a man who has no known wife, or husband, or relations.

† Article 489.—The major, who is in an habitual state of imbecility of madness, or fury, must be interdicted, even when his state presents lucid intervals.

‡ Article 510.—The revenue of an interdicted man must be especially employed to soften his lot and to quicken his cure. After the character of the disease and the state of his fortune, the family council could decide that he shall be treated at home, or that he shall be placed in a lunatic asylum, or even an hospice.

If we cannot confine the irresponsible alcoholized man in a lunatic asylum, we can establish special establishments under the direction of intelligent physicians.

The interdicted alcoholized man should be shut up by the magistrates. That is what I call preventive justice: the only one which may be human and efficient. La society should remain only responsible beings, or men whose responsibility is covered by bondsmen. Every experienced physician knows that the determined alcoholized man refuses this measure which alone could save him.

These special establishments must be fitted up so as to accomplish all the conditions of health. We must not take away from these unhappy men the hope to come back into society with the consideration so necessary to all conversion. Amongst the objections remains the question of money. I do not consider it before so great a social peril. It is necessary to save the people whatever may be the price. Is there a better use of our great riches than the cure of such a terrible illness? Should it not be a real economy upon the hospital and prison budget? The spent money for instruction and hygiene is lost by alcoholism. On the economy point, it is a thousand times better to prevent the destruction of capital resulting from interrupted labor made by brutish beings.

In some parts of Bohemia one liquor station is found for fifty-seven, nay for twenty-one inhabitants. In Bohemia and Carinthia, mothers were found luling asleep their nurse children with dram, and schoolboys were seen lurching on spirits! Vienna has one liquor station for every twelve houses; the number of gin-shop-keepers has trebled at Vienna since 1859, 33.41 per cent of the insane kept in the Vienna asylum are sick from alcoholism that is, seven times more than ten years ago.

Alcoholism and inebriety have risen on a large scale since spirits are made out of amyloseous materials like molasses, potatoes, sweet turnips, Indian corn, etc. Inebriety has risen in Carinthia since the consumption of genuine Tyrolese wine



the prohibition of wine was diminished by the addition of beer. In fact, the consumption of wine was diminished by the addition of beer. In fact, the consumption of wine was diminished by the addition of beer. In fact, the consumption of wine was diminished by the addition of beer.

We wish to see the duties on spirits considerably heightened and the amount of liquors checked. It would be useless to strive for a suppression of the spirit producer as we have seen from the maintenance of distilleries by financial, industrial and popular motives. But we wish the Government would lay heavy duties on the spirits the moment they are drunk, and enter the public intercourse; thus the consumer will be repelled from taking liquors, by their raised price, and the most rapacious retailer will lose a profit, which he was expecting and enormous — one litre of brandy, a 100 S. G. L. being sold up to 30 kr.

The quantity of liquors from emphysema should be carefully controlled, and the official control a very sharp one. Licenses ought to be given to liquor stations only in strict correspondence with the exigencies and the number of full-grown inhabitants on a rational scale, as the Dutch law does. No floors, bunkers, and abusers, ought to be punished if it is found that they ought to be kept in homes for inebriates. An elaborate statistic is necessary.

The Magistrates of towns and boroughs should heighten the duties on spirits of all kinds, and lower it for vitals and medicinal beverages. It is a fact — for England, too — the consumption of spirits increases, the more taking light and healthy drinks are impeded by their price or the duties. There is certainly a relative progress established if the people instead of emphysema liquors — holding an amount of about forty of 24 per cent. to 30 per cent. volume — are allowed to consume the light Austrian beer and wine, tea, coffee, and the national character being kept for the pledge of justice.

The Vienna excise on 1 hectolitre (100 per cent.) of spirits is 100 schilling — 1 fl. 11 kr. (the same quantity pays at

Paris 66.50 francs). The excise on 1 hectolitre of beer is equal to 1 fl. 81 kr. The Austrian Inebriety Society has therefore, in 1885, requested the Provincial Diet to tax spirits with twenty-fold of the actual beer tax, viz.: with 20 by 1.81 fls. — 36 fls. 20 kr.

A new consumption impost on spirits is in preparation, and will afford about fifty million florins for the whole monarchy. The minister of the finances refused any discussion on monopolizing the spirit production, and there is for our purpose certainly a great danger in the establishment of official liquor stalls inclining the public by the agents of the monopoly.

(c) *Austrian Legislation on Inebriety: Laws affecting whole Austria.*

I. Drunkenness itself is punished in two cases by the penal laws, 27th May, 1852. (1) Malefactions, otherwise reckoned as crimes cannot be considered such, when perpetrated in accidental intoxication; but drunkenness in that case is punished as trespass; it will be considered a particular aggravation, if the drunkard knew from experience he was severely emotional when intoxicated (Secs. 236 and 523). (2) Inevitable drunkenness punished as misdemeanor, with craftsmen working on roofs and superstructures, or having to do with objects easily taking fire, and with servants whose carelessness might cause a fire. (Sec. 524.)

Neither the penal law, nor the new bill on it, punish inebriety as immorality, but only for troubling public order and security.

II. Imperial spirit tax, 23d July, 1881 (*vide supra*).

III. Imperial law, 8th March, 1885, declaring Sunday a resting-time for all professional and industrial works, in a stricter way. Among the exceptions granted for the necessities of the consumers is selling spirits. The poison of liquors ought not to have any privilege. The easier and frequenter the occasion, the more will be drunk. The liquor stalls should be shut as well on Sundays as commercial shops; if possible from Saturday 5 p.m. till Monday 9 a.m.

Inns, dealing with light beverages, will be quite sufficient for the public exigencies.

The same law determines: Auxiliary workmen may be dismissed without warning when inebriated, having been admonished in vain. (Sec. 82.) The payment of wages in taverns and inns is prohibited. (Sec. 78a.) Credit of spirits to workmen in factories and to auxiliaries is neither actionable nor accountable (Sec. 78b), neither between traders and workmen, nor between the surveyors or the employers' relatives and workmen. As spirits are a general breakfast with Austrian workmen, the Austrian Inebriety Society has suggested the institution of soup and coffee-rooms near the factories. Introdurers of spirits into factories are severely punished or dismissed.

The wages ought to be paid on Monday night, to restrain people from spending their week's pay on Saturday night, or on Sunday, their day of rest.

IV. Imperial law, 1855, and  
V. Imperial law, July 23d, 1883, on controlling the cleaning of spirits.

(b). *Austrian Parliament, Vienna, March 15, 1885, and May 7 and 10, 1887.* Chev. E. de Proskowitz (member of the Austrian Inebriety Society) requests restraining inebriety, and desires the ministers to propagate in schools the notion of intoxication's fatal consequences. He desires, accordingly, pamphlets to be posted everywhere.

