

finest definition of human happiness ever made was that embodied in the dying words of the good and great Dr. Hammond—"uniform obedience," exercising the instinct for obeying rather than the instinct for directing." In this double pronouncement you have the loftiest morality and the greatest wisdom, and a rule of life which, if you can but follow it, must lead you into the paths of summer.

Young fellow-students, I have said my words, and although they are few, if you and I can follow them we shall be happier, as well as better men, and more useful citizens. Cultivate common sense; be silent, tolerant, and obedient, and be not unrestful or unduly given to striving; accept things as they are ordained, and remember the words of the Caliph Ali:—

"Thy place in life is seeking after thee; therefore be thou at rest from seeking after it."

ART. XX.—*The Effects of Alcohol on our Military and Civil Population at Home and Abroad.** By BRIGADE-SURGEON F. E. M'FARLAND, A.M.D., retired; Consulting Physician, Ulster Hospital for Women and Children; President, Ulster Medical Society.

GENTLEMEN, I thank you most heartily for the great honour you have done me in electing me President of the Ulster Medical Society, and I thank Professor Byers for his generous remarks of me. We have all seen him shooting to the forefront of the Medical Profession, not only in Belfast but in the United Kingdom and further; and this he was bound to do, in virtue of his profound knowledge, brilliant talents, and force of character. He can well afford to be generous to me. When I retired from the army, in which I had been a surgeon for more than twenty years, I settled in Belfast. You received me kindly, permitted me to fall into your ranks, and, in due time, you have made me President of this great Society. I have not been much of an acquisition to the Society, have scarcely added to its literature, or even been a regular attendant at its meetings. Neither am I a North of Ireland man, nor did I study at your College. I did not put myself forward for the distinction—I assure you it came

* An Inaugural Address read before the Ulster Medical Society at the Opening of the Session, 2nd November, 1894.

upon me as a surprise, but the honour was too great to decline. I can only attribute it to your generosity and largeness of heart, and again offer you my sincere thanks.

This Society has advanced by leaps and bounds even since the time I joined it. I do not mean in numbers only, but in the class of men who have joined. I am not one of those who live in the past, and say—"There were giants in those days," but I say there are giants in these days; and whenever I speak to young members on medical subjects it makes me wish to be a student again.

Each of my predecessors, selecting his own particular specialty as the subject of his Address, has brought this Society up to the day in the various branches of professional subjects. There is, however, one subject left, which bears more than any other on the health and well-being of the nation, and that is—the Drink Question. My address, therefore, will be—"The effects of alcohol on our military and civil population at home and abroad."

During twelve years' residence in India I had an opportunity of seeing its effects in that country. India is a remarkable country in many ways, and our tenure of it is one of the greatest miracles in history! How England, with a handful of men, many of them invalids, has been able to keep a population of much over 200,000,000, not in check but in absolute submission, is the marvel! Now there are different ways of accounting for this. The population of India consists of Mussulmans and Hindoos, and if the English were out of India to-morrow these would be at war with each other, and the Mussulman would most likely prevail. Another reason is that though both races hate us as an alien race in their country they respect our laws; but another and perhaps the greatest reason that we hold India is—the two races, Mussulmans and Hindoos, are a sober people. Mahomet taught his people not to drink, as it made men mad; and Brahma and Buddha taught their followers not to touch strong drink, as it is an unclean thing. The result is, I may say, there is hardly any drunkenness among the natives of India, and an English lady might land at Bombay or Calcutta and travel to almost any part of India, and she would never meet with an insult or incivility, and that, not because they have a respect for women, for the reverse is the case, but because they are a sober people, and know that the

matter would be reported, and the offender would be detected and punished.

Now, some time since it was proposed to establish an "out-still" system in India, which simply means public-houses under Government licence, with the object of raising revenue. My belief is that if this were done, and that drinking habits could be introduced among the natives, we could not hold the country a single year; it would become a perfect pandemonium.

