

same stages, and the same course, as the cure of inflammation, or repair of accidents, in analogous textures outwardly. Such being the case, the cure of inflammation being a natural process subject to fixed laws, our inquiry is as to the influence of cure upon recovery,—i.e., upon the constitution of the person for the future.

The cure of confluent small-pox leaves pits and scars upon the skin. The eyelashes are not reproduced, and scars upon the eyelids sometimes prevent their closing. From this the eyes become weak and irritable, and the sight of an eye has been lost through the irritation occasioned by the puckering of scars produced by the healing of the pocks. Here the recovery or cure of a disease leaves the person in a worse condition than before he had the disorder; the cure impairs the function of one part of the body, and that impairment leads to disturbance, and it may be the destruction of another part. It is the law in the cure of a severe burn, or other accident which destroys the integument, that the true texture of the skin is not reproduced. And the cicatrix which cures the wound often stiffens a joint. A scrofulous disease may be cured, but it is so with permanent puckering in the lung, deformity of a limb, or opacity in the cornea.

The cure of pleurisy very often takes place, but very seldom without adhesion of the lung to the side. The affection of the heart, which supervenes on acute rheumatism, may be cured, in the natural history sense of the word, but it is with adhesion of the heart to the pericardium. In these cases, the cure may be complete, but the recovery is not. Where there are adhesions, limiting the function of a lung, or uniting the pericardium to the heart, the person may enjoy a species of health, but he is clearly of a delicate constitution; and in future disorders it is well if the medical attendant know of the previous condition. Those who have suffered from a sprained ankle, or broken leg, are often reminded of the occurrence. Long after the cure, upon fatigue, changes of weather, or in an illness, the enfeebled limb will be painful, and liable to swell, when the other remains unaffected.

A careful observer says that of 919 children dying of various diseases, from five to fifteen years of age, he found, on examination, that 515, or three-fifths of them presented changes and defects in some one or more of the organs of the body, and these not the result of the particular malady which caused death, but of some former illness. Again, it is stated by an eminent physiologist, with respect to older persons whose internal condition he had examined after death, that four-fifths presented evident incontestable traces, not of recent, but of former maladies.

Hence there is abundant evidence of sundry kinds of deformity of growth and function before and after birth; also of anatomical changes of structure, the natural result of the cure of disease, which do not appear, escaping detection except in as far as their presence may be denoted by varieties of constitution; by a low standard of health; and by tedious irregularities in the expected course of familiar disorders. A robust constitution is the effect of a right performance of many functions. Functions cannot be rightly performed with defects of structure or impoverished blood. And abnormal conditions of blood, as long as they continue, are equivalent to defects of structure.

The sum of the facts which have been stated proves that infants may be born with, or may acquire from early illness unsoundness of organisation, and yet maintain the appearance of health; that children may recover from epidemical diseases with still existing collateral disturbances and weakened functions, which, though compatible with a certain share of health, nevertheless give complexion and irregularity to future disorders; and that older persons may resume their employments, and perhaps overlook an illness which, by circumscribing the function of an important organ, has enfeebled the constitution. If these conclusions be established, and if it be true that infants before birth acquire the maladies of the parent, then a sufficient reason has been established for their being born with differences of constitution.

In many instances, we are able to refer feebleness of health to anatomical changes of structure discoverable during life. In others, the fact is better explained by inspection after death, revealing what could not otherwise have been known. Conversely, persons of delicate constitution are inferred to be subjects either to some defect of growth, or anatomical change remaining from a former malady, though whilst the person be living we may be unable to assert unequivocally where it is to be found. This is a sound practical conclusion, inasmuch as we are naturally led by it—whenever maladies are prolonged, or assume the irregular scrofulous type—to a careful inquiry into the course and cure of former disorders, and a stricter examination of the person with reference to them.

And now to return to the opening of this division of our subject: the influence of personal causes upon the course and cure of epidemical diseases.

There is no difficulty in comprehending the reason why, amongst children of the same age, in the same street, house, or room, and in the same condition of life, some are ill, but recover; others recover from the chief malady, but succumb to a scrofulous sequel; some escape illness altogether, and others die of the acute disorder. It is because there is at all times, and in all places, especially in cities and towns, a constitutionally predisposed class—individuals at all ages, pursuing the amusements, occupations, and labours of health, with unsoundness of organisation, and therefore with those personal conditions which dispose to the attack of epidemic sickness.

