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Caswell (Ed. T.)

ADDRESS

DELIVERED AT THE

ANNUAL MEETING

OF THE

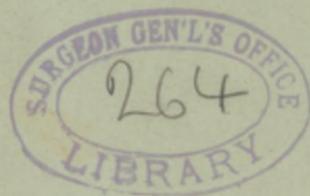
RHODE ISLAND MEDICAL SOCIETY,

June 11th, 1879,

BY THE PRESIDENT,

EDWARD T. CASWELL, A. M., M. D.,

OF PROVIDENCE, R. I.



PROVIDENCE:

E. L. FREEMAN & CO., PRINTERS.

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*Gentlemen of the Society:—*

We are once more assembled to celebrate this, our annual festival, and it gives me pleasure to welcome so large a number of our own members, and the delegations from other similar societies, and from the distinguished association,\* which is now holding its annual session in this city. Your Secretary has shown you that not a few of those, who have been accustomed to join with us in these gatherings, have during the past year been called to their final account. Among those was he, who a year ago to-day was the oldest member of our Society,† who for more than half a century had gone in and out among us; who had held important offices in your organization, and discharged faithfully, for a long period of years, the responsible trusts committed to his charge. These vacant places admonish us all to emulate the virtues of those that have gone before us,—and “to work while the day lasts.”

In this connection I trust you will pardon me, if I seize the opportunity offered to state, in anticipation of the subject which I propose to bring before you, some points in connection with the management of our Society, in which I think there is room for improvement. I venture upon these suggestions in all

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\*The American Association of Superintendents of Asylums for the Insane.

†Dr. S. Augustus Arnold.

modesty, and can only say that they have long been in my mind. Although I do not propose at the present time any special action, they may yet find a lodgment in your own thoughts, and at some later day bring forth fruit.

Our Society is formed for the purposes of mutual improvement in our profession, and for social intercourse. It is the first of these objects that is ever dominant, and it seems to me that it is the one wherein we more especially fall short. There is not that readiness on the part of our members to contribute, each one in his turn, his own share to the general interest of our meetings. The experience of the past year has shown me that it is no easy matter for your presiding officer to provide papers and subjects for discussion for each quarterly meeting. Members are not sufficiently ready to respond to invitations to prepare papers; they do not come forward with alacrity to discuss those that are presented, nor do they bring enough of their own experience to the knowledge of their fellow-members. I trust you will not misunderstand my words, which are dictated by no captious spirit, but rather by the desire to arouse each and all of you to emulate each other in adding your own mite even, if no more, to the general spirit of our meetings. There is no one of us who cannot, from time to time, bring something that would interest and instruct us all. If we could free ourselves from the idea that the chief objects of our existence are to amend our By-Laws, though it must be allowed they sadly need it; to discuss questions of ethics, all of which are summed up in the Golden Rule; and to deal with questions of parliamentary law; if we could give the time that has been allotted to these matters to scientific subjects, we should, I think, be greatly the gainers. Of course these subjects must occupy our attention to a degree, but I would have them restricted to the smallest possible limit. And this brings me to a second suggestion.

It has for a long time been a source of great mortification to me, that at this, our annual meeting, when we expect to be honored with the presence of delegates from other societies, we have so little to offer in the way of intellectual entertainment.

To have gentlemen come from Maine and New Jersey, and all of the states between, and sit here while we ballot for officers, and go through the long list of our reports of committees; to have them listen, as they have more than once been obliged to do, to our discussions of amendments to our By-Laws, and various matters of a purely local interest, and then to have them leave without hearing one single word on those matters which pertain to our profession, it is, as I say, mortifying. As matters now stand, it seems in a certain degree inevitable.

The machinery of this Society has now been running nearly seventy years, and we may well suppose that by this time some improvements have come to hand, or that some parts have been worn out and need to be replaced. When this Society was organized it numbered forty-nine members, and now we have one hundred and seventy-five. We have, I think, outgrown the modes and methods that served a good purpose in our infancy. It would probably be useless to suggest the idea of our annual meeting embracing two days, one for business and one for scientific papers. The State Societies which adopt this plan, have, I believe, but one meeting in the year, while we have quarterly meetings. I am not prepared, nor is this the fitting time to present any matured plan, but I have thought that if all the routine business of the Society, including the election of officers, could be delegated, as it is in Massachusetts, Connecticut, and New Jersey, to a smaller body, as a committee, whose meeting should be in advance, and whose report should be final and accepted, it might be greatly to our advantage. And I say even this much with great diffidence, because I know how delicate a matter it is to deal with. I wish especially, however, to draw your attention to the subject, and trust that it may dwell in your minds, until some wise and acceptable modification of our present system may commend itself to all of us.

There is but one other point which I wish to bring to your notice and that is whether we could not with advantage change the day of our annual meeting to the second Thursday in June instead of the second Wednesday. I know that we have had to

submit to several changes hitherto in order to avoid the Commencement of Brown University on the one hand, and the meetings of the American Medical Association on the other. But now for a series of years we have held our meeting on the same day with our neighbors of the Massachusetts Medical Society. Our proximity would naturally lead to something more than the formal representation, which now exists, but as it now stands they can neither come to us, nor can we go to them. I am sure that many of us covet the opportunity of attending those extremely interesting meetings, and many of the distinguished members of that Society have kindly expressed the wish that they might be present with us. I leave this suggestion therefore, with the others for your future consideration, and with the hope that you will not think that I have thereby transcended the privileges of my office, I turn from these matters and pass to the subject which I have selected for your consideration.