(c). *Provincial Legislation.*

I. Law for Galicia and Bucovina, July 19, 1877 (given by the Austrian Parliament).—This law intends: punishing inebriety and checking the economical danger of drinking-bouts which often, by drafts and bills of credit, prolongation and antioisim, ruin the thoughtless debtor (the debt of 20 fls. increased to 1,000 fls. in a space of three years, in one case!).

Punishable by the law:—1. Whoever gets drunk, or is found so in public places. 2. Whoever makes another drunk on purpose thereabouts. 3. Inn-keepers delivering liquors to a drunken customer, or to minors. Penalty—Imprisonment up to one month, or a fine of 50 fls.

The district police are authorized to interdict a person, punished thrice a year for inebriety, from liquor stalls in his domicile and around it. Abusing tavernmen to lose their license for ever, or for some time. Claims from drinking-bouts are not actionable, if the debtor owed such in the moment of entering the new score, or if the claim was ceded meantime. Sham transactions punished by prison (up to two months), or by a fine (of 200 fls.). The laws' text to be posted in all taverns. Omitting this is punishable by a fine of 50 fls. In 1878-83, 132,403 persons were punished for offense against this law.

The law contested in 1877 as an "affronting guardianship" by the Gallician deputies, proved an efficacious expedient. The Provincial Diets of Moravia, Salzburg, Tyrol, and of Bohemia, have brought according bills, without till now being able to make them pass.

II. Bosnia law, 6th February, 1885 (nearly equal to the precedent).

III. Moravia (Provincial Diet), 1878. A law on inebriety solicited by P. Wurm, 1885. (Idem.) 1885. Alfred Skene's motion on limiting the validity of drinking-bouts. Chev. E. de Proskowitz motion for a new spirit-tax (50 fls. a stajl). 1886. H. E., the Governor Count Schoenborn orders, on suggestion of the Austrian Inebriety Society, by a public act, a strict revival of distilleries and liquor-stalls. 1887. Chev. E. de Proskowitz motion renewed.

IV. Bohemia (Provincial Diet) 1885. K. Adamek (Member Austrian Inebriety Society) requests a reform of the inebriety legislature. Dr. Rose, (honorary member Austrian Inebriety Society) requests the selling of liquors in groceries to be prohibited. Dr. Tausche says, the petitions of 1880 spoke of immoderateness, those of 1882, of inebriety, those of 1885, of drunkenness as an epidemic pestilence.

A half drachm of alcohol to each pound weight of the body, is the quantity capable of producing intoxication in most cases. An increase of this is dangerous and often fatal.

INEBRIETY IN BELGIUM FROM A MEDICAL  
AND LEGAL POINT OF VIEW.

BY DR. MOELLER, BRUSSELS,

*Member of the Belgian Acad. Academy of Medicine.*

When I accepted from your learned president the charge of presenting a communication on "Inebriety in Belgium," I experienced a great embarrassment.

I have to confess for my country that little has been done by us for this great and difficult class of degenerates, whose existence is practically ignored by the civil authority as we have no one in Belgium cares for the state of the unhappy inebriate. One of the most valiant advocates of the cause of temperance, my courageous and eloquent friend, Dr. Petit has for many years drawn the attention of his fellow-countrymen to the danger of leaving uncontrolled those who are no longer altogether responsible for their actions, and to the necessity of providing for such diseased persons asylums where they can not only be secure from doing an injury to anyone, but also where they can be treated with the hope of cure or at least amelioration. The short history I shall present to you will make known the work of Dr. Petit, and at the same time show where we are on this question, one most worthy of the solicitude of the physician, of the philanthropist, and of the Christian.

You know that the struggle against alcoholism has been comparatively recent with us, though there have always been men who have raised their voices to denounce the ceaseless progression of the plague of modern society. I specially mention Drs. Durpetaux, Frere Orban, Lefebvre, Barella, Desgrain, Jansen, and Pettithan. But these voices for long awoke no echo. Only in 1880 was an association formed to study the fittest means to arrest the progress of the evil

\* Read before the International Congress on Inebriety at London, England, July 2, 1887.

which we all deplore. In that year the second International Congress on Alcoholism was held at Brussels, in which many Englishmen took an active part. One of the sittings was signalized by an interesting communication by Dr. Carpenter of Brussels, who contended for the necessity of enlightening the public mind with precise knowledge, and reducing the inebriety of the country. He added that his researches in the Brussels Hospital, which agreed with those of the learned Professor Croizig, had discovered *post mortem* signs of alcoholism in eighty per cent. of the autopsies held under his direction. He concluded that the working population of the Belgian capital ought to shut up about eighty per cent. of the subjects of alcoholic intoxication. This communication and its figures created a great effect in our country. They in a moment showed to many persons the profundity of the abyss into which we have fallen. At this sitting Dr. Pettithan proposed: (1) That the alcoholized should be put under interdiction at the demand of the minister of justice. (2) That they should be placed in establishments specially organized for their detention and cure. These propositions provoked a lively discussion, in which Drs. Barella, Lumier, Decroix, Lefebvre, Lethan, and Reding took part, and were finally adopted by a majority of sixteen to six, with nine abstentions. Great opposition had been encountered, which was not surprising, for at that time the opinion enunciated by Dr. Benjamin Rush was not known, viz.: that intemperance is often a physical malady. Thus there was then little difference supposed to exist between drunkenness and alcoholism. However, public opinion changed. In 1881, the Belgian Royal Academy of Medicine asked the following question: "Determine from precise observations the effects of alcoholism, from a material and physical point of view, upon the individual and upon his descendants." The replies proved that the Academy of Medicine agreed with the opinions of Dr. Rush, and considered alcoholism to be a true organic disease, transmissible by heredity. The learned body added this recommendation:

that the observers should endeavor to define the boundary separating drunkenness from madness, as well as the responsibility of the drunkard for acts of which he is the author. Five memoirs were returned. A very remarkable report was presented to the academy by Dr. Kuborn. The prize was awarded to an original work by Dr. Lentz of the Asylum for the Insane at Tournai, which was published in the annals of the academy. Dr. Teectors of Ghent Asylum, received honorable mention for a work which, he published. Both writings embodied numerous observations on alcoholism, proving the extent of the evil which ravages our population.

However, Dr. Petithan did not rest inactive, and on every possible occasion strove to create a sound public opinion, and at the International Congress at Antwerp in 1885, when a hope was expressed that the government present to the chamber a project of law demanding the interdiction of the alcoholized and their restraint in *mazzons de temperance*. Yet the question made slow progress. Though the economies of inebriety were well promulgated, little was done to make clear the medical and legal aspects. In 1886, following the effervescence of the working classes in some parts of the country, and some profoundly afflicting occurrences, the government appointed an inquiry to examine into the causes of the social, economic, and industrial misery. This commission necessarily occupied itself with the question of alcoholism. From all parts of the country came accounts of the lamentable progress of the drink plague and its serious results. One of the members of the commission, M. Derudder, Professor of Political Economy at Gard University, issued a valuable report on the various measures which had been resorted to to combat the abuse of alcohol, yet he did not allude to interdiction or to confinement in asylums for inebriates; one more proof that the importance of this subject is yet far from being recognized. However, a few months thereafter Dr. Carpenier, in a short, useful paper in *Les Cliniques*, stated that his

former estimate of 80 per cent. had not been too high, and gave the following results of his more lengthened hospital experience: In 86 cases (48 men and 38 women), 45 men were inebriates (93 per cent.); 4 women were inebriates (10 per cent.); of the male alcoholics the youngest was 16, the others from 20 to 55. All exhibited incurable organic lesions, characteristic of alcoholism. One began to drink at the age of 30, 1 at 25, 10 at 20, 2 at 19, 4 at 18, 2 at 17, 4 at 16, 6 at 15, 1 at 14, 2 at 12, 2 at 10, 1 at 8 years of age.

