But what are we to say to those who are falling or to fall in a true fight, whose life is expended in a noble despair, who have tempered fretfulness with wisdom and resignation, and whose passions are purified? Simply this: that we are born to war and not to peace; but we must see that we spend ourselves to some good purpose. A generous ardour is no safeguard against errors of aim; and we find that men and women often die rather like the bird which beats its wings against the cage, than by the defeat of well-directed effort. Many of us must fight, knowing that victory is impossible; and in constant strife there can be no joy or fruition; still, in a good cause, no wise effort can be wholly in vain, and a consciousness of this is a healing salve more powerful than any we can give. We shall be but blind physicians if we preach cowardice or inaction as the secret of health; let us rather urge upon those who seek our help in times of trial, to fix their affections on no selfish, unworthy, or transitory desires; to spend themselves, if their lives must be prematurely spent, in the cause of others, and for ends which are not visionary but attainable; and, finally, to possess their souls in patience and steadfastness. I know, in many cases, you may as well bid the wind cease to whistle; but, in others, by economising effort, by purifying suffering, and by lessening defeat, you may not only keep reason on its throne, but you may save the body from the inroads of organic disease, and from that disease more particularly on which to-day I have ventured to address you.

ON THE RESULTS OF RECENT RESEARCHES IN THE TREATMENT OF PHTHISIS.*

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IN attempting to bring before the members of the British Medical Association some results which have been arrived at by recent investigations into the treatment of pulmonary consumption, I am aware that I am opening up a very wide and debatable subject; that it is one of the very greatest interest and importance no one, I take it, will deny; that it is one which with much propriety occupy the attention of such a meeting as this will, I also hope, be readily conceded.

The treatment of those widely prevalent diseases of the lungs which we comprehend under the designation of pulmonary phthisis must always possess a deep and painful interest for us. I suppose there is no class of diseases for which we should so rejoice to learn that we possessed certain and reliable remedies, nor any class of diseases, when we contemplate their *post mortem* results, for which we so despair of finding any.

But we should not be discouraged by the contemplation of the final results of pathological processes as we see them in the dead-house. It is certainly not the province of pathological investigation to quell our ardour and diminish our efforts in endeavouring to check the ravages of disease. That it has some such effect on certain minds is beyond question. Let us guard our own against any such fatal bias. When we look upon a lung infiltrated from apex to base with tuberculous and inflammatory deposits in every stage of deposition and disintegration, riddled with cavities; its air-spaces—such as remain to it—choked with purulent secretion and *débris* of tissue, we may well confess our helplessness before such a state of disease and decay.

But this is only the final expression of what was at one time probably simply a constitutional tendency; a proneness to a certain form of disease, analogous in some respects to that tendency to gouty changes which we know to be so common, and perhaps, when early recognised, amenable like it to remedial measures. Pathology, and especially the pathology of phthisis, teaches us this lesson: that we should seek out and strive to comprehend those constitutional tendencies in which disease originates, and which, if undetected and unchecked, proceed, often with considerable rapidity, to the establishment of fatal morbid processes; and that we should treat these tendencies before they take the form of a definite morbid change. Pathological studies are of use also in another way in influencing the treatment of disease. By showing us what is possible, or, at any rate, what is impossible, they often point out the only useful direction which scientific therapeutic efforts can take.

The vast amount of patient labour that has of late years been expended in the investigation of the pathology of phthisis may appear at present, and on a superficial consideration, to have contributed very little to any particular advance in the treatment of that disease; but I

shall, I hope, be able to show that such a conclusion would not be altogether just, and that we may gather from the advanced pathology of phthisis indications of the true direction which remedial measures must take.

The subject of the treatment of pulmonary phthisis is, as I have already said, a very wide one, and, to be thoroughly comprehended, must be regarded from several points of view. In the limits which are imposed upon me in this paper, I shall only be able to refer to a few of the more important ones.

1. The tendency of modern investigation is to endeavour to discover the genesis, to seek out the origin of disease, and, if possible, to deal with it at its source. It is only thus that we can ever hope to exterminate or even diminish the prevalence of certain forms of disease. This is especially the case with phthisis. We are no longer ignorant of the conditions which give rise to this disease, and we are prepared to point out how, to a great extent, its development may be prevented. The prevention of pulmonary consumption may be considered under three heads.

(a.) The prevention of the transmission of the phthisical constitution from parent to offspring.

(b.) The prevention of the development of the disease when the predisposition exists.

(c.) The prevention of those unhealthy social conditions which are known to favour the production of phthisis.