I entered the army in the year 1858, and was at once sent to India, at the close of the Indian Mutiny. Now, at the close of a campaign, discipline is apt to be a little relaxed; and certainly, in numerous cases, both officers and men had contracted drinking habits to a considerable extent. I have seen some of the most promising fellows in the service go shipwreck from strong drink. I was on the staff for one year, doing duty with various corps. The next year, 1859, I was gazetted to my first regiment. It was a distinguished regiment—had been to the Crimea, and lost half of its men at Inkerman; but, like most other regiments at the time, it was a fine old drinking regiment too. There was no temperance society in it, and the colonel, who was the soul of honour, would not allow one, feeling that a man would be more demoralised by breaking his pledge than by drinking. In India, except in large cities like Calcutta or Bombay, there are no public-houses—the regimental canteen serves the purpose; but there are spirit merchants in every station.

There was a good deal of sickness in the regiment during a great part of the time I was with it, and many fatal cases, attributable to drink, especially among the non-commissioned officers. We doctors had, for the most part, a busy time. After seven years in India I returned home with the impression that rum and beer were the great enemies of the British soldier. At this time there were two issues of rum in the day. Each issue, or tot, as it was called, was about $2\frac{1}{2}$ ounces. Previous to this, in the days gone by, there were four issues, the first at early dawn; and even the drum-boys were compelled to take their tot the same as the men. I returned to England in 1866; had been transferred to the artillery; and during the eight years I remained at home my experience was that when men were in a large town or city like Woolwich or Belfast, they drank, deserted, and filled the hospital; but when they went into

camp they were sober, well-conducted, and healthy. In Alder-shot—which is called a camp—there are enough public-houses in all conscience. Every second house in the district is a beer-shop; but as there are no rich civilians foolish enough or weak enough to treat them, it is a case, as a soldier jauntily expressed it, “We calls for drink after drink, and seegar after seegar, as long as the blooming sixpence lasts.”

The Government is wise in the payment of soldiers; they are paid in kind and not in cash. A soldier is well housed; gets good food, and it is well cooked; and he is well clad. An excellent institution exists, called the weekly kit inspection. Once a week every man's kit is laid out according to regulation, so that at a glance the company's officers can see if anything is defective or deficient; and if so, the article is ordered to be made good from the quarter-master's stores, and the man is put under stoppages till the price of it is recovered. Boots, socks, shirts, and every article must be in good repair; this makes the men scrupulously careful of their things, and when all deductions have been made the soldier has about sixpence to lavish; but he has other advantages. If sick he is treated in hospital, and his pay goes on; if ill-conducted he is put into the military prison and pay is stopped. He has what is called deferred pay, twopence a day, which is laid up for him, and which he receives on leaving the service if his conduct is good. After twenty-one years' service he is pensioned for life, and if he is incapacitated sooner, from injury or disease incurred in and by the service, he has pension according to the nature and extent of his disability. There is also in each regiment a school and qualified schoolmaster, where the unlearned soldier can be taught and qualified for promotion. You will see from this that the British Government wisely pays her troops in every way but cash, which would only be spent in drink. In the year 1874 I again returned to India, after an absence of eight years. A change had come over the spirit of the scene, and principally through the efforts of one man, the Rev. J. Gelson Gregson, the Father Mathew of India, I think the most remarkable man I ever met. To say that he travelled through every station in India is nothing—he did it two or three times a year. In the hot season, when it blew like a furnace; in the rainy season or the cold—all was the same to him, he went from station to station strengthening the temperance societies which he had organised

in every regiment. Some commanding officers were favourable to those societies, some were not, more just tolerated them, but it mattered not to Gelson Gregson, he went on with his good work, and certainly I found a wonderful change since the time I was in India before; not only were there a great number of teetotallers among the men, but there was a temperance element introduced into the service that never existed before, and this had spread to the whole Eurasian population, transforming them and improving them in every way. Mr. Gregson also introduced a form of pledge which, while it does not bind for a single day, is the one that is found to bind for life. It only binds a man while he keeps it in his possession. He can tear it up whenever he likes and be free from his obligation.

