In looking for satisfaction, after the fatal termination of the case, one has to be content with the reflection that the patient did not die from the immediate effects of the operation, and to be consoled with the knowledge which the *post mortem* examination affords—namely, that the whole of the disease had been removed, and the certainty that the patient must very soon have succumbed to a painful death had no attempt been made to cure him.

The operation was conducted upon strict antiseptic principles, and the abdominal cavity remained aseptic to the end. There was complete union of the peritoneum, and between the muscular walls of the abdomen. There had been no secondary hæmorrhage, nor had there been any violent sickness. The temperature was even remarkable for its uniformity at or about the normal range.

Taking all the facts of the case into consideration, it is reasonable to suppose that, had the man possessed a less dilapidated constitution, and been more temperate in his habits, complete recovery might fairly have been anticipated.

THE PLACE WHICH ALCOHOLIC DRINKS SHOULD OCCUPY IN THE TREATMENT OF DISEASE.

Read at the Hunterian Society.

By ALFRED CARPENTER, M.D., M.R.C.P. Lond.

(Concluded from page 117.)

I now come to the principal difficulty in dealing with this subject. It is said that no one differs with me as to the evils which follow from the abuse of liquor. But it is said by Sir Andrew Clark, and others, "that a small quantity of alcoholic liquor, taken, say, twice a-day with meals, is not injurious." It is also said that a physiological quantity is needed to produce certain appreciable effects in the living body. We have had as yet, say they, no reliable evidence of the harm or benefit of any dose under this physiological quantity; and, therefore, say the antagonists to the total abstainer, "that total abstinence principles would advance much more rapidly if these facts were fully recognised." (BRITISH MEDICAL JOURNAL of November 29th, 1884.) Sir Andrew Clark may be right in the fact that a small quantity, taken twice daily with meals, may be harmless. No doubt, it may act immediately on the food in the stomach with which it may enter into combination, and thus it may be deprived of its venomous character. But what is the good of this? It can only help to make the food more difficult of digestion. It coagulates albumen, it hardens fibrine, it precipitates ptyaline from the saliva, sugar is nearly insoluble in it, and emulsine or synaptase is rendered inert by it. But it is said that, when exceedingly diluted, its action may be different. It is not proved that it is not so. It is hard, indeed, to prove a negative, and it is useless to try; but I ask whether any one supposes for one moment that the effect is so neutralised in the stomach? If it be, why should people desire it? Is not the very object of the drinker to be made to feel its effect on the stomach itself, to increase the flow of gastric juice from the glands in the stomach, and so increase for the moment its digestive power? That is the acknowledged object for which it is taken; and Sir Andrew says it makes life happier, and renders the invalid able to do that which he could not do if he had not taken it.

Now, let me go back to the articles which appeared in the *Contemporary Review* in 1879. Dr. Samuel Wilks wrote: "I believe alcohol soothes a worried nervous system, and, by preventing wear and tear, actually supports the frame;" but, discarding the notion of its stimulating properties, he writes: "I denounce its use in delicate children, and women who feel 'low'." Then Sir William Gull says, in the same series of articles, that "the constant use of alcohol, even in moderate measure, may injure the nerve-tissue, and be injurious to health; and one of the commonest things in society is, that people are injured by drink without being drunkards." But, says Sir William, "cases of feeble digestion you may deal with by light and varied food; but still I think wine is useful, a little wine, and with strict limit, as a medicine for temporary use." Sir William, however, is of opinion that "good food will supply all the wants of the system up to the middle period of life." He does not point out how a little wine, within strict limit, is beneficial. All the writers of those articles (twelve in number) denounce excess; one writes that his desire should be to reduce "the limit of physiological saturation." But, he says also, in many cases of dyspepsia, a palpable improvement follows the use of light wine at dinner. With many, the simplest food causes a degree of oppression until a mild stimulant sets digestion to work by the slight flush of blood it excites in the mucous membrane of the stomach. But the same writer says: "It is our duty to give a clear

reason for moderation, and to define its limits." Here Dr. Kidd states a duty which no one has ever yet succeeded in doing.