In addition to the predispositions here indicated, and which arise from permanent anatomical change in one or more organs of the body, it is important to bear in mind, during the prevalence of an epidemic atmosphere—that is, at a time when the whole population is habitually breathing an unwholesome medium disposing to sickness, yet too much diluted to produce it unaided—that a slight or transient additional morbid influence is sufficient to cause active disease. Under such an influence, the first spark of feverishness, which casual fatigue, broken rest, want, inebriation, or the more common accidents of life may elicit, will induce the dominant malady.

Maidstone, Feb. 1854.

CONDENSATION OF THE APEX OF THE LUNG, WITH DILATED BRONCHI.

By JOSEPH BULLAR, M.D., Physician to the Royal South Hants Infirmary.

THE following case is important, as illustrating the morbid anatomy of one form of pulmonary disease, which must at the time have presented many of the signs of commencing phthisis, and as showing the difficulty of diagnosis subsequently, owing to this change of structure.

CASE. The patient was a young man, aged 20, who was admitted into the South Hants Infirmary, with severe compound fracture of the left thigh, from an injury with steam machinery abroad, a month before. The violence was such, that it completely broke out from the centre of the shaft five or six inches of the length of the femur, as was found after amputation; and the external wound reached from two inches below the groin to below the knee. Owing to circumstances, amputation could not be performed at the time, and he was sent to England. The thigh was shortened many inches, turned outwards, distorted, and greatly swollen, from the thickened soft parts and large collections of pus. He suffered great pain, was emaciated, and so feeble as not to be able to raise himself in bed. The plan followed by Mr. Fowler, under whose care he was, consisted in giving free exit to the pus by incisions, and in improving his health by generous diet and tonics, until he could bear amputation. During the next two months, under this treatment, he improved much in health and strength, but

he became increasingly anxious for the operation, owing to the pain of the limb, especially at night. As his general powers seemed sufficient for him to bear the operation, it was determined on. For a week before this, he had cough and slight expectoration, which led to an examination of his chest. The upper part of the right lung was found to expand less than the left. The difference was great enough to be very evident on merely laying the hands on the upper and front part of both sides of the chest in common breathing. There was dulness on percussion below the right clavicle, and moist *râles*. The other parts of both lungs were natural. He was pallid and strumous looking. He had been lying three months in bed with profuse discharge, and there were the usual local signs of tubercular deposit in the lung. On the other hand, he had been gaining strength and flesh; the cough and expectoration were only of a week's standing; and the disease requiring amputation was not constitutional, but from an accident whilst in health. The local chest signs seemed, therefore, to be an additional reason for performing the operation to give him the only chance; for if they were from recent tubercular deposit, the result of the local irritation, they would increase.

Amputation, necessarily very high up, was performed by Mr. Fowler. The stump was a very good one, and it healed favourably; a considerable part by the first intention, and the rest by healthy granulations. But the patient lost flesh and strength; he perspired profusely; severe rigors came on, with pain in the left side of the chest, and symptoms of condensation of that part of the lung; and he gradually sank a month after the operation. There was, however, no increase of the stethoscopic signs in the apex of the right lung, which remained in the same state; and he evidently did not die of consumption.

On examination after death, the want of expansion, and the dulness of the upper part of the right lung, were found to have been caused by an old standing conversion of the apex into a dense white substance, and the moist *râles* to depend on the dilated extremities of many branches of the bronchial tube greatly enlarged. The pleura covering this part of the lung was thickened, white, and adherent, having much of the appearance of the deposit in the lung, from which it was easily peeled off. As the dilated bronchial tubes and their enlarged *culs-de-sac* could be traced into the white deposit, its seat must have been the structure of the lung itself. It had no appearance of tubercular matter, nor could any tubercle-cells be detected by the microscope. There were no tubercles in the lungs. Both were very generally adherent by old adhesions. There was recent hepatisation of the lower lobe of the left lung, with some points of suppuration, the size of small peas; and the bronchial tubes of the same part were inflamed. The lower lobe of the right lung posteriorly was congested, and, in two or three places, the size of walnuts, the congestion amounted to pulmonary apoplexy. With these exceptions, the structure of the lung and the bronchial tubes were sound. Both kidneys were affected with Bright's disease, in the early stage of yellow degeneration. The urine found in the bladder was albuminous. There was a small abscess in the stump.

