Drinking and disease : a lecture / delivered by the Rev. A.G. Russell, in the Mechanics' Institute, Bradford, February 21st, 1868, being the third of a course of lectures on behalf of the Bradford Sunday Closing Association.

PLEASE READ AND LEND.

DRINKING AND DISEASE.

A LECTURE,

DELIVERED BY THE

REV. A. G. RUSSELL, M.D.,

IN THE

MECHANICS' INSTITUTE,

BRADFORD,

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BEING THE

THIRD OF A COURSE OF LECTURES

ON BEHALF OF THE

BRADFORD SUNDAY CLOSING ASSOCIATION.

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INTRODUCTION.

THE following Lecture was given on behalf of the Bradford Sunday Closing Association, and is now published in accordance with the wish so cordially expressed by the audience at the close of its delivery.

It will be noted in its perusal that I acknowledge the local effect of alcohol to be two-fold:—1st. Chemical, the result of the mutual affinity between the alcohol and the living tissues; 2nd. Dynamical, in virtue of which it sets up irritation and inflammation, independent of its chemical agency.

In reference to its remote effects after absorption, and while in the blood, its action appears to be partially physical (endosmotic); and it would be an interesting inquiry to learn whether drunkenness depends on this, or on this and the peculiar action of alcohol as a narcotic poison.

In conclusion, I desire to acknowledge the free use that has been made of the works of Drs. Carpenter, Spencer Thompson, Gairdner, Anstie, and others, and to Mr. F. Marsdin, for his valuable assistance; and wish the Members of the Association and its friends, in the accomplishment of the arduous task they have undertaken, "God speed."

A. G. R.

Bradford,
February, 1868.

ABRIDGED SYNOPSIS OF LECTURE:—

INTRODUCTION—Statement of the Question and its difficulties.

PART 1st—What is Alcohol—how obtained—is Alcohol a Stimulant?—Food—Liebig—French Experiments—Anstie, Duprè, &c.—Poison

PART 2nd—Alcohol a cause of Disease—General View of Life, Health, and Disease—action of Alcohol—Blood—Breathing—Nutrition—action of Alcohol modified—Adulterations—Disease—Brain—Insanity—Liver—deranged Functions.

PART 3rd—Alcohol as a Medicine—different modes of Treatment—Dr. Todd—Dr. Gairdner—Diseases in which Alcohol is supposed to be applicable—Typhus Fever—Heart and Pulse—Chemical Analysis—Medicinal use abused—General Observations on the employment of Alcohol in Disease.

PART 4th—Review—Alcoholic Liquors not necessary to healthy persons—remedy for evils—suppression of Sale on Sunday—Objections—on making men moral by Act of Parliament—Liberty—Free Trade—John Bright—Licensed Victuallers—the Traffic in Bradford—duty of Christians.

LECTURE.

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LADIES AND GENTLEMEN,

THE third of this series of lectures, delivered under the auspices of the Bradford Sunday Closing Association, falls to my lot, and from the syllabus you will observe that the subject is "Drinking and Disease." According, therefore, as we view these terms, separately or together, in the relation of cause and effect, or look upon drinking as a cause of disease, and then as a curative agent in its treatment, so will be the range of our present lecture, and so will our inquiry be narrowed or widened. That many difficulties press against the subjects, temperance and total abstinence, you will, I think, be ready to admit, and that many of these difficulties have been imported into discussions through the narrow and limited views which some have taken you will also allow. Advocates have not in all cases come to a consideration of the subjects with unbiassed minds, but with minds bent on the maintenance of opinions which somehow or other they have picked up, and which, in opposition to truth, they have sworn to maintain. Men full of such prejudices can hardly be expected either to argue fairly or to listen calmly to those who would convince them of their errors; and hence when defeated in argument they abound in abuse. But nothing more plainly shows the weakness of a cause, and when men set themselves to blacken the reputation of their antagonists rather than reply to their arguments, a certain inference seems warranted. Perhaps many of the difficulties incident to the questions spring from their moral and religious connexions. Happily in our present inquiry we entirely, or almost entirely, escape them, for the great bulk of our inquiry turns upon ascertained facts, on which arguments may be built up having nearly the force and firmness of demonstration. I have to entreat you then at the outset to consider the basis on which the present lecturer stands. He is not here in any sense a special pleader, but he stands more in the position of one who calmly surveys facts, and who invites his hearers to their consideration, in order that general principles may be established, and general conclusions drawn. He has to ask his hearers to enter court with him upon the same terms—to leave for the time being previous conclusions outside, to empty the mind of all views, and to weigh calmly facts. His position on this platform is not to be taken as identifying himself with any class of advocates, but that of an independent advocate, in some measure, at least, alive to the evils

of intemperance. He would only add that if his conclusions seem to press upon any system, it is against the system he speaks, not against men. The plan he proposes in carrying out the lecture is first of all to show you what alcohol is; to glance briefly at the terms food, health, disease; to consider the relation of alcoholic stimulants in the production of disease, and the diseases so produced; to consider alcohol as a therapeutic agent; and from the whole to draw certain conclusions as to measures for the suppression of the liquor traffic, with especial reference to the complete closing of all houses licensed for its sale on the Lord's day.

In the first place, then—what is alcohol? Is it food, poison, medicine, luxury, or what? I may say, first of all, it is the principle on which the characteristic properties of fermented and distilled liquors depend. It is a product of the metamorphosis of sugar, under the influence of a ferment. It has not been found in any product of nature, and I believe it to be essentially artificial, prepared through the destructive process of fermentation. Under alcohol, then, we may include all the ordinary intoxicating drinks, for it is to the presence of alcohol that their intoxicating property is due. I may here just briefly explain the process of the preparation of alcohol. Grain is steeped in water until it swells; then it is put into a heap, and brought into contact with the atmosphere. Afterwards it is spread upon a floor till the process of sprouting takes place; then it is dried upon plates, and a substance called diastase is formed, which has the peculiar property of converting the starch of the grain into grape sugar. Then the grain is put into water again, which takes up the soluble grape sugar; afterwards this water, holding the sugar in solution, is drawn off, when all that is required is to add some fermenting agent—yeast, for example—and by distillation you have alcohol. It is composed of four parts of carbon, six of hydrogen, and two of oxygen. We have what is termed absolute alcohol, which contains only a trivial amount of water. The strongest commercial spirit is the rectified, and contains 16 per cent. of water; what is known as proof spirit contains about five pints of alcohol to three pints of water.

TABLE No. 1

Table, after *Mr. Brand*, showing volume of Alcohol (specific gravity ·825) in 100 Measures of the Liquor.