There are at times waves of popular feeling, which passing over Society, stir it to its very depths. There are crises of public sentiment, which turn the tide of opinion, away from the deep worn channels, in which it has run for generations, into fresh broad openings, where it flows with ever-widening stream. Such seems to be at the present moment the movement towards total abstinence in England. There have been, from time to time, outbursts of energy on the part of those who have had these principles at heart. But at no time, I fancy, has there been any such united action pervading all classes of society, the rich, and the poor, the noble and the commoner, the professions and the tradesmen, as is seen at the present day. Canon Farrar recently stated that four millions were enrolled in England under the banner of total abstinence, and new additions are daily being made. The prominence which the subject takes has led to an expression of opinion on the part of our own profession, and numerous articles by different medical men of an acknowledged position have appeared in the pages of the *Contemporary*, and other periodicals. At the same time two or three new works on the subject of alcoholism have been brought out, both in England and in Germany, presenting the subject from a strictly

scientific point of view. I have thought, therefore, it might be well to take a survey of some of these various contributions, and see, if we can, what is really the most enlightened view of these subjects at the present day; what there is that may so far commend itself to the sound common sense of this generation as to ensure its hold upon their life and conduct. I propose, therefore, to consider the present phase of the

#### ALCOHOL QUESTION FROM A MEDICAL POINT OF VIEW.

I do not, however, intend to read you a temperance lecture, nor to present myself as the avowed advocate of any theory. It is not my plan to depict the horrors and crimes that are laid at the door of alcohol. As professional men, we come in contact with it in all its phases, and we know perhaps, better than others, the extent of the direful woe which its abuse entails. Surely enough too, each one of us, I presume, can point to cases in our own ranks, where the most brilliant promise of success, the brightest talents, and golden opportunities have been lost forever by the curse of alcohol. With all the misery and crime that stares us in the face, it becomes us as scientific men, as members of the body politic, as friends of our race, to give the subject most earnest heed, to determine what shall be the rule of our private life, what shall be the course we recommend to our patients, and what the means are, by which the terrible evil of intemperance — an evil which has grown amazingly in the last twenty years — may be opposed. It must be admitted, at the start, that there is no subject outside of theology, in which the holders of different opinions have been more violent in the defense of their own side, more virulent in denouncing their opponents. There is no subject in the discussion of which more contradictory statements have been made, all of which have been apparently supported by experiment. And there is none in which the rule for each individual is perhaps more potent. Let us endeavor to arrive at some conclusion as to the use of alcohol in health, and in disease, and to canvass some of the more recent views advanced by medical men.

At the outset of this discussion, I need hardly remind you of the almost universal use of alcohol, in some form or other, to a

greater or less degree, among nearly all the nations of the globe. Peoples, civilized and enlightened, semi-civilized and barbarous, beneath the equator and under either pole, all, with few exceptions, have recourse in one way or another, to alcohol in some form. The facility with which alcohol may be obtained from numerous cereals, legumes, and other vegetable products, renders capable the supply of this demand. From this widespread use some have drawn the conclusion that it was a necessity; that it supplied a want. Additional support for their views is found in the fact that those nations which do not use alcohol, as for instance the followers of Mahomet, have recourse to other substances, such as opium, hasheesh, and the like, to supply the want that is felt.

I shall not undertake to describe alcohol to you, nor venture into the labyrinthine paths with which modern chemistry has hedged around its domain. It is sufficient for us to know that there are different alcohols known to science, varying in the combinations of carbon and hydrogen, and possessing poisonous properties in an ascending ratio, as the proportion of these elements increases. Common alcohol, known to the modern chemist as dentylic alcohol, but taught to us of an older day as ethylic or ethyl alcohol, enters in various proportions into the spirituous liquors, wines and ales, with which we are all familiar. If these are still further strengthened by the addition of the stronger alcohols, then is their capacity for injury increased by so much, until they may rank with the deadly poisons. According to the latest tables published by Dr. Greenfield and others, Brandy and Whiskey contain from 50-60 per cent. of common alcohol; Rum from 60-77 per cent, and Gin from 49-60 per cent. Of the wines, the heavier, as Port, Madeira, and Sherry contain from 16-25 per cent. alcohol; Clarets from 8-17 per cent.; Burgundy and Sauterne from 10-14 per cent.; Rhine Wines from 9-12 per cent., and Champagnes from 5-13 per cent. Ales contain from 3-9 per cent., and Beers from 2-6 per cent. Dr. Parkes gives it as his opinion that an ounce and a half of alcohol is as much as can be taken daily without evident ill effects. This amount may be represented by two or three glasses of the heavier wines, or by a half-pint to a pint of the lighter wines, or of ale or beer.

