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APRIL, 1889.

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CONCLUDING DEBATE ON THE MORBID ANATOMY AND PATHOLOGY OF CHRONIC ALCOHOLISM.

SIR JAMES PAGET, Bart., in the chair.

Dr. Hadden drew attention to six fatal cases of alcoholic paralysis which had come under his personal observation, five of which were described in the *Transactions* of the Society. The spinal cord was normal in all. The nerves were examined in five and found to be degenerated, the change being parenchymatous in three, mainly interstitial in two. The change was usually more advanced in the smaller nerves. In all probability the neuritis became less intense in the ascending direction. The medulla had been examined twice and the motor convolutions twice, but no change was present. The lesion in the nerves consisted of granular degeneration of the myelin, then partial removal of the products causing a varicosity of the nerve-fibre; and, lastly, complete disappearance of the degenerative *debris* with collapse of the sheath. In a single preparation all these changes might be found, together with fibres, normal, or but little changed. He had never examined the nerves for tubercle bacilli. The muscles often showed somewhat im-

perfect striation with a granular appearance of the fibres, and usually there were local accumulations of nuclei between the fibres. In the six fatal cases the lungs and liver were affected. Phthisis existed in four, miliary tubercles in the lungs of one, softening broncho-pneumonia in one. The association of tubercle with alcoholic paralysis had arrested his attention six years ago, and it was possible that the change was due to lesion of the vagus. In the six cases referred to there was marked cirrhosis of liver in four, advanced fatty changes in two, in one of which there was early cirrhosis. In cases of alcoholic paralysis he had seen various trophic lesions, such as acute bed-sore, œdema of ankles, bullous and vesicular eruptions, erythema of the palms, loss of and arrest of growth of nails, perforating ulcer of foot, and profuse sweats, with swelling of joints. As regards the influence of alcohol on the kidneys, he had examined between fifty and sixty cases of cirrhosis of liver, and had found interstitial change present in the kidneys in one-third. In only about one-half of this number (that is, about one-sixth of the whole) was the change at all noteworthy. In about one-fifth of these cases of cirrhosis lung changes existed, emphysema and tubercle being present in about equal proportion. In a few instances there was tubercular peritonitis. In one-half of the cases the brain was watery; gall-stones occurred in a significant proportion. Deposit of urate of soda did not occur with much more frequency than in the general bulk of cases. No doubt alcohol did cause organic change in the kidneys, although its influence in producing the typical granular kidney was indirect. It was interesting to note, however, that out of fifty cases of granular kidney, cirrhosis of liver was present in only one instance, but in a few days there was fatty change.

Dr. Ormerod referred to the sections that he had shown at the last meeting from a case of typical alcoholic paralysis that had been under the care of Dr. Andrew, at St. Bartholomew's Hospital. The specimens showed breaking-up of the myelin and overgrowth of the endoneurium. The condition of the axis-cylinders was rather doubtful, some being

destroyed, while some were traceable. The cause of death was phthisis. There was no change in the pneumogastric nerve-trunks. The section from the tibialis anticus muscle showed only increase of nuclei. He referred to another alcoholic disease of the nervous system described by Wernicke and Thomsen in which there was acute, even hæmorrhagic, inflammation of the oculo-motor nuclei, with symptoms of mental disturbance resembling delirium tremens, followed by stupor, staggering gait, progressive paralysis of ocular movements. Another case of alcoholic ophthalmoplegia had been described by Dr. Suckling, which did not terminate fatally, and he had himself seen a similar case, in all probability due to alcohol.

Dr. Owen related results of the Collective Investigation Committee of the British Medical Association into the subject of intemperance. An idea had got abroad that the Committee stated that total abstinence was a very bad thing, and that total abstainers had a relatively earlier mortality than drunkards. This Dr. Owen, on behalf of the Committee, emphatically denied, and said that the Committee had intentionally not announced any definite conclusions. He then recounted the data from which the Committee drew their results; these being that the temperate had an average of 62 years of life, the intemperate of 52 years; total abstainers showed an average of only 51 years, but this was clearly shown to be due to the fact that a great preponderance of total abstainers were young people; and the total abstainers above 40 showed at least four years expectation of life longer than the habitually intemperate. They also showed that the habitually intemperate people's earlier mortality was due to specially alcoholic diseases, such as cirrhosis of the liver and gout. There was a larger number of the intemperate with kidney diseases than the temperate, but that was shown to be due to gout rather than directly to alcohol. Alcohol appeared to have no influence on death from apoplexy, enteric fever, or pneumonia.

Dr. Bernard O'Connor inquired into the *modus operandi* of the irritation caused by alcohol. Referring to the fact that

different lesions were produced by different varieties of alcoholic liquors, he said that amongst hop-pickers in Kent delirium tremens, a very common disease, was more frequently produced by beer than spirits. He thought that gout was produced by other things in beer than alcohol. The ultimate explanation of these actions of alcohol would be furnished by chemical investigation.

Dr. D. R. Pearson said: The liver, being the organ which most directly deals with alcohol, is found in practice first and most largely affected by it. The lungs and kidneys are not so much heard of in regard to alcoholism, being more rarely affected by it, and, when affected, to a less extent. This is probably to be accounted for by their office as excretory organs, and by the fact that in the lungs the alcohol meets with dilution in the form of watery vapor, and in the kidney by more direct dilution. The coats of the stomach are probably the only tissues which can be proved to suffer by the direct toxic effect of alcohol. The changes produced from alcohol are life changes or nutritive changes, and first affect interstitial tissue. A proportion of the alcohol imbibed is directly excreted by the lungs. Predisposing causes, such as constitutional weakness or exposure to cold, direct in certain cases the expenditure of a portion of the force of the alcoholic degeneration upon the lung tissues. Previous disease or local weakness of structure determines the seat of lesion. Portions of lung, probably lobular, have their interstitial tissue affected by degenerative change, which in its first stage has been looked upon as of a fibroid nature. In its later stages this change will probably show more the nature of the changes associated with senile decay. As the lung substances undergo change, the bronchial tubes show off their epithelium at their terminal ends, probably to a morbid extent. They lose their elasticity, and their secretion is imperfectly disposed of. It collects, degenerates in character, and, as the disease proceeds, requires more and more effort for expulsion. These expulsive efforts mean the convulsive upheaval of a more or less inert mass, containing in it dilated, because inelastic, bronchial tubes.

These are no sooner emptied than they again gradually fill with muco-purulent fluid. When this fluid reaches the level of healthy tissue, and probably when innervation becomes sufficiently active—say after a night's rest—the expulsion period begins, and may last from one to three hours, varying with the extent of tissue involved. In typical examples, the characteristic cough ends in a supreme effort of sickness, and the inelastic bronchi are emptied. After the successful efforts to empty the bronchi, peace is attained much more perfectly than in ordinary chronic bronchitis, till the next period of filling reaches its emptying level once more, or till the nerve force is set in motion for the effort of expulsion.

Dr. Payne, in reply, said: I think, sir, the Society may be congratulated upon the issue of the discussion on having elicited a considerable number of valuable observations on the morbid changes produced by alcoholism, and as having brought out in a definite form the views held by different members as to their causation. With regard to certain points we have not received so much information as I had hoped. I refer especially to the condition of the tongue, of the gastric and intestinal membrane, and of the skin in chronic alcoholism. Nor with regard to the effect of alcohol on the kidneys has the discussion brought to light any distinctly new facts. The interest of the subject remains concentrated as it was before, chiefly on two points—the effect of alcoholism on the liver and its effect on the nervous system. Personally, I have to thank those members of the Society who have discussed the subject for the manner in which they have referred to my opening remarks, and with the criticisms which my views have met with. With regard to the liver, the views which I ventured to suggest as to the causation of cirrhosis have not met with much acceptance. Dr. Lionel Beale indeed developed a conception of the process very different to that commonly adopted, regarding it as essentially as an atrophy, and denying or, at least, questioning, any new formation of fibrous tissue. The preponderance of fibrous tissue in certain parts is then explained merely by the absence of liver-cells. With this I confess I

cannot altogether agree, since the evidence of new formations of fibrous tissue seems to me in many cases indisputable. The point at issue seems to be rather this: Is the undoubted degeneration and destruction of hepatic tissue to be explained as always a consequence of the fibrous hyperplasia? Are the two changes not often concurrent, or may not the degeneration of liver-cells precede in some cases the increase of connective tissue? The chief argument against the two latter explanations is that supplied by specimens such as those shown by Dr. Sharkey, in which apparently healthy liver-tissue is seen side by side with masses of newly formed connective tissue, even in advanced cases of cirrhosis. In answer to this undoubtedly strong argument I would urge first that sections mounted in Canada balsam do not always show the actual condition of the liver-cells so well as when the cells are examined in the fresh state, since fat more especially, and also other materials, are removed by the processes employed in mounting. I cannot myself recall any instance of ordinary alcoholic cirrhosis in which the residual masses of liver-tissue have not been yellow and opaque from the presence of fat and granular matter in the cells, instead of presenting the normal liver color. This change, indeed, is so universal that it has given the process the name of cirrhosis or yellow disease. Secondly, it must be admitted that there are groups of liver-cells, and also bile-ducts, which show what are considered to be the signs of health and active life in possessing distinct nuclei, deeply stained by the coloring reagents. But these characters are, I think, seen in a minority of instances, and, arguing from the naked-eye appearances, one would doubt whether they prevail over a large part of the liver. Moreover, I cannot help suspecting that many of these distinctly nucleated liver-cells may be of new formation, showing a process of repair in the liver tissue. When a destructive process continues for a long time in a large organ such as the liver, there is every opportunity for restoration of tissue and the clinical facts of recovery, at least temporary or partial, from cirrhosis make such a restoration extremely probable. Further, the

new formation of bile-ducts is a pretty well established occurrence in hypertrophic or biliary cirrhosis, and, as was shown by Dr. Saundby in our *Transactions*, vol. xxx, p. 301, and by others, may also occur in alcoholic cirrhosis. One of the specimens which I exhibited at a previous meeting shows the same phenomenon, and I believe it to have been alcoholic cirrhosis, though I have not the complete history of the case. If there may be a new formation of bile-ducts, it seems but a short step to new formation of liver-cells, though these appearing as normal elements of the organ would not be generally described as new products. This topic would require more elaborate working out than is possible to-night. I would, however, suggest that the question of repair and restoration of epithelial glandular structures such as liver-cells is one which will well repay further inquiry. Another ground on which I hesitate to accept the view that atrophy and destruction of hepatic tissue are consecutive to and caused by fibrous hyperplasia, is that the cirrhotic liver is not necessarily, as is sometimes assumed, an anæmic organ. It is, of course, obvious that there is a deficient supply of portal blood; but, on the other hand, the supply of blood through the hepatic artery is very copious. This is shown very clearly when the organ is injected after death through the latter vessel. The injection enters easily, and fills the interlobular capillaries very completely. So far as we can see, it is not the anæmia due solely to vascular compression by contracting fibrous tissue which starves and destroys the hepatic cells. In fact, as stated by Rindfleisch, there is a continual extension of the territory of the ramifications of the hepatic artery. I do not, of course, deny that ultimately the newly-formed fibrous tissue undergoes contraction, as is usual with such tissue, like a scar, and compresses the organ generally; only I submit that this is not the only or the primary cause of the morbid changes which occur in the secreting tissue. It may seem, after all, as if there was something wanting to explain the remarkable development of fibrous tissue—this disease appearing as it

does out of proportion to the intensity of the local irritation. I would suggest, anticipating a later part of the subject, that something here is due to the simultaneous action of alcohol on the nerve centers, which appears to cause an active hyperæmia of the liver by affecting the vasomotor nerves of the hepatic artery. It is thus that the inflammation is sustained and the hyperplasia is, so to speak, fed. I need not dwell upon the morbid changes in the brain, which have been so ably discussed by Dr. Savage, and of which some valuable statistics were contributed by Dr. Pitt. I am glad to find that my tentative suggestions as to the causation of general paralysis which have been confirmed by Dr. Savage's authority. Dr. Pitt's observations on the production of meningitis, cerebral and spinal, are very interesting. Some years ago I showed to the Society a specimen of acute cerebro-spinal meningitis, corresponding precisely to the description given us of the epidemic form of that disease, in which the occasioning cause seemed to be excessive drinking, accelerated possibly by other circumstances. With respect to alcoholic paralysis, which has lately received so much attention, there seems to be a general consensus among all observers that the main morbid change is peripheral neuritis; and that changes in the spinal cord, if present, as they were in one of Dr. Sharkey's cases, are comparatively rare and exceptional. I might however have drawn attention to the valuable paper by Dr. Handfield Jones, published in the *Practitioner*, for December, 1881, some months before Dr. Wilks's observations on paralysis due to alcohol. In one of his cases undoubted softening of certain parts of the spinal cord was detected by Dr. Lockhart Clarke. Under neuritis we have had examples of both the changes to which I directed attention, namely, a parenchymatous degeneration of the nerve fibres, and interstitial inflammation of the fibrous structures of nerves, sometimes combined, sometimes met with singly. Although it is impossible to say which of these changes is the primary one, it would seem on the whole probable that, as remarked by Dr. Finlay, the degeneration is the earlier, and the interstitial inflammation the

secondary change. My view of the actual causation of these changes in the nerve has been criticized by Dr. Buzzard, whose authority in matters of nervous disease requires that his remarks should be seriously weighed and considered. And I may first repair an omission in my opening remarks by referring to Dr. Buzzard's own important observations on alcoholic neuritis in his lectures on peripheral neuritis. Dr. Buzzard does not think that these changes in nerves can be due to the direct action of alcohol upon them. He contends that the morbid changes are confined almost entirely to the peripheral terminations of nerves, while the spinal cord, nerve-roots, plexuses, and proximal portions of nerve-trunks have been found, as a rule, perfectly free from such changes. As regards the spinal-cord and nerve-roots this is, as I have said, universally admitted; but, as regards nerve-trunks and plexuses, I cannot agree. In speaking of peripheral nerves I meant to speak of nerves as a whole, not of their peripheral extremities, and, as a matter of fact, numerous specimens were shown at our last meeting of changes in large nerve-trunks, such as the popliteal; and in internal nerves, as the pneumogastric and phrenic. Moreover, I am able this evening to show a specimen which is still more conclusive, namely, one of alcoholic neuritis of the sacral plexus. It is a section made in the pathological laboratory at St. Thomas's of a specimen sent me by Dr. Crooke, of Birmingham, who has unfortunately not been able to be present at our meetings. So far, from the recorded observations, referring chiefly to terminal portions of nerves, I have been able to find hardly any records of the changes in the cutaneous nerve-endings which might be an interesting subject. Why alcohol should affect the brain and the nerves more than the spinal cord we do not know, but surely such an irregular incidence on different parts of the body is the rule in the action of toxic substances generally, both as regards their functional and their structural effects. Morphine, strychnine, and curare circulating in the blood, will each select a different portion of the nervous system for its specific functional action; and the same

is the case with tissue-poisons, such as lead and diphtheritic virus, each of which has, as its special seat of election, a certain part of the nervous system. The same law might, I believe, be established in going through the whole series of toxic nerve inflammations. Doubtless the ultimate explanation of these variations must be some difference in the chemical composition of the several nerve-tissues, if we did but know what their chemical composition is. Dr. Buzzard's own view is, that the changes in the nerves are secondary to alterations produced by alcohol in the vasomotor centers of the bulb and cord, which, by causing either contraction or dilation of the minute centers, lead to anæmia or hyperæmia respectively in different parts of the body, the consequence of the diminution or excess of blood-supply being in the one case degeneration of nerve-fibres, in the other case inflammation. In discussing this hypothesis we must consider the two cases of vascular constriction and vascular dilatation separately. As to the first, I confess I find it difficult to attach much importance to this cause. All our knowledge of the action of alcohol on the nerve-centers goes to show that it never acts as a vessel constrictor, as is shown by, among other facts, the lowering of arterial blood-pressure which it produces. It can hardly be admitted, therefore, that it can set up so extreme a degree of anæmia as to result in degeneration of tissues. It is true that the action of alcohol on capillaries and small vessels, when directly applied to them, is constructive, as we see in its styptic effects; but such a mode of action would be local, not remote, and, if it occurred, would show that the alcohol was actually on the spot and capable of acting directly on the tissues; so that this cannot be what Dr. Buzzard means. Vascular dilatation, on the other hand, is a well-ascertained result of the functional action of the nerve-centers, having for its consequence active hyperæmia of external and possibly of internal parts of the body. Such hyperæmia, if persistent or frequent, will be undoubtedly, as Dr. Buzzard contends, a predisposing cause of inflammation, putting the tissues into such a state that they are easily affected by any

injury. Hence the proclivity of alcohol is to some forms of inflammation, bronchitis, pneumonia, certain skin affections, and so forth. But it is noticeable that, according to Dr. Lauder Brunton, alcoholic intoxication destroys the sensibility of the vasomotor center to reflex impressions, so that certain injuries produce less effect than in health, and reflex hyperæmia, which is probably a frequent source of disease, will not come into play. I have suggested also that this kind of hyperæmia has some share in the causation of cirrhosis of the liver. But the question is whether it will have any special tendency to produce inflammation of nerves. One serious objection to this hypothesis is, that the long nerves, such as the pneumogastric, the phrenic, or the chief nerve-trunks of the limbs, pass through several vascular territories, the supply of which is not controlled by any one set of vasomotor nerves; take for instance the sacral plexus and the plantar nerve of the foot, supplied by very different sets of blood-vessels. Another objection is that in the part of the surface where alcoholic hyperæmia is most marked, namely, the face and head, alcoholic neuritis is rare. Finally, the analogy of the other forms of neuritis produced by various toxic substances, such as lead, arsenic, copper, or by specific diseases, in which the histological characters are the same as those of alcoholic neuritis, though the vascular disturbances are wanting, supplies a strong argument in favor of the toxic action of alcohol. These agents also exert the twofold action which I have attributed to alcohol, namely, of producing parenchymatous degeneration and interstitial inflammation. I would refer as another instance to the action of lead salts on the kidney; the first result of which is epithelial degeneration; the secondary and ultimate change, interstitial nephritis. On the whole, I submit that the general result of the facts adduced is in favor of what I may call the *toxic theory of the action of alcohol on tissues.* Regarding the symptoms of alcoholic paralysis as to due to injury of nerves, I would just draw attention to a certain sequence of the morbid phenomena, in which alcoholic changes and those produced by other poisons are alike. In the case of

muscle-nerves, the afferent or sensory fibres seem more easily affected than the motor fibres. Hence loss of muscular sense, producing ataxia, characterizes the slighter cases of alcoholic nerve disease. Now a similar ataxic condition has been observed in the neuritis of brass workers (Suckling) and in diabetic neuritis. The symptoms of slight diphtheritic nerve poisoning (in which the knee-jerk is lost) are of the same kind. In all of these diseases, if the action be more intense, the motor fibres are affected and paralysis results. The cutaneous nerves may be considered as analogous to muscle nerves, but as having a large afferent or sensory element, which is partly motor in its function, partly trophic. The sensory fibres are affected first, and in slighter degrees of the neuritis; their lesion giving rise to the sensory symptoms already referred to. When the injury is more severe, the efferent fibres are affected, the result being trophic changes in the skin such as have been referred to by Dr. Hadden and others. Dr. Buzzard's remarks on the meaning of the word "neuritis" and similar names of diseases are interesting, and it is satisfactory to find that Professor Kontos confirms what I believe has been the generally received explanation of their etymology. It is, at all events, that given in Liddell and Scott's lexicon for the etymology of pleuritis and some similar words. But there can be no doubt that the words are non-technical terms used in the special sense of inflammation, and most of them, like neuritis itself, have been coined in modern times for this purpose, so that it seems doubtful whether we could press their strict etymological sense as a guide to their use. But to discuss the point at greater length would, perhaps, lead us too far from our main subject. With regard to the very important question as to the connection of tubercle with alcoholism, I think it will be generally agreed that all recent contributions to the subject tend to show that this connection is a real one, at least, as regards pulmonary tuberculosis. This disease was present in most fatal cases of alcoholic paralysis, and, in a proportion of cases of cirrhosis of the liver, too large to be accidental. Dr. Sharkey's

ingenious suggestion that a lesion of the vagus nerve may, by lowering the nutrition of the lung, predispose it to be the nidus of the bacillus tuberculosis, deserves to be remembered. . I would add that impairment of the function of the vagus will also lead to inadequate removal of mucus from the bronchioles and air-cells. At all events, the inaccurate impression that habits of alcoholic excess are in any way antagonistic to tubercular disease must be regarded as swept away. It would occupy the time of the Society needlessly were I to refer to all the topics which have been brought forward in these meetings. But when the facts and arguments adduced by various members come to be printed in a permanent form, they will be acknowledged, I think, to form an important contribution to our knowledge of the subject. The general outcome of the discussion seems to be: (1) that structural, as distinguished from functional, disturbances due to alcohol used in excess have more importance than has generally been assigned to them; (2) that the action of alcohol has, at all events, more resemblance to the action of mineral poisons than we have been accustomed to think. The corollary which I would venture to draw on my own responsibility is that these injurious effects are produced in a preponderating degree, or almost entirely, by concentrated forms of alcoholic drinks. The practical conclusion, if I am right, would be that the injuriousness of an injurious quantity of alcohol is almost in direct proportion to the degree of concentration in which it is ingested. But for these conclusions I must not make the Pathological Society responsible.

The President congratulated the members on the course of the discussion. It had been a most temperate debate on the results of intemperance. While it had been clearly shown that hard drinking undoubtedly produced serious organic changes, yet he could not help contrasting the caution with which the speakers who had entered into this discussion had hesitated to assert any definite conclusions with the positive and dogmatic statements made continually elsewhere by those who possessed no real knowledge of the subject.

ALCOHOLISM AND PULMONARY CONSUMPTION.

By Thomas J. Mays, M.D.,

Professor of Diseases of the Chest in the Phila. Polyclinic, and College for Graduates in Medicine.