Quantities drunk daily: 3 drank about 4 glasses of spirits, 5 drank about 6 glasses of spirits, 3 drank about 8 glasses of spirits; 1 drank about 9 glasses of spirits, 8 drank about 10 glasses of spirits, 2 drank about 17 glasses of spirits, 3 drank about 20 glasses of spirits; 1 drank about 1 litre of spirits; 1 drank about 1½ to 2 litres of spirits. Are not these figures terrible? What can one hope for a population which is so drunken with for the most part, the most pernicious alcoholic beverages? Is it not sad to think that nothing has been done for these unhappy victims of this most inexorable and degrading passion?

It is with lively satisfaction that I refer to a fact which will show that our efforts have not been altogether sterile. The minister of justice has presented to the legislative chambers measures repressive of public drunkenness, though they do not touch our special project. But the Prince de Rubempre, who has been entrusted with the preparation of the report, calls attention to the labors of Dr. Petithan, and points to what has been done in England for the treatment of inebriates, while directing the notice of the Belgian government to this.

On the 16th of April last, the president of the council of ministers received a deputation from the Belgian Patriotic League, against alcoholism, when Dr. Petithan presented startling facts on legislation for inebriates, which created considerable impression.

On the 12th of June last, the League devoted the most of its sitting to the discussion of interdiction of the alcoholized,

when Dr. Lettiban and I were accorded a patient hearing, and an interesting discussion ensued, to be resumed at a future date.

It seems, therefore, that we are coming nearer in Belgium to a satisfactory solution of this problem, the importance and urgency of which are still further deepened by the continued increase of alcoholism in all grades of society. There is with us a growing demand for these two measures: 1. Interdiction of the inebriate. 2. His seclusion in special homes. Interdiction is a judicial decision, in virtue of which an individual is deprived of certain rights, which he is held to be unworthy or incapable of exercising. These rights are the administration of their substance, the direction of their family; the disposal of their fortune, taking part in political elections, making part of a constituted body, such as a jury called to judge a citizen. Actually interdiction, at present, lies only in dementia, madness, and imbecility. Now the alcoholized may be neither demented nor furious, nor imbecile, and yet be incapable of properly exercising civil and political privileges.

Is it necessary to resort to this interdiction? Yes, for the alcoholized himself, who will be placed so that it will be almost impossible for him to satisfy his passion; for his family, whose honor and patrimony will be safeguarded; for society, for it is dangerous to trust any part of the government of a country to one whose freedom is enchained by a vile passion and whose intelligence is completely obscured by a profound and permanent poisoning. The interdiction would apply only to the alcoholized who are not dangerous to themselves or to others. On the other hand, it only feebly augments the chances of cure. If it is wished to put the inebriate in the condition most favorable to cure, it is important to place them in institutions created for that purpose.

Two questions arise. 1. In Belgium, as elsewhere, it is necessary to have a new law to seclude in a special home inebriates, whether they are willing or unwilling, every time

that the need arises. In practice, one can forfeit the liberty of the alcoholized only when attacked by delirium tremens, and they must be set free as soon as the attack has passed, or, at least, there no longer persists a diseased craving for drink; in other terms, the symptoms of a vertiable dipomania. This is what I gather from the terms of a circular of the minister of justice.

As medical men, we are in the greatest difficulty in the presence of the alcoholized, who are not laboring under delirium tremens, who have only intermittent inebriate paroxysms, and who would benefit greatly by being retained in a special establishment.

Objections are raised to our contention. It is urged that it will be difficult to distinguish between those who are, and those who are not, alcoholized, that the gradations between moderate drinking and drunkenness are so insensible as often to be extremely difficult, if not impossible, to discriminate. But we may reply that there is the same difficulty in the case of the insane. There is the same insensible gradation between the most sane and the most idiotic. Are we, because it is difficult to place in different categories those who are difficult to class, either as insane or inebriate, are we to hesitate to compulsorily restrain those about whom there is no doubt whatever?

We can shut up only those alcoholized who are dangerous to themselves or to others. Here is the principle to guide us. Acting on this, the embarrassing cases will be rare.

2. The second question is, should we ask the intervention of the state in the establishment of asylums for inebriates? I do not hesitate to pronounce in favor of the institution by the government of these establishments. It is not that I do not recognize the generosity of my fellow-countrymen. The philanthropic and charitable institutions which cover the soil of Belgium attest their benevolence. But I fear that a private initiative will fall from the widespread prejudice that "who has drank will drink." We meet

this prejudice everywhere, even in men who are in the foremost ranks of the temperance cause. The prejudice is false. The results of the efforts of numerous total abstinence societies in the rescue of drunkards, prove that it is unfounded. So false and prevalent is this baseless prejudice, that I fear it would paralyze for a long time a private initiative, which does not care to enter upon any course of which it does not clearly see the issue.

Another reason which makes me prefer state to individual action, is that we might see speculation hinder this idea of the treatment of the alcoholized. Asylums can be opened for the object of gain, as well as for the sake of good. A first trial, injudiciously essayed, might yield deplorable results, which might for long sadly injure the great work of which we hope to see the realization.

I have, gentlemen, dilated at length upon the state of the inebriates in my country. You will pardon me. I have, alas! only regrets to express. I am tempted to reproach myself with the length of my communication. Instead of placing before you the blots of my fatherland, I would, perhaps, have done better to imitate the example of the two good sons of Noah, and thrown over the alcoholized condition of Belgium a discreet and patriotic veil. But this would not have been the means to attain my end, to be able to stimulate my countrymen to accomplish what has already been realized in the beautiful country of England, where all generous ideas always find men and devotion ready to put them into execution.

Some recent researches into the energy-producing qualities of foods, show that certain articles of diet entail double work on the excretory organs to get rid of the waste of the body. This explains why the Turkish bath is of such a signal service in many cases. Cases where the restoration appears to be almost in the nature of a miracle, are seen every day at Dr. Shepard's Turkish Bath Sanitarium at Brooklyn, N. Y. It is evident that this therapeutic agent has a great future in practical medicine.

### THE HERMAN MURDER CASE.

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

Charles Herman was arrested for the murder of his wife at Buffalo, N. Y., November 1, 1885. Seven weeks later, December 21st, he was tried for this crime, found guilty, and executed February 12, 1886, about fourteen weeks from the time the crime was committed.