	Average Alcohol in 100 parts.
Spirits (1.)	
Whisky	54·91
Rum	53·68
Brandy	53·39
Hollands	51·60
Wines (2.)	
Madeira	24·17
Port	22·96
Cape	20·51
Sherry	19·17
Claret	15·10
Champagne	12.80
Hock	12.08
Elder	08.79
Other Drinks (3).	
Cider	07·54
Perry	07·26
Burton Ale	08·88
Edinburgh Ale	06 20
Brown Stout	06·80
London Porter	04·20
Small Beer	01·28

Table 1 shows the average amount of alcohol in 100 parts of various spirits, wines, and other drinks. I wish you to understand that when I am speaking of alcohol, I use the word only in the general sense; I do not mean absolute alcohol unless I prefix that word. Our lecture thus receives a limitation, for when I speak of drinking, it is only with reference to some drink containing alcohol in greater or less per centage. Then is this agent, alcohol, in any sense a food? Is it a poison? Is it medicinal? We have no difficulty in saying it is a poison: this fact is established by abundance of evidence, direct and indirect. Given to animals in certain doses, it has acted with almost instantaneous effect; and cases are not wanting in which, after an excessive dose of a mixture containing a high per centage of alcohol, men have died. We frequently hear, too, of cases in which parents have so far forgotten their parental duty as to give it to children with fatal effects. But with human beings these fatal effects are not generally instantaneous, though it has caused instant death. You may ask how? Probably from shock, as in the case of death resulting from a violent blow on the stomach; or, it may be, by the speedy absorption of the alcohol. Upon the authority of such men as Orfila, Taylor, Pereira, and Christison, we are quite safe in grouping alcohol with the poisons. Dr. Christison, in fact, places it in the narcotico-acrid group, along with ether and the oleaginous products of combustion. Is it stimulant or medicinal? To this, at present, I give an affirmative reply; as it will be discussed more minutely in a subsequent part of the lecture.

We next come to a more important question:—Is alcohol food? Alas, here doctors differ. There has always been considerable variety of opinion on this point, and this has, I think, in a large measure, sprung from an imperfect acquaintance with the action and course of alcohol after it has been taken into the system. One class of inquirers affirm that alcohol is in no sense a food; another that it is neither food nor force; a third that it is both; and so on, through an endless variety of opinions. To me it appears quite possible to frame a definition of food wide enough to admit alcohol; but such a definition might, with no impropriety, be made to include hydrocyanic acid and arsenic. Hence, whether alcohol is food or not food, might after all be a matter of very little importance. But if we adopt the great principle of Perrin, "that every alimentary substance, contributing to nutrition, whether this be ternary or quarternary, subjected to the active forces of the chemistry of life, rapidly loses its identity and becomes a constituent part of the blood, and never, in the state of health, does it appear in an unchanged condition in the products of excretion,"—then most emphatically alcohol is not food—and if any working-man or other person present supposes that in such a sense it is, and that he could live and do his work on the sustenance of alcohol, let me warn him that he is utterly mistaken. Perrin further tells us that "non-alimentary substances undergo no transformation, form no constituent part of the blood, and are mere foreign bodies which the economy does its best to get rid of." Hitherto alcohol has been excluded

from the class of food, from the results arrived at in the French experiments. The conclusions as drawn from the French experiments against alcohol as a food were:—(1) it exists unchanged in the blood; (2) no traces of its transformation or destruction can be discovered; (3) it is eliminated unchanged by all the excretory organs; (4) the phenomena it gives rise to, in whatever doses taken, its accumulation in the nervous system, and its well-known toxical and pathogenic action demonstrate it to be a modifier of nervous force, and negative the alimentary character ascribed to it; (5) the objection drawn from the inability to reproduce the total quantity taken cannot be received by physiologists, for at most it shews that some portion becomes lost during the peregrination of the alcohol through the system, but in no wise proves that it has been burned or destroyed. Such are the conclusions from the famous French experiments; and I would here have you bear in mind that they are almost entirely of a negative character. Another inquirer, Liebig, divides food into two classes,—the plastic elements of nutrition, or substances which contain nitrogen, out of which the tissues are repaired or built up, such as vegetable fibrin, albumen, and casein, and animal flesh and blood; and elements of respiration, such as are heat-producing, undergoing combustion in the lungs, among which he places starch, gum, cane, grape, and milk-sugar, pectin, and alcohol. But I much fear Liebig has taken for granted the very thing to be proved—though I do not deny it—namely, that alcohol is indeed burned off in the lungs. In no sense whatever is alcohol food in his first group, and we must know something as to its combustion before we admit his view. Nay, Dr. Anstie has shown that alcohol, if heat-producing at all, is not so for several hours after ingestion. The third view to which I direct your attention is that of Dr. Anstie, given by him in the *Lancet* of the 25th of last January, and which tends in a large measure to upset previous views. He denies that alcohol is eliminated in large quantities. Drs. Duprè, Schulinus, and Anstie all hold that the notion that ingested alcohol is got rid of in bulk unchanged, must be definitely dismissed. This has been shown by numerous experiments. Dr. Schulinus takes the extreme case of highly intoxicating doses administered to animals, which were killed in a few hours after the alcohol had been taken. In these cases a trivial fraction only has been eliminated by the kidney; but yet probably not less than one-fourth of the total quantity ingested has ceased to be recognisable in the body as alcohol. After a dose of one ounce-and-a-half of absolute alcohol had been administered, it was found that only half a grain was eliminated by the kidney, and probably less by the skin and lungs. So also in pyrexial diseases, when much larger doses were given, only a very small fraction was thrown off by the kidney, lungs, &c., and in one case under Dr. Hadfield Jones, where 28 ozs. of brandy were administered daily, there was only the faintest trace of the alcohol found in the urine. He, however, discovered that when alcohol was pushed to its narcotic action, somewhat more was eliminated, though still in proportion so very minute as to negative the idea held by many,

"that it is eliminated in bulk unchanged by the various excretory organs." Dr. Anstie's conclusion, then, is—"It is impossible any longer to deny or ignore the fact that alcohol is food. The quantities in which it can be taken without producing visible toxic effects would alone establish this, unless we are at liberty to suppose that it is rapidly eliminated in bulk; but this elimination is now fully disproved, and the fact of its destructive decomposition in the body is thereby proved." Bearing in mind the negative nature of the French experiments, if these observations and experiments are correct, what then? Not so much, after all. At the most they show that alcohol is simply a food. There may be, and doubtless are, some who look upon this new phase of the question with alarm. I, for one, do not share in their fears, and I hope to show, ere concluding this lecture, that Dr. Anstie's views, in place of invalidating the arguments of those who advocate temperance, only tend further to strengthen their position, by putting fresh barriers of a more accurate kind around its legitimate exhibition. The only parties who need fear discoveries of this kind are such as have intemperately dogmatized upon unascertained facts, and committed themselves to crudely formed views. It seems to me that what we need in this matter is more experiment,—a new series in fact,—and I venture to predict that half way between the two views I have stated will be found the truth. Make it a food; allow that Dr. Anstie is correct; no one will deny that it is a poisonous food, and one which cannot be taken long without pernicious effects. It is a food that deteriorates the blood, prevents healthy nutrition and hinders the elimination by the lungs of certain substances derived from food proper, thereby interfering with the healthy action of the various organs of the body. I do not deny that food may be defined so as to include alcohol, but if by food we mean that which when taken into the system affords elements for the healthy repairing of a continually changing system, then I have no hesitation in saying that alcohol is not food. I would keep it where the bulk of scientific inquirers put it,—a food, if Dr. Anstie be correct,—a stimulant, a narcotico-acrid poison, hurtful to the body of a healthy man, and only to a limited extent serviceable in abnormal conditions of the body.