Another writer, namely, Sir James Risdon Bennett, would "leave this to a man's instincts." Sir James is guided by his own, and he has, no doubt, a good guide; but, with the majority of men and women, the guide would lead to disastrous results; the 60,000 drunkards convicted every year in our police-courts, and the same number who die a drunkard's death every year, are led away by instinct. Sir James is of opinion that "there are no trustworthy statistics available to prove to what extent disease may be safely and satisfactorily treated without the aid of alcohol." He is unwilling, with Mr. R. B. Carter, to allow theory to take the place of well tested experience. Indeed, he would do all that he possibly could to prevent any trustworthy statistics from being available for the purpose; because he expresses himself as entirely opposed to total abstinence views, "except for the intemperate."

Dr. C. B. Radcliffe does not hesitate to state that it is unfortunate that alcohol is not recognised as a tonic, and that it may be taken habitually; he is of opinion that it keeps up animal heat by supplying easily kindled fuel to the respiratory fire, partly in producing nerve-power by furnishing easily assimilable food to nerve-tissue, and partly in lessening the necessity for ordinary food, by diminishing the waste of the system which has to be repaired by food. I must say that physiology does not support these views; there are no facts in science which tell us that it is an easily kindled fuel, so that it may develop heat. Experiment and examination in the police-cell tell quite a different story. Still, Dr. Radcliffe may affirm that his remarks apply to its use by those who are not already "physiologically saturated," and that, when the stage of saturation is reached, the conditions change.

Dr. Radcliffe prefers to be near to the point of saturation, provided he is on the right side; and, with Sir James Risdon Bennett, he probably believes that "men do their work better, and with more comfort to themselves, if they take three or four glasses of sherry as a part of their daily food;" and he will not believe "that such an one is a worse, but a better, life for an assurance-office than a pledged abstainer." I may say that the assurance-offices will in time fully settle this point, even if they have not done it already, in an opposite sense to Sir J. R. Bennett's views.

I have tried, in these extracts, to put forward the views of representative men upon this question. "A physiological saturation" is acknowledged, beyond which it is dangerous to go. This is agreed to by all parties. Before that stage of saturation is reached, alcohol acts differently from what it does when that stage is passed by. In the opinion of some physicians, it is a tonic, an easily kindled fuel; it helps digestion, and enables a man to do his work with greater pleasure to himself. I am unable now to find any sufficient authority from physiology upon which these opinions are based, though they were the views of physiologists fifty years ago. No well known physiologist now supports them. It is proved very fully that alcohol does not keep up animal heat, and it is as little assimilable as any food can be. I take it that Sir J. R. Bennett's and Dr. Radcliffe's opinions are derived from the feelings which alone guided physiologists before instruments of precision were invented. There is a feeling of warmth, and a heat is transferred to the surface of the body, which is very marked; but if with this heat there is no rise of temperature, and if there is also a decrease of carbonic acid excreted by the lung-tissue, we can understand the reason why radiation produces, after a time, a decreased temperature, such as is found in the dead-drunk man in the police-cell, when that man is not suffering from manifest organic disease, which is ordinarily raising his temperature above normal. The feelings are deceived, the blood being collected in the periphery of the body, and the sense is deceived as much as sight is imposed upon, as to their movements, when we look at the heavenly bodies.

There seems just now, however, to be a consensus of opinion among our fashionable physicians that digestion is improved by small doses of alcohol twice daily; the only proof is personal feeling, and also that no injury is traced to it for the time being. But chemistry is against the fact. Physiology will not support it, except so far as that there is an increase of gastric juice by the exhibition of a dose sufficient to act upon the blood-vessels for the moment. But then pathology tells us very clearly that the continuous effect is to produce a permanent change in those vessels and glands. I contend that anything which assists to perpetuate a change is not a wise or truly judicious treatment, but is an unconscious pandering to custom, to fashion, and to the wishes of the patient. It may be very well to help a lame dog over a stile; to use the whip and the spur to the tired horse may be pleasant for the time being, but to my mind the medical man who prescribes it persistently is only starving off a downfall,

which will be really the greater when it does come. The person who does it is hastening the production of organic disease. I see no objection to the prescription of a little wine for a special purpose to the total abstainer, which is to be left off as soon as the object is gained. I see great objection to the continuance of the remedy as a daily diet, feeling sure that it will ultimately lead to the damage of that man's digestive power, and, in the end, to much discomfort, or a shorter life.