A study of the evidence in this case from a scientific standpoint brings out some very interesting conclusions.

The following facts in the history of the prisoner and the homicide seemed to be unquestioned: The prisoner, a Prussian, by birth, could give no history of heredity. He was about forty-two years of age, and had drank for many years, seemingly governed by no other motive except his ability or inability to pay for it. He had been married for eleven years, and lived happily with his wife up to within four or five years. When after drinking he manifested an intense suspicion of her infidelity. This had grown into a settled conviction, although there was no evidence that it was true. When sober no reference was made to this suspicion. He worked at his trade as a butcher, but changed places often, probably because of his drinking. Two years before the crime he sold out his furniture, tramped to Chicago and back, and commenced to keep house again. He was a quiet, reserved man, but when drinking talked of his wife's infidelity, and threatened to kill her in the hearing of some friends. On several occasions when drinking freely he had quarreled and attempted violence to her. He was not often stupid when drinking, but was irritable and suspicious and greatly changed in conduct and manner.

In regard to the crime, it was in evidence that he had

been drinking freely every day for a week before, and although not intoxicated was under the influence of spirits. He was known to have drunk beer and spirits on the Sunday on which the crime was committed, and was seen on this day with his wife as usual. On Monday, Tuesday, and Wednesday he was noticed coming and going, drinking as usual, only his wife was not with him. The absence of his wife created suspicion, and from a search she was found in bed with her throat cut. He was arrested, and acknowledged killing his wife on Sunday evening, and placing her body in the bed and sleeping with it for three nights from Sunday to Wednesday, going away in the morning and coming back every night. He seemed to have no conception of the crime, and made no effort to escape. When arrested in a saloon he talked freely, describing the incidents of the murder, giving no reason for it, except that his wife was going out and would not stay in when he asked her; hence he threw her down and cut her throat. A few hours later, in the jail, he became restless and very nervous; from the withdrawal of spirits, and could not sleep. This passed off in a few days, then he denied all memory of the past, claiming to have forgotten every detail of the murder. This he continued to assert up to death, and also manifested general indifference and unconcern about himself.

The following conclusions from these facts were fully sustained by the testimony: 1st, The history of the prisoner was that of an inebriate who drank steadily whenever he could get spirits, chiefly beer and whisky. He was unthrifty, and changeable in his character and habits. His suspicions of his wife's infidelity grew with the increased use of spirits, and finally culminated in the murder. 2d, The circumstances of the crime, the act itself, and his obliviousness to the consequences following from it; also his conduct at the time and later, with the absence of all reason or emotion, suggested some form of insanity. 3d, His conduct in jail, after the first few days, when suffering from the removal of alcohol, was not unusual. He was very reticent,

but acted with reasonable sanity; the only fixed idea concerning himself was that the man he alleged to be intimate with his wife was responsible and should die in his place.

The *délire* was insanity and irresponsibility due to alcohol and probably alcoholic trance. This was based on the history of excessive use of spirits, with the usual characteristic delusions of marital infidelity. The trance state was indicated by his conduct after the crime and general indifference of the act and its consequences; also, the automatic character of the crime, done in the same way he had been accustomed to kill animals. His first recital of the details of the crime, then loss of memory of all these events, was also characteristic of this state. His crime was probably committed in a trance state, in which he was oblivious of what he was doing, and most naturally acted automatically from an insane impulse and in a state of partial dementia.

The *prosecution* denied all evidence of insanity and claimed that premeditation and brutality marked all the symptoms. The medical witnesses for the prosecution doubted the existence of alcoholic insanity and alcoholic trance. Two medical men were confident that spirits could be used for years to excess without causing any degree of insanity or mental impairment. One physician swore that he did not think it was the alcohol that intoxicated. The usual hypothetical questions were answered in the usual dogmatic and confused way. The possibility of insanity was doubted, because the prisoner did not then appear like an insane man.

The judge's charge to the jury entered minutely into the question of premeditation and knowledge of right and wrong and responsibility of inebriates. The letter of the law was followed closely, and the jury was told to discriminate on questions of fact and science which were clearly beyond the mental range of the judge or even the most scientific experts to determine.

The verdict was guilty, and the prisoner manifested the same indifference to his condition up to his execution.

...of the fact that he was not on the fact appears to...  
...The more he tried to control his own...  
...and another that proves a...  
...and a moderate degree of mental...  
...of the mind.

...had used spirits for many years to...  
...often, if not often, he would be...  
...the effects of spirits on the...  
...would support his sanity and...  
...the nature and...  
...An man of a stage health who...  
...off have a defective brain...  
...practically suicidal...  
...of insanity.

...the last few years Herman exhibited delu-  
...of alcohol and exists with...  
...These delusions had grown...  
...degeneration from spirits. He...  
...to his friends, threatening...  
...many things...  
...with his wife and had...  
...but the fact that...  
...was regarded as proof of

sanity and such acts were called willful and signs of bad  
temper. In reality such persons are more insane irrespon-  
sible and dangerous than if stupid from spirits. The fact  
that when sober he did not complain of his wife and was a  
good-natured, quiet man, and only irritable and suspicious  
of her when drinking, was strong evidence of his mental  
aberration.

5th. The fact of drinking to excess, with peculiar delu-  
sions of his wife's infidelity, was evidence of impaired and  
disordered brain. No apparent sane realization of his acts  
or conversation could alter this fact. Such cases not un-  
frequently exhibit a degree of mental soundness and pre-  
meditation in thought and act which, from a careful study,  
are found to be only a mask. They are the really dangerous  
classes of the insane, because their mental condition is more  
or less concealed.

6th. Herman was using spirits to excess for a week and  
more before the murder, and on the day of the murder he  
was in a mental state fully prepared for some insane act.  
A quarrel with his wife was most natural, resulting in a  
murder committed in the way he had butchered animals  
before. Had he manifested a realization of this act in try-  
ing to escape or conceal the crime or given himself up with  
reasons and explanations, some sanity might have been  
inferred. On the contrary, he seemed profoundly oblivious  
to what he had done, and not only threw the body on the  
bed but laid down and slept three nights with the corpse.  
He drank during the daytime, and seemed in no way dis-  
turbed or different from what he had been before. His con-  
duct was unmistakably that of an insane man, and one inca-  
pable of realizing the nature and character of his acts.

7th. His conduct after the crime, in giving all the  
details of the act, and then, when he recovered, losing all  
memory or recollection of them, whether real or feigned,  
was not that of a sane man, or one who had any clear  
comprehension of the nature and consequences of his acts.  
Alcoholic trance was a condition likely to be present. The



character and manner of the crime would point to it, but his statements, after, unless confirmed by other facts, would not be positive, but would only sustain a supposition of this state.

8th. His conduct and appearance in jail after the first few days might not give any indications of his real state. The absence of delusions, hallucinations, or any gross physical symptoms of insanity, was by no means evidence of a sound mind or responsibility.