Our lecture, then, has to do now with this alcohol, this poison, in its effects upon the system, and, according to our plan, as a cause of disease. Before we can come directly to an intelligent study of this subject, we must know something of health and disease. The Pathologist can have no estimate of disease until he knows what the body was, and what the organs were in a state of health —nor can we use a language until we master the alphabet. Nor can we proceed to show you that alcohol causes disease till you really know what health is. The words then arise—Life, Health, Disease. By Life, we simply understand "An active state, resulting from the concurrent action or exercise of the functions." "Every fibre quivers with life intense." Health, which refers to this life, is variously described, *e. g.*, "A name given to that state or con-

dition in which a person exists—fully able, without suffering, to perform all the duties of life." This for our purpose may suffice—not that it is scientifically correct—for disease may exist without inconvenience or pain. Then, Disease may be used in a general or specific sense; we may say a person or limb is diseased, without the nature of the affection, or that he suffers from a particular disease, such as small pox. Disease is "A deviation from the state of health, consisting for the most part in a change in the properties or structure of any tissue, or organ, which renders such tissue or organ unfit for the performance of its actions or functions, according to the laws of the healthy frame."

TABLE No. 3.

DISEASES INDUCED BY ALCOHOLIC EXCESS, after *Carpenter* :—

1.—DISEASES OF NERVOUS SYSTEM—Delirium Ebriosum—Delirium Tremens—Insanity—Oinomonia—Mental Debility in Offspring—Inflammatory Diseases of Brain—Apoplexy—Paralysis—Epilepsy—Criminal Conduct.

2.—DISEASES OF THE ALIMENTARY CANAL—Irritation and Inflammation of Mucous Membrane of Stomach—Inflammatory Gastric Dyspepsia—Disorders of Intestinal Mucous Membrane.

3.—DISEASES OF LIVER—Congestion—Acute and Chronic Inflammation.

4.—DISEASES OF THE KIDNEY.

5.—DISEASES OF THE SKIN.

6.—GENERAL DISORDERS OF NUTRITION.—Tendency to Deposition of Fat—Diminished Power of sustaining Injuries—Liability to Epidemic Diseases—Gout and Rheumatism—Diseases of Heart and Arteries.

7.—DISEASES INDUCED BY MODERATE USE—Of Digestion—General System—Nervous System—Excretory Organs—Circulation—Nutrition.

Diseases in which occasional use of Alocohol is *(or supposed to be)* beneficial:—

1.—Constitutional Depression, Age, &c.

2.—Depression from Excess of Natural Secretions.

3.—Depression from Disease, Acute or Chronic.

4.—Depression from withdrawal of accustomed Stimulant.

5.—Depression from Indigestion.

6.—Depression from whatever cause, Mental or Physical.

We are brought now into contact with the first part of our subject proper, and assert that alcohol, the poison whose nature I have discussed, when taken into the system. and when this is repeated from time to time, has a tendency to engender particular forms of disease, which a reference to Table 3 will bring before you. From this statement it is not to be supposed that I hold that every ounce of alcohol taken into the system does positively engender disease and shew itself at once. This is not the case, as might easily be shewn. Nor do I assert that all the forms in which it is exhibited

are equally injurious. My position is that the continued use of alcohol has a tendency to induce disease, and that, however much it may be modified by strength, food, exercise, climate, or constitution. And first as to the action of alcohol. It has, when applied to dead animal matter, an astringent action,—it condenses the substance, coagulates the albumen, and attracts the water. Strong alcohol on a granulating surface, such as that of a sore in process of healing, bleaches it; long applied to the living animal surface it will produce inflammation. When applied to surfaces within the body, there is an astringent action, which is but momentary, the excitant power of the spirit then manifests itself. When strong spirit is swallowed by one unaccustomed to its use, there is a sensation of pungency,—dryness and astringency of the mouth, and apparent warmth in the stomach. When concentrated alcohol is taken into the stomach, the organ becomes inflamed, the mucous membrane assumes a bright red colour; it may also assume a dark brown hue. In a case recorded by Dr. Geohegan, in which the patient had swallowed twenty ounces of spirits, and which was fatal in eight hours, there was extravasation; and thus the symptoms are more severe in proportion to the severity of the case. The drinking of strong spirits produces frequently extravasation of blood, and inflammation of the lining membrane of the stomach, leaving the membrane injured, thickened or weakened, or in such a state of inflammation as to lay the foundation of future disease,—organic disease, I mean. If the alcohol be diluted, the symptoms are different, there is a sensation of warmth, and vascularity of the lining membrane. Dr. Beaumont was fortunate enough to have under his observation the case of a man, named St. Martin, who had received a gunshot wound in the stomach, which exposed it to view. When this man had drunk, but not to excess, the lining membrane of his stomach was of a red colour. But one morning after a debauch, St. Martin came to Dr. Beaumont in a sad state; the stomach was of a livid hue, and a quantity of grumous matter was observable. Even if the liquor that is drunk be diluted however, it will ultimately give rise to chronic disease. For a time the stomach may resist the deleterious action of occasional intoxication, but sooner or later it produces its baneful influences on body and mind.