Also at this time, instead of two issues of rum, only one was allowed, and in the last regiment I did duty with even this issue was divided into two. The canteen opened at a quarter to seven in the evening for the first half, and at a quarter past seven for the second half. The canteen was again opened at eight o'clock, when a man could buy, at his own expense, a glass of spirits or a bottle of beer; but even this was productive of bad effects. Owing to the intense heat in the hot weather (and the hot season is very long), the men suffer from various affections and fevers, and from neurasthenia or nervous exhaustion generally. The result is that thirst is trying, and when in addition they take spirits at the canteen, the desire for more becomes almost imperative, and in too many cases it leads to men taking native drink. Many and curious are the ways the men adopt to obtain this poison, which is very deadly in its effects. I will not take up your time by describing the different kinds; all vary in strength according to the length of time they are allowed to ferment, and are a great cause of hepatic abscess and other illnesses. We hear a good deal in India of sunstroke, sometimes called heat apoplexy, insolation or ardent fever, and that it is more common at night when men are in their beds than when out in the sun. My experience, and that of others, was that in too many cases the men had taken spirits largely before going to bed, and that, although they died of sunstroke, drink was the cause. What is the state of things now in India? Lord Roberts crowned his splendid tour as Commander-in-Chief of India, by wisely abolishing the rum ration entirely. We have now an army in India of about 75,000 men; of these

25,000, or one-third, are teetotallers, and a temperance element is developed through the whole army in India greater than ever before known. In a late number of an Indian temperance paper, called the *On Guard*, I saw my old regiment, which is again in India, heading the list of temperance regiments by the highest number of total abstainers (450), the result of the good influence of one commanding officer, Colonel Colquhoun, one of the finest fellows in the service, who commanded them some years since. Lord Roberts did a still better thing than abolishing the rum ration, or as good, namely, he has caused the temperance society to become part and parcel of the regiment, and a regular return has to be sent to the Commander-in-Chief, signed by the officer commanding the regiment, who is responsible for the accuracy of the numbers. From this you can judge of Lord Roberts's opinion of the drink question.

What are Lord Wolseley's opinions? He says, in a letter to the Grand Secretary, Independent Order of Good Templars:—"There are yet some great enemies to be encountered, some great battles to be fought by the United Kingdom, but at present the most pressing enemy is drink. It kills more than all our newest weapons of warfare, and not only destroys the body but the mind and soul also. All movements intended to meet this foe commend themselves to me, and no one can wish the Good Templars success more than I do. I am glad to say we have now but little drunkenness in the army—less of it in our ranks than in any other class of her Majesty's subjects. To this fact I consider we owe much of the improvement, in every respect, that has been steadily going on among us for the last twenty years." These are the words of England's greatest General.

We tried large quantities of stimulants with our soldiers when we first acquired India, and found the result was sickness, mortality, and crime. Then we tried a smaller quantity with improvement, then smaller still with increased benefit, then no spirit ration at all, with the best results. We have the finest army we have ever had in India—sober, well-conducted, and healthy as an army can be in the climate which varies so much. One station may be healthy and the station next to it the reverse. I know temperance does not deserve all the credit for the improved condition of things. Sanitation, improved cooking, extra accommodation in hill stations—we

have barracks for 14,000 now in the hills—but no one can deny that it is to the improvement in drinking habits principally that the great change is due.

Now the question arises—Is alcohol food?—for, if it be, it is a food we seem to get on very well without. This crucial question I am not going to solve; but, in the fewest words, put the matter before you, and I do this with diffidence, knowing that most of you understand the matter better or as well as I do myself. I may say there are two parties. One party believes that alcohol is neither assimilated nor changed, but is expelled as something foreign, by the kidneys, lungs, and skin principally. The other party believes it undergoes combustion in the system, producing heat and force, but what the combination is they cannot tell us.