Wine is sometimes given as a remedy for neuralgia and other kinds of pain. Undoubtedly it may give present ease, if the disease be due to a temporary cause, which is certain to pass over and not to recur, as after an operation in an anæmic patient, in whom it will be an advantage to have much blood on the surface, and less in the centres for a time. Or, in some cases, in which the pain is the sequence of noncontinuing shock, time is gained, and the patient is relieved. Like to the use of opium, in similar cases, it may be a sheet-anchor. But when pain is a continuing process, as in cancer, in those who have a gouty diathesis, or in hysteria, or when there is growing disease, such as in dental caries, and especially in all those who have been accustomed to the use of wine or spirits, in my opinion it is injurious. Alcohol may relieve pain for the time being; but the pain will recur with greater force when its paralyzing effect has passed away. This recurrence takes place for the following reasons. Pain is the manifestation of interference with the nerve-battery, by the aid of which nutrition and the removal of the consequences of life are regulated. The pain is proof that action in the nerve-cell, or current through nerve-tissue, is interfered with. There can be no pain if nerves of sensation be destroyed. There will be no pain if the current of blood be arrested, so that vital action ceases in the cell for the moment. It follows, therefore, that there are cases in which arrest of circulation, by diminishing an onward blood-current, giving rise to a general languor, arrests the chemical changes which are taking place in the nerve-cell, and ease results. There is no agonising nerve-force produced; arrest of action means arrest of change. Action in a nerve-cell is produced by an oxidation of some of the contents of the cell. If those contents be not in perfect accord with the requirements, pain is felt until the oxidation is completed, and the result of the action taken away by the proper vessels. These actions cannot be complete in every cell whilst the patient is under the influence of alcohol. There is arrest of oxidation; there is arrest of the cleansing process which the venous and absorbent systems have to perform, and, as a consequence, waste material is kept *in situ*—that is, in the nerve-cell, or in the capillary supplying it. As soon as the narcotising effect of the alcohol is exhausted, there is recurrence of the pain by a renewal of oxidation, the matter to be oxidised being abnormal; the longer the interval before the pain recurs, the more severe it will become, because the waste matter must be oxidised before it can be removed; and length of interval corresponds with greater activity when it arises. The arrest is only attended by an increase in the quantity of oxidisable matter in the peccant nerve-cell. If pain do not recur, it is because the faculty of that cell is destroyed, and there is a commencement of disease in that organ. The use of alcohol for the relief of pain is perfectly certain (if it be continued for any time) to set up disease in the nerve-battery which regulates the vital actions of the part in which the pain is felt. The use of alcohol for such purposes intensifies the succeeding pain first, and then sets up an irremovable disease. It may bring renown to the physician to relieve pain by destroying the particular nerve-cell which gives rise to it; but it is not a right proceeding to lay down the first stones as a basis for disease which has a natural tendency to increase. I have now, for thirty years, made close observations upon this point; and, looking back into the history of my neuralgic cases, and other painful diseases, I see this set out as a broad fact, that those who have taken alcohol as a narcotic have suffered a hundred times more intensely than those who have not touched it, or have had their end hastened by its use, because a kind of euthanasia has been set up, which is promoted by some among us. I have now, for many years, warned those who have consulted me as to the danger of subcutaneous injection for the relief of pain. It may be peculiarly profitable to inject morphia five hundred times in one patient, but I am sure it is immoral. I have urged upon those suffering to have patience; to prefer another class of remedies, namely, those which assist oxidation; to bear with the pain until the process which causes it is completed, when it will cease, and not recur. I have had reason to point out the result of this advice in many cases of cancer, which, after a time, have become comparatively painless by the adoption of this line of advice.