There exist various views of alcohol as taken into the system. 1. We may view its general effects upon the system at large, seeing how it affects the breathing, the blood, the brain, and the body generally, without any special reference to its continued pernicious effects upon the system. 2. We may view it taken in large doses, and in a concentrated form, producing a rapid series of changes, and terminating in recovery or death. 3. We may look upon it, taken in smaller doses in a more diluted form, with results running up through excitement to stupefaction and intoxication. Supposing, then, that a considerable quantity of a moderately strong alcoholic stimulant be swallowed, it is, according to the state of the stomach, with greater or less rapidity absorbed, and passes into the circulatory system. Its general effects seem to be—clouding or complete

obliteration, for the time being, of the mental faculties, loss of voluntary control, breathing impeded and short, and a lessening of the quantity of carbonic acid gas expired. Should death supervene, we find upon post-mortem examination that the sinuses of the brain and venous system are turgid, the stomach altered, the blood fluid and dark; shewing that very considerable derangement has resulted. It would appear from this that the presence of alcohol in the circulatory system interferes with the processes to which the function of respiration is normally subservient, preventing the due arterialization of the blood, and that so long as it is in considerable quantity in the blood, less carbonic acid gas is expired. When taken in small doses, the alcoholic stimulant increases the rapidity ot the heart's action, and brings about a general exaltation of the organic functions. The brain, the kidney, and the skin are especially acted on; you have increased talkativeness superinduced, great rapidity and variety of thought, and animation. The countenance is flushed. The prevailing disposition of the man generally comes out: *in vino veritas*—a drunken man lets out the truth. This last remark is especially illustrated by the effects of chloroform. If the subject be a man given to swearing, you may expect to hear a volley of oaths and curses when he is under the influence of the chloroform; if to praying, you will probably find him at his devotions; if to fighting, he will endeavour to assume the physical contortions peculiar to pugilism. It must be remembered that these manifestations occur only during the stage of excitement, for when fully under the influence of the vapour, the man is perfectly quiet. Nor do they constantly occur, some patients passing gradually under the influence of the chloroform without resistance or noisy demonstration. If the drinking of stimulants be stopped when the man is excited, before complete intoxication has been produced, the lining membrane of the stomach is still probably unimpaired. and the man is soon well. The third view, and which I mentioned second in order, is where the intoxication deepens; the subject loses self-control, the ideas are confused, the reasoning power disturbed, there is giddiness, double vision, and noises in the ears. The voice is thick, the eyes vacant, the face often ghastly pale. There is a loss of self-direction: the man sinks into a heavy sleep, from which he cannot be roused—in short, there are all the symptoms of narcotic poisoning. From its stimulant effect up to intoxication, coma, and death, we have every intermediate variety of effect upon the brain, up to confirmed insanity, as the result of continued indulgence in alcoholic stimulants, thus showing that alcohol taken into the system acts as a poison. There are two things in all cases necessary to health—a healthy state of the organs from a due performance of the nutritive operations, and a healthful condition and due supply of blood. There can be no question whatever that blood continually adulterated with alcohol cannot be suitable for the maintenance in a healthy state of the organs of the body. To the maintenance of health certain stimuli are needful, and according to Spencer Thompson they have been classified as follows:—

TABLE No. 4.

Table of STIMULI, after *Spencer Thompson.*

I.—*Ordinary Stimuli :—*

Physical—Heat, Light, Electricity, Magnetism, Air, Aliment, Muscular Motion.

Mental—Occupation of Mind with some definite Object.

II.—*Extraordinary Stimuli :—*

Physical—Alcohol, Tea, Coffee, &c.—Atmospheric Changes.

Mixed—Sexual Stimuli, Dancing and Athletic Sports, Travelling, Exciting Scenes.

Mental—Hope, Joy, Love, Anger, Social Intercourse, Argument, Music, Eloquence, written or spoken, Religion, &c.

III.—*Superfluous Stimuli*, Class No. 2, abused.

It must not be supposed that all these are requisite to health, on the contrary, the most perfect health may be maintained without many of them; they are only placed here according to a classification of stimuli, not as essential, and though alcohol is placed by Spencer Thompson among the extraordinary stimuli, health may be best maintained in the vast majority of cases by its disuse. Many substances actively poisonous might have been placed in the physical subdivision of extraordinary stimuli. For my purpose it is not needful that we pursue this investigation to any greater length. I am desirous of showing you general principles rather than dilating upon particular diseases. Learn, then, that the first action of a moderate dose of alcohol is stimulant; that if continued it speedily affects the brain, for which some think it has a special affinity; that the cerebrum or brain proper is first affected, as evidenced by the mental confusion to which I have referred; that the part of the brain connected with voluntary motion and sensation next becomes impaired; then the medulla, when there is a great risk of a fatal issue. The cause seems to be some chemical or chemico-vital action upon the blood, whereby deleterious materials which ought to be eliminated, are retained. The order in which alcohol acts as regards severity seems to be (1) the brain and spinal cord; (2) the respiratory organs organs; (3) the liver; (4) the stomach; (5) the kidney; (6) the heart and arteries. This, however, is questioned by Dr. Anstie, who seems to think that the order is not known. Rather than dwell minutely upon all diseases directly or indirectly traceable to alcohol, and which are classified (*see Table No.* 3), I will select some as examples—say diseases affecting the brain, the liver, and the stomach. It is not to be wondered at, that an organ so delicately formed, and so susceptible as the brain, should suffer from the continued use of alcoholic stimulants. When alcohol is in excess in the blood it keeps it in an unhealthy state, and, from the presence in it of effete materials, the blood cannot, of course, supply to the brain those healthy materials requisite for the due performance of its functions. Diseases in the brain may be in part due to alcohol acting as an irritant—partly to the ingredients of an unhealthy kind which alcohol leaves in the system—partly to an impeded circulation, and perhaps also to a brain being formed through the presence of alcohol of ill-assorted

materials, which predispose it to irregular and abnormal action. Intoxication in its more violent shape, is nothing less than a transient paroxysm of insanity. Then there is *delirium ebriosum*, drunken madness, which sometimes follows at once after a debauch, and is positive madness. Its symptoms are—the head hot, the pulse frequent, and the temper extremely violent. In this state a man is apt to do injury. The attack generally subsides after a time if the patient be kept from fatally injuring himself. Then *delirium tremens* frequently attacks the habitual drunkard, who, when suffering under it, has those incessant tremors that give the disease its name. There is scarcely any heat of the head, no flushing of the face; the skin is cool and moist—nay chilly; the pulse is frequent, small, and weak. The temper is irritable, but not violent, the patient evinces constant anxiety and apprehension of danger, suffers from want of sleep, frightful dreams, and delusions of a disagreeable nature. *Oinomania*, or, as it is frequently called, *dypsomania*, is another disease in which the patient has an irresistible propensity to swallow stimulants in enormous doses, whenever and wherever they can be procured.

Finally, we have as the result of drinking alcoholic stimulants, mental debility in the offspring of the drinker. The fact that hereditary predispositions and tendencies to disease exist, is well established—they are found in relation to consumption, scrofula, gout, dyspepsia, and other diseases. So it is with drinking. The drunkard entails mental disease on his children; as Dr. W. A. F. Browne says, his daughters are nervous and hysterical, his sons are weak, wayward, and eccentric. The report on idiocy made by Dr. Howe to the legislature of Massachusetts, shewed the habits of the parents of 300 idiots, and out of these the parents of 145 were habitual drunkards. An analysis of 5049 cases as seen in the annexed Table *(No. 5)*, shows the proportion of insanity caused directly by intemperance; to which many cases confirmatory of the above results might have been added.

TABLE No. 5.