Now there are many kinds of alcohol, notably six—methylic, ethylic, propylic, butylic, amylic, capriolic—but it is with ethylic we have to do, C_2H_6O . The theory of Baron von Liebig was long believed, that the whole of the alcohol was consumed in the body; but French chemists—Lallemand, Perrin and Duray—performed a series of experiments in 1860, proving that alcohol was eliminated from the system unchanged. These experiments were performed by distillation and condensation, and by causing persons who had taken alcohol to breathe through a tube into a vessel containing bichromate of potassium and sulphuric acid in solution, and in such cases the colour of the solution was changed from red to green, though no change took place when persons breathed through who had not taken alcohol. This seemed to settle the point, when the late Dr. Anstie performed a series of experiments, and he found that only a small portion of the alcohol was so eliminated, and maintained that the remainder was consumed in the body in a sense forming food. The late Professor Parkes, in his reply to him, said that, if a food, Dr. Anstie could not say whether it were a food for good or for evil. Richardson, in his Cantor lectures, admits that the whole of the alcohol drunk is not recoverable, and suggests that probably it may have been converted into aldehyde, which by a process of oxidation is again disposed of within the body. I think we can leave this interesting question in the hands of the chemist, and with the proofs we can learn from our Indian army, and from the hundreds of thousands of our civil population at home, who do not touch alcohol, we can say that if alcohol is

food it is food for evil, and a food that we are better without. There are many excellent definitions of food given by eminent physicians and scientists; but plainly it comes to this, that food is that which produces bodily heat and forms tissue, and so force. That alcohol produces animal heat is disproved by Richardson, by a series of experiments on men, animals, and birds. He shows that there are four stages in drunkenness. In the first, which is pleasurable, the heart is stimulated and quickened, the capillaries are dilated, there is a rush of blood towards the peripheries, with a very slight increase of heat, half to one degree; but he shows that this is really a cooling process, for the blood gets cooled at the surface of the body; and, in the second stage, sinks to below normal; and, in the third stage as it approaches the fourth stage, the temperature becomes so low as to become dangerous, three or four degrees below normal. How alcohol forms tissue, except by causing fatty depositions, it is difficult to understand, as it does not contain nitrogen.

That alcohol is not a producer of heat is proved by experience. All Arctic explorers give their evidence against it. All the men who took alcohol suffered more than those who did not—so much so, in most if not in every Arctic expedition, its use had to be discontinued.

We come now to the effects of alcohol on our civil population at home, and we find it appalling. We spend about £140,000,000 on strong drink. To estimate the magnitude of this sum, we learn that it is more than the rental of all the houses and of all the farms in the United Kingdom. The rental of all the houses in the United Kingdoms of England, Ireland, and Scotland is only £70,000,000, and of all the farms £60,000,000, making £130,000,000, and we drink £140,000,000. Now, this is a fearful waste; but it does not end here. It is calculated that the country loses some £50,000,000 through loss of labour—men not working their full time. Mr. Benjamin Whitworth, M.P., stated, that in the works to which he belonged, they considered the firm lost £35,000 a year, through men not turning up on Mondays; so much so, that it was not worth while opening the works on that day. Then there is some £30,000,000 expended in prosecutions for crime, legal expenses, prisons, poor-houses, lunatic asylums, and 101 other results of intemperance. Another heavy loss which cannot be computed arises from the early

deaths and sickness of working-men in their prime. It may be said that we doctors have nothing to do with those matters; but we have everything to do with every matter which bears on the public health, and have as much to do with the prevention as with the cure of disease. Dr. Norman Kerr puts down 40,000 as the number who die annually in this country from strong drink *directly*, and about 60,000 who die *indirectly*; and these figures have been confirmed by the committee appointed by the British Medical Association, and also by that appointed by the Harveian Society. Others consider these figures much too low, and would certainly double them. And we ourselves know how many cases there are returned as pneumonia, liver, kidney, lung, and heart diseases, who have just drunk themselves to death; but, in respect for the feelings of survivors, no mention is made about the drink, but the actual cause of death is sent to the Registrar-General. The case of the drunkard is hopeless so long as he drinks. For him there is only one remedy, and that is, "Do not drink." He must not touch alcohol in any form if he wishes to save himself. But, unfortunately, the family of the drunkard suffers. Children require pure air, wholesome food, and sufficient, suitable clothing, and should have proper education. The children of the drinking artisan or working-man at night are often crowded in close, ill-ventilated rooms, breathing and re-breathing the same foul air—no more fruitful source for developing phthisis and struma; often little or no bedclothes, but huddled together for warmth. They are tea-fed and underfed. We can see them on the severest days barefooted and underclad, and we can tell the children of drinking parents from those of sober. Education is all very well if children are sent to school after a good breakfast, and comfortably clad. And it is better that they should be barefooted than that they should be ill-shod and sit in wet shoes. But the drinking fathers and mothers care little so long as they can gratify their horrible craving for drink. People talk of the children of the poor being hardy. It is not so in towns and cities. The mortality is out of all proportion greater than that of the well-to-do classes. Now, the only remedy is to remove or properly control the plague-spots of temptation—the public-houses. This can only be done by the mighty *vox populi*, quietly and lawfully and at the polls. Too long have the artisan and working-man paid their tribute at the expense of health,