Take another class. There is no possible chance of relief to those who are inclined to the lithic acid diathesis if they arrest oxidation by the use of stimulants or narcotics of any kind. Have patience

with the pain, and it will cease as soon as the oxidation in the nerve-cell is complete, and the nerve-cell has recovered its healthy state. Arrest that oxidation by the use of alcohol, and you add to the quantity of unhealthy waste which has to be removed, and hasten the rise of degenerative disease in that particular organ, or in the nerve-battery which regulates its functions. Patience with pain, in this class of case, is the right doctrine to preach to our patients. Gain time, let the oxidation be perfected, and healthy nerve-tissue results; or, in the case of cancer, the nerve-current is cut off; in either case, the total quantity of pain is not a tithe of that which the habitual indulger in alcohol or opium will really cause. I need not urge this line of action in the treatment of those hysterically inclined, because I hope none here present will ever support the notion that a hysterical patient ought to be treated in any way by alcohol or narcotics, even if they be anæmic. An empty house is better than a bad tenant. Any form of lithic acid deposit in any tissue is a bad tenant. It can only be removed by oxidation. Yet, for the purpose of temporary relief, if we use alcoholic drinks, we advise the use of remedies which only add to the quantity of morbid matter in the blood. Let us help to remove the waste matter from the system; but do not let us be inconsistent to our duty. We shall be so if we advise the use of that which may render it dormant for the time being, but which only keeps it in the system.

I will now go to another class of cases, in which the brandy-bottle is supposed to be absolutely necessary, namely, syncope. A violent, or long continued, hæmorrhage has placed the patient's life in danger; The great effort of the bystanders and, too often, of the medical man also, is to prevent fainting. It is sometimes the same in cases of *post partum* hæmorrhage. "Oh, she is fainting; give her some wine," is the cry; and the medical man sometimes administers the glass of strong brandy and water. If he do, he is interfering with the very process which nature has set up for the purpose of saving the patient's life. The passive tension in the smaller vessels prevents the injection of blood into the nerve-battery which regulates consciousness as well as other functions. Syncope results, and nature takes the opportunity of allowing a plugging of the bleeding vessel by stopping the *vis-a-fronte*. The heart is only able to carry on circulation sufficient for organic, but not functional, life. If we give so-called stimulants, we dilate the capillaries so as to allow the heart to go on sending blood into the bleeding organ, and we assist to send our patient out of the world instead of allowing syncope to have its sway; we may bring back the patient by supplying cold water so as to fill up the comparatively empty vessels, and thus allow of a more satisfactory circulation to be renewed. Our duty is to fill the vessels by harmless materials such as water, which is rapidly taken up as the patient comes out of the syncope; we ought not to prevent that faintness which is laying the first stone for the arrest of hæmorrhage.

There is another class of cases closely allied with these in the lying-in room, in which sudden syncope, with rapidity of breathing, collapse, and a cerulean aspect, brings a sudden end to the patient's life. I have always found that there has been a free administration of stimulant before this kind of syncope has developed itself. The cause of the end is recognised as thrombosis, or embolism. A clot has formed in the heart, and has hampered, or brought an end to, its movements. These clots are generally allied with a lithic or lactic acid (a gouty or rheumatic) diathesis. Persons who have been "low" are kept up by stimulants. They lose some blood in their confinement; the vessels are not well filled; the blood is loaded with fatty matter, with an excess of fibrine. The two combine to form a clot, and the more alcoholic stimulant you give, the more certain will be the ultimate result.

Dr. Harley's observations clearly show that this is the result of excess of alcohol, and half a pint of brandy in twenty-four hours must surely be excess to any pregnant or parturient female, especially the class of hysterical and low spirited cases in which the catastrophe usually happens.

Sometimes life appears to be kept in the body by its administration. I take it that, in such cases, the brandy is actually acting upon the clot by absorbing some of its constituent parts, and diminishing its size, so as to allow a more easy passage of blood between the clot and the side of the vessel. This is so in some cases of embolism of the pulmonary artery; but the cases have ultimately died all the same, or disease has been set up which has rendered the patient a miserable invalid for the rest of her short life. I would rather give solvents for fat and fibrine instead of those remedies, which certainly add to the quantity of peccant matter in the serum of the blood; and the more empty the vessels may be, the greater the danger, because the alcohol is more quickly diffused.

