

and gifts of the Spirit which constitute in their combination that perfect panoply which the Apostle describes as the "whole armour of God." Let us never forget that self-help in the matter of religious as well as secular pursuit is the only kind of help that can result in real and abiding success—the only influence which springs from the inner life, and can bear fruit in the lives of those who are placed within its reach. "All that is truly great," writes Dr. Channing, "is individual." The Church was called in the individual. Every one of the Apostles had a distinct calling; the individual Christian preceded the formation of that greatest of social organisations—the Church of Christ.

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#### ART. IV.—CHOLERA.

*Notes of "Lectures on Cholera" delivered at Gresham College.*

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#### III. THE PREVENTION OF CHOLERA.

**B**EFORE passing to the consideration of the subject of the present article, a few words must be said upon the factors that modify the occurrence and spread of cholera. Amongst these, notice has already been taken of the facilities afforded by improved intercommunication of countries by means of railways and steam-ships, and also of the preponderating influence of the water-supply in disseminating the disease in any particular locality. There remain, however, certain other factors which cannot be passed by in silence. These are: (1) density of population; (2) the season of the year; (3) food; (4) alcohol; and (5) the age and previous state of health of the patient.

Density of population is of extreme importance in many ways, as can easily be understood; for not only does it tacitly imply the existence of unfavourable conditions in reference to food and previous state of health, but also accompanied by poverty, as it usually is, there will unfortunately be joined to the other disadvantages that caused by abuse of alcohol. Even as regards the influence of different seasons of the year, density of population plays a part, for the heat of summer is more felt in courts and alleys, and these are an unfailing concomitant of thickly inhabited parts, through which currents of fresh air cannot circulate. There is nothing more certain than that an epidemic is widespread and fatal in its effects in proportion to the density of the population at the site where it commences. This was very clearly shown in the epidemic

in East London, to which reference was made in the last article; for out of 14,000 deaths from cholera, 6,000 occurred in the East End out of 16,000 persons attacked.

Summer is the season in which cholera is most prevalent, though in late spring the earliest cases usually occur. Moreover, prolonged drought is one of the most powerful agents in spreading the disease. This is not due to any inherent power of a diminished humidity in checking the growth of the bacillus, but rather in the fact that water is scarce, and that wells become polluted. A theory once held ground that the soil was the chief seat wherein the bacillus lay dormant, and that a dry year acted by allowing the earth and the accompanying bacilli to be disseminated in the form of dust. But this view was shown to be untenable, and the fact is now explained in the following way: when there is a prolonged season of drought, shallow wells—by which is meant all wells under forty feet in depth—become, more or less, nearly dry, and since water always tends to reach its own level, any water that is poured upon the soil in the neighbourhood of a well soaks into the ground and passes towards that well. Moreover, when rain follows on such a season of drought it washes all constituents of the soil into the well. Assuming, then, a case of cholera to have occurred, the discharges of which have in some way or other been placed on or in the ground in the neighbourhood of a well, they are immediately washed into and form a tolerably strong solution in the drinking-water.

A word on this point has been thought necessary, as the view above-mentioned, which is known as "Pettenkoffer's soil-water theory," and which was first promulgated by the eminent German professor of that name, is still held by a small number of medical men. Probable as it was last year that England would be visited by cholera, the probability is vastly increased by the exceptionally dry spring through which we have just passed, and if admitted, the ravages must infallibly be much greater than they would have been if the weather had been wet. It was with this before their eyes that the Local Government Board and the medical officers of health, particularly at port towns, so early commenced strict measures to prevent, if possible, the entrance of a cholera patient into our country. Nevertheless, it is extremely easy for the vigilance of the medical officers of health to be eluded, either wilfully or ignorantly, and yet not the slightest negligence to have occurred on their parts. It will indeed be marvellous if cholera does not affect us here in England this year. As we shall see later, however, cholera is an eminently preventible disease, and each individual can do much to minimize the chance of his taking it, and, of more importance

to the community, of his spreading it. Of all the seasons in the year winter is the most unfavourable for the occurrence of an epidemic. This was clearly demonstrated in the subsidence during the past winter and the recrudescence this spring in the north-west of France.