happiness, and everything that makes life worth living for, to enrich the publican, and enable brewers and distillers to amass colossal fortunes.

Dr. Ringrose Atkins, Superintendent, Waterford District Lunatic Asylum, a distinguished psychologist, lecturer, microscopist, and photographer, who was President of the Irish Temperance League last year, gave a most interesting lecture when here on the disastrous effects of alcohol on the vessels and nervous matter of the brain, exhibiting photos of sections of brains of alcoholics, illustrated by the lime light. He very kindly sent me a series of photomicrographs to show to you. These illustrate the progressive changes that take place in the brains of alcoholics. I am not a profound pathologist, so will just quote Dr. Ringrose Atkins's words. He considers in the early stages of alcoholism the most important and constant changes are "excessive nucleation of the vessels (arterioles), with consequent involvement of their coats and diminution in calibre of their lumina, and increase in the number of the neuroglia cells, both protoplasmic and fibrous, as Bevin Lewis and Andrietzen have pointed out. The nerve elements, both large and small cells, are affected in the later stages, undergoing either pigmentary or fatty degeneration, or shrinking and breaking up into molecular masses, with infiltration of nuclei." Now, Dr. Ringrose Atkins does not hold that these changes are special to alcoholism, or only found after its abuse. Nearly similar changes are found in other diseases and conditions of irritation, and the later changes are found in cases of chronic dementia, old standing paralysis, &c. Dr. B. W. Richardson, in his course of Cantor Lectures, shows the action of alcohol on the blood if taken in sufficient quantity, by either fixing the water with the fibrin or extracting the fibrin, and so producing coagulation; on the red corpuscles by extracting water from them owing to the powerful affinity alcohol has for water, and in doing so altering their shape and course; also its effect on the vessels themselves. He shows especially how alcohol acts on the colloidal membranes—that the skin which covers us is colloidal, all organs and blood-vessels to their minutest ramifications, all organs, nerves, muscles, and their fasciculi are sheathed with colloidal membrane, as well as the whole of the alimentary canal. It covers and penetrates the liver, kidneys, and other solid organs. It not only supports the tissues and keeps the body in position,

but it acts as a filter, and its efficiency depends upon a proper supply of water. He shows how alcohol acts on this membrane by robbing it of water, and so producing thickening, shrinking, and inactivity. In order that these membranes should work rapidly and equally they require at all times to be charged with water to saturation.

The effect of alcohol on the liver is first to cause congestion and then to shrink and contract the capsular membranous portion, so as to compress the vascular and cellular, and so produce the hobnail liver in due time.

In the first stage of drunkenness an inordinate amount of arterial blood is sent to the brain; there is also dilatation of the capillaries; then comes the subsequent changes—there is venous congestion, and so in all the stages there is compression of nervous substance from disordered circulation.

From the effects of alcohol on the organs and tissues we can understand the different diseases it produces and develops. I need not speak of these.

The case then is that drunkenness is both a disease and a vice, and the question is, where do these begin? One party says that moderate drinking is no vice; it only becomes a vice when a person exceeds. The other party says that moderate drinking is the vice that leads to excess, which becomes disease.