Table, after *Dr. Williams*, showing proportion of Cases of INSANITY caused by the abuse of Spirits:—

Asylums at	Total admissions.	Proportion caused by Intemperance.
Charenton	855	134
Bicètre and Saltpétrierè	2012	414
Bordeaux	156	20
Turin—1830-31	158	17
Turin—1831-36	390	76
Gard	209	4
United States	551	146
Palermo	189	9
Caen	60	16
Dundee	14	4
According to M. Parchappe	167	46
„ M. Boltex	288	54
Total.....	5049	940

Returns from 98 Asylums in England give the proportion of Cases of Insanity from Intemperance, from one-seventh up to one-fourth of the whole number of Cases occurring.

It is estimated that about one-sixth of the cases of insanity in England spring from intemperance. So also in the cases of the lungs and liver, it might be shown that the use of alcohol predisposes to disease. This is especially the case as regards the liver, and most markedly so in hot countries, as the following table shows ;—

TABLE No. 7.

Showing tendency of Alcoholic Stimulants to produce Liver Disease: from returns made concerning Cameronian Regiment in Bengal.

In 1832 1833	Consumption—from 10 to 14,000 gallons per annum.
1834	Mean number of cases of Liver Disease.....128
1837 1838	Consumption—2 to 3,000 gallons per annum. Mean cases of Liver Disease.....68 or 66

There is one form of disease of the liver called "The gin-drinker's or hob-nail liver," which is generally supposed to be due to inflammation set up in the organ through the presence of some alcoholic stimulant, which inflammation is followed by contraction, and shrivelling up of certain parts of the structure of the liver, giving to it that characteristic appearance so well known to pathologists. But enough has, we presume, been said on this point ; it were easy, did occasion require it, and were opinions divided on this matter, to take you over almost every organ of the body, and demonstrate to you the pernicious effects of alcohol in continued and excessive doses. It will at once be seen, then, that the ingestion of alcohol into the system is productive of most baneful results. Great allowance may be made for inaccuracy, but no amount of statistics can ever sweep away the sadly too expanded table of diseases attacking the human system directly or indirectly traceable to the seductions of the liquor traffic. Place alcohol where you please,—make its action vital or chemico-vital—prove or disprove its destruction or decomposition in the system—the fact remains that it is in no sense an essential to perfect health, as numerous water-drinkers and insurance companies can testify. We do not say in every case it is hurtful ; but when you have said this, you have gone as far as you are warranted in going. And surely it is a poor argument in favour of the liquor traffic to say it is not hurtful. Be it remembered, I am now speaking of men in health. Not hurtful ! I am not aware that it would be decidedly hurtful to administer chloroform to a man every month ; but we should never think of so doing. But we advance, and assert, as I think I have clearly shown, that it is productive of disease—disease of the cerebro-spinal axis, the heart, the liver, and the lungs ; and I have shewn that the disease is not confined in every case to the unfortunate victim, but reproduces itself in others who, in their turn, born diseased, fall into deeper depths. Why, sir, it does seem strange that men should use every legitimate means for the suppression of other diseases, and that all who conform not to the laws laid upon them are punished—that this principle should extend to the regulation of our factories, and to the suppression of the nuisance of smoke ; that we should be endeavouring by public effort, to put down other diseases, and yet make no attempt to arrest the progress

of this. I hold that no man has the right to increase the taxation and the disease of the country, and that we are bound to step in and remedy what is a national curse. If there is one argument that should weigh with men more than another, it is, that in excessive indulgence they are sowing the seeds of an awful harvest of insanity, disease, and crime. If men would in some measure learn that they are bequeathing to their children a drunkard's grave, then we apprehend they would turn from the abuse of alcohol with loathing and disgust.

In the above consideration of diseases springing from the ingestion of alcohol it will be observed that nothing has been said as to inflammatory diseases of the brain—to apoplexy and epilepsy: much, tending to establish the connexion between these diseases and the use of alcohol, might be adduced. Nothing has been said as to criminal conduct: in an analysis of from 7,000 to 8,000 cases of crime in Edinburgh and Glasgow, four-fifths of the whole number of offences were due to the use of intoxicating liquors. An important view of the relation of drinking to disease is obtained from the following table :—

TABLE No. 8.

Per centage of Sickness in Cameronian Regiment.
Consumption of Spirits, from 2 to 3,000 gallons per annum.

1838	Temperance Society.	Remainder of Regiment.	Sick, per cent. Temperance Society.	Sick, per cent. Remainder of Regiment.
Jany.....	1953	2569	2·54	8·15
Feb	1840	2639	2·27	8·27
March.....	1542	2879	2·94	8·66
April	1359	3081	5·47	10·28
May.....	1282	3161	5·24	10·66
June.....	1364	3065	4·55	10·35
Average ...	1556	2899	3·83	9·39

Advantages in favour of Temperance—fewer than 4 men in 100 sick, against more than 9 drinkers in 100 men.

Were further proofs requisite, they might easily be adduced, but the connexion between alcohol and disease is now established beyond the possibility of doubt.

I now pass to a consideration of the second part of our subject:—alcohol as a curative agent. On this matter there are waves of medical opinion. It is scarcely needful for me to remind you that ever since medicine was placed on a scientific basis, there have been masters whose positions have enabled them to exert a very widespread influence on the minds of those with whom they have come in contact. Schools have been formed, the pupils of which have been indoctrinated with views widely different, and the proverbial disagreement of doctors has been amply verified. Views so dissimilar and opposed cannot all be correct, and it becomes matter of gravest importance to arrive at something like sound conclusions, not only for the sake of the medical profession, but for the sake of health and life. The exhibition of stimulants in the treatment of

disease I look upon as in part a re-action against the depleting measures formerly in vogue, when the lancet was used in almost every form of complaint, from toothache to hydrophobia. In those times persons in perfect health were not satisfied unless the vernal and autumnal phlebotomizings were performed. Nor must we omit to mention that such persons in spite of their depletion seemed to enjoy better health than most now. Nor must the consideration be omitted that diseases have apparently changed in type during the last half century, almost no two epidemics being precisely alike as regards severity. Does this point in the direction of some deterioration going on in the constitution, or what? For our purpose it is not needful to know who first introduced the stimulant and liberal treatment. The name of Dr. Todd has been most conspicuous of late years as the champion of high doses of alcoholic stimulants in acute diseases. I look upon Dr. Todd in the light of an expositor, borne on the current of a routine system; his practice was the routine of stimulation. It may just be said with reference to Dr. Todd that he, in a lavish manner, advocated the use of stimulants almost in every form of acute disease, without reference to age or sex. In cases under his direction, from ten to forty ounces of brandy were administered within twenty-four hours; in one, a girl of seventeen received six drachms of brandy every hour. As the masters of other schools, I might select Drs. Anstie and Gairdner, though for my purpose I prefer adhering to Dr. Gairdner, whose views on alcoholic stimulants I had the honour to hear when delivered. Bear in mind that we are always subject to inaccuracies in our comparisons of different kinds of treatment, but if over a number of cases, in different places, the very moderate stimulation in fever has the advantage, then clearly respect for the lives of our fellows commands us to adopt it. I do not here mention all the diseases in which alcohol is applicable, as this would occupy too much time, but I select an acute disease the symptoms of which are well defined, occurring in large proportions—known to be very severe—and if I in measure shew the benefits of limited stimulation here, the inference seems warranted that moderate stimulation, if stimulation is employed at all, should be the rule.