9th. The medical experts for the people assumed that the conduct and acts of the prisoner were sane, and that evidence of insanity must be found in his present appearance and conduct. His apparent sanity in act and thought and the general good physical condition sustained their views of full responsibility and mental health. These examinations were limited to one or two interviews of an hour or more, and were made with a view of finding some well-defined symptoms of insanity. No scientific study of the case seems to have been made. Each witness apparently brought to the case a group of symptoms by which to gauge the mental health of the prisoner. All previous conduct, unless marked by great mental aberration, was not considered.

10th. In reality, from a scientific study, if the facts of his inebriety were true, his brain was impaired. He was practically a fanatic, incompetent to judge of his acts and his power of control and responsibility was certainly impaired. The crime and his conduct after sustained this inference. His general indifference of manner and interest in himself and future was further evidence.

The hasty trial, speedy execution, and failure to comprehend the criminal and the crime, and the pressure of public sentiment, were all inimical to justice. The progress of humanity and the cause of truth gains nothing by taking the life of a poor alcoholic imbecile, while the intelligence of the age is outraged by the application of medieval theories of human responsibility and divine vengeance. Whatever the

law may be concerning crime committed under the influence of spirits, science demands that its application shall be along the lines of natural law and observed facts. If Herman was of sound brain and capacity to realize the nature and consequences of his act, the punishment by the law was just, but if Herman possessed a defective brain and impaired consciousness of his acts, such punishment was a crime, as much so as the murder itself. Security to life and prevention of similar crime can never be secured by the injustice of taking the lives of irresponsible persons.

The hanging of insane and idiot criminals never checks the crime of such persons. Other Hermans and Ottos\* will go on committing crime just the same. The time has come for a change. The progress of science demands the confusion of courts, the uncertainty of juries, and the difficulty of physicians in deciding on the brain health of prisoners in a few interviews make it impossible to secure the ends of justice in such cases. Herman's case should have been the subject of scientific study before it was brought into court. The inebriety of the prisoner and the peculiar character of the crime called for a special study that could not be limited to a few observations by physicians, and also could not be decided under the pressure of public feeling. The conclusion is inevitable that the supposed justice of Herman's trial and execution was grave injustice, and was only another example of judicial murder, which, unfortunately, is not uncommon in this country. The trial and execution of Herman is beyond recall, but the failure to realize the true condition of the man and the crime may serve as a landmark and warning in future cases.

\* At the time of the trial a poor lunatic, Peter Otto, was under sentence of death for wife-murder, and, although bravely defended, was finally hanged. The same strange medical testimony and misconception of the case prevailed. The strange delusions of both Herman and Otto were sane persons of the court and community, and was a strong influence in both trials. Later reflection strengthens the conviction that both cases were sad judicial blunders, in which two irresponsible men were punished as sane and responsible.

## Abstracts and Reviews.

## EFFECTS OF TEA DRINKING ON THE NERVOUS SYSTEM.

Dr. Bullard of Boston, in a paper read before the Massachusetts Medical Society on the above topic, draws the following conclusions:

1. Chronic tea poisoning produces a condition of irritability or hyperexcitability of the nervous system, and does this both directly by the action of the tea upon the nervous system, and indirectly by the production of gastric derangement.
2. Tea taken directly and in moderate doses, for a considerable period of time, tends therefore to place the nervous system in a condition in which it is more nearly affected injuriously by slight external influences. It therefore favors the production of many forms of functional neurosis, and if such neurosis already exists, aids in their continuance.
3. There is no evidence that tea taken in the manner described, causes any organic nervous lesion, but it is probable that if such nervous lesion should exist, tea thus taken might tend to cause an aggravation and continuance of certain symptoms.
4. There is no evidence that chronic tea poisoning produces unaided any serious functional neurosis, in a person not in any way seriously predisposed thereto. It does, however, in a manner above described, act as an important factor in the production of neuralgia, hysteria, and allied affections.
5. When taken constantly in very large doses, dyspeptic symptoms usually intervene before irreparable harm is done to the nervous system.
6. In hemiplegia, and possibly some other functional neurosis, there is probably a craving on the part of the ner-

vous system for a slight stimulation, which is better afforded by tea, than by any other equally accessible article, and for this reason patients with hemiplegia are so frequently tea-drinkers.

## TOBACCO AMBLYOPIA.

The following extract is from Dr. Woods' late work on "Nervous Diseases."

"Toxicemic amblyopia is usually of organic origin, but as this lesion is directly produced by the poisoning and is likely to be recovered from, on removal of the poison, from the system, the separation of toxicemic amblyopias is of practical importance. The most common, and the most important of the class, is the loss of vision produced by tobacco. In a large proportion of cases the excess in the use of tobacco, has been associated with an excess in the use of alcohol, and there has been much discussion as to which of these agents was the cause of the optic derangement. The amblyopia is frequently present in those who smoke excessively, but do not drink, and tobacco seems to exert the more potent influence. The victims of tobacco amblyopia show no difficulty or awkwardness in going about, but especially complain that vision is very bad in direct sunlight. He almost invariably sees better on dull days, and in the early morning and evening. If this be not noted by the patient himself, it may be shown by testing vision with type in full daylight, and again in a darkened room. An examination of the visual field will show that a great functional defect is in the center of the field occupying an oblong or oval patch, which extends from the fixing point (corresponding to the *macula lutea*) out towards and often immediately beyond the blind spot (corresponding to the disk). This central scotoma is relative, and not absolute; i. e., loss of vision in it is never complete. It is especially marked for the perception of green and red in particular; the former is usually described by the patient as "white" or "gray," and the latter as "brown" or "no color at all." In most cases the scotoma is smaller than the visual

field for central color, green and red, and hence a zone is present beyond the scotoma in which these colors are observed. Thus especially the reason that the patient will recognize the color of a large body and mistake that of a very small one. The scotoma of tobacco amblyopia is invariably anteriorly symmetrical, occupying exactly the same position in each retina. It is believed by oculists to be chiefly due to the change in the peripheral portion of the nerve axis. It has been asserted in the rare cases in which the scotoma is central and surrounds the fixation spot equally on all sides, that the cause is alcohol. Dr. Edvard states, however, that in all cases of such scotoma which he has seen, the patients were smokers. And Dr. G. De Schweinitz has reported an example of such scotoma in a woman who used neither alcohol nor tobacco, but made cigars—and in whom the eyes became normal after she left the occupation. In investigating it should be remembered that chewing tobacco is more injurious than smoking.

#### THE MEDICAL ASPECT OF INEBRIETY

The failure of prohibition to prevent drunkenness must be generally admitted. Neither the enactment of constitutional amendments, the appointment of special police, nor the multiplication of temperance societies, has brought to the world or to any community that decrease and disappearance of inebriety which the advocates of these measures have promised.