(a.) The frequent direct transmission of tendencies to disease from parent to offspring, and the duty incumbent on society to recognise and oppose it, are, I am willing to think, much more generally admitted now than formerly; and there seems to me to be no reason why we, as the professional guardians of the public health, should hesitate to speak to the public frankly and strongly on this subject. It is our duty to point out that a diseased variety of the human species may be, and is, voluntarily bred just as any esteemed variety of animal or plant is bred. Let us speak, as with perfect truth we may, of the voluntary breeding of the insane and epileptic, the scrofulous, the cancerous, and the gouty varieties of man. By so doing, we may possibly, in course of time, rouse mankind to a sense of their responsibilities in this matter, and secure in the breeding of the human race some small portion of that same care which is bestowed in the rearing of many animals. Why should a man select a scrofulous female to be the mother of his children, when there is no lack of vigorous and healthy mates for him? or why should feeble and unhealthy males desire to hand down their feebleness and disease to succeeding generations? This question is, I know, a very delicate one, one which it is often difficult to approach, and one which at all times must be discreetly and carefully handled, and which may frequently run counter to certain sentiments for which we all entertain the profoundest respect; but we may, nevertheless, find many appropriate opportunities of showing how much pain and misery are either ignorantly or wickedly called into existence by the systematic disregard of such considerations as these. Many have to sit, as I do, week after week and hear the same sorrowful story over and over again from young people of both sexes, just at the period when life should be opening her portals widely before them, instead of which, death has already cast over them the fringe of his dark mantle. With sad and tearful foreboding, they tell us how their "mother and father died of consumption", or their "brothers and sisters have died of consumption", or their "mothers and aunts", and so on. It is almost too painful sometimes to ask the question, for the certain answer brings such a terrible inference with it. But I fear we become callous to these things; for it is "the hand of little employment" that "hath the daintier sense", else we should make more strenuous efforts than we do to bring the question home to the public, "Why does this breeding of disease go on unchecked?" If, then, we would deal with phthisis effectually, we must strike at its source: at its origin in the marriage and intermarriage of scrofulous parents. It is often from ignorance that this mischief arises, and we mainly possess the knowledge which should dispel that ignorance.

(b.) Of the prevention of the development of the disease where the predisposition exists, I need say but little before an association like this. I will content myself with enumerating the principal precautions which modern research has proved to be efficacious. The children of a phthisical mother should be wet-nursed, or brought up on cow's milk, boiled, and not much diluted. The child should be allowed much freedom of movement of its limbs and chest, not bound up and enveloped, as is the custom still, to some extent, with bands and napkins and other garments. A kind of somewhat loosely fitting flannel dressing gown lined with cotton-wool is a simple, excellent, and economical dress. Such children should be allowed an abundance of fresh air and exercise. At the period of teething, beef-tea may be added to the cow's milk, and, if dentition be delayed, some preparation of lime is

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Sheffield.

useful. After the second or third year, cold bathing is most useful to counteract that peculiar sensitiveness to cold which is common in scrofulous children. More than ordinary care is needed in watching such children through the usual diseases of infancy and childhood, as whooping-cough, measles, scarlet fever, etc.; for we now know that pulmonary consumption often has its starting-point in the chronic pneumonia which frequently remains after these diseases, or the enlarged and inflamed glands which are a common sequel serve as foci of infection whence tubercular disease may be disseminated. It may be even necessary to extirpate such enlarged glands when they refuse to yield to constitutional treatment.

At the approach of puberty, we should look especially to the proper development of the thorax, we should see that the carriage of the body is such that the chest expands freely.* Gymnastic exercises specially designed to draw the shoulders backwards and dilate the upper part of the chest should be adopted, but we should be exceedingly careful that these do not overtax the imperfect breathing power. Cold ablutions should be associated with these exercises. We should be careful to maintain the nutrition of the body, and especially ward off anæmic conditions. We should select for such persons occupations involving much out-of-door exercise, and avoid all those that are sedentary, or which lead to the breathing of impure air.

In the case of incomplete resolution of inflammations of the respiratory organs in such persons, much good has been obtained by a course of mineral waters containing soda and lime (Ems), and in bathing in such saline springs as those of Reichenhall and Soden. Such courses may be advantageously followed by a residence in an elevated region; but of this I shall have more to say when I deal with the question of climate.

(c.) The third division of this part of my subject, viz., the prevention of phthisis arising from unhealthy social conditions, occupations, habitations, etc., has already been so ably and fully dealt with at this meeting, that any further observation on this head from me would be superfluous.

2. I next pass to the consideration of those remedial measures which modern research has suggested as of use in phthisis. From amongst these I propose to select for our present consideration the following chiefly.

a. The use of the *alkaline hypophosphites*.

b. The use of antiseptic inhalations, and of the sulpho-carbolates internally.

c. The treatment of phthisis by rest (local rest).

d. The removal to mountain climates.

a. Nothing could be more unfortunate than the manner in which the alkaline hypophosphites were introduced to the notice of the medical profession as remedies for pulmonary consumption. An unreasoning, untrustworthy, and injudicious advocacy, provoked a hasty, impatient, and somewhat unjust antagonism. The absurd and extravagant claim for them that they were specific remedies for phthisis, was met by the equally unfounded statement that they were worthless and inert. I hope we are now in a position, disregarding alike their original quackish advocacy, on the one hand, and their hasty rejection, on the other, to form a calm and unbiased opinion as to their real merits. For my own part, knowing how difficult it is in treating cases of phthisis to judge accurately of the influence of the remedies we administer, because of the many counteracting agencies to which such patients are exposed, especially when they are out-door hospital patients, I determined, in forming my own estimate of the value of the hypophosphites to give them perseveringly in a great number of cases, and extend their trial over a long period of time. During the

last five years, at the Brompton Hospital alone, I have given the hypophosphites in one form or another to nearly a thousand patients selected out of more than fifteen thousand cases that have been under my care in that institution.