Any one who studiously watches the evolution and dissolution of families, some of whose members are addicted to alcoholic excess, must be struck with the frequent occurence of pulmonary phthisis among them. So on the other hand, it is no less astonishing to find the latter disease suddenly appearing in families who are absolutely free from a phthisical history, and who seemingly live amidst the most healthful surroundings. Why these two conditions should be so closely associated, if in consonance with the current belief, the one is a nervous, and the other a strictly pulmonary disease, is not very clear. The following pages shall be devoted to an elucidation of this intricate problem, in which I shall endeavor to show that these two apparently isolated phenomena are naturally interchangeable with each other, and that like two diversified islands cropping out above the surface of the ocean without exposing their connection beneath, they find their common bond of union in a disordered state of the nervous system.

In order to make this subject as practical and as intelligible as possible, I shall at the very outset endeavor to prove the intimate association between alcoholism and phthisis, how one link may change place with the other in the chain of vital persistence, by citing a number of living, illustrative examples. The first ten of these cases have been culled from the extensive experience of the editor of this Journal, and have been placed at my disposal through his kindness; while the remainder have been obtained from various other sources.

Case I. J. B., aged 42 years, began the excessive use of spirits after the death of his wife. He was a merchant, temperate, prosperous, and a man of character. He became a steady drinker, and was practically intoxicated all the time. After an attack of delirium tremens he was placed under my care. During the four months while under treatment, he was alternately depressed and elated. He complained of wandering pains, and changeable appetite, as well as of spasmodic periods of coughing. A few months after he left me, he relapsed and continued to drink until he died a year later.

His mother and two sisters died of consumption. His father died from injury, but his grandfather was asthmatic, and used spirits to excess for years. One uncle on his father's side died from excess of drink, and another one died of consumption. One uncle died from phthisis after many years of drink excess.

His grandfather on his mother's side drank more or less all his life, and died from some rheumatic trouble.

Case II. B. A., aged 35, a mechanic, began to use spirits for insomnia and general debility, and finally became a periodical inebriate. He was under treatment for six months, and recovered. His father, grandfather, and two uncles, died of consumption. His mother was hysterical, and his grandmother on his mother's side died of some lung trouble. One brother died from chronic alcoholism, and a sister is a drug-taker.

Case III. C. H., age 48, an army officer, began to drink during the late war. He is now a dipsomaniac, with distinct free intervals of three months. His mother died of consumption two months after his birth, and his two sisters died of the same disease. His father's family is temperate, but several members have died of consumption. His grandfather on his mother's side was a sailor, and drank to excess at times.

Case IV. D. P., age 38, a farmer. His drinking seems to date from a nervous shock following the burning of a barn by lightning. His two brothers are chronic inebriates, one

sister is a morphine taker, and the other uses both spirits and drugs to excess for all kinds of imaginary evils. On his mother's side, a grandfather and three aunts and one uncle died of consumption. His mother is still living. His father died of pneumonia, and his grandmother on his father's side died of consumption.

Case V. E. J., age 31, a clerk of inferior mental and physical development, began to drink at puberty. Consumption has been the common family disease of both parents. On his mother's side both consumption and inebriety have been common. On his father's side consumption alone has prevailed.

Case VI. P. O., age 28, is without business, and drank from infancy. He is now a chronic inebriate and has had delirium tremens. His father and two uncles died of consumption. His mother is a woman of wealth and fashion, and she lost her mother and one sister from consumption.

Case VII. M. B., a lawyer, 54 years old, who began to drink at fifty from no apparent cause. His father and grandfather died of consumption, at fifty years of age.

Case VIII. D. T., age 38, a conductor, began to drink after an injury to the spine. A brother, who was injured at the same time, died of consumption. The mother and a sister, the grandfather, and grandmother, on his father's side, all died of consumption.

Case IX. D. B., 24 years old, and without business, began to drink at puberty, and is now a chronic inebriate. Both parents died of consumption. His grandfather on his father's side, and two uncles on his mother's side, died of the same disease.

Case X. A. H., 34 years old, a physician, took morphia for malarial poisoning, and then used alcohol to great excess. His mother and three uncles on his father's side died of consumption. His older brother became an inebriate at about 30 years of age, and one sister is in Colorado to prevent consumption.

Case XI. (*Quarterly Journal of Inebriety*, Oct., 1888, p.

390) " George Ulmer came from England in 1798 and settled at New Haven, Conn. He was a harness-maker, a beer-drinker, and after middle life drank rum to excess, until death at sixty-one years of age. His wife was a healthy woman, and lived to eighty years of age. Eight sons grew to manhood and married. Six of them died of consumption under forty-five years of age. One was killed by an accident, and one died from excessive use of spirits. Two daughters grew up and married; one died of consumption, the other in childbirth. They left four children; two were inebriates, and the others were eccentric and died of consumption. Of the children of the eight sons only ten grew up to manhood. Four of these drank to excess and died. Three of the six remaining died of consumption, and two others were nervous invalids, until death in middle life. The last one, a physician of eminence, has become an inebriate and is under care at present. He is the only surviving member of all this family. The male members of this family were farmers, tradesmen, and men of more than average vigor in appearance. They married women (so far as can be ascertained) without any special hereditary history of consumption or inebriety."

Case XII. (*Ueber die Trunksucht und ihre Erblichkeit, von* Dr. J. Thomsen, Archiv. f. Psychiatrie u. Nervenkrankheiten. Band 17, 1886. Seite 536) abstract: Father was an inebriate until after he was forty years old, at which time a cardiac affection developed itself from which he ultimately died, but which had the power of restraining him from exercising his morbid appetite. His brother was a drunkard too. Three of his sons became confirmed alcoholics, one daughter died of phthisis, and another son died of general paralysis.

Case XIII. Dr. Grasset. (*Scrofulous and the Tubercular Diathesis*, Brain, vol. 7, p. 19) condensed: Father violent, an alcoholic, and a libertine. Mother is very nervous, and died of cancer of the uterus. Many of patient's relations are drunkards. Her brother and sister died of chest disease, and another brother is always ill, and coughs a great deal. She was admitted May 3, 1879. One month previously she had a chill, rigors, and feverishness, which confined her to bed

for four days; then she began to cough, and had two copious hæmoptyses. She sweats profusely at night, is losing flesh, and in a word has all the symptoms of pulmonary phthisis. Physical examination shows evidence of tuberculosis of both apices.

The histories of these cases give the most unmistakable proof that alcoholism and phthisis are not mere coincidences, but that they have a relationship so intimate that one may be converted into the other. The problem arises, however, as to the channel through which alcohol produces phthisis; for if these two conditions are interchangeable, it is obvious that they must possess a common physiological basis, and this I believe resides in the nervous system. I have elsewhere* (to which I beg to refer the reader) given good reason for believing that pulmonary phthisis is principally nervous in character, and by considering it as such, the natural association between the two diseases is at once established. For whatever else may be said of the action of alcohol, it is pretty generally understood that it possesses a special affinity for the nervous system, and that it produces its principle ravages in the body by operating on this, and by preference on the peripheral nervous tissue. Dr. James Jackson, in this country, and Dr. Wilks, in England, were, I believe, the first to point out this form of disease, and they called it alcoholic paralysis. It has since then received the more appropriate name of alcoholic neuritis, and it is characterized in its early stages by numbness, tingling, hyperæsthesia in the extremities, and later on by anæsthesia, paralysis of motion, loss of knee jerk, quickened pulse, shortness of breath, and frequently by pulmonary embarrassment. The brain and spinal cord remain comparatively normal. The morbid changes occurring in the peripheral nerves under the influence of alcohol are parenchymatous and interstitial, or in other words they are confined to the nerve substance itself, or to its investing membrane. As a rule these changes

* Pulmonary Consumption considered as a neurosis. *Therapeutic Gazette*, Nov. and Dec., 1888.

occur together, the latter in many instances depending on the former, but frequently one exists exclusively of the other; especially is this true of the degeneration of the nerve fibre itself.

It being established, then, that alcohol has the power of producing degeneration of the nerve fibres, it does not require a reckless flight of fancy to see how, by operating on the same tissue, it may bring about that peculiar destruction of lung substance known as pulmonary consumption. Degeneration of a nerve implies degeneration of the organ which it supplies with sensation and motion. Thus, degeneration of the sciatic nerve is followed by impairment of sensation and motion in the muscles and other textures of the leg — a condition which is almost constantly present in chronic alcoholism, and degeneration of the pneumogastric nerves is just as naturally followed by disease of the lungs, heart, stomach, and all the other organs supplied by them. This is no more than we may legitimately anticipate; for it has been amply proven that division of, and protracted pressure of tumors, aneurisms, etc., on the pneumogastric nerves are capable of calling forth all the destructive lesions of pulmonary phthisis.

The following cases will serve to illustrate the close anatomical and physiological association of chronic alcoholism and phthisis, as well as other destructive pulmonary changes with degeneration of the vagii, and of the respiratory center (the latter of which practically amounts to the same thing), and with that of the peripheral nerves. The difficulty encountered in this research has not been so much in obtaining an abundance of material in which phthisis was evidently the direct result of alcoholic abuse, as it has been in finding the records of cases possessing all the points which I desire to emphasize in this paper, viz.: the coexistence of pulmonary disintegration, alcoholism, and nerve degeneration, well brought out by a thorough *post mortem* demonstration.

Case XIV. Drs. Oppenheim and Siemerling (*Archiv. f. Psychiatrie und Nervenkrankheiten*, Bd. 18, S. 507), male, addicted to alcoholic excess, was received in hospital Jan. 26, 1886. He was weak and stiff, but had no pain. At the end

of the same month he became delirious, and also paretic in both legs and arms. Death occurred in March of the same year. On section it was shown that the heart was normal, and that he had pneumonia; microscopically it was proven that the radial, peroneus, and saphenous nerve had undergone degeneration. Not stated whether the vagii were examined or not.

Case XV. Drs. Oppenheim and Siemerling (*Ibid*, p. 506). A female, age 45 years, suffering from chronic alcoholism, was received Dec. 26th, and died on the 28th of the same month, in the year 1885. On section there was found chronic exadative pleurisy on right side, as well as a caseous broncho-pneumonia and tracheitis. The great saphenous and superficial peroneus nerves had undergone parenchymatous degeneration of a medium degree. No other nerves were examined.

Case XVI. Dr. T. Déjerine, (*Deutsche Med. Zeitung*, 1887, p. 711.) Female, age 46, a hard drinker, suffered from paralysis of both upper and lower extremities. Had a pulse of 150–160, and her heart sounds were normal. Her death was caused by pneumonia. Section showed parenchymatous neuritis of the cutaneous and muscular nerves, as well as of both vagii in the cervical region.

Case XVII. Prof. Schultze (*Virchow, Archiv.*, Bd. cviii, Heft 2, *Neurologisches Centralblatt*, Bd. vi, 1887, S. 271). Male, 39 years old, developed diabetes insipidus in 1882, but had been feeble since childhood. He used alcohol greatly to excess in his younger days. Some time after the year 1882, he began to suffer from nystagmus, trembling in the arms, perversion of sensation (paraesthesia) in the legs, and from thoracic constriction. In 1886 he became subject to marked attacks of dyspnoea, and death was caused by paralysis of respiration. Section: Degeneration of medulla oblongata and spinal cord, as well as that of the root of the vagus and hypoglossus. No account of the *post mortem* appearances of the lungs is given, but it is evident that these organs were implicated in the morbid processes, since death was produced through pulmonary paresis.

Case XVIII. Strümpbell, (*Archiv. für Psychiatrie u. Nervenk.* Bd. 14, S. 339). Male, aged 47 years, a potator, was received Nov. 25. 1881. His frame is large and powerful. Both of his arms hang helplessly by his side; hands œdematous, skin and tendon reflexes wanting; legs weak and powerless; pulse, 124; temp. 38.2°; deglutition and power of speech impaired; after a while œdema of lower extremities, cough, diarrhoea, dyspnoea; bronchial râles, paralysis of diaphragm, and death, Feb. 13, 1882. Section: Marked tubercular phthisis of both lungs. The radial median, crural, and sciatic nerves were degenerated very decidedly, and Dr. Strümpbell believes that the phrenic and vagii were also involved, but he failed to examine them closely.

Case XIX. Drs. Oppenheim and Siemerling (*Ibid*, Bd. 18, S. 114). Male, 26 years old, a potator, was received in the Charity hospital Jan. 17, 1881, on account of delirium tremens. He complained of headache, giddiness, and formication in the legs. He improved and was dismissed, but was received again on July 28, 1883, on account of marked disturbances in the nervous system. He now suffered from complete impotence, lancinating pains and rectal tenesmus. In August, he became subject to polydipsia and polyuria; on the 12th of December, there was dullness in left supra clavicular fossa, and infiltration of both apices and tubercle bacilli were found in the sputum. He gradually sank and died in August. Microscopic examination showed degeneration of the medulla oblongata, and of all the peripheral nerves which were examined.

Case XX. Dr. Oswald Vierordt (*Neurologisches Centralblatt*, Bd. v, S. 421, 1886). Male, 30 years old, much addicted to alcohol, and without a syphilitic history, suffered since March, 1884, with piercing, lightning pains in the lower extremities, as well as with weakness, unsteadiness, and formication in the same. He also developed tubercular phthisis and died the following March. Section: extended tuberculosis of the lungs and degeneration of the columns of Goll, medulla oblongata, and the cervical and dorsal portions of the spinal cord.

Case XXI. Mr. Sharkey (*British Medical Journal*, 1888, April 21, and JOURNAL OF INEBRIETY, Jan., 1889, p. 67) related a case of alcoholic paralysis of the phrenic, pneumogastric and other peripheral nerves before, and presented specimens of the same to the Pathological Society of London. The patient was a female and addicted to the excessive use of alcohol. She suffered from weakness in her legs, numbness and cramps, and was incoherent in speech. Respiratory sounds were harsh, and in a few days after admission had a rigor, which was followed by a temperature of 102.8°, severe attacks of dyspnoea, paralysis of the diaphragm, and difficulty in swallowing. Respiration 40 per minute, and average pulse rate 140. Spitting of blood supervened, the lung apices began to break down, and she died after having been under observation nearly one month. Section: tuberculosis of both apices and inflammatory changes in the phrenic, pneumogastric, and popliteal nerves.

In these examples we have proof that pulmonary phthisis can be produced through the toxic action of alcohol on the nervous system. This is unquestionable in four of the cases, and in so far as demonstrating the mode of the action of alcohol on the human lungs is concerned, it is equally true of the other cases; for I think it is pretty well established that phthisis is but the legitimate offspring of any persistent catarrhal state of the lungs, and that chronic bronchitis, and catarrhal and broncho-pneumonia, are but the milestones marking the pathway along which the disease travels to its final destination.

Such then being the relation between alcoholism and pulmonary phthisis it is very readily understood why these two diseases should so frequently change places in different members or generations of the same family, and why they are so often associated with various other nervous disorders. Moreover, alcohol having the potency to produce phthisis *de novo* in the human subject, either directly or through hereditary influence, or both, as we have seen, it must, in view of its past and present widespread abuse in civilized countries,

be a tremendous factor in maintaining the ranks of the hundreds of thousands of those who are annually slain by this terrible malady. To this and to no other conclusion do the premises of this paper point, and if one had the inclination to moralize on this subject it would be very interesting to inquire why the North American Indian, and other savages, were practically free from pulmonary consumption until they came in contact with the white race! When we connect the facts that alcohol and syphilis are the greatest curses which the Indian has acquired from his white civilizer, with the evidence which has been brought forward in this as well as in another paper on *Syphilitic Phthisis*,* I think it must be obvious that these two causes are largely responsible for sowing the seeds of pulmonary phthisis among these people.

In a recent trial for murder the medical expert for the people swore that, in his experience of years as superintendent of an insane asylum, he had never seen a case of insanity caused by alcohol alone. He also expressed a belief that there was no such disease as inebriety. The advocates of this disease were, in his opinion, unworthy of any confidence, and should be denounced by all physicians. These views created a deep impression on the mind of the judge, who charged the jury that the time had come to rebuke the false sentiment of disease in the inebriate, and the ignorance of experts who urge this view. The prisoner was found guilty, and this medical expert and superintendent of an insane asylum has made history for himself in advocating these sixteenth-century views of inebriety and the inebriate.

Eyes and ears of inebriates are always bad and dangerous witnesses of events and facts.

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*See *The Polyclinic*, February, 1889. In this paper pathological facts and illustrative cases are given to show that syphilis, like alcohol, produces pulmonary consumption by vitiating the nervous system and especially the pneumogastric nerves.

THE CONTROL AND CARE OF PAUPER INEBRIATES OF TOWNS AND CITIES.

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A large proportion of the population of towns and cities is composed of what are called the "Criminal Classes"—those that require the constant espionage of the police, and the adjudication of justice. Intermingled with these in no small proportion is the pauper inebriate — friendless, homeless,— appearing in various rôles on the public stage as drunkard, tramp, or vagrant, many times entered on the blotter of the police station as an "habitual drunkard" or "rounder"— appearing at the various hospitals and dispensaries with disease or injury incident to his habits — finally we find him in the wards of the charity hospital or among the chronic insane of the insane asylum, if perchance sudden death from natural causes or suicide has not intervened — and whether his career terminates on the street or in the hospital, or the cell or asylum, the trench in "Potter's Field" receives him, and thus the story ends.

During the year 1887, the department of police and excise of the city of Brooklyn report 23,912 arrests; of these arrests 13,862 were for intoxication; of these, 108 are stated as habitual — we presume this to mean that they were known to the police as "habitual" drunkards, but it will at once be seen that this is entirely out of proportion to the number arrested. It would be no risk to say that of the 13,754 intoxicated persons arrested, many, if not the larger proportion, were habitual or periodical users of alcoholic stimulants, and that to intoxication.

The English testimony as to the relation which alcohol bears to the so-called criminal classes is very conclusive.

In the "testimony of chief constables and superintendents of police," taken before "The Committee on Intemperance for the Convocation of York," in 1874, in reply to this question —"What proportion of those who have come under your cognizance as criminals have been the victims of drinking habits and associates."

A. "If by the term criminal is meant persons convicted of any offence against the law," sixty-five or seventy per cent.

B. "Nearly all."

C. "Fully nine-tenths."

D. "Quite nine-tenths."

E. "Twenty per cent. of the summary convictions of one year are absolutely for drunkenness — exclusive of a large proportion of the residue attributable to drunkenness."

F. "Nearly half the entries."

G. "About three-fourths."

H. "During the past twelve months in this division there has been 283 persons apprehended for serious offences. I can safely state that 200 apprehensions were directly caused from the effects of drink."

Question—"What proportion of those taken into custody are under influence of liquor?"

A. "25 per cent. in country, 70 per cent. in town."

B. "Those directly arrested and those summoned, all cases, 90 per cent."

C. "70 out of every 100 persons when arrested are drunk."

D. "161 persons arrested in this district in one year, 75 were under influence of liquor."

E. "50 per cent. are apprehended as drunks and disorderly independent of any other offence."

F. "The majority of persons arrested and charged with drunkenness. I should say 70 out of every 100."

We then have the testimony of chief constables, superintendents of police, governors of goals, and chaplains that at least two-thirds if not three-fourths of all arrests made by the police, the persons were addicted to the use of alcohol, and that a large proportion of these were intoxicated when arrested.

If we were to consult the police and criminal records of any of our large cities, New York, Philadelphia, or Boston, we might not equal but we should certainly approximate such testimony as that given before the "Convocation at York." We cannot then shut our eyes to the fact that in every city and town a certain proportion of the population are more or less continually under the influence of alcohol, and that to a degree often dangerous to the community at large. Intoxication with or without overt criminal acts continually occurs, rendering it necessary to arrest and imprison this class.

The question now before us is whether the present method of dealing with the inebriate is the best, and if not what are its disadvantages. Those who have given thought to the subject confidently assert, that the present method of arrests, fines, and short term imprisonment (or occasional six months) is not the proper and scientific way of dealing with the inebriate. By this method, on regaining his liberty the individual simply repeats his act of intoxication and is again subject to arrest, fine, or imprisonment; after this has been repeated several times, he is known as the "repeater," or "rounder." Instances are on record where one person was subjected to arrest for intoxication over one hundred times, a period of course extending over some years.

A female is reported as having been convicted forty-eight times for various offences, at all times committed through drink. She paid £200, or $1,000, as fines for drunkenness. The large majority in English prisons of re-committals are due to intemperance. If crime be associated with the intoxication as assault, grand larceny, then the chronic inebriate, strange to assert, will get the best treatment, the law will give him the full benefit of his criminal act. Restraint, and a long continued period of total abstinence will be enforced during his term of imprisonment, and when his sentence expires he will often leave greatly benefited, and practically a sober man. Instances are on record where the inebriate has requested that he might be placed in prison and thus secure restraint, seclusion, and the discipline of prison-life, and thus attain habits of sobriety.

The testimony from English prisons is singularly unanimous on this point as well as conclusive.

Question—"Do you consider the health of patients would be affected by total abstinence from intoxicating drink?" Governors of jails testified "prisoners are universally benefited; there are cases where it might be occasionally used, as in feeble and broken down prisoners — but these occasions were rare." As a rule, men who have served long periods of imprisonment, and who have been habitual drinkers, go out heavier and better in health than they came in. Their general improvement in health is due to cleanly habits, warm bath, good ventilation, regular rest, systematic exercise, connected with prison discipline, and *total abstinence* from liquor of all kinds.

This result incidentally points out clearly, we think, the general plan and method by which we ought to control and treat the pauper inebriate. He ought to have all the advantages that prison discipline may secure to him without the necessity of a criminal proceeding on his part.

Undoubtedly, the law, in dealing with the inebriate, simply as an inebriate, is faulty or only partial in its effect upon him. "It practically does this, it arrests him, and fines or imprisons him for a short period — too short for any benefit to be derived from it," and then lets him go. The law is like an incompetent physician: it first makes a wrong diagnosis, and then prescribes an inert and therefore ineffectual remedy. It reprimands the inebriate, it does not treat his case at all. It looks upon the inebriate as an individual who has the knowledge of right and wrong, and full power of volition; it regards the act of inebriation as deliberate and voluntary, and therefore it proceeds by fines and imprisonment to lash back into moral decency and rectitude the offender.