With these general statements with regard to alcohol itself, let us proceed to a cursory consideration of the questions, how does alcohol behave when it is introduced into the system, and what becomes of it? What are the effects of acute and chronic alcoholism? When taken into the stomach, diluted with water, alcohol is absorbed, entering the veins and passing into the circulation. Its first effect is to quicken the action of the heart, and increase its force, at the same time diminishing its periods of rest, thus giving the heart more work to perform. With this action of the heart, which tends to increase the amount of blood sent forward, its effect upon the vascular system, through the vaso-motor system of nerves, is to dilate the capillaries, thus retarding the progress of the blood in its onward course, and causing the heart to exert still more force. Thus is explained the flushed face which is characteristic of the earlier stages of alcoholic excitement; and Dr. Richardson says the same flush would be found in the brain, stomach, lungs, and all the organs of the body. If the dose of alcohol is frequently repeated, this continuous dilatation of the capillary system leads to a condition of paralysis of the walls, and produces effects which we shall shortly notice.

As to what becomes of the alcohol when taken into the system, many conflicting views have been entertained. Baer, in his recent exhaustive and extremely interesting volume on alcoholism, after summing up the evidence, says that in small doses it is transformed in the system into carbonic acid and water, while in very large doses, when the blood becomes overloaded with alcohol, it is in part oxidized, and in part eliminated in an unaltered form, by the lungs, kidneys, and skin; the elimination or the oxidation being in excess, according to certain circumstances. And Richardson says: "We are landed then, at last, on this basis of knowledge. An agent that will burn, and give forth heat, and product of combustion outside of the body, and which is obviously decomposed within the body, reduces the animal temperature, and prevents the yield of so much product of combustion, as is actually natural to the organic life." And he adds, "What is the inference? The inference is that the alcohol is not burned after the manner of a

food, which supports animal combustion, but that it is decomposed into secondary products by oxidation, at the expense of oxygen, which ought to be applied for the natural heating of the body." Hence we see that alcohol is not in itself a food, a nutriment; it does not of itself add anything to the vital economy. We see, too, one of its most marked effects is to use up the oxygen, which as Dr. Richardson says, "ought to be applied for the natural heating of the body," that is, it diminishes the temperature of the body. It is true that the immediate effect of alcohol is to send a glow through the system, but this is succeeded by a reduction of temperature. So marked is this characteristic that in cases of deep stupor, if no other means of diagnosis were available, the thermometer would furnish, I might almost say, an unfailling guide to the true condition of the case. If a man falls down in an apoplectic stupor, the thermometer will show possibly a normal, but probably an increased temperature, depending upon the length of time that has elapsed. On the contrary, if the stupor is that from alcoholism, the temperature will ordinarily be found to be below the normal standard. Indeed, so much confidence is reposed in this test, that one writer suggests that policemen should be instructed in this use of the thermometer, in order that they may rightly distinguish these cases. There is something in this suggestion, and if it were adopted, we should be spared the recital of an experience, which is not altogether single, of a man with apoplexy being carried to the station house, and dumped into a drunkard's cell to die.

I have spoken of the primary effects of alcohol upon the circulation, showing that it is a stimulant to the heart's action. It affects the brain and the nervous system in a similar manner. The quickened thought, the ready flow of language, the heightened enjoyment, the genial sympathy with all our kind, all these familiar phenomena attend the first effects of alcohol upon the brain. It is the over-stimulus of the brain and spinal cord, which follows successive doses of alcohol, that produces injury of these organs, and, as Baer says, in acute alcoholism it is the cerebro-spinal system that especially suffers.

Again the primary effect of alcohol upon the digestive organs is to stimulate their activity. The mucous membrane

of the stomach, "like the skin of the cheek, is flushed with blood," the secretory glands are excited to activity, and the gastric juice is poured forth in increased quantity, thus aiding the digestion if food has been taken. Such, in a word, are the primary effects of alcohol. It acts as a stimulant, and diminishes the temperature.

If we now consider the effect upon the body of continued and excessive doses of alcohol, we have to bring before us an entirely different series of phenomena; we have to consider effects of the most permanent nature upon all the organs of the body. The countenance of the toper is stamped, indelibly as it were, with the proof of the spirit he has imbibed. The leaden hue of the face has been the result of the prolonged and continuous dilatation of the capillaries, which have at last become paralyzed, and refuse to contract.

Baer describes minutely the effects of chronic alcoholism. He says the blood itself is affected in two ways, physiologically and chemically. It contains more serum and less fibrin. There is a diminution in the number of blood corpuscles, and in the solid constituents, and a large increase of fat cells. Among the earliest changes, especially in drinkers of whisky and brandy, is catarrh of the stomach; and one of the most frequent and important results of the abuse of alcohol, is ulceration of the stomach. The liver suffers most and earliest of the organs, and the more in drinkers of brandy and whiskey, than in those habituated to beer and wine. Next to the liver no organ suffers so much as the central nervous system. Fatty degeneration of the liver, kidneys and heart, follow in succession, and a large proportion of all the cases of the so-called Bright's disease, occur among the subjects of chronic alcoholism. No better picture can be drawn of the effects of the abuse of alcohol upon the whole economy, than has been given by Dr. Moxon. "When," he says, "the sot has descended through his chosen course of imbecility or of drosy to the dead house, Morbid Anatomy is ready to receive him, knows him well. At the post mortem she would say, 'Liver hard and nodulated, brain dense and small; its covering thick.' And if you would listen to her unattractive but interesting tale, she would trace throughout the sot's body a

series of changes, which leave unaltered no part of him worth speaking of. She would tell you that the once delicate, filmy texture, which when he was young had surrounded, like a pure atmosphere, every fibre and tube of his mechanism, making him lithe and supple, has now become rather a dense fog than a pure atmosphere; dense stuff, which instead of lubricating has closed in upon and crushed out of existence more and more of the fibres and tubes, especially in the brain and liver, whence the imbecility and dropsy."