There are two kinds of embolism—one connected with the lithic or lactic acid diathesis, the other more distinctly associated with micro-

organisms and blood-poisoning. In these latter cases, it does appear as if alcohol enabled the patient to linger on long enough for the caecozymes to exhaust their pabulum, and the disease to die out. This happens in very severe cases of enthetic disease. The alcohol itself may assist to dwarf and destroy the organisms when they were of the reproductive kind, such as are found in true blood-poisoning. In these cases there is danger, because we are not always able to tell when it is time to drop the remedy, and we have better remedies than alcohol for that purpose.

I have on more than one occasion, when called in to consultation, had reason to believe that the coma had been caused by excess of stimulant, and not by the disease. I have withdrawn the stimulant, and found that the coma has departed, and the previous delirium has not recurred.

It requires a very studious consideration of all the alliances of the case by daily observation with instruments of precision, if one is not to do serious mischief by over stimulation. It is no advantage to save a patient from death in typhoid fever, and then to have him sink from after-consequences which have been set up by the remedy which has been used.

One of my correspondents expresses his regret that I should "support the notion that the mere fact of alcohol retarding nitrogenous metabolism is, *per se*, an evil, since the same effect is produced by carbo-hydrate in excess, and with like results of deposition of fat." I have already dealt with this objection, by showing that the use of alcohol tends to fatty degeneration, not to getting fat. I should also wish to point out that when persons who take daily doses of alcohol do become fat, it is because the use of alcohol, by whipping up the gastric glands to increased action, enables the drinker to consume more food than he requires. There is no evidence of any kind to show that alcohol, *per se*, would produce fat, except in very exceptional conditions indeed, in which it is possible that a minute portion of the exhibited alcohol may be changed into glycol, which some chemists think to be one of the saccharine group; but, after all, even the alliances of glycol are with the virulent poison class, rather than with the glucoses.

There are certain conditions in which it is absolutely necessary to relieve the heart by the rapid action of a diffusible stimulant, as when the internal organs are loaded, the vessels in the skin contracted and all but empty. The physiological action of alcohol rapidly comes into play, and thus a weak organ may be saved. This is possible when such an one has been suddenly chilled by immersion in the water, or by fright. Life may be saved and strains on internal organs taken off by a good dose of brandy. But such are the dangers which are attendant upon a good dose, that if a patient be already recovering, I would much prefer the outward application of warmth and friction to the disturbing influence of the strong drink. I am asked sometimes, Surely you do not object to the administration of wine and spirits to those who have a weak heart? The answer is, assuredly I do, if the weak heart is due to excess of fat in its periphery. I would take off the load of hydrocarbon by a diminution of supply and the administration of oxidising agents; I would not give an agent which takes the place of the latter; whilst, if it be due to fatty degeneration, we are only hastening the end. We may make our patients the merrier by our daily dose, but assuredly we are making life shorter also. To whip a tired horse may enable you to catch a train; but, if the action be indulged in daily, and you do not let your horse have the necessary rest to enable it to throw off its tired condition, you will find one day that your horse will not respond to the whip at all. The usual action of alcohol is to quicken the heart's beat, to cause it to make more contractions in a given time, and to shorten the time for its rest. It is in the time of rest between the beats, that there is repair. If alcohol does quicken a weak heart, it is actual poison to it, though it may for a time make the patient feel more comfortable by diminishing the signs of danger. The beats of the heart require the interval of time to be lengthened between each, if you mean to get rid of the weakness which results from fat or any kind of degeneration. To quicken its action, must diminish the power of restoration which the organ might possibly possess if its beats were slower, not quickened. Alcohol, therefore, to be beneficial in such cases must slow the pulse, not quicken it, and then it may act, as Dr. Radcliffe styles it, as a tonic. I have very seldom seen this result.