But do we not recognize the value of restraint? Would we permit the brawling drunkard to make night hideous, or the insane drunkard to scatter ruin right and left? Certainly not.

What plan would then have all the advantages of the

present system of dealing with the inebriate, and none of its disadvantages?

In the first place, as to *arrest* and *restraint.* The inebriate should be arrested. If found intoxicated upon the street or any public place, or upon a warrant issued on due complaint of his family, or in case they failed to do their duty, by a committee of reputable citizens of the ward in which the inebriate was a resident, or the officers of said ward, a warrant should be issued on complaint from any of said parties, by the proper justice, and the inebriate arrested.

Proper testimony should then be secured as to facts concerning his inebriety, from reputable medical and other sources. He should then be sent to an *inebriate reformatory, hospital, or work-house,* for the institution should include all these features; we are dealing with a diseased person, not a criminal, but as a pauper inebriate, without friends, or if he has friends, without means.

There are abundant provisions for the wealthy inebriate. Private asylums are numerous, and the appointments are very complete for his treatment both here and abroad. It is the pauper, not his more fortunate brother, whom we are considering.

The pauper inebriate is now duly arrested; he must be restrained and controlled for some definite time in some institution. The period should be not less than one year, made longer if necessary by recommittal. The institution to which he is committed should be placed in the suburbs of the city or town, with convenient access to it. Abundant grounds should surround the building, or better still, a farm should be the site of its location. Out-door occupation, so beneficial in the treatment of the chronic insane, would be no less so in the case of the inebriate. A competent medical superintendent, with suitable assistants, could readily conduct such an institution. Its inmates would be chronic inebriates; all insane persons, or those incurable from other diseases, should be sent to their proper asylums or hospitals. Such an institution, with properly appointed work-shops, a farm

under cultivation, well-stocked and planted, with a practical farmer at the head to regulate the labor of the inmates, would be almost self-sustaining, for the inmates would not be like those in an insane asylum, mentally inefficient, or those in a charity hospital, physically helpless. But many would be skilled workmen who outside would command good wages; then also a system of payment for extra-work might be made, so that when they left the reformatory something would be due them, and they would not be turned out paupers. If this plan were adopted, a large body of chronic inebriates that now drift about in the community would not only be restrained, but made to a certain extent self-supporting, and in a certain proportion of cases cured.

The Inebriate Home at Fort Hamilton is based on some such plan, and demonstrates on a moderate scale what might be accomplished on a larger one.

Every large town and city should have such an institution of sufficient size to meet its wants, containing a farm, a work-house, and suitable medical care. It should be readily accessible, although the price of land would regulate somewhat the site of its location.

The locality should be healthy, and the internal and surrounding sanitary conditions good. The dietary should be generous, of good quality, and the food well-cooked. This is essential. Specialists in lunacy have found that a certain way to precipitate acute or sub-acute lunacy into the chronic forms is to put the patient on low and innutritious diet. Out-door exercise, and occupation, as well as those measures that will eventually appeal to his better nature, lead him back to thoughts of home and family, develop his higher tendencies, prompt his aspirations, and raise him above the mere animal life he has led so long. To deprive such a one of religious privileges, or the intellectual enjoyment he may crave, is a refined species of cruelty that no true form of philanthropy would be guilty of or tolerate.

This is no sentiment, it is practical fact and truth, for among these pauper inebriates are found lawyers, editors,

physicians, clergymen, writers, artists, and skilled artizans, men who have fallen from high estate. It is natural, then, with returning and improved physical and moral perception they should begin to crave that which feeds the intellect, and administers to the improved moral tone.

So much, then, for the Reformatory, the work-house, the hospital, where we would place the chronic inebriate without friends and without means.

But while the above institution will care for the chronic inebriate, it does not, and cannot, fill a want severely felt and long needed,— how shall we deal with intoxicated persons arrested on the streets by the police?

The usual method is to arrest them, take them to the nearest police station, prefer a charge of intoxication,* with or without disorderly conduct, record the case on the blotter, and commit the accused to a cell, to await the sentence of the justice. The following morning he is brought before the police court — if a first offence, and not particularly aggravating, sentence may be suspended — usually a fine is inflicted — and if this cannot be paid, ten days in jail is the penalty. If the prisoner is an "old offender" and "incorrigible," who has appeared before the justice probably several times, he or she is sent to the "penitentiary" or the "Island" for a period not exceeding six months. To this method of dealing with intoxicated persons arrested on the street or other public place there are several objections; in the first place, the average policeman is not a good diagnostician. Every case where the person is found stupid, dazed, or unconscious, is to him a "drunk," and must be "run in." Hence, persons suffering from stupor, partial or complete, arising from certain cerebral conditions resultant from head injury, uræmic disease, or narcotics of any kind, unless these conditions are accompanied by marked evidence of assault, or other severe injuries, are apt to be mistaken for alcoholic in-

* In cases where the higher degrees of crime, as murder, grand larceny, assault, are associated with intoxication, the crime of course takes precedence. We are now considering cases of simple intoxication.

toxication. This is not the fault of the police — they are not diagnosticians, neither, indeed, can be — these cases oftentimes puzzle the experienced physician. The system that allows such a state of affairs to exist is at fault, not the policeman who fails to make a proper diagnosis.

Certainly, to place such cases in a cell, and allow hours to elapse before the true condition of affairs is apprehended, is a grave and serious error.

But even if the stupor is alcoholic, and the arrest therefore legitimate, we maintain that the cell is an unfit place for such a person seriously intoxicated.

Richardson, in his "Cantor Lectures," thus writes: "Whenever we see a person disposed to meet the effects of cold by strong drink it is our duty to check that effort, and whenever we see an unfortunate person under the influence of alcohol,' it is our duty to suggest warmth as the best means for his recovery.

These facts prompt many other useful ideas of detail in our common life. If, for instance, our police were taught the simple art of taking the animal temperature of persons they have removed from the streets in a state of insensibility, the results would be most beneficial. The operation is one that hundreds of nurses now carry out daily, and applied to our police-officers at their stations, it would enable them not only to suspect the difference between a man in an apoplectic fit and a man intoxicated, but would suggest naturally the instant abolition of the practice of thrusting the really intoxicated into a *cold* and *damp* cell, which to such a one is actually an ante-room to the grave."

In view of this, in the "London Metropolitan District" the cells in which intoxicated persons are received are properly warmed in cool weather.

In addition to this we maintain that every case of alcoholic coma or stupor should come under medical supervision, that the police surgeon should make the diagnosis,—not the policeman who made the arrest—and appoint the proper remedial agencies. Too often the cell door has been shut

and the prisoner allowed to "sleep off" his intoxication, and "the sleep that knows no waking" has come to him before morning.

It has been suggested that in every large city there be established a central hospital, convenient of access, where all seriously intoxicated persons, or persons found dazed or stupid upon the streets from other causes can be taken and receive prompt medical aid, and from thence, after they are sufficiently recovered, sent to their own homes, or if friendless and homeless, assigned to the insane asylum, the inebriate asylum, the charity hospital, or such institution as seems to be most appropriate for their condition.

There is still another class, not directly coming under police supervision, to whom such central reception hospital would be a great boon — those who through alcoholic excesses develop delirium tremens or acute alcoholic delirium, those living in boarding-houses whose means are limited, who cannot command nursing and medical attention. The regular city hospitals refuse such cases, except special arrangements are made and high rates are charged; then only cases of acute alcoholism are taken — of course chronic alcoholics are peremptorily refused. There is good reason for this; general hospitals have no special provision for cases of contagious disease, insane persons, or cases of alcoholism; no padded rooms, no extra attendance, none of the appointments necessary for the care of such cases.

The suburban inebriate hospital outside of the city is already tested to its full capacity with chronic cases of inebriety. It is at some distance from the city, and to enter a patient in its wards requires certain legal formalities, and therefore time.

Such a central hospital in the city, accessible at all times, especially to this class of cases under consideration, for which no provision is made at the general hospitals, would provide at least temporary care and treatment for insane or intoxicated persons found upon the street. It would be a channel through which the inebriate asylum, the insane

asylum, or the general hospital, would receive its proper class and quota of patients. It would, as a "bureau of distribution," save much trouble now experienced in assigning insane persons to inebriate asylums, and alcoholic to insane asylums, as well as persons to either of these who might need the care of a general hospital.

While not directly established for this work, it would indirectly do considerable of it.

Besides this, the establishment of such a special hospital mainly for the treatment of such cases, would afford excellent opportunities to study alcoholism in its more acute forms. The capacity of such a hospital need not exceed fifty beds, as from it would be constantly sent out all cases not appropriate to it, and all cases assuming a chronic character.

It would not be altogether dependent on the city for its support, as the friends of many would gladly pay for the privilege of having cases treated in its wards rather than in their own homes. Acute cases of alcoholism, after recovery from the immediate attack, should their cases warrant it, could be assigned or committed to the inebriate asylum for "*chronic inebriates.*"

Fortunately, we are not without precedent in this matter. The establishment of a special city hospital devoted to the care of "acute cases of alcoholic delirium," to which the police are directed at all times to bring persons found upon the streets, seriously intoxicated or stupid from other cause, and all others who may desire to have their friends treated for acute alcoholism. "The Bureau d'Admission," of the department of the Seine, at St. Anne Asylum in Paris, of which Dr. Magnan is one of the two physicians, is an institution to which no exact parallel exists in England or in this country. To it are brought all the cases of insanity previous to their admission to the various public asylums, and all cases of acute delirium or mania which fall under the care of the police in Paris. It is here that they are examined, and their admission or rejection decided upon. If admitted,

they are drafted to the one or other of the asylums which is most suited to the class of the patient, or the form of his malady.

The Bureau d'Admission is quite distinct from the St. Anne Asylum itself, and under altogether different administration. In order to provide accommodation for the temporary lodgment of patients on their way to other asylums, and also for the reception of the more acute cases, it is provided with about fifty beds, and is fitted up in every way as a small asylum. Here there are brought all the cases of delirium tremens and "simple alcoholic delirium" which fall under the notice of the police, and a large number from the lower and middle classes, and here they are treated until their recovery. Hence, it comes to pass that a very large proportion of all the cases of delirium tremens occurring in Paris and its vicinity come under observation here, and this not only in one attack, but again and again, and when at last by repeated attacks they have become mentally deranged or greatly weakened, they again come under notice for transference to asylums.

The results of such opportunities of observation could scarcely fail to be productive of an increase of our knowledge, and their value is necessarily augmented by the fact of their being utilized by experienced alienists, and seen side by side with other forms of acute delirium. In addition to the hospital wards there is an out-door department, where discharged patients and others return for treatment of the various nervous disorders induced by their habits.

This hospital does excellent work, but there should be a large suburban hospital for the control of the more chronic forms of inebriety, and persons treated for an acute attack "should not be allowed to return again and again, until their minds were weakened and they became thus fit subjects for the insane asylum."

Such asylums, for long periods of commitment of chronic inebriates, exist in America, in England, in Australia, in New Zealand, and in Germany.

Much interest is now manifested by the public and the legislatures of States on this all-important topic. It is necessary, therefore, that legislative effort be direct in the proper channels, and the inebriate, who constitutes so large a proportion of our population, should be laid hold of and dealt with systematically and scientifically — not as criminals, but as those deprived of their reason and their volition — those automatic in their actions, vicious in their propensities — a curse to the community in which they dwell. Restrain, control this class, and you reduce prodigality, want, disease, to a minimum, and produce the best sort of political economy, based on science and common sense. Allow this class their liberty, and you foster these evils, and encourage and propagate their results.

Imprisonment, punishment — all punitive laws — have failed to abate or even mitigate the evil. Any effort directly based on fear of punishment or moral persuasion will fail. We must place the evil on its true basis, — that of DISEASE, — and treat it accordingly. Yellow fever, cholera, small-pox we quarantine. We investigate the causes of epidemics, and we endeavor to remove that cause; so with alcohol and its attendant evils. Punitive and restrictive laws should be directed against the manufacture and sale of alcohol, not against its victim, the inebriate. How we shall care for the homeless, friendless, pauper inebriate, as he is presented to us in the acute and chronic forms of his malady, it has been the province of this paper to point out.

St. John Chrysostom, over fourteen centuries ago, urged that inebriety should be regarded as a disease. He illustrated his meaning by reference to the cravings of certain forms of dyspepsia, as follows: "Do you not see that drunkards are always thirsty; for it is a passion, not the desire of nature, but some perverted disease? Do you not see how those afflicted take drink, under all circumstances and conditions? Is not this disease over which the will is powerless?"

HOW SHALL WE DEAL WITH THE INEBRIATE?*

By L. W. Baker, M.D.,

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It is estimated that there are at least 500,000 individuals in this country to-day who are addicted to the excessive use of stimulants and narcotics. Representing all classes and conditions of society, they are a constant source of anxiety and danger in the community, not only as a present evil, but also from the transmission of diseased and defective organisms to a succeeding generation.

It is of the utmost importance that this vast army, scattered all over the land, should be provided with care and treatment based upon a thorough understanding of its condition, as thereby the evils of pauperism, insanity, and crime attendant upon its presence in the community will be largely diminished.

The evil which we have to deal with is a present one, and in this brief paper I shall not refer to any of the causes, hereditary or otherwise, which lead to the excessive use of stimulants or narcotics; neither shall I discuss legislation in its relation to the manufacture and sale of intoxicating liquors. On this latter subject there is a wide difference of opinion, even among those who are equally desirous of diminishing the evils which follow the abuse of alcohol.

You may banish the destructive agent from the land if you choose, but you will still have to deal with thousands of defective nervous systems craving artificial stimulation or sedation.

If it were possible in a single day to sweep every drop

* Read before the American Association for the Study and Cure of Inebriety, Dec. 4, 1888.

of alcohol from the face of the earth the suffering which would ensue among its devotees would be indescribable, while it is very probable that the inventive genius of mankind would soon supply its place, and it is possible that the latter evil might be even worse than the first.

In the meantime we are confronted by the fact, explain it as you choose, that the use of stimulants and narcotics is steadily increasing, while the existing provisions for inebriates are totally inadequate for their proper care and treatment.

The popular methods of the past have been based upon a misconception of the subject. Regarding the inebriate solely as a moral delinquent, or as the victim of a vice or crime which was within his unaided powers of self control, with no attempt to investigate his condition from a scientific standpoint, or with scarcely a question as to the truthfulness of its conclusions, popular opinion has for generations ignored all elements of disease in the inebriate and held out to him the hope of cure by moral means alone, or punished him by fines or imprisonment when he has failed to control his desire for intoxicating drinks.

For convenience we may divide the users of alcohol into four classes:

First.— The occasional drinker, who indulges in the use of alcohol once in a while for social or sensual gratification only, now and then becoming intoxicated.

Second.— The habitual drinker, who uses alcohol more or less constantly, not necessarily to excess, but the system is under its control in a greater or less degree nearly all of the time.

Third.— The confirmed inebriate, who has lost the power of self-control, and oblivious of the claims of home and society drinks to excess whenever he has an opportunity.

Fourth.— The dipsomaniac, who is the victim of a neurosis characterized by intense craving for stimulants occurring periodically, and preceded by certain premonitory symptoms. During the intervals of these outbursts of per-

verted nerve force the individual has little, if any, desire for alcohol, but when the paroxysm occurs the morbid craving for intoxication overcomes all power of self control.

The first class is liable to merge into the second, and the second into the third by reason of frequent indulgence, the voluntary drinker thus often becoming the involuntary inebriate, but the members of these two classes are usually more amenable to treatment by moral means, at least in the early stage of the disorder, than are those belonging to the remaining classes, and it is really with the confirmed inebriate and dipsomaniac that we have to deal in the present inquiry.

That some provision is needed for the treatment of these unfortunates different from that now provided there can be no question.

We can no longer regard the inebriate solely as a moral delinquent: we must also recognize the disordered physical condition, which is either the result or a cause of the excessive use of stimulants or narcotics. Inebriety, whether it be inherited or acquired, is a physical disorder, and as such requires physical rather than moral means alone for its relief. In some respects the confirmed inebriate resembles the lunatic, while the analogy between dipsomania and insanity is closer still. Both are diseased, both have lost the ability of controlling certain actions through the power of the will. The existence of even a single delusion is often sufficient to incapacitate the individual for the active duties of life, and necessitate medical treatment and loss of personal liberty for a longer or shorter period of time. Why should we refuse equal assistance for the inebriate who cannot control his desire for a drug which benumbs the mental faculties, interferes with the healthy action of the brain, and renders the individual incapable of controlling his thoughts and acts. No brain can act normally while under the influence of a deleterious drug; the inebriate is thus at least temporarily insane, while the structural cerebral changes produced by the continued use of alcohol lead to an impairment of the

mind which may include all degrees of mental derangement and degeneration.

Inebriety should be studied from the same standpoint as insanity, and equal provision should be made for the inebriate and for the insane, varying of course with the different requirements of each class. Institutions for the treatment of insanity have multiplied with the demands made upon them, yet notwithstanding the fact that inebriates largely outnumber the insane, and furnish at least ten per cent. of all cases of insanity, public institutions for the treatment of inebriety are almost unknown.

The evils of alcoholism are, unfortunately, not limited to the inebriate's own person: if they were the matter would be much simplified, for the individual would sooner or later reap the legitimate harvest of his excesses and pass out of existence, but to the second and third generation descend the destructive influences of inebriate parentage. The amount of suffering thus entailed is enormous, while its effects of idiocy, insanity, and criminality are matters of the most common observation. The ranks of the defective classes are daily being recruited by the victims of alcoholic heredity, while the expense for their maintenance is already excessive. For this reason, if for no other, it is not only the right but it is also the duty of society to demand that this source of increase shall be checked at its fountain head. It is fully time for decisive action in this matter, which, while it shall be just to the inebriate, dealing with him according to his true condition, shall also provide his family and the public at large with a guarantee against the disastrous consequences which follow the excessive use of alcohol. Civilized society must always bear the burden of its unfortunate and defective classes, but it has a perfect right to insist upon measures which will reduce that burden to a minimum, and it seems to me that this will be lightened as institutions shall be established and fully equipped for the special care and treatment of the inebriate. These should always be under medical care, and should have all the legal powers of de-

tention and control possessed by our best asylums for the insane, for the patient must be kept from the use of alcohol, and this cannot be done if he is allowed full personal liberty. Public asylums for inebriates are also needed; these should be under State supervision, with strict discipline similar to that of the best prison reformatories, and should possess all necessary industrial appliances for the compulsory employment of their inmates. To these institutions, rather than to the county jails or insane asylums, should the inebriate be legally committed for at least one year, when he may be released on parole during abstinence from the use of alcohol. Upon the occurrence of a second offense he should be recommitted for two years, then given another trial, and if found unwilling or unable to control himself, then restrain him for an indefinite period of time. Inebriety, like insanity, is confined to no class or condition of society; it numbers its victims among the high and the low, the rich and the poor, the educated and the ignorant, and varying provision must be made for all of these classes. Some regard must also be paid to the former social position and surroundings of the inebriate in providing him with asylum treatment. I have had patients under my care who were formerly in larger institutions, and have known of their dislike for uncongenial company and surroundings. The wealthy will always exact different accommodations from those provided for the poorer classes. These are of course furnished in private asylums, but private rooms will also be needed in the larger institutions for patients preferring such accommodations, and who have not been committed by the courts.

Asylums for the inebriate should resemble those provided for the insane in being under medical care; and in possessing equal powers of detention and control, they will differ from insane asylums in their stricter discipline and in the constant employment of their patients.

Generally speaking, the inebriate is insane only while under the influence of alcohol, or during an attack of dipsomania: it is therefore unjust to commit him to an insane

asylum, which our laws now permit, unless there is a strong probability that his insanity will become permanent. What he really needs is a prolonged residence and treatment in an institution especially arranged for his peculiar requirements.

In this way the confirmed or periodic inebriate may be prevented from further injuring himself, his family or society, while at the same time he will be placed under the best possible conditions for speedy recovery, or if found to be incurable, will be provided with a permanent asylum home, which will at least prevent the transmission of the insane or inebriate diathesis to a succeeding generation.

We humanely provide asylums for the permanent care of the chronic and helpless cases of insanity in self protection; if for no other reason, must society furnish equal provision for the incurable inebriate.

This in briefest outline is a plan with which you are all familiar, and which has again and again received the sanction of this society, and also that of the American Medical Association and the Association of Medical Superintendents of American Institutions for the Insane. For its best success, however, it must receive the hearty coöperation of the patient. The desire to be cured is of the first importance. Unless this can be secured, and the individual is willing to assist the physician to the full extent of his ability, the chances of a permanent cure are not so encouraging. We have then to choose between allowing the inebriate to continue his destructive course unchecked, or placing him under conditions of permanent restraint.

Scattered here and there, all out of proportion to the evil with which they have to contend, a few asylums, mostly private, offer medical care and treatment to the inebriate based upon a careful study of his mental and physical condition. But the victims of alcohol are slow to seek medical advice, unless some intercurrent disease compels them to do so. The number who voluntarily place themselves under proper medical treatment for the disease of inebriety is surprisingly small. This is largely due to a popular misunderstanding of

the nature of inebriety, and a consequent disposition to deal with it as a moral rather than as a physical disorder. The first and most important step to be taken in dealing with the inebriate is a recognition of his diseased condition. Suitable methods of care and treatment will soon follow as a natural result.

Thirty years ago Horace Greeley wrote, " Drunkenness in eight out of every ten cases is either an hereditary or acquired disease, as much as scrofula or scarlet fever. While we use faith and prayer let us meet physical ailments by physical remedies. The day is not far distant when inebriety will be regarded as any other mortal ailment, and the poor victims will turn for help to the philosophic and medical means of cure, instead of sinking out of sight as a disgrace to humanity and an object of loathing by all."