Food is of importance in two principal ways: firstly, it may itself carry the germs, and, secondly, it may prepare the way for the germs. Any kind of food may carry the bacilli, particularly if it has been washed in polluted water, or if (*e.g.*, milk) it has become contaminated by water used as an adulteration or in the cleansing of vessels used to hold food. Other than this, the influence of various articles of food is rather indirect than direct. In spite of the general mistrust of fruit, sound ripe fruit, especially if cooked, is in no way hurtful, and the evil that is done by unsound fruit, fish, meat, etc., is by causing some bowel disorder and presenting a system with a lowered power of resistance to the cholera bacillus, should it in any way effect an entrance. A large amount of the diarrhoea which is annually noted by medical men during the summer months owns this origin, food not perfectly sound being eaten, for economical reasons, by the poor and lower middle classes. It is this diarrhoea which in an aggravated form has been termed "cholera nostras" and "cholérine"; but the terms should not be used, inasmuch as they are liable to lead to fatal mistakes, though there is not the slightest doubt that a diagnosis between a severe case of diarrhoea and a mild case of cholera is not easy to make, and at the commencement of an epidemic, though the result of such a mistake may prove disastrous, it does not necessarily imply culpable negligence on the part of the medical man.

The influence of alcohol is great, and in one respect contrary to what might be expected. It is intelligible enough that abusers of alcohol should be amongst the earliest victims of a cholera epidemic, and also that the mortality among this class should be far higher than amongst the temperate, for this is equally true of every other acute disease; but it is certainly curious that all authorities agree in asserting that alcohol is harmful in all stages of the disease, including that of collapse. In other cases of collapse—such, for example, as that occurring in a bad railway smash or after a severe surgical operation—alcohol is the sheet-anchor of most medical men, and is the only means, whether it be regarded in the light of a food or a drug, whereby the fatal event can be warded off. It is by no means easy to see why such a difference should exist; but there is no doubt that those who know most about the disease are practically unanimous on the point. It renders it probable that the two forms of collapse are not identical as to origin,

and for this view there are other arguments which need not delay us now. The age of the patient is an important consideration in that very young and very old persons suffer severely, and that in them the disease is likely to be fatal. When the words "suffer severely" are used above they must not be taken to mean "suffer more pain"; that is usually the lot of middle-aged persons; but they mean that owing to their feeble condition of health the disease takes a stronger hold upon them, and they are more likely to be worsted in the battle. Concerning the previous state of health of the patient, much has already shown itself in the course of the foregoing remarks, and it may shortly be said that anything which lowers the vitality of the body as a whole and of the bowels in particular will militate against the patient. Amongst such causes are mental anxiety—especially fear with regard to taking the disease—insufficient rest and food, overwork, and many others, which will suggest themselves to the minds of our readers.

The treatment of cholera naturally divides itself into the actual and the preventive. The actual treatment is of course almost entirely confined to medical men, for few persons would be willing to pass through an attack of cholera without medical help. But at the commencement a doctor is not always at hand, and then the patient's friends are thrown on their own responsibility. It was for this reason, and at the request of the Local Government Board, that the College of Physicians last year went to the extreme point of summoning a special meeting, and drew up a memorandum with general directions to the public. Perhaps such an action has never before been taken by the College, which prides itself, and rightly so, upon not intruding medical matters upon the public notice; nevertheless, it is a remarkable indication of the importance which is nowadays attached to public, in contradistinction to personal health. The medical profession has been described as the most Quixotic of all the learned professions, in that its very existence is spent in endeavouring to render that existence unnecessary: the memorandum referred to certainly shows that the opinion of the College is, "*Salus populi summa lex,*" and that that law far transcends the law of self-aggrandizement which to so many societies, and to so many more individuals, is not only the highest but the only one. Nevertheless, it must be well noted that the College in its communication to the Local Government Board (September 3, 1892) says distinctly: "The College proposes no instructions for the treatment of cholera. Every case of this disease requires separate consideration and management; no stereotyped plan of treatment could prove to be either wise or

safe, and usually before the choleraic nature of an attack could be established medical assistance would have been procured." In consequence, therefore, the instructions of the College practically confine themselves to the preventive treatment. We cannot do better than follow their example, though it will interest the readers of the *CHURCHMAN* to hear what other means have been adopted. In the latest stage, transfusion, or the transference of blood from a healthy person to the patient, has been performed, but with no success. The result of the excessive discharge is to thicken the blood enormously, and hence the heart cannot properly work. To dilute the blood was therefore early shown to be a very necessary part of the treatment, and later an extremely dilute solution of common salt (less than 1 per cent.) was used to replace the blood which had hitherto been transfused. The results of this treatment, which was largely practised by the late Dr. Parkes, though more satisfactory than the use of blood, were not, however, sufficiently good to warrant its continuance; but experiments on animals now being carried out tend to show that the basis of the treatment is sound, and therefore that the failure is due to some fault in technique. Should the necessity unfortunately arise in England, a modified and improved method of transfusion of salt solution would in all probability be tried. It must be remembered that the cases on which transfusion would be tried would be infallibly doomed to die, and inasmuch as the operation is quite painless to the patient, and causes no discomfort at all, there is every justification in giving him a possible, and under the circumstances *the only possible*, chance of life.