This failure to prevent inebriety by legislative enactments is due to a total misconception of the nature of the evil which it is desired to eradicate. Drunkenness is still looked upon and treated by the law as a vice, just as it has been in all ages. Since it has been looked upon as an evil at all. But in the medical mind there has been gradually growing the conviction that even while it may be too broad a generalization to say that all drunkenness is disease, nevertheless it is undoubtedly true that most habitual drunkards are diseased, and should be sent to the hospital instead of the jail.

Take the commonest form of inebriety, for instance, that of the periodic drunkard, and compare his case with one of recurrent mania or of epilepsy. There is the same interval between the attacks when the subject is to all appearances in perfect health, his behavior as correct, and his moral sense as sharp as that of any man; during this interval he may drink but his appetite is as much under control as that of any moderate drinker and he avoids excess. Then comes the attack, often preceded by a well-marked aura. The unfortunate victim is then seized with an uncontrollable desire, not to drink as is often represented, but to get drunk. It is the end and not the means which is uppermost with him; indeed the taste of liquor may be even disagreeable to him and lead him to pour the drink down his throat with as little taste as possible. When the desire for intoxication is exhausted the paroxysm ends.

The close relationship of insanity, epilepsy, and inebriety is also strongly shown by the remarkable manner in which, through heredity, one form of disease may pass into another, as where drunkenness in one generation is followed by epilepsy or insanity in the succeeding generations. This indicates clearly a similar cause in the existence of a morbid condition of the nervous centers, although the changes have so far escaped the microscope. This pathological condition is spoken of by writers on inebriety as the "neurotic diathesis," or an "alcoholic neurosis." Although we do not know exactly in what the change consists, we can recognize its consequences, and feel sure that in the determination and abolition of its causes lies the true and rational treatment of inebriety.

The signs of the times all point to the rapid approach of the recognition of inebriety as a disease, and our descendants in the next century, will no doubt denounce the cruelty of our present treatment of the inebriate with as much energy and justice as we condemn the use of the scourge and chains in the treatment of the insane a hundred years ago.—*Lectures on Antisocialism*, *Lancet*, of St. Paul, Minn.

## DISORDERS OF MEMORY AND CONSCIOUSNESS.

The following extract is very suggestive in the pathology of alcoholic trance: "All functional acts are accompanied by or dependent upon, a nutritive disturbance. It matters not whether the functional act is connected with thought, consciousness, or secretion, the generation of nerve force by the ganglionic cell and its transmission by nerve-fibre are accompanied by nutritive changes in their bodies. A nutritive act, although temporary, has a distinct tendency to impress permanently the part implicated, and this tendency is especially pronounced in nervous tissue. All nervous tissue is, therefore, liable to be permanently affected by its own functional actions. This, it must be remembered, applies equally to normal and to pathological activities. Thus the child in learning to walk by repeated efforts trains the lower nerve-centers until, in response to appropriate stimuli, a definite series of nervous discharges and transmission occur independently of the will, and walking becomes automatic. Thus, in short, is the history of all training, mental and physical. All nervous tissue, therefore, have memory, *i. e.*, the faculty of being permanently impressed by temporarily acting—stimuli, the things remembered, being in fact the functional excitement. The recognition of the universality of memory in nerve-tissues is of great importance in the consideration of treatment of disease. Thus an epileptic fit is produced by a peripheral irritation. If that peripheral irritation be at once removed, the fit does not recur, and the patient is cured. If, however, the irritation be, not soon taken away, but produce a series of convulsions, the fit may continue after the removal of the irritation, simply because of the permanent impression which has been made upon those cells in the brain cortex, whose discharge of nerve-force is the immediate cause of the epileptic paroxysm. The nutrition of the cells has been so altered that at irregular intervals they fill up and discharge nerve-force, owing to

this power of memory a physical habit may become so permanently engrained upon the nervous system that the patient is unable to control it. An example of this is seen in the so-called habit-chorrea, movements at first controllable, mere bad habits, become at last fixed, not to be altered by any power. The hysterical woman who gives way to hysterical nervous impulse, thereby strengthens their hold upon the system so that in time she may lose all power of control over the lower nerve-centers. What is true of the lower nerve centers and fibres is true of the upper ones; Intellectual acts, or thoughts and perceptions, tend to stamp themselves upon the centers connected with them, and when the function of the nerve-cell is connected with consciousness, the changes which occur in the nutrition give origin to conscious memory, *i. e.*, to memory in the usual sense of the term."—*Dr. Wood in Nervous Diseases.*

## THE ZÜRICH CONGRESS ON ALCOHOL.

A large gathering of statesmen, philanthropists, and physicians discussed the subject of alcohol in all its phases at Zürich, Switzerland, last August. On the question of the food value of alcohol, a unanimous conclusion was reached denying all nutrient value. On the medicinal value of alcohol in the sick-room, no agreement was reached. One physician urged vegetarianism as the best means of preventing excess in spirits. Temperance societies were considered as doing great work. Coffee-houses and halls were also urged as valuable. The valuable influence of these various movements were mentioned in the pressure on the various governments, raising the tax on spirits and forming more stringent laws for the control of the sale of spirits. Dr. Kerr of London, sent a paper on Inebriate Asylums, which was read. The official report when published, will, no doubt, bring out many new facts.

Opium and alcohol should never be given as a medicine long to children who are feeble-minded or of weak, unstable organism.

*Enervation.* A story of modern society, by Elmin Thayer McGray. Frank & Wagnalls, publishers, New York city, 1887.

This story is chiefly of interest from the fact that the heroine is an inebriate, a lady in good society whose drinking is concealed, and who finally recovers. The author is evidently a wide reader of fiction, but not a close student of human nature. The picture of an inebriate woman is more ideal than literal, and the views of inebriety and its treatment urged by her characters are open to very serious objections. The tone and style are markedly that of an amateur. Yet the author and her book is to be commended for this first attempt to portray the rapidly increasing class of inebriate victims in high life. Other and more accurate studies in this field will bring enviable fame to this author. The publishers have issued an attractive volume.

*Warren's, Joyancy, and Chillibank*, by Dr. John M. Keating. J. B. Lippincott & Co., publishers, Philadelphia, Pa., 1887.

This is a most excellent hand-book of practical lessons in nursing, written by an accomplished physician in a vein of clear, strong common sense. It is a book that can be placed in the hands of laymen with great satisfaction and profit. This book contains 225 pages, being pleasantly divided into chapters and headings that greatly facilitate the pleasure of the reader.

The *Science Weekly* is one of the best journals that a scholar can have to keep abreast with the times. It is edited with great scientific skill, and its pages are thoroughly reliable. No more acceptable present could be made than a year's subscription of this excellent journal. The subscription is \$3.50 a year. Address publishers, 47 Lafayette street, New York city.

The *Journal of Morphology* has appeared, devoted entirely to zoological literature. Ginn & Co., of Boston, are the publishers.

The *Scientific American* grows in interest each month, until it takes rank as a need to every thinking man, with the great dailies of the world.