TABLE No. 6.

Table shewing averages of Wine and Spirits employed in the Glasgow and Edinburgh Fever Wards, (giving the quantity in Ounces) ordered for each Patient in 24 hours:—

	Ounces, per Patient. ordered in 24 hours.	
Under Dr. Gairdner.	Wine.	Spirits.
Average of five years in Edinburgh	1·314	0·137
Maximum Average of 1848.....	1·734	0 346
Minimum Average of 1856.....	0·715	0·069
362 Glasgow Cases, 1862-3.....	0·261	0·214
269 Glasgow Cases, 1862-3.....	0·115	0.121
Two Years in Glasgow Fever Hospital— under various Physicians	1·304	0.229
Average.....	0.907 oz.	0·186 oz.

For twenty days of Fever, 18·140 oz. Wine, and 3·720 oz. Whisky.

Table, after *Dr. T. W. Gairdner.*

Typhus Fever, 269 cases—average allowance to each, during 20½ days' Fever: 2¼ oz. Wine, and 2½ oz. Spirits—Mortality.....	10 per cent.
Typus Fever, 1861-2, 1289 cases—average allowance to each, during 20½ days' Fever: 40 oz. Wine, and 7 oz. Spirits—Mortality.....	17½ per cent.!
Typhus Fever, 189 cases, under 15—*No stimulants*—less than	1 per cent Mortality.
Similar cases in Glasgow Infirmary, 1861-2 - with stimulants.....	6 per cent. Mortality.
Similar cases in Epidemic, 1847,—with stimulants.....	9 per cent. Mortality.
Similar cases in the London Fever Hospital with stimulants.....	12 per cent. Mortality.
Similar cases under *Dr. Todd*.....	35 per cent. Mortality!!

Dr. Gairdner states that in 595 cases treated by him, the mortality was 11·9 per cent., whereas, under liberal alcoholic stimulation, the mortality for all ages was from 17 to 20 per cent.: and under the same system the mortality in hospitals was about 18 per cent. But to cite figures still more to the point: out of 189 persons under fifteen years of age, treated without one drop of alcoholic stimulant, the mortality was less than one per cent; while in the same kind of cases at Glasgow Infirmary, treated with stimulants, the mortality was 6 per cent.; and in the epidemic of 1847, 9 per cent. At the London Fever Hospital, still under alcoholic stimulants, the mortality was 12 per cent., and under Dr. Todd, according to his own statement, from 30 to 35 per cent.!! In fact, Dr. Gairdner is strongly of opinion that to the young in typhus, and very probably in most other fevers, stimulants are not less than actively poisonous and destructive, unless administered with extreme caution, and in most special and critical circumstances. From 1848 to 1863 Dr. Gairdner's treatment shows the same favourable results, whereas the treatment of Dr. Todd shews an alarmingly high rate of mortality. Pointing in the same direction, are the observations of Dr. James B. Russell, who says "Alcoholic stimulants are a two-edged sword in the hands of the practitioner. If employed within the range of their stimulant action, which is variable in every case, they are helpful,—if pushed beyond it into their narcotic action, they impair the vitality, which it is our duty to augment. Even as pure stimulants they may be used unnecessarily, so as to push and urge the labouring energies of the system, maintaining an unnatural excitement in a journey which could with leisure have been more easily accomplished." It is objected on the part of some that these cases in different places do not afford a fair parallel; *e. g.*, in a large place like London you are liable to have great numbers of inveterate drinkers brought into hospital, whose chances of recovery are

much lessened by their previous intemperate habits. I admit this at once; but the same liability exists in smaller cities, such as Glasgow and Edinburgh, and surely this alone is not sufficient to account for the very high rate of mortality under Dr. Todd. But the point is proved conclusively by an analysis of *Table No.* 6, which shows a decided balance in favour of very moderate stimulation, because in the same hospital, where the cases were not selected ones, and where differences of treatment existed, it will be observed the balance is in favour—and that decidedly—of moderate stimulation. There is no risk of error here from either type of disease or difference of habits. Alcoholic stimulation does not directly augment the developed force of the system. Even Dr. Anstie, who may be looked upon as the champion for the defence of alcoholic stimulation, admits the narcotic action of alcohol, and lays down rules for its administration, which, if closely followed would, I apprehend, very much modify its medicinal use. These rules are the careful watching of the effect of the alcohol on the pulse, and of its elimination by the kidney. Dr. Gairdner's conclusions, stated in in the *Lancet*, are to the following effect:—

1st. "That it is possible to reduce the Mortality of Typhus Fever while withholding a large portion of alcoholic stimulants usually given.

2nd. "That this diminution may take place, at all ages, but is most marked amongst the young.

3rd. "That while at all ages, the administration of stimulants ought to be very strictly guarded, as likely to prove injurious when in excess, it is demonstrable that young and temperate persons may be advantageously treated, *i.e.*, treated with a diminished Mortality, without one drop of wine or spirits being given from beginning to end of the Fever, except in the rarest casualties.

4th. That the principle of giving stimulants as a matter of routine in Typhus, *i.e.*, at a certain stage of the disease, with but little regard to individual peculiarities, ought to be at once abandoned.

5th. That an approximation can be made to a more direct doctrine on the subject, though farther researches are still required.

6th. That there is reason to think that in most hospitals, as well as in private practice, a very large needless expenditure is incurred through neglect of these facts, a consideration which, though secondary in importance to others, is by no means to be set aside as irrelevant.

From a contrast of Dr. Gairdner's treatment with that of Dr. Todd and others, only one conclusion can be drawn—that at present the balance is decidedly in favour of limited stimulation; in some cases of none at all. Our inference, then, would seem to be this: if in an acute, severe, and protracted fever like typhus it must be given in very moderate doses, and these doses strictly guarded, how much more carefully should it be administered in other diseases of a less formidable kind. If you ask me the question—is alcohol inadmissible in every case?—I answer at once it is not. It is as useful, I believe, in its place, as arsenic, opium, and prussic acid. There is a legitimate medicinal use for alcohol, and as yet, I do not hesitate to assert, there is not another medicine in the pharmacopœia better in its place; but who would think of employing arsenic or prussic acid habitually? No intelligent practitioner, I am convinced.