I am not going to touch on the drunkard's bodily ailments and diseases, but state that alcoholism is a disease characterised by many and peculiar psychological symptoms, of which loss of will-power, more or less complete, is one. It is computed there are 60,000 drunkards in the United Kingdom, and as many more qualifying for the position, and every one of these were recruited from the army of moderate drinkers, which is an item against moderate drinkers. No drunkard became so intentionally, but through loss of will-power and inability to resist the temptation. This inability may be hereditary or acquired. We have all seen instances of this. Alcoholism is both an insanity and a cause of insanity. Authorities vary very much as to the percentage of admissions into Lunatic Asylums from drink. The late Lord Shaftesbury, who was for fifty years on the Commission of Lunacy, and for fourteen years its chairman, testified before a Parliamentary Commission that fifty per cent. were due to drink, and afterwards stated that sixth-tenths were due to no other cause; the Thirty-ninth Report of the Commission in

Lunacy put down 13·2, and many institutions vary. All authorities admit that a large number of admissions are from drink directly, but there is a worse phase—that a large number of lunatics are children of drunken parents. Some authorities put down one-half of the idiot class as such. There is a new school now that denies this, and says that acquired character cannot be transmitted to posterity. I cannot enter into this. At any rate, total abstinence is the safest and the only safe course. The inconvenience is very transient and the satisfaction very lasting.

It is by no means individuals of a low, vicious, or brutal type, or the idle, or those of a dull, inferior temperament, who are usually the victims of strong drink. Often it is the young, the beautiful, and the brave; the generous, the talented, and the good. We should, therefore, treat habitual drunkards quite differently to the way we do. The habitual drunkard should not be let at large; he should be put into confinement, where he could pursue his trade or calling, or earn money in some way. A Norwegian gentleman in this city told me they used to have a law in his Province of Norway that when a man was an habitual drunkard, any burgess could get another burgess to investigate the case—these burgesses were citizens sworn to maintain law and order, and were men of character and of certain property-worth. These two witnesses, if they found that the man was an habitual drunkard, and systematically neglected his family, could report him to an official, who was a kind of judge, and he then appointed two other citizens, independent of the two former and of each other, and on the evidence of the four the accused was without further trial put into prison for one year, and his family provided for by the State. The law worked well. I do not know if it is the same now; my friend has written to a lawyer in Norway to find out for me.

Alcohol is characterised by another symptom. Sometimes there is no depth of degradation to which the drunkard will not descend. I know of the case of a man of English blood who sold his two little girls to a Mussulman in a bazaar in India for a case of half a dozen bottles of brandy. But cases just as bad occur at home. You all know plenty of them. I need not dwell on the subject; it is part of the disease. There is a consensus of authorities who put down nine-tenths of all the crime in this country to alcohol. The late Baron Dowse, one of our

Irish judges, said that drink was at the bottom of nearly every case he had to try, and that even in cases where it did not appear on the surface, yet, on investigation, he could nearly always trace them to drink. In the army, owing to the splendid discipline, practically there is no crime apart from drink.

At a meeting at Sunderland, October 20th, 1887, Lord Randolph Churchill said that, "If, by some reasonable, wise legislation, we could diminish the fatal facility of recourse to the public-house, money would be diverted from the liquor trade and flow to other trades. All trades would benefit. Men would live in better houses, have better furniture, buy better food and better clothes, and provide better education for their children; and in every way that money could be diverted from the liquor traffic would every other trade improve." Sickness and mortality would be lessened, and health, happiness, and prosperity would bless the nation. We know that the poor will never depart from the land, but I hope poor-law relief will; and if the terrible drink traffic could be abolished, or even properly controlled, then every man would be able to stretch out the right hand of charity to his neighbour, which, certainly, he is not able to do now. Such a time would recall to us Lord Macaulay's lines—

"Then none was for a party;
Then all were for the State;
Then the great man helped the poor,
And the poor man loved the great;
Then lands were fairly portioned;
Then spoils were fairly sold—
The Romans were like brothers
In the brave days of old."