With this brief sketch of the physiological and pathological effects of alcohol, I proceed to consider its use in disease and in health. As a medicine alcohol can lay claim to the highest rank. Whatever may be said against its use in this respect, no one will deny its potency. The most rigid adherents to the party of extremists, would not dispute the power of alcohol. From what we have already stated, it will be seen what these powers are.

It is a stimulant of the first order; its effect in small doses upon a depressed heart is to increase its action, to carry the patient over an impending collapse; to avert paralysis of the heart and brain. By its capacity for absorbing the oxygen of the tissues, in large doses, it diminishes the amount of heat in the body; and also by the increased amount of blood which it drives to the surface, it promotes the radiation of heat, and it also retards the metamorphosis of the tissues. Hence we find its use indicated in low conditions, as in protracted illness, to support the system, in cases of injury and shock, to stimulate and revive the failing powers; in fevers to reduce the temperature; in cases of gangrenous inflammation to preserve the integrity of the tissues. Its use as an anodyne, to woo the fitful sleep that hovers around the wearied brain without embracing it, in many cases cannot be doubted; but perhaps there is less to be said in its favor as a remedy, in this connection than in any other.

The history of the medical use of alcohol presents one of the most striking instances of the changes that come over the general practice of the profession. When, forty years ago, Dr. Todd introduced to the profession the alcoholic treatment of

fevers, he was as much alone, as are those who now propose to do away with it entirely. Since that day the spectacle has been presented of the constant and indiscriminate use of alcohol in all forms of disease. And to such an extent has this been carried that a large body of distinguished practitioners in England have felt called upon to issue a circular denouncing this indiscriminate use, and demanding a much greater restriction in its application. Let us see therefore what are some or the more recent statements upon this point.

Dr. Murchison, whose name I cannot mention without expressing the profound loss which his recent untimely death has brought to the science of medicine, whose vast and laborious researches have made him an authority throughout the known world, Dr. Murchison says that "Alcohol is useful in the course of most acute diseases, when the organs of circulation begin to fail as they are apt to do. A moderate quantity usually suffices. In convalescence from acute diseases, or from other weakening ailments, when the circulation remains feeble, and the temperature is often subnormal; alcohol is also useful in promoting the circulation, and assisting digestion." "All other conditions of the system marked by weakness of the muscular wall of the heart, whether permanent or transient, are usually benefitted by alcohol." This same author is however quoted by Baer as claiming a smaller mortality without alcohol in the treatment of Typhus and Typhoid fevers. Gairdner coincides with this opinion, and especially claims that it is not necessary in the young. Chambers says that alcohol is not necessary in the treatment of Typhoid fever, and Bennett makes the same statement with regard to Pneumonia.

Against this array of names we find that in Germany, Liebermeister considers alcohol next to quinine, and cold baths, as the most important means of preserving the heart in Typhoid, and Jurgensen says that it is a *sine qua non* in Pneumonia, that every patient should have a variable proportion of Bordeaux. In England, Graily Hewitt advises the methodical administration of alcohol in cases of Puerperal Fever, in mild cases, from six to eight ounces daily; in severe cases two ounces every two hours. Breitsky and Conrad, of Berne, after numerous experiments in

the treatment of Puerperal Fever, came to the following conclusions as stated by Baer: In mild as well as in severe cases of Puerperal Fever, alcohol has a positive antipyretic effect, even in doses which produce no intoxication. In most cases the decline of fever is gained by small doses frequently repeated, (a teaspoonful every half-hour) sometimes more profitably by larger single doses. Larger single doses act more quickly and thoroughly than oft repeated small doses; the effects of the former may be seen within the first few hours, of the latter sometimes within the same period, sometimes not until after the lapse of twenty-four or forty-eight hours. Among those habituated to the use of alcoholic drinks, their usual limit must be passed, if the goal is to be reached. They consider rum as the best form for administration. In the course of four years out of thirty cases thus treated, Breitsky found that twenty-six pursued an immediately favorable course.