The *Open Court* is a journal published in Chicago, in which all phases of religion and science are discussed with charming frankness and dignity.

The *Democrat Monthly* comes freighted with a rich table of contents, to an ever increasing army of readers. Its influence for good is in pleasing contrast to many more pretentious rivals.

The *Climateologist* is a quarterly, published in Baltimore, Md. The editor, Dr. Rohe, brings to this new field a rare experience and culture, giving success to this journal from the beginning.

The *Electrical Engineer*, published at 115 Nassau street, New York city, is a monthly review of theoretical and applied science in electricity. It is a journal of great value to all scholars and thinking men.

The *Hornet's Review* is a theological monthly, edited on a generous, broad plane, appealing to scholars and thinkers of all classes by its vigorous, strong thought. Frank & Wagnalls are the publishers, New York city.

The *Humboldt Library*, published by J. Fitzgerald, 24 East 4th street, New York city, is a great educational work, placing the best scientific works of the age within the reach of the masses. Send for a catalogue.

The *Popular Science Monthly* has published some of the most important contributions to science this year. The September and October numbers are volumes in themselves, which should be read by every student of science. D. Appleton & Co. are the publishers, New York city.

*Medical Classics*, a monthly devoted to a study of the writings of the fathers in medicine, is a most commendable effort to place the views of antiquity before the modern English reader. The two numbers before us give great promise for the future. It is published in New York city, at one dollar a year.

## Editorial

THE INTERNATIONAL MEDICAL CONGRESS  
ON INEBRIETY

This year will be eventful in medical history for two widely different gatherings of physicians, whose work and influence will go down into the future. Long after the participants are forgotten. The congress at Washington was devoted to all departments of medicine, and called together a large number of physicians, was opposed, criticized, and sneered at; yet, in character and spirit, it marked the beginning of a new epoch in the progress of medical science. The papers and discussions of the American physicians at this congress, not only exhibited an aggressive energy and restlessness free from prestige and theory, but a practical application of the laws of prevention and cure of disease beyond all comparisons by any old-world standards.

The congress at London was for the study of the disease of inebriety, and was the first international convention of a little band of medical explorers who had crossed the frontiers of a new borderland realm of disease. Less than a hundred physicians and friends gathered and listened to the readings and discussion of twenty or more papers. The session terminated with a banquet, in which over two hundred leading men of all professions expressed their warm sympathy in the effort to study these cases; the daily papers gave brief notices of this congress; the temperance weeklies published full reports, and the medical journals gave abstracts, and thus the event passed into history. No loud voices of praise or criticism was heard. In this comrory—except a few brief notices in the medical press—no reference was made to it. In reality, it was among the most important medical events of the century. It was, practically, the first general recognition

that all this great tide of evil coming from the excess of drink, was under the control of law, which could be understood and prevented by the scientific study from scientific men. The central idea of this congress, that inebriety was a disease and curable in hospitals, is the beginning of a great revolution and evolution in the science of medicine. The vast army of inebriate defectors are to be transferred into the realm of medical science for study and treatment. The temperance theories and efforts to reach the inebriate, will disappear in the evolution of a broader, clearer knowledge of the nature and causes of inebriety.

This congress marks the beginning of a new era, in which the complex forces of heredity, surroundings, food culture, mental and physical strain and drain, with all the vast ranges of causes now unknown, will come into the realm of scientific study, and be known with all the means of cure and prevention.

The congress at Washington was a record of the advances in the general science of healing; the one at London was the formal opening of a new realm and territory for medical research. It announced that the innovations and statements of a thousand years ago concerning inebriety, had been practically tested in the last quarter of a century, and were found to be true in a wider sense than ever before conceived. That the vast armies of inebriates were diseased and curable, and this great borderland realm of disease was to be reclaimed from the superstitions and theories of the past. Sixteen years has passed since our association for the cure of inebriates was organized, and this congress was the first world-wide endorsement of our work and its objects. The confidence and faith which has inspired the members of this association these years, receives a grand uplift from this event.

Inebriety, its study and cure, is carried by this congress beyond the monopoly of any society or individuals. It is the world's great new field for the prevention and cure of human ills and human sufferings.

## SEXUAL INSANITY IN INEBRIETY.

The pathological paroxysms of the higher brain centers which appear early in all cases of inebriety, are often associated with the most extraordinary sexual perversions and insanities. In most cases these morbid impulses follow after the inebriety has been established, and seem to be the result of some central nerve irritation. In other cases it precedes the inebriety and dies away when the drink paroxysm is fully developed. Here it seems to follow as a reflex irritation of some unknown state. In a third class, some congenital condition predisposes to morbid sexual impulses which merge into inebriety, and afterwards, when one is active the other is unnoted, and vice versa.

In the first class, most commonly noted, after inebriety has begun, sexual irregularities appear. Thus, a man previously moral will consort with the lowest women, or have a mistress and pursue a line of most unusual conduct, irrespective of all social and family relations. The boldness and impetuosity of this conduct suggests disease and failure of the brain to realize the nature and consequence of acts. As an example a man of excellent character married, with five family, became an inebriate, dating from an obscure brain injury. Suddenly he became a constant visitor to a house of ill-fame, appeared in public with the inmates, and gave no reason for this. A professional man of high standing, became an inebriate, and began to keep mistresses and associate with fast women. In these cases such conduct indicates a sexual delirium and degeneration associated and following inebriety that is very grave. It is more often noticed among the steady and constant drinking inebriates.

In the second class, where sexual exaltations precede the drink paroxysm, there is always a marked neurotic element present. Such cases are often periodical inebriates. Thus, in a case under observation, a man of correct habits will for two weeks before drinking, manifest almost ungovernable sexual impulses. He will consort with many women, each day, have sexual dreams at night, and conduct himself in a

very unusual way. Finally he becomes intoxicated, and the sexual impulse dies out. Long intervals, sometimes months, follow before it returns, during which he is entirely abstinent. In other cases this impulse will begin with intrigues with women, and secret journeys to large cities, visiting bad houses, and show itself in voluble conversation on these topics. A female inebriate, occupying a high position in society, exhibits this erotic impulse before the drink paroxysm by the most scandalous stories of sexual wrongs, that are always creations of her imagination.

In the third class, where sexual perversions have appeared from childhood, both congenital and acquired, founded on a neurotic constitution, inebriety seems to be only another phase of the diseased state. Often in these cases there is a strange periodicity, in which the sexual impulse is dominant for a time. Such cases go from one house of prostitution to another, rarely drinking anything. After a time they begin to use strong spirits, become intoxicated, then this sexual impulse dies away. The history of such cases are often marked by masturbation, intense sexual activity early in life, and other irregularities. The inebriety is paroxysmal, and seems to have grown out of the surroundings, and the sexual impulse seems to gather and explode like an electric storm of epilepsy or hysteria.