The preventive treatment of cholera covers a much larger area; and until people understand that "Prevention is better than cure," and apply that dictum to their relations with their medical advisers, the preventive side of the question will have to be laid before the public. In the first place, then, personal preventive treatment may be divided into two parts: first, What to avoid; second, What to do. "What to avoid" has already been, to a certain extent, treated of in the earlier part of this paper. It is hardly necessary to tell the readers of the *CHURCHMAN* that they must avoid the inordinate use of alcohol. The next thing to avoid is the use of soups, tinned and otherwise preserved provisions, and all kinds of indigestible foods, such as cheese, pastry, game becoming "high," etc. An objection is made to tinned provisions on the ground that, being artificially prepared, their perfect wholesomeness cannot be properly controlled, nor will they keep good for so long a time as fresh provisions; no objection is made to their general standard of excellence, but under conditions which so

imperatively call for strict diet as does the existence of a cholera epidemic, their use must be foregone. The use of strong aperients must also be avoided, and particularly the use of Epsom salts; if an aperient be necessary, Gregory's powder or castor oil alone should be taken. The reason for this is so evident that further stress need not be laid upon it, but the importance of care in this respect is very great. Lastly, excess and irregularities of every kind must be avoided—over-fatigue, prolonged watchings, emotional excitements, undue mental strain, and all such things as irritate and exhaust the nervous system.

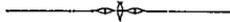
As in all conditions of life, so in the case of the preventive treatment of cholera, what to avoid constitutes a much longer list than what to do. In the words of the memorandum of the College of Physicians above referred to, "Take moderate exercise twice daily, follow early hours, and aim at leading a regular, an occupied, and a tranquil life." In addition to these comprehensive rules, there is yet one more, and that is to boil for twenty minutes every drop of fluid that is used in the preparation of food. Nor is this so simple a matter as at first sight appears, for in this respect most people are at the mercy of their servants, who cannot understand why the preliminary washing of a cabbage, for example, may be in unboiled water, but that of a lettuce must be in boiled. Moreover, the use of boiled water involves an extra amount of trouble, which they are very unwilling to undertake, particularly as the poorer classes as a whole are but little far-seeing, and prefer a little present ease to the possibility of being saved at some distant date from sickness and the much greater labour that sickness entails. There is also the difficulty that arises from alterations in the taste of fluids after they have been boiled. Many people cannot take boiled milk, though this repugnance may usually be overcome after a short period of perseverance in its use. Boiled water as an ordinary drink is flat and insipid, and it is very different to those waters which are drawn from wells, and, though highly polluted with animal matters, are bright and sparkling. This insipidity is due to the absence of the gas, which is held in solution in ordinary water, and which has been expelled by boiling. The use of a gasogene, with a much diminished charge of both acid and carbonate of soda, will again render the water as refreshing as formerly, but perfectly innocuous. With boiled water and boiled milk, and the general hygienic conditions given above, most people would be content, and, indeed, they would probably prove a full preventive; but there are two other small items which hardly suggest themselves at first. They are the use of boiled water for cleansing the teeth and the use of a disinfectant in

the wash-hand basin before every meal of the smallest amount. The College of Physicians recommended a very cheap and perhaps the most efficient disinfectant in its memorandum. It is made by dissolving half an ounce of corrosive sublimate and five grains of commercial aniline blue in three gallons of water, and adding thereto one fluid ounce of spirits of salt (hydrochloric acid). This forms a valuable disinfectant; but inasmuch as it is a virulent poison, it cannot well be used in the cleansing of cooking utensils.

The question of the public preventive treatment will bring under our notice the whole subjects of quarantine, inspection, and isolation, while some remarks must be made upon the vaccination against cholera, upon which so much work has lately been done both here and abroad, but particularly at the Institut Pasteur at Paris. These form too important a series of points to be disposed of summarily in the remaining space at our disposal, and they must, therefore, be reserved for another article.

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#### ART. V.—THE CHURCH OF IRELAND AND HOME RULE.

A FEW months since the organist of a Roman Catholic village church in the south of Ireland resigned his situation and was received into the Church of Ireland. He stated, on being asked what had first made him think of taking such a step, that constant observation of the conduct and demeanour of the little flock who worshipped in the Protestant church of his village had convinced him that their faith must be better than his. It was their reverent, solemnized bearing when returning from their worship on Sunday which first impressed this young man, affording, as it did, a contrast to the noisy levity of the Roman Catholic congregation after Mass.

The anecdote illustrates fairly one function which in all parts of the country the Church of Ireland almost unconsciously discharges. It is a witness for truth and peace, for loyalty and order, even when, for many reasons, it fails to be an active instrument of conversion. A clergyman from the West told the writer the other day that he found in his distant mountainous parish that frequent surprised discussions were held among the Roman Catholic people on the question, "How is it that the Protestants are the steady and sober people, and