Any one who cares to look at the records of these cases will be forced to admit that these remedies have had a most patient and persevering trial. From this extended experience of these remedies I have been able to arrive at the following conclusions.

In the first place, they have *no claim whatever* to be regarded as specific remedies for tubercular disease; but they are of considerable value in a certain limited class of cases.

In advanced phthisis, with both lungs involved—a very prevalent condition amongst the out-patients at Brompton—I have never been able to discover that the hypophosphites are of any use. Nor are they of use in less advanced cases which are obviously running a rapid course, and are attended with much fever and cachexia. I have given them in such cases again and again, and I have been compelled to abandon their use, often at the solicitation of the patients themselves. In short, in those cases which we have always been accustomed to regard as hopeless and beyond the reach of all remedies, the hypophosphites are of no avail. I have noticed that they are less successful with dark persons of sanguine or bilious temperament, than with fair persons of phlegmatic temperament. They are much more useful in young than in older persons. I have seen the greatest benefit arise from their use, in the first place, in children in all forms of chronic lung-disease; and, in the second place, in young adults of fair complexion, not very cachectic or emaciated, and with disease limited to the upper part of one lung. In the cases in which they do good, their beneficial effect is generally noticed almost immediately. The patients usually say they feel very much better “in themselves”; they feel stronger, in better spirits, are more active, eat better, and sleep better. The night-sweats disappear, the cough sometimes disappears also; but it will often be observed that, while there is this general amelioration and a subjective feeling of improvement, the cough will continue unrelieved, and even occasionally become more troublesome. Notwithstanding the evident improvement in general health, the physical signs often remain the same, and I have known them actually increase in extent, while the patient has been feeling so much better that he has resumed his occupation, and declared that he felt “as well as ever he did in his life”. The improvement which follows the use of the hypophosphites is frequently only of temporary duration; this is especially the case with hospital out-patients. It is much less so with private patients, who can be more carefully watched and more thoroughly protected from adverse circumstances.

I have seen all the symptoms of phthisis disappear during the use of the hypophosphites, and the general condition as well as the physical signs undergo rapid amelioration. The patient has been, apparently quite well, but an imprudent visit to a theatre has resulted in a fresh catarrh, and the disease has again advanced with unusual rapidity; the former remedies were now quite useless, and, in a few months, the case ended fatally. It has, indeed, seemed to me that, in some of these cases where the hypophosphites led to temporary arrest of the disease, the subsequent advance has been unusually rapid and quickly fatal. I would therefore, urge that patients who are mending under the influence of these remedies should be protected with more than usual care against all those conditions which may possibly lead to a relapse.

Such are some of the results of my own observations with regard to the use of the alkaline hypophosphites in the treatment of pulmonary consumption, and I believe they are consistent with the conclusions of many other recent observers. Time forbids my entering into many interesting details, or quoting the records of illustrative cases.

[To be continued.]

THE CAUSES OF THE SOUNDS OF THE HEART: REPLY TO DR. LEARED.

By W. H. BROADBENT, M.D., F.R.C.P.,
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My friend Dr. Leared attributes to heat what was really due to haste. I found myself at issue with him as to matters of fact, and plainness of speech, I thought, would conduce to clearness of meaning; and we certainly understand each other thoroughly.

We are in flat contradiction on the point whether, in listening to the naked heart from which the blood has been cut off, it is possible to distinguish between sound produced by friction of the stethoscope against the heart and sound produced by sudden tension of the muscu-

* Mr. Liebreich has given much attention to the correction of faulty attitudes and positions arising during school-life; and although his original object was to prevent and correct defects of vision, he has carried his observations further than this, and many of his remarks apply equally well to the rectification of those faulty attitudes which interfere with the healthy action of the organs of respiration, and promote the development of phthisical disease when a tendency to it exists. Speaking of the treatment of tendencies to spinal curvature, he observes: “If a hard surface is to give the back rest, without making it suffer, it must have certain curvatures so adapted to the normal shape of the body that this latter is supported everywhere, and its weight equally distributed. These curvatures I have carefully studied, and, following their outlines, I have designed a couch adapted to the inclination of the body at an angle of 45 deg. For girls who have any predisposition to lateral curvature of the spine, it will be found useful to let them do every work that will admit of it, while reclining on such couch at an angle of 45 deg.” (*School-Life in its Influence on Sight*, by R. Liebreich, Ophthalmic Surgeon at St. Thomas's Hospital). I have examined this couch, which can be seen at Callaghan's, optician, Bond Street; and it seems to me well calculated not only to support the back, but also to take the weight of the arms and shoulders off the upper part of the chest; for when these are allowed to hang forward, as in the stooping attitude habitual to many young people, they compress the upper part of the chest, and prevent due expansion of the apices of the lungs. I have, later on, called attention to some remarks of Professor Rindfleisch on this head.