Mr. Brudenell Carter says, "It is interesting to note that nearly every practitioner finds it to be of especial value in that particular department of the healing art, in which he himself has the largest and the most constant experience. The physician describes its efficacy in certain forms of internal inflammation and of fever; the surgeon describes its efficacy in conditions consequent upon injury." He then goes on to say that "perhaps the most remarkable testimony ever borne to its usefulness is that of a distinguished ophthalmic surgeon, Dr. Gustav Braun, of Moscow, who a few years ago was accustomed to lose no less than forty-five per cent. of the eyes on which he operated for cataract in his hospital, that is to say among badly nourished Russian peasants." After trying a number of experiments, he "administered a dose of brandy or of sherry to every patient, immediately, and repeated it twice a day for two or three days. The result of this plan was after a year's trial, to reduce the number of cases, in which the eye was totally lost, from forty-five to six per cent., with an additional three per cent. of imperfect recoveries. Nothing was altered in the mode of operating or in the other treatment; and Dr. Braun reports that the improvement was attributable to the alcohol alone."

Baer claims that it is of the greatest benefit in cases where great prostration is caused by the disease, where the type is

adynamic. So it is of the utmost value in Erysipelas, and diseases of a putrescent nature, as Diphtheria, Gangrene, etc. In all these the effect of alcohol is, as Binz says, to reduce temperature, diminish the gangrenous processes, and increase the action of the heart. Large and frequent doses of alcohol are therefore indicated in order to maintain a lower temperature, in all cases where it is important to oppose the weakness of the heart, where quinine has failed. It is of the greatest use in cases of apparently unimportant disease, in those who are poorly nourished, and whose blood is impoverished, and who are mentally depressed. He thinks that in all cases of drunkenness, alcohol must be administered in order to avoid threatening symptoms on the part of the brain, and the heart, if the accustomed stimulus is withheld. This view is, however, the subject of much discussion at the present day.

Even Dr. Richardson, that most zealous advocate of total abstinence, claims the right to use alcohol as a medicine, and although he decidedly prefers to treat fevers without it, yet he admits that there are many cases where its administration is attended with decided benefit, but he maintains that its effects should be carefully watched, and insists upon the point that it should always be given *pur et simple*, like any other medicine. For his patients there shall be no brandy, nor whiskey, nor champagne, nor claret, but simply proof spirit in water!

I have thus given you a limited view of the opinions advanced at the present day with regard to the use of alcohol in disease. If we come to weigh the testimony, and to add to it that of our own individual experience, I think we shall be forced to the conclusion, that alcohol is one of the most valuable aids to the physician that we possess. For one I know not how we could do our duty by our patients, how we could satisfy the known and acknowledged demands of science without its use. In infancy, in mature life, in old age there are innumerable cases, where to my mind, the slender thread of life has been kept from breaking by the judicious and persistent use of alcohol alone.

If now we turn to consider the use of alcohol in health, we find ourselves on very different ground; we enter at once upon

one of the most vexed questions of the day, one which it seems can hardly be approached without feeling the bias of individual habit and education ; one which has called forth on either side an unusual degree of rancor, and one which in its ultimate effects is of the most vital importance. Volumes have been written in support of the theory of total abstinence, and much that is in favor of the judicious use of alcoholic stimulants. Both have recently been canvassed pretty extensively by medical men, and it is the diversity of opinion in our own ranks, which has thus been divulged, that led me to bring the subject before you. I propose then, to consider the question : Is alcohol beneficial in a state of health, or in other words is its habitual use to be recommended ? Is temperance or total abstinence the wisest course to be pursued, and to be recommended ? I say temperance, for intemperance is not a point that I propose to consider in this connection. It is true that what may be temperance for one is intemperance for another ; that for some the only temperance is total abstinence. Nor do I propose to consider whether, in a certain class of persons, intemperance is a vice or a crime ; whether it is the result of heredity, or of acquired habit ; whether it renders them responsible or not, for the deeds committed while under its influence. All these extremely interesting and suggestive points, I leave one side, as foreign to our present purpose and limit myself to the simple issue : Is the moderate use of alcohol serviceable in the ordinary pursuits of life ?

We have seen that alcohol is a stimulant ; that it excites the brain and nervous system ; increasing the muscular action of the heart, and in the same way, according to some, enabling the muscles of volition to exert a greater power. It also serves as an aid to digestion. These are the phenomena attendant upon the earlier stage of alcoholic excitement, upon the use of small amounts, and these are the effects which are sought for. In some of its forms especially, as ale and beer, it has been supposed to increase the amount of superficial fat, and the appearance of those who use these beverages to excess, leaves but little room to doubt that such is their effect. This result is, however, due not to the alcohol, but to the other ingredients which enter

into the beer. Aside from these uses of alcohol, we have to meet it as an element of social life, as a means of adding to our enjoyment.

We have in the first place to consider the fact that much of the evil, which is ascribed to alcohol, is due to the adulterations which are introduced into alcoholic drinks, many of which are poisonous in their effects. These are added on various grounds, partly for the sake of increasing the gain of the distiller, partly to give to the resulting liquor certain qualities of taste or color, body, or bouquet, which have been demanded by the buyer. The extent to which this adulteration of wines and liquors is carried, is so well known, that it hardly needs mention. We, however, cannot fail to emphasize the fact that in general these adulterations are of a positively injurious nature.