What may we understand by the term physiological saturation, beyond which it is not prudent to go? It seems to me that the use of alcohol appears to be safe within certain limits, only because we are unable to appreciate its effects. The millions of blood-corpuscles must have a certain percentage altered before any perceptible effect is produced, such as may approach to physiological saturation. A certain number of liver-cells may be

rendered fatty, and the patient appear in perfect health; a few of the brain-cells may be altered, or some of the glomeruli in the kidney changed, and yet the subject may appear perfectly well; but at length the stage of saturation is reached, beyond which the subject becomes either diseased in some of his organs from fatty degeneration, or he is a drunkard in consequence of the change in his nervous system. The limit is passed. Then physiological saturation is reached, and our antagonists agree with us that total abstinence is the only remedy. Those who believe in the tonic power of alcohol would take their patients close to the edge of the precipice, and then warn them of their danger; too often when it is too late. My own feeling is, that it is our duty to prevent the commencement of the so-called physiological saturation; and to do this, I feel bound to advise my patients that alcohol in all its forms is a powerful medicine for good, in a few instances, in acute disease of a certain type, in which it is requisite to paralyse the vaso-motor system in the periphery of the body, so as to relieve pressure in the internal organs; that it is especially powerful for good to the total abstainer; but that it becomes a dangerous remedy to those who may be upon the borderland of "physiological saturation," and ought never to be given in any cases in which there is any approach to atheroma, or fatty degeneration of any kind. I cannot believe in its real benefit in want of digestive power, except in rare cases in which a temporary whip may be of service. For any one to trust to it, and not to take measures to remove the real cause of his indigestion, is trusting to a broken reed, which will run into his side in due time, and cause him serious hurt. When alcohol is prescribed, it ought to be in a measured quantity, and not regulated by so many glasses of wine or beer as the patient may choose. They vary in their strength at every wine-shop. It is most careless practice to trust to chance as to the quantity of spirit which may be present; and for that very reason, it is quite impossible to prescribe it in its ordinary form with that precision which it is the duty of men of science to use, when they are solving a scientific problem, which the cure of disease always ought to be.

WARM DOUCHING OF THE HEAD AND NECK IN THE INSOMNIA OF CONTINUED OR ERUPTIVE FEVERS.

By ARTHUR J. CAMPBELL, M.B., WEST BOLDON, NEWCASTLE-ON-TYNE.

IN the BRITISH MEDICAL JOURNAL for December 6th, there is an article on "The Cold Bath in Enteric Fever." In this, Dr. Alexander Collie condemns the practice of lowering the temperature by such means: first, because the temperature is not the primary disease; secondly, because as good results are probably obtained without its use; and, thirdly, because, in severe cases, the bath is contraindicated by the cardiac weakness.

While I agree entirely as to the unsuitableness of such a proceeding as plunging a timid disease-weakened patient into cold water, I wish to point out what I consider a most pleasant and soothing method of employing a douche, especially indicated in sleeplessness, and not contraindicated by cardiac debility; the proceeding is neither novel, difficult, nor disagreeable, and is productive of the best results if efficiently performed.

The patient's shoulders having been wrapped in a sheet or blanket, and his ears plugged with cotton-wool, his head is supported over the edge of the bed (a suitable vessel being placed underneath to receive the water), whilst a gentle stream of warm water from the rose-spout of an ordinary watering-pot is directed over the head and neck. The watering-pot should be held at least eighteen inches above the level of the patient's head, and the douching may be kept up for three or four minutes; the head should then be lightly dried with a towel, and the patient lifted into his ordinary position in bed. As a rule, sleep is produced within a short time.

In 1879, I was called one night to a severe case of scarlatina in a girl aged 13 years. Her temperature was high, the pulse very quick and feeble, the tongue brown; sordes had collected about the mouth; and there was jactitation. The rash was very dark-coloured, and her condition was rendered the more serious by sleeplessness, continuing for four days. On the day following my first visit, I administered the warm douche to her head and neck, the hair having previously been shortened. Within an hour after the process, she fell into a refreshing sleep, which lasted for about twelve hours, during which time she was disturbed two or three times for the purpose of ad-