Half a century ago there were fourteen great gin-shops in London, which averaged over three thousand customers daily. Ten persons were reported to have died in Sheffield in one week from excessive use of spirits. Yet the reformers insist that more spirits are drank, and that more persons are dying from inebriety than at any other time in the world's history.

The law of heredity goes on silently enforcing itself without trial or sentence, from generation to generation. Its forces gather and break, unknown to the ordinary observer, building up and tearing down human life, with a certainty that knows no change or shadow of turning.

MORPHINISM.*

By C. F. Barber, M.D., Brooklyn, N. Y.

I must partially apologize for placing this subject before you this evening as I realize it is not a popular theme, nor one which will be of interest to you all. Still I am so impressed with the rapid invasion the vice is making among our population, that I feel it will not be time wasted in discussing the few points I may chance to place before you.

Morphine is our faithful storm anchor; sure, quick, and and reliable. For these qualities it is ofttimes carelessly and dangerously used. The question most frequently asked by the laity is: "How can any one allow himself or herself to fall a victim or slave to such a drug?"

The habitue will ascribe his down-fall to neuralgia, womb trouble, or the doctor gave it too often, pyuria, anything and everything.

We know there are those unfortunate ones who have fallen into its use unknowingly, but many, a great many, have brought the habit upon themselves by cultivating a taste for the drug, owing to the pleasing effects it forced upon them when first administered.

Dr. D. F. Lucas tells me of a case in which the mother fed her babe on T. opii. camph. daily from birth, beginning with 5 ms. at intervals during the day. Finding the dose growing too small, as the little one would be restless and crying, she gradually increased the dose so that when the child reached the age of six years, it was taking one drachm of gum opium daily. As it increased in years, it did not grow in bodily weight, and when it reached the age of maturity it was stunted, beardless, and were it not for the development of its mental faculties, one would suppose it to be a child of ten rather than twenty-one years.

* Read before the Brooklyn Clinical Society, July 10, 1888.

Overwork is no doubt the origin of the trouble with many. I have known interns in hospitals, being unable to sleep after a day of busy life, resort to their syringes, and this repeated at brief intervals finds them suddenly in the power of the enemy.

There are those who, through the use of patent medicines, have become most deplorable objects, and so long as the legislature allows nostrums to be sold with formulæ concealed, just so long will these uncontrollable and abominable impositions lead to production of this growing habit.

Alcohol has acted as an exciting cause, for many have "sobered up" under the influence of morphine. "Hitting the pipe" can claim its victims, and I know of young persons who are now confirmed opium habitues through this manner alone. At first, it is an experience, then a fascination, and finally a necessity.

There are painful, incurable maladies which call for the use of this drug, and in persons suffering from such diseases we form a habit which is unavoidable and justifiable. I have seen two cases of heart trouble, no vavular lesion, but an irritable, palpitating organ, whose action could not be controlled by any drug save morphine. The patients, suffering from this abnormal condition, endeavored, I am certain, to throw off the habit, but were unsuccessful, as the organ became uncontrollable as soon as a certain amount was reached in the reduction.

Then in a moderate and to a certain extent governable way, the drug does not seem to shorten life or disturb the mental faculties. Such a state of affairs is however not the rule, quite to the contrary, the habitues are unable to control their doses and soon find themselves daily taking more and more.

At the outset, we are unable to detect the victims of the habit, but as time rolls on we notice changes in their mode of living and general appearance. The time varies when we are able to perceive symptoms of a positive character, but usually after the constant use of the drug for six months or a year, we are able then to make a diagnosis.

There is a failure in digestion, the appetite is perverted, their skin takes on a sallow hue, the face loses its expression, emaciation follows, they eat at times in a ravenous manner, then again they take little or no food. Impotency is the rule. In women the menses cease; loss of memory occurs; eruptions sometimes make their appearance, but such an occurrence is not the rule. Constipation is usually marked; abscesses follow when the patient is emaciated, and the syringe is used; double vision and other ocular trouble occurs; the glasses worn by these persons are not always to correct their sight but to conceal their lusterless eye and contracted pupil. Albumen is sometimes present in their urine; knee jerk is sometimes absent.

I am not inclined to think the effect upon the system at large is as harmful as that produced by alcohol. Morphine vents its fury upon the nervous system first, and through that system upon the organs of the body. From alcohol we find cellular changes throughout the nervous system, especially the brain, while I find no authority for such changes taking place in the morphine habitue. Many have passed through meco-neuropathia, or mania, from sudden deprivation of the drug, and in a short time were fully restored to health. While on the contrary, those who undergo an attack of alcoholic mania are seldom if ever restored to their former selves. That it predisposes to pulmonary tuberculosis I am not convinced. Some French authorities say that from fifteen to thirty grains per day is the amount of the drug which the system will tolerate, more than this acting as a potion. In this I disagree, for the amounts I know of morphine habitues to consume per day far exceed the quantities mentioned. I recall one case where two hundred and four grains were taken with no ill effects. I know a lady now who is daily consuming one drachm of the drug.

Persons who begin late in life to use opium usually resort to Tr. opii. or gum opium. They do not increase their doses as the younger habitue does, nor are they as easily detected in their habit.

We are able to cure those suffering from morphinism but our trouble and painstaking is seldom rewarded, for relapses are common.

Levinstein says over sixty per cent., and I am quite sure such a statement is not an exaggeration. Relapses in the cases of physicians run as high as ninety per cent. One dose after a cure has been accomplished sets the fire burning as brightly as ever.

While undergoing a reduction a morphine habitue will suffer from restlessness, irritability of temper, sneezing, a copious discharge from the nose; and in cases where the reduction was hurried, I have noticed the patient has been unable to express his thoughts in words. Perspiration is profuse. One marked feature in this class of patients is their inability to tell the truth. I am unable to account for this save that the drug lowers their moral tone in general. They become adroit in their ability to smuggle the coveted drug, and will excell an Indian in cunning. A favorite scheme for them is to soak blotting paper in Maj. sol. and eat that after the moisture has dried from the paper. Excessive pain in the back and limbs accompany the reduction. Headache, a distressed feeling in the stomach and marked general weakness are pronounced symptoms. Diarrhoea is always present sometime during the reduction.

If the drug is taken away suddenly, we have all these symptoms more pronounced, and if your patient escapes the grave condition of collapse you are more fortunate than the majority who undertake that form of treatment. Hallucinations are marked and the rule is, they pass through an attack of mania which is variable in its duration.

Now as to treatment. Here my ideas are at variance with those of Levinstein and others of equal eminence.

They believe in confining their patients and at once depriving them of all their morphine; using as an argument for such a procedure, that if you chop a dog's tail off, you should do so at once and not inch by inch. That sounds well, and looks plausible, but when you consider that by their

method your patient suffers indescribable torture, his respiration running high and his pulse beating one hundred and fifty or more to the minute. He howls and begs for his stimulants, vomits, has profuse diarrhœa, becomes deranged and irresponsible for his acts, finally sinking into collapse. The picture then is not so pleasing. Those who follow this method are obliged to resort to hypodermics and stimulants to revive their patients, and at the end of five or six weeks are no nearer the goal of health than are those who follow the plan I prefer — gradual reduction. By this plan your patient is able to be about (of course not without a trusty attendant) and suffers but little — at the longest for but a few days, and only then when the last few minims are being taken away. Let me here state that I do not believe in filling my patients full of the bromide, chloral, or any other drug, and so substituting one drug for another.

I can best illustrate my method by giving in brief the reduction made in a case just dismissed. As the effect of the drug is supposed to entirely wear away in eight hours, it is a good plan to divide the quantity you wish to give in twenty-four hours into three doses at eight hour intervals. I never reduce by the syringe, preferring the natural channels. Although the effect may be a little slower in taking place, the result is more lasting than by the hypodermic method. The patient of whom I have spoken was taking about ten grains a day when treatment was commenced. I at once reduced the quantity to five grains per diem, divided in equal amounts at eight hour intervals. As a rule, one-half the quantity used by the habitue can be taken away at once without any disturbance. I combine with Maj. Sol. Tr. bone, digit, quinia sometimes, gentian, and Fl. Ext. Zingiber. The patient eating and sleeping fairly well, in three or four days I again take from their allowance five or ten minims and proceed in this manner, leaving their night dose the last to be withdrawn. I have seen those who have been a slave to the drug for years go through this mode of treatment without being confined to the house a day, and with

very little disquietude. It is the better plan not to allow your patients to know the amount you are giving them and to continue the ingredients of the mixture for several days after the morphine has been dropped. Coca, paraldehyde, the bromides, hot baths, massage, avena sativa, electricity, hyos., antipyrin, chloral, are of some benefit during the reduction, and perhaps aid at times. Fresh air, pleasant surroundings, light and pleasing literature aid materially in making the dreaded road bearable.

The Vienna School Board have for some time past made laudable but ineffectual efforts for preventing the sale of strong drinks to children. They have just passed a resolution to appeal for Government intervention, and it is proposed to lay before Parliament during the present session a bill for prohibiting the sale of intoxicating liquors to boys and girls under fifteen years of age. As a matter of fact, inebriety among Austrian school children is not uncommon and the little boy that appears in the class-room in a state of intoxication has ceased to be a phenomenon. During the winter months the children of the poor are often sent off to school on empty stomachs, and in many cases a glass of the very cheapest spirits is given to them to keep out the cold. Amongst the Slav portion of the population, urchins of five and six often take a liberal dose of alcoholic drink on their way to school without apparently being the worse for it.

The brilliancy of the inebriate is only the flash and glare of the stage which conceals the weakness and incompetency of the actors.

SHOULD THE STATE TAKE CARE OF ITS INEBRIATES?

By E. J. Kempf, M.D., Jasper, Ind.

Introduction. — The State assumes the right to license reputable men to sell alcoholic liquors to those who are in the habit of using them, to those who would like to experience their effects, and to those who wish to treat their friends to something uncommonly good. This the State does in accord with the laws made to suit public opinion.

If this "opinion of the public" would demand it, the State could very properly assume the right to license opium dens, or saloons of euthanasia, where a fellow could shuffle off this mortal coil according to the most approved methods.

In other words, public opinion forms laws, whether just or unjust, and it is the duty of all good citizens to acquiesce in a state of affairs brought about by the decision of the majority.

In this paper I deal not with theories, but with facts; and I do not present a temperance tract; but I offer a remedy for a disease that the average doctor does not find himself able to treat, except with a temperance sermon in which he himself does not believe, or with a pledge he himself does not keep.

First, Has a man the right to become a drunkard, and after he is a drunkard has he the right to be one?

The laws of the State permit the drunkard to be made, because the State licenses reputable men to sell alcoholic liquors; and the laws of the State concede the right to become a drunkard to every citizen, because the State says that personal liberty should not be interfered with. On the other hand, the laws of the State direct that the drunkard be fined and imprisoned for being what his personal liberty entitles him to be. It is, therefore, logical to say, that accord-

ing to the laws of the State, a man has a perfect right to become a drunkard, but that after he is a drunkard he has no right at all to be one.

Science claims that the inebriate does not exercise his free will to remain or to be a drunkard, for the simple reason that he no longer has a free will to exercise, but that he is the involuntary slave of an uncontrollable desire. Science also claims that the drunkard may have never exercised his free will in the matter. He may not be a drunkard from choice, but he may have inherited a predisposition to become a drunkard, and necessity, opportunity, and circumstances may have made him what he is, an habitual drunkard.

Science further claims that it has demonstrated that inebriety is a disease; that the State licenses the making of this disease, and that the State does not judiciously recognize inebriety as a disease.

Science further claims that no man has a right to become a drunkard, because as a rule every man has a choice in the matter, and he ought to choose what is best for the individual and for society.

Science further claims that "Punishment is no cure for the Disease of Inebriety." *

The State and science, therefore, differ in their ideas about "becoming" and "being" a drunkard. The State considers "becoming a drunkard" a personal right, and "being a drunkard" a crime. Science holds "becoming a drunkard" to be a sin, and "being a drunkard" a disease.

Second, Is drunkenness a disease?

The laws of the State sanction moderate and temperate drinking. The men who made the laws did it in accord with the wish of the public. And the public, no doubt, is satisfied that the State cannot legislate its people into temperate habits. The people must be educated to be temperate through the press, the pulpit, the school, and the lecture.

There are men who are said to get drunk by accident. These are indiscreet and should not be judged harshly. They

* Norman Kerr.

ought to beware of accidents lest they become habitual drunkards.

The habitual drunkard, however, suffers from a disease called dipsomania. That this disease is not a rare one, you no doubt know. There are a great many men and quite a number of women affected with this malady. The first question generally asked about a drunkard is, "who does he take after." The disease is therefore frequently inherited. "For example, there are inebriates, the absence of whose power of control has not been occasioned by their own default. There are persons born into the world with an innate susceptibility to narcotic action. These people are so constituted that if they drink at all they drink to madness."

Habitual drunkenness or dipsomania may be inherited or it may be acquired.

"Dipsomania is a mental alienation due to a morbid condition of the nervous structures, generally hereditary. The strictly periodical form of this type of dipsomania, the tendency to gradually shorten the intervals as the years pass, and the peculiar mental condition preceding the debauch are a proof that dipsomania is a disease of the cerebral nervous centers analogous to recurring neurosis, such as epilepsy, etc. This disease is nothing but an attack of uncontrollable drunkenness, always kept up until the stomach refuses longer to tolerate the alcoholic drinks. Then the attack stops as suddenly as it came, the sufferer recovers his usual health and spirits and enters into his business in a way as if nothing had happened. As a general thing these attacks recur at intervals of from one to six months, and the end is, some disease of the renal, hepatic, or gastric organ carries off the patient.

Earnest resolutions or pledges do no good to ward off the attack. When the time comes the patient succumbs. An indiscribable feeling of weakness of the nervous system is generally the first sign of an attack. This may be brought on by over-work, over-study, anxiety, worry, trouble, anger, etc., and the patient thinking himself proof against a debauch by his long interval of sobriety, yields to the temptation, and

then nothing can head him off. Friends, family, duty, rank, morality, resolution, and pledge are all forgotten, and the patient will drink as long as his stomach will bear it. So strong is this desire for drink, while the attacks lasts, that the patient will drink as long as he has money, or rather as long as he can get the liquor, though he may have to beg, borrow, or steal it."

"Such people are the despair of their friends, the torment or ruin of their families, the scandal of their community. Seventy times seven they fall and are lovingly raised up. They express contrition, they make firm promises of amendment, but they always fall." *

Dr. Lyman, of Chicago, says:

"From the researches of these authors it appears that inebriety is a nervous disease closely allied to insanity, which manifests itself either periodically or constantly. It may commence suddenly as a consequence of some severe shock to the brain. The disease may also have its origin in the social habits of the patient, who from a simple convivial drunkard may become transformed into a regular inebriate. It may be produced by the action of other poisons besides alcohol, so that there may be as many varieties of inebriety as of narcotics. There must, however, be a predisposition to inebriety in order to effect its evolution. Healthy men without neurotic predispositions may drink voluntarily in moderation without thus breaking down; but an inter-current disease may turn the tide even against such individuals, and if they do not themselves suffer the penalty of indulgence their children will be found far on the road that leads to inebriety. Hereditary influences are among the most potent that determine this disease, and they follow the usual course. Thus, in mixed families, the male children of an inebriate mother, or the female children of an inebriate father, may alone exhibit the morbid tendency."

There is another type of drunkenness which goes under the name of ebriosity, and by which is understood the condi-

* Norman Kerr.

tion of continual half-way intoxication. This, necessarily, occurs only among saloon-keepers and those engaged in the liquor traffic, having access at all times to alcoholic drinks. This is a very fatal form of drunkenness, and may be called incurable. It is the form of drinking which life insurance companies especially fear.

Habitual drunkenness is, therefore, a disease brought on by the excessive use of alcoholic drinks, though this use may or may not have been continual, and the victim is an involuntary slave of an insane propensity. He knows what is right, but cannot choose it; and he knows what is wrong, but cannot shun it. There is no loss of the power to judge of right and wrong nor any disturbance as to facts, but the mind is powerless to control conduct according to knowledge. This state which the drunkard is in may be called criminal irresponsibility.

Third, Can the drunkard cure himself or be cured under the existing circumstances?

In the early stages of dipsomania, inherited or acquired, something can be done for the patient, but the cures are the exception.

As to chronic cases of drunkenness a reformation is improbable and very nearly impossible under the existing circumstances. The temptations are too great and the opportunities are too many, and though the drunkard may have a desire to reform or to cure himself, his will-power is enfeebled and he cannot resist the demands of his habits unless he be removed from temptation and it be made absolutely impossible for him to get a drink. The drunkard is an object of contempt and disgust as a drunkard, and an object of pity and danger as a man, as a father, as a son, and as a brother. He is pitied by all good men, but they are powerless to help him. He cannot help himself.

He cannot reform while he is in the midst of temptation. The licensed liquor houses are easy of access, and indiscreet friends are not wanting to tempt him to go into such places and to take but one drink, which is the spark that lights the attack.

Dr. Kerr says, "The struggle of the intemperate for freedom is a combat more terrible than any other fight on earth." It is a hopeless fight, I add, if unassisted.

Dr. Parrish says, "The temptation with which they are tempted is within. It is subjective. It circles in the stream that gives them life. It may be likened to a battery that is hidden somewhere in the cerebral substance — connected by continuous fiery wires, with a coil in every ganglion, from whence they continue to extend — attenuating and distributing as they go, reaching after the minutest nerve fibrils, which need only a throb from the inborn impulse to transmit a force that quivers in every muscle and burns in every nerve till the victim is suddenly driven to debauchery."

Tell me now, is not the condition of the drunkard a deplorable one? In fact, is it not a blot on civilization? Should not something be done to prevent the increase of drunkenness and to diminish what there is of it?

Fourth. If the drunkard cannot cure himself, has he a right to be protected against himself and against those who are licensed by the State to sell him the wherewithal to remain a drunkard?

It is true that there are a great many private institutions throughout the country for the cure of inebriates, and they do a great deal of good, but the charges for treatment in these institutions cannot be met by the majority of drunkards. Taking into consideration that less than a year's treatment will do no good, it is quite plain that the majority of these unfortunates have, under the circumstances, no chance whatever offered to them to become cured of their malady. This is a serious matter to those afflicted with the drinking habit, and it is in their behalf that I make this appeal to the citizens of Indiana, relying on their feelings of justice, charity, mercy, and humanity that my efforts in behalf of the habitual drunkard will not be without success. I ask for these unfortunates nothing but what is just. There is no hope for these poor creatures until they are withdrawn from temptation and placed under restraint.

Fifth. After a man becomes a drunkard is he a dangerous man to society? and if so, has society a right to be protected against the drunkard?

The State protects society against the drunkard in the following manner:

1. "The law assumes that he who, while sane, puts himself voluntarily into a condition in which he knows he cannot control his actions, must take the consequence of his acts, and that his intentions may be inferred.

2. "That he who thus voluntarily places himself in such a position, and is sufficiently sane to conceive the perpetration of the crime, must be assumed to have contemplated its perpetration.

3. "That as malice in most cases must be shown or established to complete the evidence of crime, it may be inferred from the nature of the act, how done, the provocation or its absence, and all the circumstances of the case.

4. The law has not yet judicially recognized inebriety as a disease.

The State does in every way try to prevent the making of robbers, thieves, burglars, and murderers, and criminals in general, but it licenses men to make the drunkard. The State protects society against the murderer and the robber by imprisoning him, but it allows the drunkard to constantly menace the well-being of society.

Would you say that the poor wife, who supports herself and her children by sewing and washing, has no right to be protected against the evil habits of her husband? Would you say that the drunkard's children have no right to be protected against the evil influence, the bad example, and the burden of drunkenness of their father, which threatens to blight their whole lives? Would you say that the friends of the drunkard have no right to have an asylum provided, wherein they may place their unfortunate son or brother or sister or father or mother or friend, in order that they may be cured of their malady, which is a curse to all coming in daily contact with the habitual drunkard?

These are questions that can have but one answer. Yes; society should be protected against the drunkard, who is made by consent of the State in accord with public opinion.

Sixth. If society has a right to be protected against the drunkard, if the drunkard has a right to be protected against himself, and if the drunkard has a right to be protected against those who are licensed by the State to sell him the wherewithal to remain a drunkard, does it not follow that the State should afford the protection?

In answer to this question I read you several extracts:

"From the very nature of the malady it is scarcely to be expected that the inveterate drunkard will voluntarily submit to control, or continue under it for a sufficient length of time to receive lasting benefit; and therefore it seems essential, as in the case of other insanities, that legal power, with indeed, the neglect of law to provide such a check and remedy seems inconsistent, unjust, and inhumane when we consider that while it permits the insensate drunkard to endanger his life, to waste his property, and deprive his family of that which they are justly entitled to expect from his hands during life, or to fall to them at his death, it holds him responsible for any criminal act he may commit. No doubt the law assumes that he drinks voluntarily, and with his eyes open to all the consequences, and that his practices therefore form an aggravation of his guilt; but such is not the case, for he drinks involuntarily, and he is unable to exercise his reason aright or govern his will."

"All experience has shown that little progress or none can be made toward the permanent recovery of a dipsomaniac so long as his business places him in more or less contact with alcoholic drinks, or in frequent association with drinking comrades. Consequently, both physician and friends should combine their influence to separate as far as possible the patient from such associations. And if it cannot be done in any other way let him be induced to take a residence for six or twelve months in a well regulated asylum for inebriates until the paroxysmal tendencies have been broken.

Enforced seclusion in a proper asylum, with no possibility of obtaining any kind of alcoholic drink, but where good air, good food, kind treatment, and some suitable employment can be furnished, on the same principle that applies to the treatment of insane persons, will save them from early destruction."

"For the permanent cure of inebriety, however, nothing avails but special treatment in hospitals provided for this class of patients. Of these the number is increasing as the public becomes informed regarding the nature of the disease and the appropriate means of combatting its ravages."