Looking over the more recent publications on this subject, we find certain points on which all seem to agree, and these are it seems to me, well taken. The first is that alcoholic drinks are not necessary to the young, to those of immature age; to say that because they are not necessary they are therefore injurious, may not follow as a logical sequence, but it is better to act as if it was. The young should not be allowed to use them in any form. Again there is a general agreement in the view that brandy and whiskey, and the alcoholic liquors, are positively injurious, and cannot be habitually taken, even in small quantities, without producing permanent and decided injury, in the first place upon the stomach, and then upon the liver and nervous system. Whatever may be said of wines and beers as a beverage, brandy and whiskey, and liquors should be utterly tabooed. Again it is conceded by nearly all these writers, that alcoholic drinks should not be taken upon an empty stomach, but either with the food or after a meal. As Dr. Wilks quaintly says: "I always suspect people who require something about eleven in the morning. Indeed the man or woman who has an acute consciousness of the hour of eleven, is a being both physically and morally lost."

I for one am an entire disbeliever in the idea that more work or better work, whether physical or intellectual, can be done by the direct aid of alcohol. If a man is in an ordinarily healthy

condition, I do not think he ought to require that spur, and I am a little suspicious of the surgeon who requires to be fortified before he can perform an operation, or of the writer who depends upon a stimulant to elaborate his thoughts. That there may be positive benefit in the use of a stimulant after the effort has been made, to revive and recuperate the worn-out system, I am free to acknowledge. But I cannot think that work of any kind, which is done under constantly recurring doses of alcohol, will be as well done, as it would be without its aid. For there is this peculiarity about the use of alcohol, that to the period of increased activity, there succeeds a period in which the energies flag, and again require the whip. Thus the pernicious habit grows, and saps the vital powers, while the labor accomplished diminishes in quantity and quality. The experience of both branches of the government service has proved the truth of these statements. The abolition of the grog ration in the navy was because it was found that the men did their work better without it; and in the war of the rebellion it was found that the soldiers would make forced marches better upon hot coffee than upon whiskey. Dr. Frank Hamilton says: "From experience and observation we have arrived at the firm conclusion, that the common use of alcohol is under no circumstances useful to healthy persons. We make no exceptions as to cold, heat, rain, or even previous habits, so long as they are soldiers." And in this connection I cannot fail to draw your attention to the degree of health attendant upon forced abstinence, in the case of the inmates of our prisons, many of whom have thus experienced a sudden and entire change of their habits in this respect.

Let me present to you some of the more recent views on these points. Baer quotes Moleschott as calling brandy the savings-box of the tissues, and saying that he who eats little and drinks moderately, preserves as much in the blood and in the tissues, as he who under corresponding conditions eat more, without drinking beer, wine or brandy. To this Donders replies: "It is indeed a savings-box, but one which costs too dear. If the necessity for nourishing food is limited by the use of alcohol, so is the vital activity sunk, and the individual,

as a physical and psychical being, placed upon a lower platform." And Baer himself says: "Brandy is not a material out of which the laborer gains strength for his task, which makes him capable of continued exertion, and least of all more capable than any other nutriment. The power gained from brandy is dearly paid for, as in every other non-nitrogenous nutriment \* \* \* and, as a daily and frequent diet for the laborer, is a slow and effective poison, which robs the laborer of his bodily and mental validity, and this the sooner, the more it takes the place of other nourishment." So too he says of mental labor, "although it excites the brain, and gives rise to new ideas and images, and has been praised by poets and geniuses; still what genius does, and what it demands for its excitement, and for its creative activity, cannot furnish the rule or the copy for imitation to the ordinary mind. Quiet thought, calm judgment, critical views and decisions, the cool observation of facts, and the recognition of their dependence, these mental operations, and to them humanity owes the entire treasure-house of positive knowledge drawn from the great circle of natural science, technical and industrial, these mental operations certainly cannot be promoted by alcohol. The functions of the brain in their capacity for continuance, are not promoted by the influence of alcohol; for quiet, continuous mental labor, alcohol is no nutritive element."

These views expressed by the learned German author with such directness and force, and in such eloquent terms as find but a feeble counterpart in my own reproduction, must commend themselves to our judgment as in the highest degree sound. And if they are true for Germany, how much more force do they have in this country, where the use of alcoholic liquors is so much more common. Without wishing to yield to a mawkish sentiment, or join in the unqualified tirade of those who have leagued themselves for the battle, I cannot forbear the expression that for us in this country, and at this time, whiskey is a curse from which we suffer in all ranks of society, in all stations of life. When we think of the abilities that are shrouded in darkness; of the powers for planning and executing that are dwarfed and stunted; of the God-given talents of the most

transcendent brilliancy that are dulled, and in eternal eclipse from the daily and constant use of alcoholic liquors; when we think of these, can we fail to ask ourselves what remedy there may be, what position we shall assume, what course we shall recommend?

In entering upon the consideration of this question, is total abstinence or moderation the course to be recommended, there is one broad fact to which I have referred, that stares us in the face, and that is the almost universal use of some kind of stimulant, alcoholic or otherwise. All the world over, from the pole to the equator, and from the equator to the pole, a need is felt, and it is supplied. This universal craving of our nature is gratified in different ways. I need not name the list with which we are all familiar. The point to be made is: does alcohol supply this want better than the other substances used, and is its use in moderate quantities injurious or beneficial?