Mr. E. R. Barrett, in his prize essay, tells us that there is a story told in China about an Emperor who, 4,000 years ago, suppressed drink, and for three days it rained gold on the land. The same would literally be the case in the United Kingdom could the liquor traffic be suppressed. The effect would be immediate, and the very first week the change would be like a shower of gold in the streets, and every succeeding week would be increasingly more so, till the whole aspect of the country would be changed. Mr. Handel Corsham, M.P., stated that if the working man ceased to drink, wages would run up 20 per cent. the very next day, and Mr. B. Whitworth, M.P., stated that if the drink traffic were abolished the wages of the people of this country would go up at least 25 per cent. in

three months. What the increase in trade would be, who could tell? It would be something almost incredible. No class would benefit in the long run so much as publicans. Their case now is terrible. Their mortality, to use the Registrar-General's words, is "appalling," the mortality of innkeepers and publicans being 52 per cent. above the mortality of all males. New paths of life would at once be opened to them with the immense impulse of trade. But it is not at home only that we see the terrible effects of drink. We have, as Canon Farrar says, girdled the earth with a zone of drink. We send our sons to the Colonies, and, for one who succeeds, how many go shipwreck, because the spirit-seller is there before him. Our missionaries bring the Gospel to foreign lands, but in the same ship will be the spirit-seller or his wares to undo the work of the missionaries. Where are the Maories of New Zealand? You can see where they lived, because the ruins of their little huts are there, and their little flower gardens, bordered with inverted bottles, reversed in funeral order, but the men who drank the contents are no more. Where are the Red Indians of North America? They tell you there that the white man brought the fire-water and the red man died. Our missionaries complain that while the Mahometans make converts in great numbers, both in Asia and Africa, the heathen will not become Christians owing to their drinking customs. Mr. E. R. Barrett states that, from 1883 to 1887, 30,000,000 gallons of spirits were imported into Africa, and that an analysis of some of it proved it to be of a very poisonous quality; but what can one expect when a pint bottle sells at Sierra Leone at fourpence halfpenny. Now, I do not mean to say that England is to blame for all this. I dare say other nations send spirits there too; but England boasts of her foreign missions, on which she spends £2,000,000, while she spends £140,000,000 in drink. I think the poor heathen get more strong drink than Gospel from us. But if we send trash to the natives of other countries, we get paid back in our own coin. They say there is more Hock drunk in London alone than is grown in Hock countries in Europe, and three times as much Port drunk in England as is produced in the Port countries. Canon Hopkins, in a little work of his, gives the case of a great French vine grower who declared that he grew 400 pipes of wine on his estate, but sold 10,000. However, it is not with adulterations I have to do; it is with C_2H_4O .

The drinking habit in Belfast is pretty bad. The drink bill is £1,000,000. You cannot walk very far in the streets without seeing one man the worse for drink. And yet Belfast, in proportion to its wealth, is not as bad as other cities and towns in Ireland. The drink traffic is, perhaps, worse in Ireland than in England. All the rental of the land that there is so much fighting about is only £11,000,000, and the drink bill is nearly £12,000,000.

Some time since I was in one of the working districts of this city, and, talking to a policeman on the drink question, he assured me there were houses in that district in which there would be several pounds a week of earnings, and yet on Saturday night there would not be five shillings worth of property in the house. And this is not only true of that particular district, but applies to every working district in Belfast. What must be the moral and social position of such houses? Nothing but misery and squalor within. The late Charles Buxton, M.P., a brewer himself, stated that "there were 500,000 homes in England in which home happiness is never felt through the one vice of intemperance."

Now this is a matter that concerns ourselves very nearly. Many of our young members who have attained their profession at great labour and expense, who have not means or patience to settle down in the better-class neighbourhoods, elect to practice in the populous working districts—many of these gentlemen do an amount of work that should be remunerated by £600 or £800 a year, and do not get one-half, because the money goes to the publicans. In England it is not so; doctors go to the populous districts because they are lucrative, and when they have had enough of it they purchase fancy practices; but here the case is very hopeless. The late Sir Andrew Clark once stated—"He was often tempted to give up his profession and join in a crusade against strong drink." Medical men are often blamed for ordering drink, and, perhaps, we sometimes deserve it; but we must take cases as we find them, and a physician's hand should not be bound in the slightest. At the same time, my own belief is, that if we had no such liquors as whisky, gin, rum or brandy, but a recognised standard solution of alcohol, labelled alcohol poison, and placed on the chemist's shelf, it would answer all requirements and be very little used. However, my case is not against alcohol as a medicine but as a diet.