Dr. Carpenter says:

"However responsible he may have been for bringing the disease on himself, his responsibility ceases as soon as he comes under the influence of the malady. The disease, however, may not be brought on by the act of the individual, and then it is clear at once that neither directly nor indirectly can he be deemed responsible. But, suppose that it were the result of his previous conduct, I repeat that, however culpable he may have been for that, he is not a responsible being while afflicted with the malady; for I can see no distinction between this form of the disease and any other which has been induced by the habits or acts of the individual.

"The only chance of a cure or alleviation is from attention to the health and abstinence from intoxicating liquors. Neither can he be cured so long as the patient is at large, and no amendment can be depended on, unless he has undergone a long course of discipline and probation. Considering, then, that the individual is irresponsible and dangerous to himself and others, and that his disease can be treated only in an asylum, it is not only merciful to him and to his relatives, but necessary for the security of the public, that he be deprived of the liberty which he abuses and perverts, and that he should be prevented from committing crimes instead of being punished—or, I should rather say, being the object of vindictive infliction—after he has perpetrated them.

"Of the chronic form I have seen only one case completely cured, and that after a seclusion of two years' duration. In general, it is not cured. Paradoxical though the statement may appear to be, such individuals are sane only when confined in an asylum."

The insane asylums cannot and ought not to be used as a home for inebriates. Only those in the last stages of alcoholism, that is, only those who are actually insane, are sent there. Special attention cannot be paid to cases of inebriety in the insane asylums; besides, no one would voluntarily apply for admission into an insane asylum, and if he were to do so, it were questionable whether he would be admitted. Therefore, the insane asylums offer no aid to the inebriate.

Seventh, if the State should afford the drunkard a chance to be cured of his malady, how can it be done?

The only way in which the State, under the existing circumstances, can provide a protection for the drunkard, so that he may be cured of his malady, is by erecting and maintaining homes for inebriates. The sending of confirmed drunkards to these homes should be made compulsory by laws in the same manner as the insane are sent to the asylums. Voluntary entering into the homes by confirmed drunkards should be encouraged, but only allowed after a proper examination by two physicians, who should certify as to the condition of the patient. A complete history of the case would also help the medical superintendent and his medical assistants in treating the patient.

The inebriate must remain at the home at least a year, when the medical superintendent, under the advisement of the board of trustees, may let the patient out on trial until he has proven himself able to govern his will. The friends should not be allowed any control over the patient after he becomes an inmate of the home to which, according to circumstances, he is assigned.

It is not my object to direct just how these homes should be built and afterwards carried on; all this is subject to the decisions of those who make the laws; but I feel that

in order to make this paper of sufficient worth to merit attention, I must give a general outline of what can be done for the inebriate. With this object in view, I will suggest that the money derived from the licenses issued and from the fines collected from those who are not yet confirmed drunkards, and from those who transgress the law by selling to minors, by selling on Sundays, by selling without a license, etc., be used for erecting a home for inebriates of the male sex, and another for the female sex, and for the sustainment of these homes.

The homes, after they were once in good working order, could be made self-sustaining under efficient management. Indeed, the inmates should be employed in labor, in order to learn discipline and improve their bodily health. They should also be afforded recreation and amusement to prevent discontentment with the situation in which they are placed, and to convince them that there are other ways of enjoying life besides sitting in a saloon and becoming drunk.

These homes should be erected in the country, away from temptation. Proper rules and regulations should govern the inmates as well as those in attendance. The superintendents should be medical men, who ought to be under the control and advisement of a board of directors or trustees, one of whom should be the President of the State Board of Health. The salaries of the officers should be regulated by law, and they ought to give a bond. Politics would necessarily have something to do with the appointing of these men, which, undoubtedly, would be for the best.

The drunkard who is out on trial should be considered as belonging to the institution until he has kept sober for the time of one year. Should he show signs of the return of his malady before the year is up, he should immediately be brought back to the home. It is presumed that the person who can keep sober one year is no longer to be considered an habitual drunkard.

Abstracts and Reviews.

MORPHINIC AND TRUE TETANUS—THEIR ETIOLOGY. By C. W. P. Brock, M.D., Richmond, Va.

The harrowing symptoms of tetanus, with its agonizing sufferings, and the horrible death of the patient, are as familiar to each of you as to me.

I only propose to call your attention to some of the more recent observations *as to the causes* of this malady, both predisposing and exciting, and particularly to the effects of opium as a predisposing cause.

I shall say nothing regarding the post-mortem appearances, for they are by no means always the same ; and the parallelism between them and the post-mortem appearances, in the morphomaniac are, for the most part, wanting, and therefore not to my purpose in this paper. Nor will I have anything to say in regard to the nature and site of injuries that are apt to be followed by tetanus according to the books.

At a meeting of our Society, held in January, 1888, I reported a death from tetanus in a morphomaniac who was in the habit of using the drug hypodermatically ; and I then alluded to the fact that this was the third fatal case of tetanus that had taken place in our community in the last few years in morphomaniacs, — all of them following on the use of the drug hypodermatically.

The foregoing facts excited in my mind the inquiry, Does the opium habit engender such a condition of the system as predisposes to the development of tetanus ?

I have diligently sought for information on this subject from the books, from the journalistic literature of the day, and by correspondence with such gentlemen of our profession who, in my opinion, were most likely to be informed

on this subject; and I find it an almost unexplored field.

It is a well observed clinical fact, however, that the continued use of opium begets, in some persons, convulsions of a tetanic character — a result which is more apt to follow if the preparation used contains any of the alkaloid known as codeine, which can be produced from morphine artificially.

Brunton, in speaking of the physiological action of opium and its alkaloid, says that they act almost exclusively on the *central nervous system*, and divide the symptoms produced into two stages: —

(1) *Narcosis*, due to a paralytic action on the brain, followed by

(2) *Tetanus*, due to increased irritability of the spinal cord.

The morphine group is characterized by the prominence of the narcotic stage, while in the codeine group, the tetanic stage is more prominent, and the narcosis less so. I append the classification:

Morphine Group.	*Codeine Group.*
Morphine.	Papavarine.
Oxydimorphine.	Narcotine.
	Codeine.
	Thebaine.

Brunton says that the codeine group becomes closely allied by its last members with the strychnine group; and you are all aware how closely the symptoms of strychnine poisoning resemble those of tetanus.

Morphine is the preparation of opium used by morphomaniacs almost to the exclusion of all others; and it is impure in proportion to the presence of other alkaloids. Now, if the unfortunate victim should use an impure article of morphine, a set of symptoms might be developed which, without any history of the case, might be diagnosed as due to strychnine poisoning, or set down as a case of tetanus. The differential diagnosis — without any collateral facts of the case — would be exceedingly difficult to make. During

the past summer, a case was reported to me of convulsions, both severe and persistent, following the use of morphine hypodermatically for the relief of neuralgia.

It has also been observed that the sudden withdrawal of the drug from the morphomaniac is sometimes followed by convulsions; and so apt is this to be the case, that the gradual withholding of the opiate is the plan pursued in the treatment of the opium habit. This is probably due to the fact that the narcotic effect of the opium, with its paralyzing influence on the brain, disappears more rapidly than the irritability induced in the cord by the drug; and the tetanic symptoms — which had hitherto been held in abeyance — now assert themselves, and we have the tetanic explosions.

Dr. Phillips, of London, reports three cases of complete tetanic rigidity, with opisthotonos, lasting from twelve to forty-eight hours, following the use of opium. Several other observers have reported like results, which can only be explained by known physiological action of the drug, and not upon the plea of the idiosyncrasy of the individual.

If, in addition to the tetanic tendency induced by opium, you add the enfeebled condition of the entire system consequent upon the same cause, its powers of resistance far below par, etc., you have engendered a condition in the human body that easily succumbs to the invasion and attack of the tetanus bacillus.

According to Nocard and Brieger, tetanus is a disease transmitted to men and animals by the agency of a pathogenic organism which infects wounds or other suitable soils on the surface of the body. The organism does not penetrate far beyond the limits of its point of inoculation, but exercises its deleterious influence by means of certain products of an alkaloid nature, and of which there are, according to Brieger, four kinds — tetanin, tetano-toxine, spasmotoxine, and another not named. These alkaloids have a special affinity for certain parts of the motor nervous system, causing excessive discharges of nervous energy, on which the muscular spasms are directly dependent. Nocard

found that dried blood and pus scraped from instruments used to geld horses (all of which died of tetanus), when inoculated beneath the skin of rabbits and guinea pigs, caused tetanus; and yet infusions made from the medulla oblongata and spinal cords of animals dead from tetanus were not capable of causing tetanus in other animals into whom some of the infusion was injected.

The conclusion drawn is that the spinal cord and medulla are acted upon by a strychnine-like substance—incapable of cultivation, but derived from the multiplication and growth of organisms elsewhere existing.

Carl and Rattone had a case of tetanus resulting from an acne pustule. They inoculated 22 rabbits with the contents of the pustule, and 11 of them died of tetanus. These experiments proved that tetanus was an infectious disease, and that it was possible to infect animals.

In the same year, Nicolaier discovered that ordinary garden earth introduced under the skin of mice, rabbits, guinea-pigs, etc., produced tetanus. Nicolaier took some of the secretion from the wounds he had made in the skin of the animals that had died of tetanus, and inoculated it into test tubes containing blood serum. In a few days this blood serum was found, upon microscopic examination, to contain fine bristle-like bacilli, many of them with a knob on the end. He took traces of this blood serum, and produced typical tetanus with them. Moreover, he inoculated other tubes from the first tubes, and carried on a row of *cultures* in this way. All of these cultures were found to be virulent, a trace of any of them being sufficient to produce tetanus in various animals when inoculated under the skin.

In 1886, Prof. Rosenbach, of Gottingen, had a fatal case of tetanus in a peasant, who had had both feet frosted and gangrenous. He was able to get tetanus by inoculation from this case, in a large number of animals, and also made *cultures* from the line of demarcation. The cultures which Rosenbach obtained from his patient, and from the animals inoculated from his patient, and from one culture

to the next, all agreed with Nicolaier's cultures — the same narrow bacilus, many of them with a knob.

In an exhaustive paper on tetanus neonatorum, accompanied by a lot of experiments, he comes to the conclusion that tetanus neonatorum is due to the bacillus of Nicolaier and Rosenbach, and that the midwives inoculate the children with the filthy rags with which the navel is dressed.

(1) He inoculated animals with bits of navel from a child which had died of tetanus, and got the bacillus in cultures. The animals died of tetanus. (2) He took the secretions from a small wound on the foot of a bare-foot boy, who had died from tetanus from getting dirt in the wound, and got the same results as from the navel. (3) A man got a splinter under his nail from a ten-pin alley, and died of tetanus. Beumer (a) took some splinters from the alley, and inoculated mice, etc., with them. (b) He then took splinters and scraped off the dirt, and inoculated other animals with the dirt. Both sets of animals died of tetanus. He took some of the splinters, after being carefully cleaned, and inserted them under the skin of animals, and the animals lived. This proved that the dirt contained the virus—*i. e.*, the bacillus.

I believe that so-called *idiopathic tetanus* is due to the action set up by the bacilli. They enter the human body either through the air passages or by the mouth, and find somewhere a breach of continuity, and the pabulum necessary for their life and multiplication, and tetanus is developed, though no wound is visible; and I feel sure that in the near future reports will be made of the production of tetanus in animals by inoculation from so-called idiopathic cases. This is very reasonable when we consider that the water we drink, the air we breathe, and the food we eat, and the earth under our feet, are all teeming with bacilli, and that a breach of continuity as small as that made by the prick of a needle, affords a lodgment for the bacilli, where they multiply and replenish. And if from any cause the system is below par, and the ability to throw off the invaders

is wanting, tetanus may be developed. We call it idiopathic because we do not see, and are unaware that any wound or rent exists in any of the internal organs.

While it is clearly proven, from the foregoing experiments, that tetanus is an infectious disease, and of bacterial origin, it must not be forgotten that the power of resisting inoculation is much greater in man than in animals; and we do not know that the action of microbes is the same on man as on animals. Proof on this point awaits the crucial test of human inoculation, and the observation of the action of microbes on the human body.

What are the deductions, from the foregoing, as regards the three deaths alluded to as occurring in our vicinity? I think it fair to conclude that they may have been due either to—

(1st) *True tetanus*, established by the use of a foul syringe, or a filthy solution of morphine — either or both of them being contaminated by the presence of the pathogenic germ on which tetanus depends;

Or (2d) to the effects produced by the continued use of an impure article of morphine, rendered impure by the presence of one or more of the tetanous group of alkaloids, the action of which on the spinal cord produces a set of symptoms that are scarcely — if at all — distinguished from true tetanus.— *Virginia Medical Monthly.*

CONFIRMED INEBRIETY. By F. B. Haller, M.D., of Vandalia, Ill.

The object in presenting my paper at this time is to call your attention to a subject of more than ordinary interest to the physician, political economist, and Christian philanthrophist. Inebriety is the greatest curse of the day, the bane of society and the foe of the laboring classes. It has an inexorable hold on all grades, degrees, and castes of society, sending more individuals to a premature grave than all our epidemics combined — directly and indirectly claiming its

victims by the thousands. Then, when we recall the sequences of disease resulting from its pernicious effects upon the different organs of the body, we can number its victims by the tens of thousands, as every intelligent physician can affirm. The combined efforts of the church, moral suasion, temperance agitation, organizations of various kinds, local option, high license, prohibitory amendments supported by the strong arm of the law, have thus far been abortive in restraining its baneful influence upon society.

No class of men understand the potent power of alcohol for harm upon the different organs in man, its destructive agency on his vitality, than does his physician; hence if these statements be a truism, the physician being the recognized guardian of the people's health, it becomes their duty as such to devise means, recommend wholesome laws calculated to eradicate this great incubus upon the human family and upon our political economy. We, as a body, are zealous in warning our authorities against epidemics and are even ready to assist them by our counsel and advice as to how to do it. Should we not as religiously educate them upon the evils of alcoholism? and until we have done so we shall have fallen short in the discharge of our duty as a profession. Then the question for us to determine is, how can this be accomplished? how can the confirmed inebriate be cured? how can the evils of alcoholism be controlled?

As the nature, pathology, and treatment of alcoholism is so well understood, as laid down by our authors, I will pass them by and invite your attention to what I regard as the best means to control them and cure confirmed inebriety most effectually and at the same time have a salutary and restraining influence upon the moderate or occasional drinker, who has not yet reached the border line of confirmed inebriety. Chronic inebriety being now recognized as a disease by our best authorities on the subject, I would have a State law enacted similar to the law for the commitment, restraint, treatment, and discharge of the insane, with such modifications as this class of subjects would

require. I would have an inebriate asylum built by the State as a sanitarium for the confirmed inebriate. The law for the commitment should be so guarded that no one could be admitted except by jury trial in county court. Application must be made to the county judge for committance, whose duty it shall be on such application to have a jury empaneled, try the case, and if under the law and evidence the jury find him a proper person to be confined in the asylum, the judge shall order a mittimus. I would have a physician appointed by the Governor, with the consent of the Senate, as superintendent, who is an expert in treating chronic alcoholism and possessed of good executive qualifications, with power to select his own assistant and employes, that the institution might be made most efficient. I would have him clothed with power after the patients have been committed to his care to keep them until such time as, in his judgment, they were apparently cured, and might safely be set at liberty. I would require all those committed, who were able, to pay all expenses while detained in an asylum — the dependents to be kept at the expense of the State. I would have an advisory board of three physicians, who are experts in the treatment of chronic inebriety, appointed by the Governor, with the approval of the Senate, whose duty should be to visit the asylum quarterly, with delegated power to examine into the management of the same, assist the superintendent in determining when the patient should be discharged from the asylum.

I regard some such provision as suggested, if adopted by the State, as the best and perhaps the only means under existing circumstances of effecting a radical cure in our confirmed inebriates.

There is nothing, in my opinion, which will have such a salutary influence upon the inebriate, as for him to understand the fact that there is such a law which will deprive him of his liberty, place him under surveillance, if he persists in his habits, and keep him there until cured. Then, having been dismissed as cured, nothing would be so effectual in

keeping him from falling into his old habits as the thoughts of being again deprived of his liberty should he do so. And this is not all we may reasonably expect from such a law, but the healthful influence it will have upon the inebriate, who still has his liberty, when he comes to understand if he continues the habits that he will lay himself liable and becomes amenable to the law. With these facts continually before his mind, is it not reasonable to conclude that it would be a strong incentive for him to abandon his habits and lead a life of sobriety?

The very thought to any man of spirit, family pride, or who desires liberty or who abhors the idea of being restrained in an asylum, of such a law would be a most potent factor in keeping him from contracting the habit of inebriety. And more than all this, it will be the means of restoring many to their moral status and normal physical condition, that never would be under our present mode of managing such cases — reclaiming thousands, restoring them to their families and society, saving them from drunkards' graves, keeping their families from becoming dependent upon our charities — thus restoring them and their families to a legitimate standing in society.

Another thought worthy our consideration from an economic standpoint, is, the more we control and limit inebriety, the less number of dependents will there be; hence any law which will accomplish this is commendable and desirable as every political economist will concede.

It is a well established fact that with all our boasted knowledge of the nature and pathology of alcoholism, with the unlimited therapeutics at our command to combat and cure chronic inebriety, as a rule in general practice, we are lamentable failures in most instances. This perhaps results from the fact that we can not control our inebriate patients in their diet or association; hence the apparent necessity for such a law and asylum where they can be kindly cared for and controlled until the disease is permanently cured.

I am not quite prepared to go so far as to claim that this

or any other plan will cure the vicious, as a rule, in all cases, but I do insist that the means suggested will do so, in most persons, who were respectable citizens before they became the victims of the alluring and deceptive influence of alcohol, and who can be permanently cured. If I am correct in my conclusions, is it not our duty, as members of the medical profession, to agitate the subject of State asylums for the treatment of confirmed inebriates.— *St. Louis Medical and Surgical Journal.*

INEBRIETY.

Although those who make a special study of the nature and treatment of drunkenness are practically unanimous in the conviction that they have to do with a disease rather than with a vice, the general public, including many members of the medical profession, is but poorly informed upon the subject, and it will take much in the way of argument and demonstration to uproot the time-honored contempt and aversion with which the drunkard is regarded, and the belief that the policeman is the proper person to take him in charge. Difficult though the task is of convincing the public, it is nevertheless the first and most essential step in the way of those who would transfer the inebriate from the jail to the hospital, for no reform can be accomplished until the weight of public opinion is on its side.

What is to be done is to show that drunkenness is a disease, or rather that there is a common form of drunkenness which is a disease, for it is not claimed that every man who is intoxicated is a proper subject for hospital treatment. It must be clearly and satisfactorily proved that there exists a disease, inebriety, quite distinct from other forms of intoxication. It is probable that more than one kind of drunkenness is disease, but enough will have been accomplished in the way of popular demonstration if it shall be shown that there is any such disease at all as inebriety, and that some

drunkards can no more avoid intoxication at certain times than an epileptic can prevent a fit. To show this satisfactorily to those who do not understand even the first principles of medical science, is a difficult, not to say impossible task, for the value of the evidence in the case can only be appreciated by those who have had a medical training.

There is, however, an indirect way in which the public can be reached and influenced in the right direction without any demonstration addressed to its own comprehension, and that is through the physicians. Once let the medical men of the community get into the way of speaking of inebriety as a disease and of drunkards as patients, and the general public will soon follow.

The task of moulding professional opinion lies with the medical journals, and it is to be hoped that they will take hold of and keep up the agitation until inebriety becomes as well recognized a disease as insanity. To do this it will be necessary to show clearly and distinctly the grounds upon which a certain kind of drunkenness is to be considered a disease, and not the moral defect to which all kinds of drunkenness are currently attributed in the popular estimation. It was intended in this article to go over the arguments which go to show the existence of such a disease as inebriety, but to do so would take up more space than it is desirable to occupy, and that part of the subject must be postponed to some future time.

It is a matter for regret that in all the excellent books, papers, and addresses on the subject of inebriety, more is not said about the evidence on which rests the existence of the disease itself as a disease. This omission is undoubtedly due to the fact that it is so fully established in the minds of those who have occupied themselves much with the subject, as to need demonstration no more than a mathematical axiom. It is a common fault with those who are in a position to teach that they cannot bring themselves down to the level of those to be instructed, and thus often neglect the very points which contain the gist of the whole matter. If

less were said about the evil effects of alcohol upon the body and the relations of drunkenness, crime, and idiocy to one another, and more about inebriety the disease, particularly its differential diagnosis from those forms of intoxication which are not the manifestations of disease, the influence of the speakers and writers would be much more widespread, and would lead to much more practical results.

The opinion of the family physician on all medical matters is, generally speaking, the opinion of the patient, and when the general practitioners of the country shall be as unanimously in favor of the prophylaxis of inebriety by shutting up the exposed in inebriate asylums, as they are now in favor of the prophylaxis of smallpox by the enforcement of compulsory vaccination, the necessary legislation will not be far off.— *Editorial Northwestern Lancet.*

A NEW LAW CONTROLLING INEBRIATES IN SCOTLAND.

This law makes provisions for the treatment of all classes of inebriates, and for compulsory admission to a retreat for inebriates in certain well-defined cases of inebriety. The Board of Commissioners in Lunacy carry into effect this act, as the controlling central authority. This board is to be empowered to provide general accommodation in a district home, or to license qualified persons occupying private houses to receive patients into these homes as private houses, for care and treatment under due medical supervision. These institutions are to be called "restorative homes," in order to preserve a domestic and attractive aspect. Patients can apply voluntarily to the superintendent for admission; but if they refuse to apply, authority is given to any member of the family or any relative or friend, or a magistrate, to make application to the sheriff to grant an order for reception into a district or private home. A statutory declaration must be made by the applicant, with a similar declaration by two personal acquaintances and a certificate by a medical

practitioner. If there are no private friends there must be a certificate by two doctors. As in the Inebriates Acts, 1879 and 1888, the full period of residence is to be twelve months, with an additional three months in certain cases. The Commissioners are to be empowered to raise money at the public charge for the establishment and equipment of the homes, the assessments being under the same collection as those for lunacy expenditure.