And while in the present state of our knowledge I defend its exhibition, I am not sure but we may yet discover what will supersede it. When, however, you have said that in its favour, you have done it ample justice; and I for one am certain if it was kept on the shelf with opium and prussic acid, there would not be a temperance or total abstinence society in existence.—Do not suppose that I advocate the entire abolition of alcohol in every case of fever. I have no sympathy with those who deprive their patients of needed support; but what I want to shew is, that excessive stimulation in pyrexial diseases, in place of supporting strength, poisons the system by the retention in the blood of materials inconvertible into blood and tissue, arresting those vital changes which are so essentially necessary to preserve the balance, as Dr. Gairdner says, between "waste and supply." Routine in this matter must be condemned and avoided. Administer alcohol by all means, where alcohol is needed, but let us be assured in the first place that it is so. We apprehend, that if only administered where needed, not one patient in ten would either have it prescribed or take it. A routine practice in its exhibition is most dangerous and unprofessional: and though no total abstainer in the sense of a member of any society, I would be very chary in prescribing it in disease. Let those who need it have it, but make out a scientific case for its exhibition. Were it bitter as strychnine, unpalatable as quinine, and sickly as antimony, we should not have one tenth part of the present quantity either prescribed or taken. Without pursuing its medicinal application in every form of disease, I would merely refer you to the latter part of *Table No.* 3, where a view is obtained of those diseases in which the moderate or medicinal (for the term moderate should be used in this sense) use of alcohol is legitimate. There are certain cases in which its use is supposed to be highly beneficial—such as in cases of severe mental or bodily fatigue, in cases of exposure to heat or cold—though how its use in two cases so opposite as the last-named can be maintained, I cannot imagine; perhaps some one contending for its use in such cases may be able to throw some light upon this anomalous exhibition of alcohol. Suffice it to say here that scientific opinion more and more tends to overthrow such reliance on alcohol—by proving that in such cases it is not strength-giving, but merely a temporary stimulant, which is followed by reaction, in which there is increased depression. There are certain views which I think may be thus broadly stated:—(1) Indiscriminate exhibition of alcohol is most dangerous and unprofessional. (2) By some this practice is decidedly adopted. (3) The young generally require less alcoholic stimulation than the old,—the temperate than the intemperate. (4) Drinking has not unfrequently been engendered under medical sanction. This matter deserves very serious consideration. (5) Drinking is often continued when the disease is gone. Who that had been lame would think of continuing to use a crutch when the lameness was gone? And yet this is a parallel case. Drinking thus continued often protracts recovery. (6) The tendency of increased investigation points in the

direction of less stimulation. This seems to me to be the result of Dr. Anstie's inquiries when he directs the practitioner to mind the pulse, and renal elimination. (7) It is the imperative duty of every practitioner exhibiting alcohol as routine practice to cease. (8) The great bulk of diseases are most effectually met without alcohol. (9) I believe that moderate indulgence shortens life. (10) Apart from this, every true man must hail with satisfaction, every step towards a reform of the drinking habits that are characteristic of Englishmen.

How stand the public of England to drinking customs?

TABLE No. 9.

Consumption, in Gallons of ALCOHOL, *per head* of all the population, in Spirits, Wine, Malt Liquors, Cider, &c.

In England.	In Scotland.	In Ireland.
In 1861.....1·870	1 370	0·750
In 1866.....2.218	1·492	0·815
Increase, over 18½ per cent.	under 9 per cent.	8 per cent.

The quantity of *proof Spirit* consumed in Intoxicating Liquors, in England, is equal to near 4½ gallons for every man, woman, and child; in Scotland, near 3 gallons; in Ireland, about 1⅔ gallon. More is consumed, per head, in all the three kingdoms, than five years ago; but the English increase, for each person, is *double* that of Scotland and Ireland! !

Is it not notorious that the white man has carried his drinking habits with him into many regions of the uncivilized world, whither his restless spirit has carried him? Is it not true that in his errands of love and mercy to a perishing world, his great enemy has been this same consuming alcohol. But in so speaking we should soon diverge from the strict nature of the present Lecture. How stands it in Bradford? Have we any signs of improvement?

TABLE No. 10.

BY THE SECRETARY OF THE SUNDAY CLOSING ASSOCIATION.

BOROUGH OF BRADFORD.

	1854	1861	1864	1866	1867
Population	...	106,218	...	suppose	125,000
Licenses granted by Magistrates to "Licensed Victuallers"...	134	139	...	139	142*
*Including 4 new Licenses.					
Granted by Inland Revenue Officers, to Beersellers, "to be Drunk on the Premises.".	...	254	274	301	345!
		393			487
Granted by Inland Revenue Officers, to Beersellers, "not to be drunk on the Premises"	...	very few	...	...	139
From Inland Revenue to Wine-sellers	...	none	...	...	19

	1854	1861	1864	1866	1867
Ditto "not to be drunk on the Premises".....	...	none	...	...	9
Total Licenses for Bradford, say	...	400			*654 !
*Besides the numerous Dram-shops, added by Publicans, and the new "Occasional Licenses".....					
Total Licenses for *Yorkshire* ...	...	10,259	...	...	13,271
Increase *during the last Six Years* of Population in this Borough, say about.....	...	...	... 17 p. ct.		
Of Publicans and Beersellers "to be drunk on the Premises"	...	...	... 24 ,,		
Of all Liquor Licenses	...	...	... 63½ ,,		
Of all Licenses in *Yorkshire*....	...	...	... 29⅓ ,,		
Ditto *Lancashire*...	...	...	... 17½ ,,		
Yearly increase, in this Borough, of Beersellers, "to be drunk on the Premises," during 3 years, 1861-4	...	...	... 2⅔ ,,	over 1861.	
Ditto during 2 years, 1865-6	...	...	... 13½ ,,	over 1864.	
Ditto during 1 year, 1866-7	...	...	... 14½ ,,	over 1866.	
Increase, *last year*, of Beer-sellers, "to be drunk on the Premises," in this Borough, and open on Sundays	44 !	...	... ...		

SUNDAY SCHOOLS, IN BRADFORD.

At one time, on Sunday Evening, 2457 adults, and youths of both sexes, may be found drinking in 130 of the Licensed houses. This was recently ascertained to be the case, by actual visitation, between the hours of 6 and 10 p.m The houses visited were a fair average. There are, therefore, 9200 persons thus engaged at one time on Sunday evening, in this borough. How many times is this number renewed during the hours of sale? What an antidote to religious instruction and self-improvement!