Sir Wm. Jenner struck the right note when he said—"There are times in the crisis of disease, as in the life of a man, when alcohol is useful; but it is as the whip and spur are to the race-horse, it tides over a difficulty by enabling him to put on a spurt, but is in no wise hay and oats."

We come now to the treatment of this disease. Much might be done by the women. If the homes of the artisan and working man were made more comfortable and attractive, and if the cooking was better, he would not be so fond of the public-house. Man is a docile animal and easily domesticated.

It has often been said that we cannot make a man sober by Act of Parliament, but the saying is untrue. Experience has proved that just in proportion as temptation is put in a man's way or out of a man's way does he become drunken or sober. See our own town of Bessbrook; the sober division of Toxteth, in Liverpool, with its 60,000 inhabitants, contrasted with the drunken division; St. Ives, in Cornwall, with its 7,000 inhabitants and one policeman, and nothing for him to do, and other places where the public-houses are not allowed.

The grocer's spirit licence has done much harm, especially to women. It has already made many of them inebriates; women, especially, should not be exposed to temptation. There are times of physical weakness which render them an easy prey to drink when once the habit is formed. Women who formerly would not be seen in a public-house cannot now buy their necessities without being exposed to temptation. The downfall with them is very rapid, and the outlook for the children very bad. This law should be repealed. Then the tied-house system is a bad business; as Mr. F. A. M'Kenzie says in his work, published this year, there are two kinds. In the one the brewer and distiller start the publican in business by advancing him money, but he is tied to get his beer and spirits from them, and they can give him any stuff they like. In the other kind, the brewer or distiller owns several public-houses and puts managers in them, whom they can remove if they do not push the business. This causes competition, and the public suffer.

Finally, there are the two large projects for controlling the trade before the country. The Permissive or Local Veto Bill, and the Bishop of Chester's Scheme on the Gothenberg and Bergen lines. Both have their advocates. Time will not permit me to go into these. I have just touched upon some of the salient

points of this great Drink question. Some points I have not alluded to—as the insurance aspect, expectation of life, and many others. The Biblical side I leave to the Theologians with this one remark—that it seems to me the books of the Bible were written in a land of vineyards. Drunkenness was not the prevailing vice, as it is not in vine-growing countries at the present day—the people, no doubt, preferring the pure juice of the grape to the fermented; and I take it that when wine is used in a good sense or bad sense in Scripture it is for the most part the pure juice of the grape or the fermented that is implied. We know the art of distillation was not discovered till the 11th century; so they had not spirits in those days as we know them.

This great work—the control of the Drink Traffic—will proceed. Are we as a profession to be in the van or wake of the movement? In this Society there is a large percentage of total abstainers. Others do not see it in exactly the same light as we do, but of one thing I am certain—there is not a single member who would not receive with joy and satisfaction any movement that would emancipate the artisan and workingman from the bondage of strong drink.

ART. XXI.—*A Case of Small-pox and its Lessons.** By JOHN W. MOORE, M.D., M.CH., B.A. Univ. Dubl., F.R.C.P.I.; Physician to the Meath Hospital, &c.

EARLY on Friday, September 21, 1894, I was asked to visit a professional friend, who wrote to me as follows:—"I have been in bed the past two days—some sort of feverish attack—and would like you to see me."

CASE.—On visiting the patient about 1 p.m., I found that after some days of ill-health, during which he felt out of sorts and lost his appetite, he had fallen acutely ill on the evening of Tuesday, September 18. The first symptoms were chilliness, pains in his limbs and back, and nausea. The temperature rose quickly and reached 103.2° on Thursday evening, the third day of the attack. He was seen and prescribed for by Dr. R. S. Wayland, who looked upon the attack as one most likely of enteric fever.

At the time of my visit, the tongue was thickly coated with a yellowish, offensive fur, the throat was red, pulse 84, temperature 102.3°. There was a good deal of sweating. A local and intense scarlatiniform rash

* Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, November 16, 1894.