Dr. Branthwaite, the superintendent of the High Shot Tower Asylum for inebriates, near London, reports that of the twenty-two patients admitted during the past year, heredity was distinctly traceable in ten cases. He thinks these cases are less hopeful, and more difficult to cure.

Of the length of time for treatment he writes as follows:

"My continued experience also prompts me to again refer to the length of period for which patients should submit themselves to the treatment if a cure is to be accomplished or even hoped for. Of the twenty-two patients admitted this year, six entered for twelve months, eight for six, and eight for three months, and my case-books show me that with those who have done well the completeness of my success has been in direct proportion to the length of time under treatment. I would impress upon friends and patients alike the sad loss of time and money, not to speak of disappointed hopes and unrealized wishes, often incurred by thinking that if a man has been steadily ruining his health physically, mentally, and morally, for years, he can expect to be cured in less than as many months. I cannot too strongly insist that such expectation is unreasonable."

Speaking of the Habitual Drunkard's Act, he says:

"This Act, while it leaves much to be desired, and can only be viewed by me as a stepping-stone, is a great advance, if only that, by being made a permanent measure, it endorses, with the approval of Parliament, the principles involved in all such legislation. This enactment, together with the rec-

ognition of the principle of local option and other arrangements in the new Local Government Act, and the fact that licenses have of late years diminished at the rate of 1,000 per annum, is alone a valuable sign of encouragement to those who think that it is not enough to give the old Quaker's advice, 'Only open thy hand, friend, and the glass will drop,' but who know that inebriety is a disease in which the power to 'open the hand' is paralyzed, and who are endeavoring to treat it scientifically rather than by the '*Brutum fulmen*' of a sentiment or a text.

Prof. Wilkins, the superintendent of the Washingtonian Home, of Chicago, Ill., reports that nine hundred and thirty-seven patients have been treated at that asylum during the year. Of this number only three were cases of heredity. He writes, "that of every thirty-six cases who come for treatment thirty-five have acquired the habit by drinking themselves, their parents being total abstainers. The average length of time of treatment for each one was thirty and two-thirds days.

The following extracts from the president's report gives a clear idea of plan and work of this asylum:

"The work of the home is mainly to teach men self-control over their perverted appetites, to apprehend intelligently the initial steps that certainly will lead to their downfall and degradation again, to avoid the temptations that are sure to beset them on all sides, and having done all to stand in their uprightness of purpose and determination against the wiles of the tempter and the powers of evil about them." . . .

"Men must reform from the habit and vice of intemperance, if at all, with saloons on every corner and opportunities for yielding to temptation on every side. The placing of obstacles in the way of obtaining intoxicants may be of benefit to the young and unwary, but this would not teach the most desirable quality in human character — that of self-control."

FREEDOM IN SCIENCE AND TEACHING. By Ernst Haeckel. Preface by Prof. Huxley.

The Humboldt Publishing Company have published as No. 105 of their Humboldt Library, "Freedom in Science and Teaching," by Ernst Haeckel, professor in the University of Jena, with a preface by his admiring friend, Prof. T. H. Huxley, who is equally noted as a Darwinian. The world knows no writer in any language who is better entitled to take rank with Huxley and Tyndal for a clear, logical, and forceful style or for vigorous treatment of the subjects he takes an interest in. He was one of the first scientists on the continent to defend Darwin, and the great master himself acknowledged in his pupil the crowning service he rendered the cause of evolution by his "History of Creation," and by the position he took as an advanced evolutionist in and out of the great university in which he is so highly honored as a member of the faculty. Freedom and science has no abler defender than Haeckel, and those who love science and can appreciate what it has been and has done for the world, will read these pages with unalloyed pleasure.

FORCE AND ENERGY; A THEORY OF DYNAMICS. By Grant Allen. Published by Humboldt Publishing Company, 24 East 4th st., New York.

This is a work in two parts enclosed within one cover. The first part advances a theory of transcendental dynamics, which, in the last part is applied to the creation of the universe. The author defines Force and Energy as the two manifestations of power, the first, tending to initiate aggregative motion, finding its expression in gravitation, adhesion, chemical affinity, and imperfectly comprehended electrical affinity, and the second showing its vitality in the separative powers classified as molar, molecular, chemical, and electrical modes or manifestations of motion. The illustrations of the

operations of these antagonistic powers in aggregating the universe into more or less solid globes on the one hand, and in hurling these globes through their orbits on the other, are very instructive; but it is not suggestive of comfort for some far distant posterity to know that Mr. Grant Allen believes that the aggregating forces are continually proving too strong for the separative energies, and that the satellites are being continually drawn into the planets, the planets into the suns, and the suns themselves into some invisible and unknown center of the universe. It is a book to be read by thinkers, and preceding the publication of Edward Clodd's "Story of Creation," which the publishers announce in press, it is an extremely valuable work.

THE PSYCHIC LIFE OF MICRO-ORGANISMS. A STUDY IN EXPERIMENTAL PSYCHOLOGY. BY ALFRED BINET. Translated from the French by Thomas McCormick, with a preface by the author written especially for the American edition. Chicago, 1889, the Open Court Publishing Company. Cloth, 75 cents. Paper, 50 cents.

M. Binet, the collaborator of Ribot and Féré, and one of the most eminent representatives of the French School of Psychology, has presented in the above work the most important results of recent investigations into the world of Micro-Organisms. The subject is a branch of comparative Psychology little known, as the data of this department of natural science lie scattered for the most part in isolated reports and publications, and no attempt has hitherto been made to collate and present them in a systematized form.

Especial use has been made of the investigations of Balbiani, Claparède and Lachmann, Maupas, Ribot, Engelmann, Pouchet, Weber, Pfeffer, Kent, Dujardin, Gruber, Nussbaum, Bütschli, Lieberkühn.

The most interesting chapters are those on fecundation, which demonstrate the same instincts and vital powers to

exist in spermatozoids as are found in animals of higher organizations.

M. Binet's researches and conclusions show "that psychological phenomena begin among the very lowest classes of beings; they are met with in every form of life from the simplest cell to the most complicated organism." The author contests the theory of the distinguished English scientist, Prof. Romanes, who assigns the first appearance of the various psychical and mental faculties to different stages or periods in the scale of zoological development. To M. Binet there is an aggregate of properties which exclusively pertain to living matter, the existence of which is seen in the lowest forms of life as well as in the highest.

INEBRIETY, ITS CAUSES AND TREATMENT.

By Dr. Kolvalevsky, Professor of Mental Diseases in the University of Kharkoff, Russia, 1888.

This little essay, which was noticed in the Journal of last year, has recently been translated into the French language and is reviewed by Dr. Kerr, in the British Medical Journal, as follows:

There are seven chapters devoted to the symptoms of inebriety, the prodromal phenomena of a paroxysm, chronic alcoholism, narcomania, predisposing and exciting causes, and treatment. English and American literature on the subject is freely quoted, and the learned author adopts the teaching therein laid down. He laments that every succeeding year sees inebriety making still further strides in the dominions of the Czar. He also regrets that there has been practically no recognition of the diseased state of many drunkards by the general public, except in cases of delirium tremens and chronic alcoholism. He insists that inebriety is a disease, curable, as many other nervous diseases are, and calling for remedial treatment based on scientific principles. At the same time he warns his colleagues who may advocate this view that they must be prepared to

submit, for the present at least, to abuse and ridicule. Professor Kovalevsky points out the untrustworthiness of all professed "certain cures," including "the strychnine cure" propounded by some of his fellow-countrymen. He strongly denounces the giving of alcoholic beverages to children, and enlarges on the propriety of not administering alcohol as a medicine without first ascertaining whether the patient has an alcoholic or narcomaniacal diathesis. While he is clear on withholding the alcohols from inebriates, he makes an exception in favor of light cider and *kvass*, the latter an acid drink with a very small proportion of alcohol. His treatise is lucidly and pleasantly written, and is a valuable addition to the literature of inebriety.

HOW TO BE SUCCESSFUL ON THE ROAD AS A COMMERCIAL TRAVELER. By an Old Drummer. 96 pp., paper, price 20c. New York: Fowler & Wells Co., 775 Broadway.

This little book has a great value to the salesmen "on the road," at the store, behind the counter, and wherever selling of goods is required, and those employers who will place instruction into the hands of their men, may derive benefit from it in course of time.

The annual report of the Registrar-General on the mortality in England for 1887, brings out the curious ebb and flow movement of great populations. The mortality of 1887 was the same as in 1871 and 1880. The mortality ascribed to alcoholism is, as might be expected, far higher among men than among women, the registered annual deaths averaging 64 for the former and only 18 for the latter per standard million. The disease shows itself at a terribly early age, there having been even one or two deaths ascribed to it among lads and girls who had not reached the age of fifteen. After this the rate begins to increase, reaching its maximum for both sexes in the 45–55 years' period, after which it gradually declines. The number of male deaths in

1887 from chronic alcoholism was 631, and from delirium tremens, 283; the female deaths from chronic alcoholism being 471, and from delirium tremens, 57.

A writer in the *Princeton Review* says Maine and Massachusetts have the largest number of saloon-keepers or liquor-sellers of all the States in the Union. New York, Massachusetts, and Pennsylvania have the largest number of inebriates. This latter statement evidently means inebriates who come under legal notice.

Dr. Kerr's most excellent work on Inebriety has reached the second edition, and has become the standard text-book on this subject in Europe.

The *Phrenological Journal*, edited by Dr. Drayton, and the *Herald of Health*, under the care of Dr. Holbrook, are most excellent popular science journals.

The *Good Health* of Battle Creek, Michigan, is both healthy in appearance and contents.

The *Popular Science Monthly* for April contains a scientific explanation of the power to ensnare the human mind possessed by the leading delusion of the present day. The article is by Prof. Joseph Jastrow, and is entitled "The Psychology of Spiritualism." It contains accounts of the manifestations by the Fox sisters, Dr. Slade, Englinton, and other mediums, all of which have been proved to be "gross intentional fraud throughout."

The *Homeletic Review*, by Funk & Wagnerlis of New York, is a very excellent monthly, broad and generous in tone and spirit.

Wide Awake, by D. Lothrop & Co., of Boston, Mass., is a most charming magazine for both old and young.

Lend a Hand is a journal giving all the news along the lines of organized charity, and efforts to relieve the misery of the world.

Editorial.

INEBRIATE ASYLUM AT TORONTO.

The efforts to establish an asylum at Toronto have developed a curious opposition party, composed of saloon-keepers and beer-manufacturers, and extreme temperance partisans and church members. The former oppose this work from fear of increased taxation to help support it; and the latter because it removes all responsibility of inebriates, and is an infidel effort contradicted by the Bible. These two parties were successful in defeating the bill at a recent city election to appropriate a sum of money for an asylum; but such defeats are literally great triumphs in disguise.

The practical value of asylums for inebriates, and their necessity, can never be crushed out by such opposition. The current of public opinion once started along the line of these great truths, may be checked or diverted for a time, but its onward march is a certainty. The establishment of an asylum for inebriates is more assured than ever by such opposition. The more intense the antagonism and resistance, the sooner the truth will be recognized.

The pioneers of this asylum movement, led by Dr. Elliott, may now go on with great certainty, perfecting their plans for an institution that will come into existence as surely as the night follows day.

INEBRIETY AND PHTHISIS.

Dr. Mays' paper, in this number of the JOURNAL, is sustained by Dr. Alison's researches in this field, published in the *Archives Generales de Medicine* of Paris. Dr. Alison's researches extended into the etiology of cirrhosis and pulmonary phthisis among inebriates. He asserts that tuberculosis

is frequent among inebriates of active habits, while cirrhosis is uncommon in this class. In one district he found eighteen out of fifty-eight consumptives to be habitual inebriates. He thinks inebriety favors the development of consumption, for the reason that the elimination of alcohol through the lungs keeps the bronchial tubes in a state of constant irritation. The change from the close hot air of bar-rooms to the cold air outside, also increases this source of irritation. The nutrition of these cases is always impaired; hence the soil and conditions are most favorable for the cultivation of the bacilli of consumption. Dr. Alison found strong evidence that inebriates are very liable to contract phthisis by living with phthisical subjects, more so than if they were abstainers. He believes that both inebriety and phthisis are seen more frequently in persons who live indoors and follow sedentary occupations, especially among beer-keepers and clerks. He found cirrhosis to follow the excessive use of spirits later in life than phthisis. The latter would appear from twenty to forty-five, and the former from forty to sixty.

HYPNOSIS IN INEBRIETY.

Dr. Herter, in the *Popular Science Monthly*, gives the following most excellent summary of this topic:

"The value of hypnotism in disease is a subject upon which the greatest difference of opinion at present exists among professional men, but there can be no question that the majority maintain an attitude of the most rigid skepticism.

That it is very difficult at present to form an exact estimate of the therapeutic value of hypnotism is certain, but I cannot help believing, after careful observation of a considerable number of cases in which it was tried, that the virtues of hypnotic suggestions are real and great. To be sure, the class of maladies, in which benefit can be expected, is limited. There is no evidence at present that organic states of disease can be in any way modified by hypnotism, and it is not probable that there ever will be. But there is evidence

of the best kind that a large number of functional diseases have been benefited and even permanently cured.

Liébault, Berheim, and Forel have succeeded in curing, or at least improving, such conditions as headache, functional disturbances of the bladder, St. Vitus' dance, writer's cramp, megraine, neuralgia, sleeplessness, diarrhœa, and certain manifestations of hysteria. Still, I do not wish to imply that hypnotic suggestion is of use in all forms of functional disease. In a large number of trials of the influence of hypnotism upon the insane, Forel found that the insanities supposed to be accompanied by anatomical changes in the brain were as little benefited as those which are known to be the result of actual brain disease. The majority of the insane are difficult or impossible to hypnotize. Yet, with insistance, it is possible to influence a small proportion of cases, and to even temporarily abolish hallucinations, but in general the results are unsatisfactory. In a series of experiments made to determine the effect of suggestion upon the fixed delusions of the form of insanity popularly known as monomania, it was found that the delusions could occasionally be driven away for an instant during sleep ; that is, the patient could be made to renounce them, but in every instance they were present to their fullest extent as soon as the hypnotic influence wore off. Chronic alcoholism is one of the conditions in which the most gratifying effects have been obtained by therapeutic suggestion. In several instances the habit of drinking was permanently broken, and all desire for alcohol destroyed by means of energetic suggestion against its use. The habitual use of morphine, chloral, and cocaine, has been similarly overcome. The constant surveillance of such patients, afforded by an asylum, is, of course, an important auxiliary feature in determining such cures. One must not speak with too great certainty as to the permanency of these cures, for the cases have not been under observation long enough to preclude the possibility of relapse. In a few cases certain bad habits in children have been broken through suggestion, and I am confident that hypnotism has an important

application here. The frequency and duration of the hypnotic settings, as employed for the cure of disease, vary with the character of the ailments. In chronic alcoholic disease, for example, the patient should be hypnotized every day for at least half an hour, and it is generally many weeks before much benefit can be obtained. On the other hand, attacks of neuralgia or megrane may sometimes be cured at a single sitting. I recently saw a case of spontaneous somnambulism in a young girl cured in this way. The patient was in the habit of walking in her sleep, and had been under treatment by physicians for a long time without improvement. Finally, Prof. Forel hypnotized and treated her with energetic suggestions directed against her sleep-walking. Six months have elapsed, and the somnambulism has not once reappeared. The exact indications for the use of hypnotism have not yet been determined, but it seems probable that functional nervous disorders will be one of the classes of cases in which it will be most successfully used.

The late president of the New York Academy of Anthropology, Dr. E. P. Thwing, of Brooklyn, writes as follows:

"The victim of inebriety is often a person of fine nervous organization, acutely responsive to outward influences. Indulgence in drink augments this abnormal susceptibility till functional nervous disorders appear, insomnia, hallucinations, and alcoholic trance.

It is, therefore, quite natural that medical men in France and in this country, who have experimented widely in hypnotism, should seek to utilize this form of therapeutics in the cure of inebriety. Remedial science surely has no more fruitful and remunerative field of investigation than here. An earnest invitation is extended to all who can, to contribute any data on this point, theoretic or practical, but specially in the line of experimental testimony. In search of facts, we have addressed several who have made morbid psychology a study.

I conclude that "ample evidence of scientific value has proved that permanent impressions may be made on the minds of sensitives while in the trance, such as will be after-

wards influential for good or ill, in their ordinary state. We all have felt the abiding effect of a warning dream or the vivid persistence of some cheering thought or vision imprinted on our imagination during natural sleep. Some of these are lifelong in their dominating power. Now, the artificial sleep or trance is a dream of varying intensity according to the skill and will of the operator and the responsive. Persons have sought its induction for moral as well as physical improvement and comfort. Desires and repulsions created in the trance have remained for weeks and months. Dr. M. L. Holbrook, of New York city, who has had at least one victim of inebriety the past year under his care, says that the man affirmed that the impression the doctor had created in his mind continued for months, so that he found himself quite unable to lift a glass of liquor to his lips. He at length fell. A second treatment might, however, fortify for a still longer period.

Quite analogous is the persistence of some fictitious cutaneous sensibility created in a condition of hypnosis. The imaginary sting of a bee has continued a long while after I have broken the spell. Sometimes a second trance is needed and a counter-impression made in order to alleviate the discomfort. Manifestly here is a power that may and ought to be utilized. If pedagogy has a leverage here in cultivating the power of concentration, — as claimed by French experimenters, — how much more may medical men avail themselves of this susceptibility, a condition vastly more common than has hitherto been supposed."

We refer to the *British Medical Journal* for September 1, 1888, page 493, for a review of Dr. Wetterstrand's "Hypnotism in Practical Medicine."

Prof. Bernheim says, "Suggestive therapeutics is one of the most brilliant methods of contemporary science."

The international Medico-Legal Congress to be held in New York City in June, gives promise of marking a great advance in medical jurisprudence. A number of papers on

inebriety and its medico-legal relations are to be read. The President, Hon. Clark Bell, is one of the most enthusiastic and energetic workers in this field.

THE STUDY OF THE PATHOLOGY OF CHRONIC ALCOHOLISM.

This number of the JOURNAL contains the closing remarks in the discussion of chronic alcoholism by the London Pathological Society.

The effects of alcohol on the body has long been the subject of the most extraordinary second-hand statements whose correctness could never be verified, although they had been accepted as authority by many persons. Recently, the interest in the study of alcohol and inebriety has given this entire subject an unusual importance; hence, this debate may be said to be the first authoritative attempt to gather and group the existing knowledge on this subject.

The following are some of the principal points brought out, which can only be settled by further study along this line:

Dr. Payne, in his opening and closing of the debate, insisted clearly on stating his belief that the ordinary pathological conception of cirrhosis needs reconsideration. He demurred to regarding it as a mere inflammation of the interstitial stroma of the liver set up by alcohol introduced through the portal vein, and producing great quantities of new fibrous tissue, which by pressure destroys the hepatic cells. He insisted that the destruction of cells and hyperplastic inflammation of connective tissue take place concurrently, and in this view was supported by Dr. Lionel Beale, who held that the essence of cirrhosis was atrophy of cells, and not inflammation of connective tissue. Dr. Dickinson stoutly maintained that the overgrowth of fibrous tissue is the essence of cirrhosis; and Dr. Sharkey showed specimens of apparently healthy liver cells side by side with masses of newly-formed connective tissue even in advanced cases of

cirrhosis. We are especially interested incidentally in his suggestion that the liver cells seen in such connection with newly-formed fibrous tissue may be newly-formed cells, and in his hopeful view of the formation of new cells and new bile ducts ; in other words, in a restoration of tissue in a diseased liver, supported, as he says, by clinical experience of cases of recovery from grave degrees of hepatic disease.

Not the least interesting part of the debate was that having reference to alcoholic paralysis and other forms of nervous disease produced by alcohol. We will not dwell on the special pathology of alcoholic neuritis, or on the order of changes in the nerves. What is eminently worthy of the attention of practitioners in this connection is the frequency of tuberculous disease in cases of alcoholic paralysis. In fact, the association of chronic alcoholism in all forms, and tuberculosis, was brought out by almost every speaker, including Dr. Payne, who said truly that the inaccurate impression that habits of alcoholic excess were in any way antagonistic to tubercular diseases must be regarded as swept away. Dr. Dickinson's investigations into the comparatively much greater frequency of tuberculosis in publicans and others whose occupations and habits expose them to the evil of chronic alcoholism were the first to open the eyes of the profession to the fallacy that alcohol antagonises tubercle. Many eminent medical men have felt with Dr. Dickinson that, as alcohol does so much harm, it surely must do some good. But, so far, the good that it does or the evil that it prevents has not been made very manifest. They need more definition. Dr. Izambard Owen says the statistics of the Collective Investigation Committee showed that the consumption of alcoholic liquors appeared to check malignant disease. This statement should now be tested very rigidly. Malignant disease is said to be on the increase. We have seen the demolition of the belief that alcohol is a preventive of tubercle ; it would be some set-off against the mischief it works if it could be shown seriously to antagonize cancer.

The views and opinions of the many leading men who

participated in this discussion were expressed in a scientific spirit, not as absolute or final, but as the most probable facts sustained by our present knowledge of the subject.

In this respect, physicians who discuss alcohol as a remedy, or as an evil, would find good examples to follow after. The Pathological Society is to be praised for this effort, which may be said to comprise the best statements of existing facts to-day on the effects of alcohol on the body.

The discussion on the pathology of alcoholism by the London Society is a revelation to the intemperate critics of this JOURNAL, and dogmatic writers, who are so clear as to the action of alcohol, both in health and disease. The real progress made in our knowledge of inebriety and alcohol must come from similar scientific discussions. The current views of to-day concerning alcohol, held by physicians generally, are of no value only as items in the history of the evolution of the real facts. How alcohol acts on cell and tissue, normal or diseased, is clearly beyond the power of anyone to determine. It is only from the accumulation of many observations by scientific men that any general idea can be obtained. This is the way the disease of inebriety and its curability are determined. Individual opinions or theories are not always facts, and cannot be accepted, unless they are sustained by accurate observations of many persons.