If we take the writings of those who have joined hands with Total Abstinence, we find that alcohol may be easily supplanted by tea, or beef-tea, or a little oat-meal mingled with beef-tea, to say nothing of the now famous dried raisins, with which one eminent physician recuperates his wearied powers, or the six brandied cherries upon which another regales, when wearied by over-work. Even the late fashionable devices of a cup of warm water in the morning, or the use of aerated waters, may be added to the list of stimulants, which are supposed by these authorities to make good the place of alcohol.

The claim is made by these writers, that the bodily condition is improved in every respect, digestion is rendered more sound and regular, the circulation more equable, the muscles more capable and under better control, the mind more calm and serene. Dr. Richardson, who has written ably and enthusiastically from this point of view, experimented upon himself, and found that in each series of experiments in which he abstained from alcohol entirely, his bodily health was better than when he used it in entire moderation. Of the two courses he thinks that total abstinence is in every respect the best, and the conclusions which he has reached, are to his own mind as satisfactorily demonstrated, as those of the study of any natural phenomenon. If

this could be as satisfactorily proved to all of us, if we all were as sure as is he, that total abstainers as a class, present far healthier records and are in much better condition than other men, we would not hesitate to yield ourselves to this view. But this has not yet been done. No sufficiently reliable statistics, covering any sufficient number of facts, have yet been presented to show this point. Dr. Richardson finds in water a resource for every emergency a supply for every need of the healthy man.

Without going to the same length as the writer just named, Sir William Gull believes that alcohol is of no benefit in the performance of intellectual or bodily labor, and that many of the most intractable forms of disease proceed from the constant and moderate use of alcohol. And in the same vein Dr. Murchison says the moderate use of alcohol is the cause of a large number of the ailments, which render life miserable, and bring it to an untimely close. He says that if a man in average health eats well and sleeps well, his judgment will be clearer, and his mental capacity greater, when he takes no alcohol, than when he indulges in its habitual use. His belief is that though its occasional use may do no harm, its habitual use, even in moderation, does induce disease gradually.

Now the views of these gentlemen are entitled to careful consideration, from the high degree of eminence they have attained in our profession. They have been the result of their own experience, and are not the expression of hastily conceived opinions. There is still here, however, the lack of proof of the assertion. How are we to know that these diseases to which reference is made, proceed from this moderate use of alcohol? Mr. Brudenell Carter is an entire sceptic as to the deductions from physiological facts or quasi-facts, in this respect. And his description of the now prevailing method of research is quite amusing, and has as I think, several grains of truth. He says, "a number of otherwise unemployed and unappropriated persons set themselves to work with microscopes and test tubes, and fancy that they are making discoveries. The laborious trifling of six months is then described as a research; and the conclusions of the great unknown, who makes it, are regarded as part of the general stock of knowledge for the six months

longer, which may possibly elapse, before these conclusions are overthrown by somebody else ; \* \* \* \* and the common people, who are not scientific, are expected to worship at each shrine, as long as it endures." We can all of us, I doubt not, supply, from our own observation of the course of medical science, other illustrations of Mr. Carter's remarks. Here, as elsewhere, I suppose, "the survival of the fittest," will find its application.

But aside from the question of the scientific accuracy of the statements I have quoted, there comes up to my mind in connection with the application of total abstinence to intellectual labor, the experience of those countries, where alcohol is universally used, and, I may add, generally in moderation. What becomes of all that intellectual life and activity, with which Germany and France are swarming, if the habitual use of alcohol in moderation is at last so subversive of all mental effort? Where can we find a larger number of men whose brains are more vigorously employed than among those nations, and among them all, how many can be found who practice total abstinence? What contributions to our medical literature are more eagerly sought for than those that proceed from both of these nations? And can we in the face of these facts agree with the view that alcohol in moderation stunts and dwarfs the mental faculties? And as to the question of longevity, it strikes me the average age of the individual in those countries is as great as elsewhere.

There are some other considerations in connection with the total abstinence view, which, as they have no medical relation to the subject, would be out of place in this connection. I refer to the alleged duty we owe our fallen brother, to abstain from all use of alcohol, as a means of elevating him; to the economy of total abstinence, and to the impossibility of establishing it by legal acts. These points so interesting to discuss, upon which so much may, and has been said on either side, are foreign to the purpose of this address.

I now pass to the consideration of the use of alcoholic drinks in moderation. I include under this head the habitual use in small quantities, and the occasional use in somewhat larger

measure. This is what is commonly considered their use in moderation. What that measure is, is a question for each one to decide for himself, taking care that the error, if any there be, shall be upon the side of the minimum quantity. This use of alcohol precludes of necessity, all tipping; it is to be supposed that, as a habit, it is used at dinner, and it limits the use to beers, ales, and light wines. It is possible that the daily use of the heavier wines, as Sherry, Port, and Madeira, might not prove injurious to many, but the boundary of injury is with these much more easily passed. The occasional use of these heavier wines, in small quantities, I hold to be consistent with the moderate use of alcohol. This it seems to me is the true idea of temperance. If, as I have said before, a man cannot follow this use, then the rule for him is total abstinence. But to my mind "the discipline of temperance" as Sir James Paget says, "is better than the discipline of total abstinence."