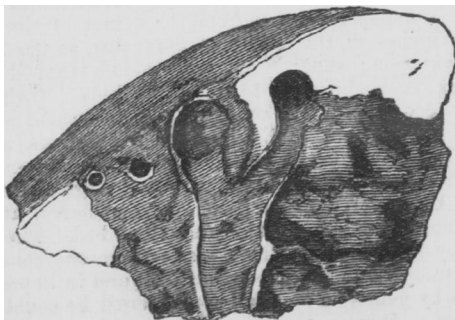


Fig. 1.

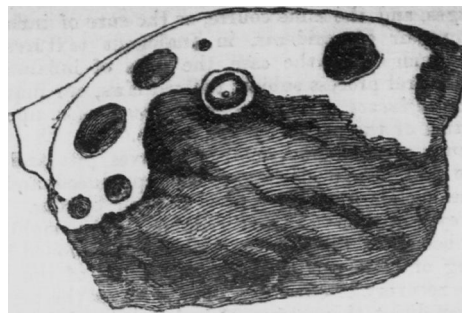


Fig. 2.

The engravings represent the two cut surfaces of a vertical section of the apex of the right lung, the upper part converted into a dense white tissue. In Fig. 1, a dilated bronchial tube is laid open, one of its branches ending in a dilatation in the natural structure of the lung, and the other in a smaller cavity in the deposit. In Fig. 2, the cavities alone are seen.

REMARKS. From the history of this patient, it appeared that he had been an extremely delicate boy, subject to severe colds, coughs, and pain in his chest, for which mustard plasters were frequently applied. At fourteen, he had a very severe illness, but after this he became a strong able-bodied young man, and had no illness until his accident, though he was liable to coughs. From all I can learn through his medical attendant, phthisical disease was at no time of his life either known or suspected.

In this case, there were the usual physical signs of tubercular degeneration of the upper part of the right lung, and yet there were no tubercles; but the signs depended on a change which the lung had undergone at least six years before, and which had been quiescent since. With the usual signs of active serious disease, there was nothing which could be called disease. The deposit appeared to be lymph. No tubercle-cells could be detected by the microscope, and there was no external puckering, or any of the usual appearances of the cicatrices of old tubercle. The pleura covering the lung was much thickened, and adherent by strong bands of lymph to the costal pleura. The lung in proximity with the deposit was healthy, and not even congested. In some cases, there may be a doubt whether cavities thought to be dilated bronchial tubes are not old tubercular cavities lined with smooth false membrane. In this case, as the ramifications of a single main bronchial tube greatly dilated could be traced into these cavities, the membrane lining which was continuous with them, there could be no doubt as to their nature. It may be a question, whether the white deposit was not the result of a strumous kind of inflammation, such as produces condensation around tubercles in acute phthisis. It certainly had nothing in common with the development of transparent miliary tubercles of Laënnec. At the time, the local symptoms may have simulated those of commencing phthisis, as there must have been crepitating *râles* and dulness limited to the apex of the lung. Subsequently, the dilated bronchial tubes limited to the same spot, and their enlarged *culs de sac* forming small cavities in the hardened deposit, and giving rise to moist *râles*, in connexion with dulness on percussion and imperfect expansion, would have presented signs which would not have been distinguished from tubercular disease, had the patient been examined at any period after this illness. The connexion of these signs with a state of good health would have cast great doubts on the nature of the change previously to his illness; but when these local signs were observed after three months' confinement to bed, and in a state of great debility from exhaustion and profuse discharge, there could be but one opinion as to their nature; and yet that was proved to be an erroneous one.

Chronic condensation of the upper part of the lung, the result of common inflammation, is not a common affection, though it may be more frequent than is suspected.