There is a large class of cases suffering from indigestion, rheumatism, and other obscure affections, in which deficient elimination and accumulations of poisonous matters are clearly present. In such cases the *Turkish bath* is very nearly a specific, and no other means can compare with it in the certainty of its effects. This is the experience of Dr. Shepard, of Brooklyn, N. Y., who has the largest practical knowledge of any one living in the use of this remedial measure. In alcoholic rheumatism and neuritis, no other remedy is more certain and valuable.

MIND PALSY.

The following case presents some symptoms that are new in our experience:

H. C., a merchant of 48 years of age, had used spirits for twenty years or more in moderation. During the last five years he had drank to great excess at irregular intervals. One year ago he had a short period of sudden unconsciousness after a protracted abuse of spirits. He remained in bed two weeks, and was treated medically; the use of spirits was continued. A short time before I saw him he had drank to great excess again, this time in a distant city, and was brought home partially conscious. He recovered his intelligence, but he could not distinguish the forms and faces of his wife and children, or of his partners in business. He would stare at them, and be unable to tell who it was until he heard them speak. Every time his wife or servant entered the room he asked who it was. He seemed to recognize the room and its furniture, also the food, and the passers in the street, but all individuality of persons from appearance was gone. A mind palsy or mind blindness was present. A careful examination revealed no defect of reasoning or intelligence, but his mind seemed filled with great alarm of insanity. He could recognize forms and distinguish movements, but all things seemed alike; the objects in the street were misty, but still he could tell what they were. The objects in the room were natural, but all persons had no identity. No ophthalmic examination was made, but the cornea of both eyes were congested.

A vigorous eliminative treatment caused this condition to disappear in a few days, and he can now fully distinguish forms and personal identities. He has resumed business, but complains of loss of power on one side of his body after a little exertion.

This case may be classed among those of mind palsy or mind blindness, where there is loss of usual memory. The sense of sight may be unimpaired, but the psychical realiza-

tion of these objects is broken up. The objects are seen, but they suggest no recognition or corresponding idea in the mind.

In this case some central palsy, due to the effects of alcohol, has no doubt caused this peculiar symptom.

The section of medical jurisprudence of the American Medical Association will devote one day at the Newport meeting in June to the study of the medico-legal relations of inebriety. This is a most timely recognition of a necessity for a thorough study of the facts in cases that are constantly requiring medical skill and judgment. Dr. Kernan, the chairman, is entitled to great credit for this new departure in this most practical field of science.

MEDICO-LEGAL QUESTIONS OF INEBRIETY.

The following extract from a report to the New York State Legislature, by the distinguished founder of Binghamton Asylum, Dr. Turner, made in 1866, outlines a wide field of study that is hardly yet touched:

"It is impossible to discuss the exact time when the brain becomes diseased by alcohol and its victim loses self-control, or what quantity of that stimulant a person can use before becoming a dipsomaniac. This point of time can be no more satisfactorily arrived at than the true time required for the production of yellow fever by the application of its exciting cause. Some constitutions would be affected in five minutes. In others it would require weeks or perhaps months of exposure to miasmata before the individual would discover the premonitory symptoms of the disease. So it is with different individuals who are in constant use of alcoholic stimulants.

It is impossible for the physician to state when the constitution is first affected by disease. The dividing line between health and disease has never been determined. Nor can it ever be defined. The physiologist has never been

able to draw the dividing line between sanity and insanity, or to determine how much of the exciting cause it requires to produce a morbid condition of the brain.

These nice distinctions in regard to the pathology of disease do not enter into the discussion in reference to the importance of asylums for the control and medical treatment of dipsomaniacs.

Neither can we point out the dividing line where the moral responsibility ceases, and the irresponsibility begins in the use of alcoholic stimulants.

The time, and the only time, when an institution can reach the dipsomaniac is when he has lost self control, and the law regards him as a dangerous citizen, or when he can be induced to enter the asylum voluntarily.

We contend that when the brain is diseased from defective nutrition, by any animal or vegetable poison, by any great shock on the nervous system impairing the nervous fluids of the body, there will be a corresponding disease of mind, which disease will develop all the peculiar types, stages, and phases of insanity, from the most inoffensive to the most furious and dangerous. It matters not how this disease may have been induced, whether by stimulants prescribed in sickness, or by the influence of social friends; whether under extenuating circumstances, or in full view of the terrible penalty which this malady inflicts on its victim: the State is equally bound to protect society against the insane acts of this dipsomaniac. He should be committed to an asylum for restraint and treatment adapted to his physical and mental condition.

All the laws and penalties which a State can enact against crime committed by the dipsomaniac will never prevent him, while at large, from committing murder, arson, or theft, or from taking his own life. Why then should our State allow its citizens to go at large, when they have lost self-control, and when daily experience shows that it is not compatible with private and public safety for them to remain at liberty?

Does the State bring to life the murdered family by sim-

ply going through the accustomed forms of judicial procedure, in order to punish the man for what he cannot be responsible, or place him as a criminal at the bar, when his testimony would not be received in the witness box, or find out, too late, that he really is a maniac, and send him at last to an asylum as a criminal lunatic.

The only true and enlightened policy for the State is to provide asylums for this class of insane.

DAMAGES FROM DEATH FROM INEBRIETY.

A man in New York drank to intoxication in a saloon and was drowned on his way home in a small stream. His widow sued the saloon-keeper for damages. The jury brought in a verdict for the widow and the case was appealed. In the Supreme Court the judgment was confirmed. The judge said the evidence was clear that the death of the plaintiff's husband was caused by his intoxication, arising in whole or in part by the liquor furnished by the defendant. The law in this case was the Civil Damage Act of 1873, of New York State, which provides as follows: "Every husband, wife, child, parent, guardian, employer, or other person who shall be injured in person, property, or means of support by an intoxicated person, or in consequence of the intoxication, habitual or otherwise, of any person, shall have a right of action against any person or persons who shall by selling or giving away intoxicating liquor have caused the intoxication in whole or in part."

Dr. White, in his new chapters on the warfare of science, in the *Popular Science Monthly*, says of the physicians who joined with the clergy in the persecution of witches: "The most contemptible creatures in all those centuries were the physicians who took sides with religious orthodoxy." History repeats itself to-day in the endorsement and defense of

the moral theory of vice and sin in inebriety by physicians. The JOURNAL OF INEBRIETY is the constant recipient of sneers and religious arguments by physicians to prove that inebriety is a vice, and the Journal ignorant and dishonest. When such views are urged by clergymen and moralists we are patient and tolerant, but coming from physicians who could so readily ascertain the error of such statements, they excite only pity and contempt.

A noted mortgage forger, who had led an exemplary life, and only drank a few years before the commission of his crime, gave the following graphic picture of his mental condition:

"I never was what the world calls a dissipated man. Drink did not lead me into trouble. But trouble drove me to the use of stimulants at certain periods, to such an extent that mind and memory became a total blank to me. The great pressure upon my mind, hourly, sleeping and waking, I may say, increasing in weight as the number of my wrongful acts increased, calling for constant watchfulness on my part, to guard against detection, and meanwhile being compelled to keep my mind clear to successfully carry through the numerous, large, and important matters entrusted to my care, left me in such a condition that there appeared to be no relief to my brain except to deaden its activities by excessive use of stimulants at certain times."— *Dr. Fields.*

Dr. Mann well says that the study of this grave and increasing disease should not be limited to the small band of specialists who assemble at the annual meetings of the American Association for the Study and Cure of Inebriates.

The general practitioners meet with it in its early curative stages, and they should inform their patients of the grave consequences that may ensue if the treatment be not persevered with until all desire for alcoholic liquors has permanently disappeared.

Clinical Notes and Comments.

HISTORICAL SKETCH OF THE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES.

By Joseph Parrish, M.D.

No. 5.

Dear Dr. Crothers.—Among the early workers in this (at that time) new field, an intimate associate with the early pioneers, most of whom have gone to their reward, with himself, was the Rev. John Willett, Superintendent of the "Inebriates' Home of Kings County, Fort Hamilton, Long Island." Mr. Willett was a remarkable man. An Englishman by birth, having given a few years of his early manhood to mission work in the British metropolis, brought with him to this country an experience which at that day served to serve him in the new appointment of superintendent of a home for inebriates. He was an enthusiast in religion, and at the same time an earnest advocate of the disease dogma in its application to inebriety. In his first paper before the association, he used the following language: "After mingling for some forty years with the neglected, destitute, vicious, and outcast classes of society, we have come to the conclusion that a large proportion of our inebriates first began to drink because their religious training had been overlooked, and there was no fear of God before their eyes from their youth up." . . . "The fact that the rich and poor no longer kneel side by side in the house of prayer is sufficient to account for the increasing inebriety and skepticism of the latter. We pervert the order of the Great Master whose mission it was to mingle with publicans and sinners, and to preach the Gospel to the poor. We

blame intriguing politicians for allowing the sale of rum to run riot, and with terrible earnestness we charge upon them all the fearful consequences resulting therefrom; but the guilt is on our own heads." . . . "It is in deference to the so-called religious sentiment of the community that the poor inebriate is dragged to the police station and thrust into the felon's cell." . . .

Referring to the real mission of the Christian Church and of its practice in the days of the apostles, he says: "The repentant drunkard was not expelled from the church and left out in the cold world to do battle with his all-conquering passion, but was rather taken by the hand, surrounded by helps, and presented with motives to put on the whole armor of God and fight manfully the battle of salvation." . . . "The churches of the present day are making comparatively little effort toward reclaiming inebriates. Indeed, it is questionable whether they are not expelling and casting out into the world from amongst their numbers more drunkards who have been made such by the tippling uses of so-called Christian society than they are reclaiming from the outside masses of the people." . . . "The tendency of inebriety is to damage the will power and to destroy self-reliance, and more especially so if the victim of intemperance has been brutalized by a series of imprisonments." . . . "Imprisonment for drunkenness is an outrage on civilization. It would not cost any more to sustain this helpless class in an asylum than in a prison. In the former case a large proportion could be reformed, and returned to their families and to society at large. In the latter every additional term of imprisonment makes the case all the more hopeless."

These extracts from his first papers indicate the general turn of his mind, and are typical of a line of thought in which he was wont to indulge when engaged in discussion at the society meetings. Though his criticisms were sometimes severe and his language positive and incisive, his utterances were made impressive by a singular combination of mildness of voice and gentleness of manner, which were his peculiar

characteristics. Mr. Willett, however, was a decided advocate of the disease doctrine as applied to inebriety, as is shown by the following declaration, with which I shall conclude this part of my narrative: "As far as the State is concerned, reviewing the question on the low ground of taxation, her true economy is to recognize the indisputable scientific fact that inebriety is a disease, and that, too, often inherited by the irresponsible victim, and to treat it accordingly. *Imprisonment for drunkenness is an outrage on civilization.*"

Next in order is a valuable paper on "Inebriety Asylums as They Relate to Social and Political Economy," by our yet living, ever active, and "still pursuing" friend, Dr. Albert Day, of Boston, Mass. Of all who have been engaged in this work no single man has had so large an experience. His utterances, therefore, demand respect and belief, and we extract from him, with the assurance that there is no risk of doubt or challenge in quoting from Dr. Day.

The key-note of the valuable essay before us is proclaimed in its first paragraph. "All students of social science agree in the declaration that the real wealth of society and the State consists in the producing power of the individuals comprising it."

From this text Dr. Day proceeds to say that in the year 1857 "a small number of gentlemen in the city of Boston, comprehending the extent of the evil" of intemperance, which, by its destroying influence among all clases of community, was capturing youth, and crippling the usefulness of otherwise productive citizens, "formed an association, hired some rooms, and there laid the foundation of what afterwards resulted in the establishment of several inebriate asylums, under various names, in several parts of our country, the results of nearly all of which have been satisfactory to those who have become familiar with them."

(Dr. Day modestly withholds the fact that he was one of "the small number of gentlemen.")

He goes on to say that "there have been many hundreds

of cases under my own observation and care, of individuals of every age and condition in life, of every conceivable temperament and disposition, and every degree of degradation, down to the very lowest, where the cure has been complete and permanent, and the patients have been restored to and persevere in a life of usefulness and happiness."

Dr. Day claimed that the direct effects of intemperance is the loss of revenue from diminished production, "by the taxation to support its victims, and by the disturbance of commerce and finance." He says, referring to inebriate asylums, homes, etc.: "The practical operations of these institutions, in a few words, is to withdraw the candidates for the work-house or the prison from the scenes and associations of his temptation and degradation; to receive him with kindness, and having first expelled the devil within him, to re-awaken his manhood and self-respect, and after a season to restore him to the community with a sound mind in a sound body, and to become a healthful influence and an active worker in the great human hive.

From long experience, "I am ready to say, and am ready to demonstrate by statistics, that the temperance asylums, properly conducted, are an actual saving to the State in dollars and cents; that from their establishment the balance in the treasury at the end of the year is greater than it would be without them." . . . "A short time since, I made an estimate of the taxes, which I could ascertain were now paid by patients who had been incapable of work, and a source of expense to their friends and the public, and found the amount sufficient to build and support several inebriate asylums. Startling as this statement may seem, it is within the actual facts. Philanthropy! Economy! What other project so combines these two? What other principles so worthy to be the foundation of legislative action?"

The committee appointed by our association, "*On Nostrums, Proprietary Medicines, and new Remedies,*" will be a very important one. Dr. N. R. Bradner, of 514

South Third St., Philadelphia, Pa., is chairman, and will be glad to receive from the profession all facts relating to secret nostrums and remedies for the cure of inebriety, and histories of cases caused by these remedies.

CURE OF INEBRIATES.

Dr. Elliott, of Toronto, in a recent lecture refers as follows to the cure:

Four conditions of cure must be observed. The first condition of cure and reformation is abstinence. The patient is being poisoned and the poisoning must be stopped. Were it an arsenic instead of an alcohol no one would dispute this; so long as the drinking of intoxicants is indulged in, so long will the bodily, mental, and moral mischief be intensified and made permanent. Abstinence must be absolute, and on no plea of fashion, of physic, or of religion ought the smallest quantity of an intoxicant be put to the lips of the alcoholic slave. Alcohol is a material chemical narcotic poison, and a mere sip has, even in the most solemn circumstances, been known to relight in the fiercest intensity the drink crave which for a long period of years had been dormant and unfelt. The second condition of cure is to ascertain the predisposing and exciting causes of inebriety, and to endeavor to remove these causes, which may lie in some remote or deep-seated physical ailment. The third condition of cure is to restore the physical and mental tone. This can be done by appropriate medical treatment, by fresh air and exercise, by nourishing and digestible food given to reconstruct healthy bodily tissue and brain cell, aided by intellectual, educational, and religious influences. Nowhere can these conditions of cure be so effectually carried out as in an asylum where the unfortunate victim of drink is placed in quarantine, treated with suitable remedies until the alcohol is removed from his system, then surrounded by Christian and elevating influences, fed with a nourishing and suitable diet, and supplied with skillful medical treatment

His brain and nervous system will then be gradually restored to its normal condition, and, after a period of from six to twelve months in most cases, he will be so far recovered as to be able to return to his usual avocation and successfully resist his craving for drink. The fourth condition of cure is employment. Idleness is the foster-mother of drunkenness; industry the bulwark of temperance. Let the mind of the penitent inebriate be kept occupied by attention to regular work and the task of reformation will be shorn of half its difficulty.

TO MEDICAL MICROSCOPISTS.

In behalf of "the American Association for the Study and Cure of Inebriety," the sum of one hundred dollars is offered by Dr. L. D. Mason, vice-president of the society, for the best original essay on "The Pathological Lesions of Chronic Alcoholism Capable of Microscopic Demonstration."

The essay is to be accompanied by carefully prepared microscopic slides, which are to demonstrate clearly and satisfactorily the pathological conditions which the essay considers.

Conclusions resulting from experiments on animals will be admissible. Accurate drawings or micro photographs of the slides are desired.

The essay, microscopic slides, drawings, or micro-photographs, are to be marked with a private motto or legend and sent to the chairman of the committee on or before October 1, 1890.

The object of the essay will be to demonstrate: *First*, Are there pathological lesions due to chronic alcoholism? *Secondly*, Are these lesions peculiar or not to chronic alcoholism?

The microscopic specimens should be accompanied by an authentic alcoholic history, and other complications, as syphilis, should be excluded.

The successful author will be promptly notified of his suc-

cess, and asked to read and demonstrate his essay personally or by proxy, at a regular or special meeting of the "Medical Microscopical Society," of Brooklyn. The essay will then be published in the ensuing number of THE JOURNAL OF INEBRIETY (T. D. Crothers, Hartford, Conn.), as the prize essay, and then returned to the author for further publication or such use as he may desire. The following gentlemen have consented to act as a committee:

Chairman — W. H. BATES, M.D., F.R.M.S., London, Eng.,
(President Medical Microscopical Society, Brooklyn.)
175 Remsen Street, Brooklyn, N. Y.

JOHN E. WEEKS, M.D.,
43 West 18th Street, New York.

RICHMOND LENNOX, M.D.,
164 Montague Street, Brooklyn, N. Y.

Dr. Mitchel condemns the use of the word alcohol as a stimulant as follows: Nowadays we have no excuse whatever for making such a statement, which is unscientific. All the alcohols, the same as opium, ether, chloroform, etc., are narcotic poisons. The stimulating effects of each and all of these drugs are very transitory, and are soon succeeded by their narcotic effects, which are more or less permanent according to the amount that has been imbibed. A drunken man who has lost all consciousness and volition is in an extreme state of narcotism. His voluntary muscles and the nerves which supply them are temporarily paralyzed by the action of the poison; the brain is completely narcotized, and the temperature of the blood has fallen alarmingly low. Can the drug which produces such effects be looked upon as a stimulant? Even in small doses the narcotic effect is produced after the first stage of exhilaration has worn off. A glass of port wine is sufficient in many instances to produce sensations of drowsiness; and what is the meaning of a nightcap if alcohol is a stimulant and not a narcotic? Surely people are not so foolish as to partake of that which will excite the brain, stimulate the nervous system, and induce

wakefulness, when they are wanting late at night to produce exactly contrary symptoms? All writers on latter-day Therapeutics now describe alcohol as an irritant narcotic poison in large doses, and Dr. C. A. Lee, whose claim to be heard on this subject is second to none, says, "All writers on drugs now rank alcohol among the most powerful and fatal of vegetable narcotic poisons."

AN AUSTRALIAN INEBRIATE'S HOME.

The Rev. W. L. Morton, of Ballarat, has just issued a report concerning the inebriate retreat under his management, known as "Hope Lodge." The lodge was opened in June, 1886. Since that time 134 men have been received. The work is conducted on undenominational lines, and though (as with all such work) there have been discouragements, there have been many delightful cases of rescued lives, where confirmed intemperance seemed to make success all but impossible. Commencing with a two-roomed house, Mr. Morton has now twenty-five rooms filled. In order to keep the inmates occupied, a Bible and tract depot has been opened, and the following branches of industry are carried on:—Lithography, engraving, printing, watch-repairing, picture-framing, photography, carpentering, and boot-making. Although the inmates have contributed £116 during the half-year, we are sorry to see that Hope Lodge is £100 in debt.

Dr. Lancereux, of Paris, a very eminent physician, who has devoted much of his professional life to the study of nervous diseases, especially epilepsy, found that sixty cases out of every hundred were the offspring of alcoholic parents. Enfeebled nerves, an unstable nervous equilibrium, resulting in many cases in St. Vitus's dance, epilepsy, hysteria, idiocy, imbecility, manias of various sorts, especially dipsomania, are traceable to alcoholism in one or both parents,

and is one of the most painful experiences of the out-patient's department of a general hospital.

Dr. Hammond's Sanitarium at Washington, D. C., although only opened a few months, is already crowded with cases, showing the demand for special private hospitals, where special care and treatment can be applied.

Peptonized Cod Liver Oil and Milk, and *Maltine* are most invaluable preparations for brain and nerve diseases.

Concentrated Essence of Beef, by the London company noted in our pages, has a special value in the treatment of alcohol and opium cases, and every hospital should try this preparation.

Lactopeptine is already in common use, as the standard remedy for indigestion and all nutrient disorders.

Battle & Co., of St. Louis, report an enormous demand for *Bromidia* and *Pepsine*, showing that they meet a great want of the times.

Wells, Richardson & Co., of Burlington, Vt., are the proprietors of that great remedy *Lactated Food*, which has become one of the indispensable medicines of every physician's office.

Warner's Bromo-Potash, containing *Caffein* and *Bromide of Potassa*, are very satisfactory, and is almost an indispensable remedy in every case of inebriety.

Park, Davis & Co.'s Cascara-Sagrada and *Pepsin* preparations are very valuable, and should be used on all occasions of disturbance of stomach and bowels.

Robinson's Elixir Paraldehyde excels all other hypnotics in alcohol and opium cases. We are using it exclusively for this purpose, with the best results.

Fellows' Hypophosphites is an unrivaled preparation as a brain and nerve tonic. The enormous sale and use of this remedy proves its value.

Sulfonal-Bayer is the new hypnotic that has come into great prominence lately.

London Essence of Beef

(LIQUID).

Not for making Beef Tea.

Pure expressed Beef Juice, concentrated. Nothing more, nothing less. We use only fine beef. Come to our factory—any time. See for yourself.

For twenty-five years past—and now more than ever—Essence of Beef has been used in the Hospitals and by the Physicians of Great Britain. See Pavy "Food and Dietetics," London, 1874, pp. 450 and 515.

Useful in all Diseases of the Intestines and Stomach.

Nourishing in Marasmus.

Stimulating in Cases of Prostration.

Strength Supporting in Wasting Diseases.

Physical characteristics. A heavy amber liquid. Delicate in flavor. When placed on ice becomes a jelly. Administered in that form, is grateful and refreshing in fevers. Is taken just as it is from the can. No further preparation needed.