Let us recur for an instant to the effects of alcohol. According to Dr. Richardson, the effects of alcohol may be divided into four stages. There is a first stage of excitement merely, "a second stage of excitement with some failure of muscular direction, and with some mental confusion; a third stage of distinct muscular failure, both in direction and power, with much mental confusion; and a fourth stage of complete muscular failure, both in direction and power, with entire mental insensibility." Now of course the moderate use of alcohol can only include the first stage of simple excitement, and indeed we might with justice claim that, if used according to the suggestions I have made, even that stage would, in the majority of cases, be hardly reached. The effects of alcohol thus used are slightly stimulating to the circulation, to the action of the brain, to the digestive organs, and a general feeling of comfort is engendered. Dr. Bennett says, "you are no longer moderate if what you have taken excites you or stultifies you, or has any other effect upon you beyond that of balancing, calming, comforting you." These effects may be gained in one by a single glass of claret, and in another by two or at the most three, and this may be repeated daily. That such use of alcohol is productive of positive injury by accumulated force, I do not believe, and this is

the point that is made by the advocates of total abstinence. Aside from the valid argument which they may and do advance with great force, that even this use may at any time like a slumbering lion, break forth into an uncontrollable desire ; they also claim that the repeated and daily use of even small quantities will leave its mark for permanent injury upon the system. Therein, I think, they are in error, and injure their own cause, and in the absence of any statistical evidence we must return the Scotch verdict of "not proven." And the main difficulty seems to be that they never can acquire statistics. Men that use alcohol in this moderate manner, of course, pay the debt of nature in the same way as their fellows who have practised total abstinence. And the autopsy cannot, in our present state of knowledge, reveal the fact that this man drank water during his whole life, and that one took a half-pint of claret every day at dinner. What there may be for us in the future, who can tell? But at present, I fancy, such statistical evidence will not be forthcoming.

And on the other hand, if this use cannot be proved to be injurious, it can, I think, in a large number of instances be shown to be of advantage. It may perhaps be said with truth, that if a man is healthy he does not need alcohol. But who is in a perfect state of health? The wear and tear of life at the present day, makes unusual demands upon the vital powers of the men, who drive with all their force the mental and bodily engines committed to their control. Our climate with its exhilarating tendencies calls for additional drafts of nerve force, and in no way to my mind, does it seem that these demands can be better satisfied, than by the judicious use of minimum doses of alcohol, as I have suggested. If one does not feel the need of such aid, if a cup of cold water supplies all that his system demands, he certainly need not have recourse to even this limited use of alcohol. But it seems to me that in our climate, and with our life, the majority of men who approach or have passed middle life, and certainly those who are on the downward slope, find a positive benefit in this use of alcohol.

In support of this moderate use of alcohol, Sir James Paget says the large majority of physicians concur, and looking at the

different nations of the globe, he claims that "as to working power, whether bodily or mental, there can be no question that the advantage is on the side of those who use alcoholic drinks." Mr. Brudenell Carter advocates the use of alcohol, in the manner I have referred to, "on purely empirical grounds," and these he claims are the only grounds which are tenable. He says that "we may assure ourselves by common observation that the moderate consumption of alcohol is useful to many persons, and that it does not produce, at least necessarily, or in any but exceptional cases, the dire effects which have been ascribed to it." And Dr. Garrod lays down the proposition that "the majority of adults can take a moderate quantity of alcohol in some form or other, not only with impunity, but often with advantage"

There remains but one point, which I propose to bring forward, and that is the influence which the more general use of light wines and beer would have upon the suppression of intemperance. Believing, as I do, that the universal practice of total abstinence is a thing never to be attained in the world as at present constituted, and recognizing, as we must, the universal demand for some stimulant, I believe that the general use of these lighter alcoholic beverages would materially tend to supplant the dangerous and fatal effects of alcohol in its stronger forms. I agree fully with Dr. Bowditch in his estimate of their agency in this respect, and in his recommendation that more attention should be paid in this country to the growth of native wines. Baer, too, from whom I have had frequent occasion to quote, considers beer as the strongest enemy of brandy-drinking, and the best weapon against its power. If native wines, and light and pure beers could be made to take the place of our Bourbon, and our Rye, I think we should have made a great advance in the right direction; and if in addition to this, men could be taught to use even these in moderation, much of the danger that threatens us would be averted.

I have thus, gentlemen, canvassed the views of alcohol in its relations to health and disease, and before I close I must give expression to the hope I indulge, that not one word that I have uttered should inure in any way to the injury of the cause of total

abstinence. A movement which at the present day is drawing to itself such pure and noble men, such eloquent and devoted adherents as it does, both from the clergy and from the ranks of our own profession, deserves to be regarded with the most profound respect, and to be judged most conscientiously. I accord to these gentlemen the fullest measure of esteem, and withhold from them my most earnest coöperation only on the grounds which I have presented to you. And so I leave the subject with you, as one which each individual must decide for himself, but in the full light of his own conscience, and with a just and overpowering sense of all the issues that are involved.