Happily there are temperate men, and total abstainers not a few, who have risen to a full appreciation of the alarming evil which must either be overcome or overcome us, and in turn destroy the youth of our country. There are earnest workers not a few who have noted with feelings of alarm and pain the rapid growth of the liquor traffic, who have thrown all their energies into the work of its suppression, and we are not astonished that they have done this at times with more than a reasonable zeal, they have seen this cankerworm blasting the young, eating out all that is noble or lovely in the life, and converting those who were once the joy and pride of happy homes, into the foul centres from which emanate many unclean things. But we must narrow our position with regard even to the general question of the suppression of the liquor traffic. The voices which go from this lecture room, and from this platform, are supposed to be in favour of the complete suppression of the liquor traffic on Sunday; to that I say heartily, amen. Have we any grounds then for plead-

ing for this from the facts elicited this night, or must we retreat having made out no case for the position we occupy. I think there must be something pretty closely approximating to wilful blindness in those who would assert that we have not. Have we not seen that alcohol is not in any special sense a food, that it acts according to increased doses, as an excitant, a stupefiant, a strong and certainly fatal poison? Have we not seen (and this can and has been proved by an overwhelming preponderance of testimony,) that it is productive of a large amount of disease, that it is not necessary to health, and that as often administered in disease it is actually poisonous, and that its moderate use has a limited application? Has not a picture been presented to you of its effects upon the brain so as to provoke insanity in its most distressing and awfully hopeless forms, where we have all kinds of psychical aberration, from acute mania, suicidal-melancholia, general paralysis, epileptiform-seizures, down to that form in which there seems to be but one step between the man and the beast, and where slavering idiocy closes the scene? Allowing, sir, a liberal and by no means intemperate margin for its legitimate use, I ask have we not strong grounds if we take no higher than the physical amelioration of our race? Am I, as a citizen, freed from burdens which the law lays upon me for the support of those who, but for the liquor traffic might support themselves? I know that I tread here upon ground on which many battles have been fought, and I trust many more, for this is one of those passes which the advocates of temperance and total abstinence must ever hold. I know farther that in so speaking, I incur the displeasure of many men. But my quarrel is not with men, it is with a system, and with a system too, which festers in the very vitals of society, blasting all with which it comes in contact. Surely it is my duty as a Christian minister to lift my voice against the Sunday traffic. Name its suppression and you are at once assailed from many a quarter with the cry "Liberty for every man, and free trade for all." But it is the opposite of free trade, it is the destruction, I might almost say, of a monopoly that we want, where monopoly is, free trade dies.

It is objected we legislate for a class—never was there a greater mistake; we legislate for the world. Would you call that class legislation, which contemplates mankind? It is said you will increase drinking; give it a trial, and we fear not the result. Why should the liquor traffic be placed on another footing than traffic in clothing, bread, &c., which are necessaries? Why more advantaged, —though, thank God—it is only advantage to appearance; surely we must bestir ourselves. Then would come in some and say you interfere with my liberty—am I not to enjoy myself as I choose. O, liberty! how many excesses have been committed under thy sacred name. Is it not, I ask, a monstrous abuse of it, when men seek to keep themselves and their children under misery, degradation, and ruin; it is slavery, and that, too, of its worst form. I hold firmly that no man has a right to make himself a nuisance, or to throw his children upon society, a nuisance and a pest to the social welfare

of the community; and that no system, if covered with the provisions of our Statute Book, should be permitted to remain which sanctions such conduct. Society has undoubtedly a right to protect itself, and if all means fail we must have compulsion. Do not the laws of our country proceed upon this principle? Have we not many laws which we are not accustomed to look upon as destroying our liberty? *e.g.* those relating to Vaccination, Registration, Nuisance Removal? Why not a nuisance act here? At this very moment there is a shaking throughout our land, and men of every variety and shade of opinion—men who have been too long estranged—are met to discuss in a spirit of mutual concession and forbearance how a measure of national education may be obtained. How the children of those who are unable or unwilling, or both, may share in the blessings of a common education. 'Tis a noble sight, and one which must gladden the heart of every true lover of his country, and what, sir, is the principle almost universally recognised. "That to effect the end in view, this education must in some sense be compulsory." Why, then, should we not have some compulsion in this education? for it is only education in another form. We cannot certainly make men Christians by Act of Parliament, and we are not quixotic enough to think so; but we may do much towards making men respect themselves and their children; much to remove the great nuisances of our times, which affect our morality and religion. And, sir, if there is in this either violation of free trade or liberty, I confess that for one I cannot see it. I do not for one moment dream that the suppression of the liquor traffic on Sunday, would reform entirely the drinking customs of our time, any more than I believe the application of water will cure all disease. But we do not reject water because it is not a panacea. We use it for the many purposes for which it is good. Sunday suppression will only be an aid. I wish the publicans would take the initiative.* At present, I take no higher grounds than that the Sabbath is a day of rest. But if man drinks, it is not rest; it is work—work severe and unproductive, for the brain, liver, kidneys, &c., are all stimulated to abnormal activity. To the members of the Sunday Closing Association, I say most heartily, God speed. Your influence is a growing one, and if we believe the statements of John Bright you must ere long prevail. To every man I appeal to aid in bringing this about, so that no longer on Sundays we may have our

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* With reference to publicans taking the initiative in this matter, it has come to myknowledge since writing this lecture that a movement has been started in Liverpool, and that some of the leading publicans have signified their willingness to close on Sunday, if they have not already commenced. A case is also known to me in Bingley, where a leading hotel keeper refuses either to open his house or supply drink on Sundays, giving thus his family and servants that rest which every man should enjoy on "one day in seven." Such cases are worthy of all praise, and we would earnestly appeal to all publicans to act generously in this matter; timely concession here would do much, we are sure, to break down certain class distinctions, to aid the good cause, and to promote family, as well as public happiness.

streets filled with numbers of besotted, imbruted men, who reel and stagger—like indeed, almost anything but men; but when Sabbath comes round, it may indeed be a day of quiet rest, when Sabbath bells with pleasing chime lift the soul upward to a land, the rest of which culminates in unceasing activity. At this moment earnest and noble minds are looking seriously upon some of the great political questions of the day, and not a few are directing their attention to the question under discussion. There is a shaking off of that torpor, mental and religious, which seems to have crept over us. Is it not the duty of every man to join in rescuing thousands from the wretchedness of a drunkard's life, and the miseries of a drunkard's grave. Britain has long been pointed to as the land of liberty and gospel light—her liberty is being threatened, and her light is being obscured. The smoking wick of intemperance has sent up a thick cloud. Join, then, in an effort to maintain her liberty, and keep pure her light. There is no higher work than the rescuing men from the slavery of lust and degrading habits, and this I honestly believe is the sole aim of that society whose claims I plead. We cannot deny that intemperance is a national sin; being so, every lover of his country should, nay, must seek to obliterate the foul mark which it has made upon the fair escutcheon of England.

Henry Gaskarth, Printer, Westgate, Bradford.