Not for making beef tea. Don't confound with it.

The stomach retains Essence when rejecting all else.

NOTE.—Add a teaspoonful of Essence to each pint of babies' food; it will prevent intestinal disorders.

In 4-oz. tins, 50 cents.

All druggists don't sell it. Many do. Any can get it.

Gaunt & Janvier New York

ROBINSON'S

ELIXIR ✣ PARALDEHYD.

HYPNOTIC, SEDATIVE, ANODYNE.

Paraldehyd $C_6 H_{12} O_3$ is a therapeutical agent which has been in use for the past few years only. It is formed by the action of mineral acids upon Aldehyd, $C_2 H_4 O$.

"In doses of 45 grains it is said to calm restlessness and insomnia, and procure unbroken sleep of from 4 to 7 hours' duration, and to leave behind neither languor, nausea, nor digestive disorders. It also acts as a diuretic. It has been found efficient in the INSOMNIA of various acute diseases, and also in acute MANIA and the excited paroxysms of chronic insanity and dementia. It is proposed as possessing the good without the evil qualities of chloral. (Nat. Dis., 3d Edit., p. 151.)"

It is also claimed to be a valuable *antidote* to *Strychnine.*

In Delirium Tremens and Morphiomania it has been used with good results.

Our Elixir contains forty-five grains of the Paraldehyd in each fluidounce, dissolved in an aromatic menstruum, whereby the objectionable taste of the Chemical is, to a great extent, disguised, and the preparation rendered palatable.

DOSE—2 to 8 fluidrachms.

Pint Bottles, Retail Price, $1.50.

Physicians are respectfully requested to *specify* "**ROBINSON'S**"

PREPARED BY

R. A. ROBINSON & CO.

Manufacturing Pharmacists,

ESTABLISHED 1842. **LOUISVILLE, KY.**

MANUFACTURERS ALSO OF

ROBINSON'S HYPOPHOSPHITES,
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ROBINSON'S PHOSPHORIC ELIXIR,
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ROBINSON'S FLUID EXTRACTS, ETC.

FOR SALE BY DRUGGISTS.

THE HIGHLANDS.

A FAMILY HOME FOR NERVOUS AND MENTAL DISEASES.

WINCHENDON, MASS.

This "Family Home" is conducted by Dr. Ira Russell and Dr. Frederick W Russell, both of whom have made the study and treatment of mental and nervous diseases, physical and nervous exhaustion, opium and alcoholic inebriety a specialty. The Home is not an institution or asylum. It is to all intents and purposes a "Family Home," where everything is made as homelike as possible. Patients are not subjected to the care of common nurses, but are provided with companions. Intelligent gentlemen are employed as attendants and companions of the male patients, and educated American women of experience are the attendants and companions of the lady patients.

The feeling of social degradation that is commonly felt by patients in Retreats and Public Institutions, who are subjected to the control of uncultivated nurses, is not experienced here. The utmost possible liberty is permitted, under suitable guardianship, to all the patients, and each one is regarded and treated as a member of a private family. Each case receives the attention and study given to private practice, and when needed the ablest medical talent in the country is called into consultation.

The Highlands, so called, is a pleasant mansion with cottages annexed, situated in the midst of ample grounds, on an eminence overlooking the town of Winchendon and the valley of Millers River. From the windows a superb range of hills and mountains can be seen, reaching from Wachusett in the southeast to Monadnock in the northwest.

A piano room, billiard room, bowling saloon, and ample stabling are provided on the grounds. The drives in the vicinity are considered delightful, and for healthfulness of location the Highlands are unsurpassed.

Dr. Ira Russell is the founder and superintendent of the Home, and letters of inquiry can be addressed to him, or to Dr. F. W. Russell, the assistant superintendent. For information we are permitted to refer to the following gentlemen:

C. F. Folsom, M. D., Prof. Mental Disease, Harvard College, 15 Marlboro St., Boston.
W. C. Williamson, Esq., 1 Pemberton Sq., Boston.
J. H. Hardy, Esq., 23 Court St., Boston.
Rev. G. J. Magill, D.D., Newport, R. I.
Wm. A. Hammond, M.D., 43 West 54th St., New York.
S. G. Webber, M.D., 133 Boylston St., Bost'n.
G. F. Jelly, M.D., 123 Boylston St., Boston.
C. H. Hughes, M.D., editor of Alienist and Neurologist, St. Louis, Mo.
E. C. Spitzka, 130 E. 50th St., New York, N. Y.
W. W. Godding, Superintendent National Insane Asylum. Washington, D. C.
Clark Bell, Esq., editor of the Medico-Legal Journal, New York City.
T. D. Crothers, M.D., Hartford, Conn.

PRESIDENT CLEVELAND'S PRIZE

for the three best babies at the Aurora County Fair, in 1887, was given to these triplets, Mollie, Ida and Ray, children of Mrs. A. K. Dart, Hamburgh, New York. She writes: "Last August the little ones became very sick, and as I could get no other food that would agree with them, I commenced the use of Lactated Food. It helped them immediately, and they were soon as well as ever, and I consider it very largely due to the Food that they are now so well."

LACTATED FOOD.

SUGAR OF MILK
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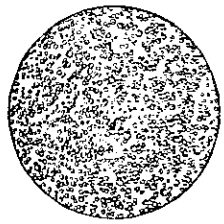
No Cane Sugar.
Free from Starch.
Highest Value in Nutrients.
Easily Assimilated.

A regular size package of Lactated Food will be sent, charges paid, to any physician who is not yet acquainted with its merits. Correspondence solicited. WELLS & RICHARDSON CO., Burlington, Vt.

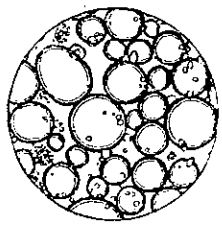
Peptonized Cod Liver Oil and Milk.



Peptonized Cod Liver Oil and Milk
200 Diameters.

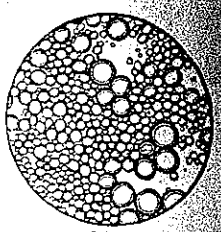
The finest division of oil globules reached in any emulsion or preparation of Cod Liver Oil.

Cow's **Milk.**
200 Diameters.



* **No. 1.**
200 Diameters.

All preparations of Cod Liver Oil, but the plain, in the market, are Emulsions, in some form, regardless of the names given them. *Their value and easy digestibility over the plain Oil must consist in the division of the oil globules.* Any physician who has a microscope of any power can compare COD LIVER OIL AND MILK with the various preparations of Cod Liver Oil, and he will find that the oil globules of COD LIVER OIL AND MILK are from 10 to 100 times finer than any preparation of Cod Liver Oil in the market, and 25 per cent. finer than in nature's Emulsion, milk. This should be the guide in the use of Cod Liver Oil with every practitioner.



* **No. 2.**
200 Diameters.

Messrs. REED & CARNRICK, New York City.—Dear Sirs: I have examined your PEPTONIZED COD LIVER OIL AND MILK microscopically, with the following results:

This preparation shows extremely minute oil globules suspended in a clear solution. The mean diameter or these globules is rather less than 0.003 m.m. (about 1-8000 inch), and the largest are not over 0.006 m.m. (about 1-4000 inch). For comparison it may be stated that their average diameter is from one-third to one-half that of the red blood corpuscles. *These photomicrographs show their size as compared to milk, and Emulsions of cod liver oil in the market. They have all been photographed under exacty the same conditions. In some of the specimens, the globules, when spread out in a very thin layer, gather in clusters, giving an uneven field, but not affecting their size.* Very truly yours, JAMES R. DUGAN, M.D., PH.D.
Feb. 26, 1885. Fellow in the Johns Hopkins University, Sec'y Baltimore Micros'l Society.

ANALYSIS OF PEPTONIZED COD LIVER OIL AND MILK, by Prof. ATTFIELD PH.D., F.C.S., Etc., author of a Manual of General Medicine and Pharmaceutical Society.

I have analyzed PEPTONIZED COD LIVER OIL AND MILK, and find that it is exactly what the makers state it to be. The sample submitted to me has all the properties of a specimen prepared by myself except that their machinery has produced a more perfect emulsion than my hand labor can effect. Indeed, I find by aid of the microscope, that as regards perfection of emulsion—that is, admixture of a fatty with a non-fatty fluid—the oil in PEPTONIZED COD LIVER AND MILK is in a finer state of division than the butter is in ordinary milk.

(Signed) JOHN ATTFIELD.

Peptonized Cod Liver Oil and Milk is also combined with Hypophosphites of Lime and Soda.

* Of the preparations of Oil on the market No. 1 contained the largest and No. 2 the smallest oil globules next to Peptonized Cod Liver Oil and Milk, in comparison with all the other preparations of Cod Liver Oil in the market.

Samples sent on application by ***REED & CARNRICK,***
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WASHINGTONIAN HOME,

No. 41 Waltham Street,

BOSTON, MASS.

This Institution is the first of its kind ever formed for the treatment and cure of Intemperance, and was instituted in 1857, and incorporated in 1859.

Up to January, 1884, nearly EIGHT THOUSAND PATIENTS have been treated, and while many have been entirely and permanently cured, all have been more or less benefited and improved.

The elegant and commodious building recently erected at

No. 41 Waltham Street,

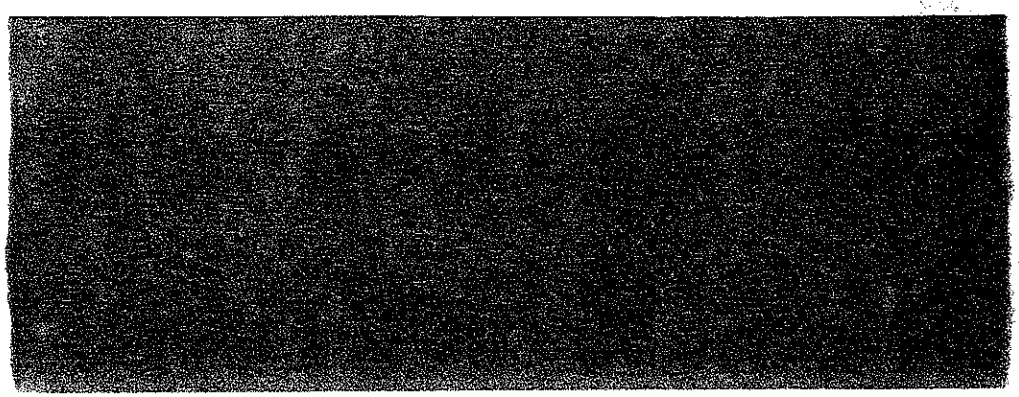
A few steps from Washington Street, embraces every modern improvement, and will pleasantly accommodate from forty to fifty patients.

Any man who honestly desires to reform his intemperate habits will find at this establishment every aid and accessory that science, sympathy, and long experience can possibly bring to his relief; and while under treatment, which is simple and pleasant, will at the same time be surrounded with all the comforts of home, and strengthened by congenial associations and agreeable entertainment.

The charges for board, etc., will be moderate—not to exceed the price paid for similar accommodations in any private family. For further particulars, reports, circulars, methods of treatment, etc., address or apply to

ALBERT DAY, M.D.,

SUPERINTENDENT AND PHYSICIAN.



BROMIDIA

The Hypnotic.

FORMULA. —

Every fluid drachm contains 15 grains EACH of pure Chloral Hydrat. and purified Brom. Pot., and one-eighth grain EACH of gen. imp. ext. Cannabis Ind. and Hyoscyam.

DOSE. —

One-half to one fluid drachm in WATER or SYRUP every hour until sleep is produced.

INDICATIONS. —

Sleeplessness, Nervousness, Neuralgia, Headache, Convulsions, Colic, Mania, Epilepsy, Irritability, etc. In the restlessness and delirium of Fevers, it is absolutely invaluable.

IT DOES NOT LOCK UP THE SECRETIONS.

PAPINE

The Anodyne.

PAPINE is the Anodyne or pain relieving principle of Opium, the Narcotic and Convulsive elements being eliminated. It has less tendency to cause Nausea, Vomiting, Constipation, etc.

INDICATIONS. —

Same as Opium or Morphia.

DOSE. —

(ONE FLUID DRACHM)—represents the Anodyne principle of one-eighth grain of Morphia.

IODIA

The Alterative and Uterine Tonic.

Formula. —

IODIA is a combination of active Principles obtained from the Green Roots of STILLINGIA, HELONIAS, SAXIFRAGA, Menispermum, and Aromatics. Each fluid drachm also contains five grains IOD.-POTAS. and three grains PHOS-IRON.

Dose. —

One or two fluid drachms (more or less as indicated) three times a day, before meals.

Indications. —

Syphilitic, Scrofulous, and Cutaneous Diseases, Dysmenorrhea, Menorrhagia, Leucorrhea, Amenorrhea, Impaired Vitality, Habitual Abortions, and General Uterine Debility.

Specify (BATTLE) when Prescribing Our Preparations.

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FEES FOR THE REGULAR SESSION.

Matriculation Fee, payable each term, $5.00. Fees for the Full Course of Lectures by all the Professors, $75.00. Perpetual Ticket, $125.00. Examination Fee, not returnable, $25.00.

Students who have already attended two full courses of lectures in other regular schools are admitted on paying the matriculation fee, and $40.00.

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Graduates of this school are admitted without fee. Graduates of other regular schools and Theological Students are admitted by paying the matriculation fee

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The attention of the profession is respectfully invited to some points of difference between Horsford's Acid Phosphate and the dilute phosphoric acid of the pharmacopœia. Horsford's Acid Phosphate ***is a solution of the phosphates of lime, magnesia, potash, and iron in such form as to be readily assimilated by the system,*** and containing no pyro- or meta-phosphate of any base whatever. It is not made by compounding phosphoric acid, lime, potash, etc., in the laboratory, but is obtained in the form in which it exists in the animal system. Dilute phosphoric acid is simply phosphoric acid and water without any base. Experience has shown that while in certain cases dilute phosphoric acid interfered with digestion, Horsford's Acid Phosphate not only caused no trouble with the digestive organs, but promoted in a marked degree their healthful action. Practice has shown, in a great variety of cases, that it is a ***phosphate with an excess of phosphoric acid*** that will better meet the requirements of the system than either phosphoric acid or a simple phosphate. "Phosphorus," as such, is not found in the human body, but phosphoric acid in combination with lime, iron, and other bases, *i. e.*, the phosphates is found in the bones, blood, brain, and muscle. It is the phosphates and not the simple phosphoric acid that is found in the urine after severe mental and physical exertion, or during wasting diseases.

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SULFONAL is best administered at supper-time, dissolved in hot liquors, *e. g.*, a bowl of soup or broth, a cup of milk, tea, coffee, cocoa, etc.

These points will be found to be fully exhibited in the series of contributions contained in our pamphlet which will be mailed on application.

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We prepare 5-grain and 15-grain Tablets of Sulfonal-Bayer. The tablet form is admirably adapted to the purpose of administering this drug, as when they are placed in the liquors, they disintegrate, and are thus received into the system.

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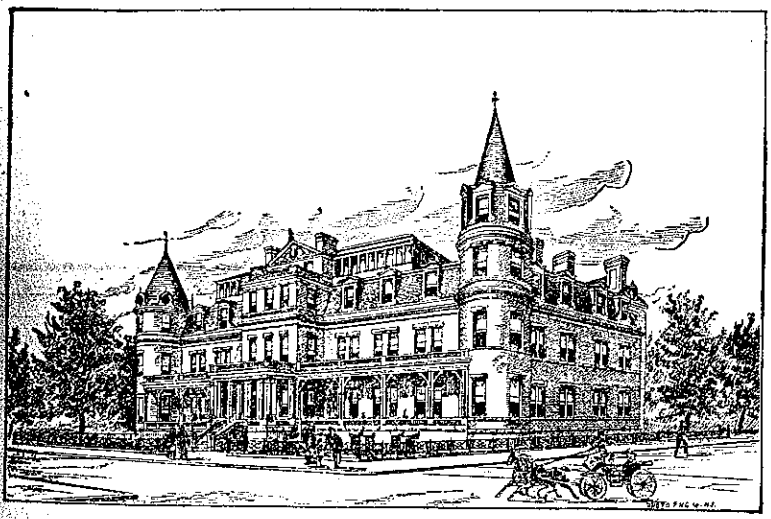

DR. WILLIAM A. HAMMOND'S SANITARIUM

—FOR—

DISEASES OF THE NERVOUS SYSTEM,

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DR. WILLIAM A. HAMMOND announces to the medical profession that he has returned from New York to Washington, D. C., where he has established, in a building especially erected for the purpose, a "Sanitarium" for the treatment of mild and curable cases of mental derangement, diseases of the nervous system generally, cases of the morphia and chloral habits, and such other affections as may properly be treated by the remedial agencies under his control. His experience during many years has convinced him that most diseases embraced within the above-named classes can be managed much more successfully in an institution of this kind, under the constant supervision of the physician and with the aid of means not otherwise at command, than when the patients are seen by their medical advisers at intervals of several hours or days.

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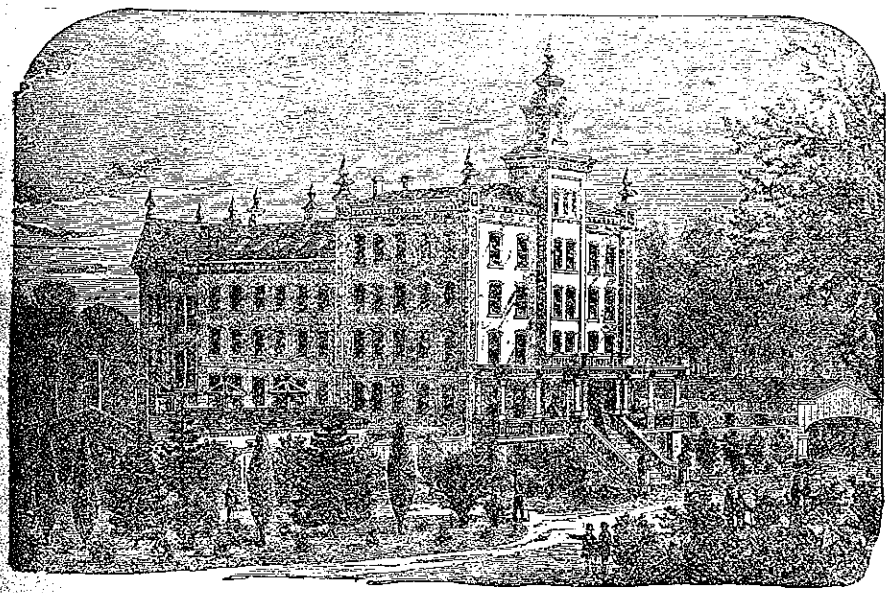

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THE MANAGEMENT is systematic, thorough and adequate. There has been no change in the staff of medical officers since the inauguration of the Home.

THE CLASSIFICATION of patients originated with and is peculiar to this institution. Being determined and regulated upon a strictly commercial basis, it is made to depend upon the character of the lodging, board and other accommodations which the patients or their friends are willing to pay for.

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THE RESTRAINTS.—Our system of restraint is compatible with the fullest liberty for each boarder patient to avail himself of all the recreation, amusement and enjoyment which the billiard-room, park and ball grounds, readings, lectures, concerts, musical exercises, etc., afford.

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At this juncture it gives us pleasure to state that we have never relied for our supplies of Cascara Sagrada on the inferior article offered in the market, but in accordance with our usual methods take every precaution to obtain supplies from reliable sources.

We have now on hand a large and ample stock of the genuine best quality *Rhamnus Purshiana*. We shall not, however, take advantage of the market and raise our price, but shall continue to supply only the highest quality preparations of the drug at our regular price. We believe physicians, in view of the facts stated and of our special knowledge of Cascara Sagrada, obtained by long and careful study of its properties and manufacture, will see the propriety of specifying only Cascara Sagrada of our manufacture. *Send for our Working Bulletin and Monograph on Rhamnus Purshiana.*

The Pepsin Question!

What Pepsin do you prescribe, and why? If you will examine the facts we present, you can have only one opinion as to Pepsin in future. Circulars fully presenting the claims we make for our scale Pepsin, with a sample of it, will be mailed to physicians who wish to investigate it.

We can only say here that in appearance, solubility, digestive strength, and permanence, it is far superior, and admittedly so, to any Pepsin hitherto introduced.

A careful search through the prescription file of a prominent New York pharmacist reveals the surprising fact that fully 75 per cent. of physicians neglect to specify when prescribing Pepsin, but simply order "pure Pepsin." Now they might as consistently order "solution of cocaine," without designating any particular strength.

"Pure Pepsin," as it is known commercially, is not a definite principle; neither has the Pharmacopœia as yet established a standard of strength, and, consequently, every producer is a law unto himself. It is obvious that digestive activity is the sole criterion of therapeutic value in preparations of the proteolytic ferment, and a physician is consequently enabled to predict with reasonable certainty the comparative effect that may be expected from the various Pepsins found in the market.

The following tabulated statement of the comparative quantities that should be prescribed in order to accomplish the same purpose may, therefore, enable them to so write their prescriptions that the best shall be obtained at the lowest price.

These figures are based upon each manufacturer's claim, without regard to the discrepancies which we know to exist; but when the fact be considered that our Pepsinum Purum in Lamellis, with a digestive power of one to 2,000, is marketed at a price comparing favorably with that established for many of the inferior varieties, the economy of its employment becomes patent. If it is desired to administer sufficient of the ferment to dissolve 1,000 grs. of albumen, obviously ½ gr. of the aforementioned Pepsin will be sufficient. To derive the same therapeutic effect from one for which the manufacturer claims a power of 1,200 8-10 gr. will be necessary. A power of 1,000, 1 gr.; a power of 900, 1 1-10 gr.; a power of 700, 1 4-5 gr.; a power of 500, 2 grs.; a power of 150, 6 7-10 grs., while a power of 30 (which is the standard adopted by our Pharmacopœia), 20 grs. will be necessary.

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