In all of these cases delusions of the infidelity of others are marked symptoms. A husband suffering in this way will always suspect his wife, or those about him of the same immorality. In some cases the capacity to gratify this impulse becomes paralyzed, but the mind exhibits a delirious pleasure in dwelling on the details of such acts.

The sexual crimes committed by inebriates have always been regarded as entirely within the control of the person, yet when carefully studied appear like the acts of a maniac, controlled by a blind irresistible impulse. Practically, a knowledge of these associated insanities throw much light on inebriety and its treatment.

These facts are presented as only hints and suggestions of an unknown field that comes under almost daily observation.

*The Dairymple Home* at Rickmansworth, England, under the charge of Dr. Frankhwaith as superintendent, is undoubtedly one of the best equipped inebriate asylums in Europe today. Situated in a rich farming country a few miles out from London, it has many attractions. This with the admirable plan of management, tone and spirit of the place, may serve as a model to be copied after. Dr. Norman Kern is consulting physician. This, in itself, is an evidence of the thorough scientific treatment of the inebriate, above all levels of faith and superstition. The Dairymple Home is really a modern hospital, where the disease of inebriety is studied and treated with the best means and appliances known to modern science. It is practically where the spirit and bandage are applied until the poor fractured inebriate recovers. The cheerful quiet and seclusion of a large park, bounded by a river on one side, and overlooking a fine farming country, add greatly to the beauty of this place. The superintendent is one of those cherry scientific men, whose presence inspire confidence and respect everywhere. There is probably no new work in all Europe upon which more interest is centering than on this Dairymple Home. On its progress and success the future treatment of inebriety in Europe will turn very largely.

Dr. Norman Kern of London, England, is one of the most advanced students and writers on the subject of inebriety in Europe. His papers and addresses have become authority, and are copied very widely all over the world. Mr. Chang Tsui of the Chinese Embassy at Washington, has translated parts of his late address before the International Congress of Inebriety, for the special notice of the Chinese Emperor.

A study of the nature and causes of inebriety shows clearly that, to a large degree, it is as positively preventable as small-pox, typhoid fever, or diphtheria.

The theorists are unwilling to acknowledge that inebriety is a disease, after having so long denied this fact, so they seek a compromise. They must save their old theories by showing that they were half right. Hence they assert that all cases are at first sin and vice, but later may become disease. This is a repetition of every dying theory, seeking to live on the fact that they were partially right. Precedent history, and the Bible, are called in to sustain the old dogma, but like the horns at Jericho, the louder they sound, the more perfect the destruction of the walls.

A young man with an unstable nervous organization becomes reduced in health and is subject to contagion of drinking companions, uses spirits to intoxication; the result is, his physical system takes a diseased tendency, which quickly develops into inebriety. No matter what the surroundings may be, he is under the control of diseased impulses, which carry him farther from health and sanity.

The vaso-motor paralysis following the use of alcohol, interferes with the venous circulation. The blood returning from the extremities, fails to bring all the carbon and other excrementitious matters. The exchange of oxygen is interfered with, and a species of oxygen starvation comes on, resulting in fatty degeneration. Atrophy, inflammation of the nerve extremities, called neuritis, comes on.

In the treatment of inebriates, it should always be remembered that they are sick people with damaged brains, which are more or less capable of being repaired, such repairs being a slow process, requiring a combination of physical and mental remedies, and long time with rest. If they cannot be cured, they can at least be improved, and should always be treated as wards of society instead of its enemies.



Epilepsy, which develops after the thirty-fifth year of age is frequently due to some organic disease of the brain caused by alcohol.

Dr. Webb asserts that only ten per cent. of the distilled spirits consumed in this country are used for medicinal and manufacturing purposes, the other ninety per cent. being used as a beverage.

"The study of inebriety from a scientific standpoint is a matter of the utmost consequence, of immensely greater importance than any amount of so-called temperance agitation."  
—*Lectures on Asylums in America*, *Lancet*.

Dr. Holmes's remark that the patient might have been saved if the physician had been called two or three generations back to treat his forefathers is a fact that every specialist in inebriety will most heartily endorse.

The study of inebriety to-day is largely the record of the facts, a description of cases, and phenomena which they present. Later comparisons of these facts and records will be made, and the laws which govern them will be deduced.

In a case of death from chronic alcoholism, after the had become extinct the temperature of the body was observed to rise to 110° and remain there for some time. A correspondent asks if this has ever been observed before? also, what explanation can be given of it?

Lindsay & Blakesston's Visiting List for 1888 is out, and may be said to be one of the best in the market.

The Association for the Cure of Inebriates will hold their semi-annual meeting in Brooklyn, N. Y., Nov. 2, 1887. Besides the president's address, papers will be read by Dr. Kerr of London, Drs. Wright, Day, Searey, Mason, Mann, Crothers, and others.

The New York Medico-Legal Society will discuss the Medical Jurisprudence of Inebriety at their regular meeting, Nov. 2, 1887. Papers on the medical side of this topic will be presented by Dr. Kerr of London, Drs. Wright, Jarvis, Mann, and Crothers of this country.

*Horsford's Acid Phosphate* is a preparation of the phosphates of lime, magnesia, potash, and iron, with free phosphoric acid. For the various disorders incident to wasted or prostrated energies, weakened vitality, exhaustion, headache, nervousness, dyspepsia, etc., etc., it will be found incomparable, giving almost instantaneous relief, and producing refreshing, dreamless sleep.

George Stinson & Co. of Portland, Maine, are the great Art Publishers of America. Their steel plates are the finest sold in this country. Send for a price list before the holidays, and take advantage of the reduced rates.

The *Anglo-Swiss Milk Co.* of New York city are pioneers in placing within the reach of every physician this most excellent food, which has an international reputation, and is used in all civilized countries.

*Golden's Beef Tonic* has been used as a substitute for spirits in cases of inebriety with most excellent results.

*Bromidia* and *Paraline* have become household remedies in many cases of inebriety and insomnia. They are specifics in the hands of many physicians.

*Lactogenine* has won a permanent place among the remedies whose value is universally recognized. It is a nutritive tonic. In all cases of debility its effects are very marked.

*Peptonized Cod Liver Oil and Milk*, by Reed & Carnrick of New York city. In alcoholic phthisis this is a most admirable remedy. In the convalescence from pneumonia its effects are very marked.

*Willink*, with the iron and vegetable tonics combined, should be among the remedies in the office of every physician.

*Murdock's Liquid Food* has steadily grown into great popularity. As a nutrient tonic in old cases of stomach and brain disorder, it is invaluable.

*Lactated Food*, by Wells, Richardson & Co., according to a local paper is selling over five thousand bottles a day of their famous food. This is unmistakable evidence of its practical value.

*Fellow's Hypophosphites* is a most excellent nerve remedy. In many cases it is very nearly a specific, and should be used in all cases of brain and nerve debility.

*Coca Cordial*, by Parke, Davis & Co., has been found of great value in cases where alcohol is suddenly removed from the inebriate. It relieves the shock and depression, and saves the patient much suffering.