The following short statement of his own case, given me by a physician in good general health whom I have long known, belongs probably to this class of cases:—

"I have certainly had an affection of the chest, of some kind, these last twenty-five years at least. As a boy, I used to feel pain in the chest, and, from a supposed tendency to consumption, I was sent for change of air into the country when about twelve or thirteen. I believe I had the hooping-cough with unusual violence, so that my life was despaired of; but, with this one exception, I have never had any serious illness. When at St. Thomas's Hospital, in 1830, I consulted Dr. Whiting, as at that period the pain in the chest was very troublesome; and he examined me with considerable care, and gave judgment to the effect that the upper portion of the right lung was hepatised, but all other parts sound. From that time, I have never submitted to any further examination, but I frequently suffer from a diffused pain over the chest, less on the upper part of the right side of the thorax. I have never had any cough, or the slightest expectoration. I can take a full inspiration without pain or inconvenience, and can walk fast at a regular pace; yet, as to running, that is quite out of my way; I very soon lose my breath: it may be from a want of practice in that department. The right side (below the clavicle), I think, is much more dull than the left, and undoubtedly is much flatter. I have always the persuasion that my complaint has had nothing of a tubercular character about it. Mustard plaisters are the remedy when I have pain, and in my time I must have applied some hundreds."

Southampton, February 1854.

BIBLIOGRAPHICAL NOTICES.

REPORT ON THE MORTALITY OF THE BOROUGH OF BEDFORD, AND OF THE FORTY-NINE RURAL PARISHES CONSTITUTING THE BEDFORD UNION. Presented to the Board of Guardians by T. H. BARKER, M.D. Bedford: 1854.

FOUL AIR AND FEVER AS CAUSE AND EFFECT, EXEMPLIFIED IN THE SANITARY CONDITION OF BEDFORD: By T. H. BARKER, M.D., F.R.C.S.E. Bedford: 1854.

TABLES of the mortality of Bedford, and of the rural parishes constituting the Bedford Union, for the last sixteen years, have been constructed by Dr. BARKER, and are published in the first mentioned pamphlet. They contain the causes of death, the deaths from zymotic diseases, the deaths per thousand, the ages at death in the separate parishes, so as to afford as complete a body of evidence as is possible of the mortality since 1837. In the second pamphlet, this mortality is compared with other places. It is proved that the mortality in Bedford is above the average of healthy country towns; and this is traced to the want of effective sewerage, accumulations of filth, defective water supply, and badly ventilated houses. There seems to be a considerable number of deaths from fever, consumption, and convulsions. It is mentioned that, owing to a mill, a large extent of surface is covered by the half stagnant waters of the River Ouse, in the centre of the town. Dr. Barker has presented his tables to the Board of Guardians, and wisely so, as they have the power, under the present order of council, of abating many of the nuisances. It is one of those towns which should be at once put under the Board of Health; and, if it is left in its present condition, none of the onus of the mortality from the next epidemic of cholera will rest on Dr. Barker. He has done his duty manfully and fearlessly; and the perusal of his two pamphlets has given us the best impression of his persevering diligence in making himself master of the facts, and of his sound sense and general acquaintance with sanitary science, in drawing conclusions from them, and in presenting them to the Bedford authorities in a form calculated, we hope, to awaken their attention, and to make Bedford as healthy as any town in England.

AN ADDRESS TO STUDENTS; delivered at the first of a series of Meetings conducted by the Medical Missionary Society. By WILLIAM BROWN, F.R.S.E., Fellow of the Royal College of Surgeons, and President of the Medical Missionary Society. pp. 22. Edinburgh, 1854.

FOR thirteen years there has existed in Edinburgh a Society, the general object of which is to promote the advancement of Christianity through the agency of medical science and skill, especially in connexion with missions to the heathen. It aims at the accomplishment of this end by various means, among which are the diffusion of information on the subject of medical missions, the giving of aid to promising students of medicine who devote themselves to missionary work, and the supporting of thoroughly educated medical missionaries, so far as the means of the Society permit. It is gratifying to know that encouraging results have attended its effects, especially among the Chinese. The Society numbers among its members Professors Alison, Balfour and Miller, and Drs. G. Wilson, Coldstream, Matthews Duncan, Douglas Maclagan, Newbigging, Omond, Alexander Wood, the author of the pamphlet now before us, and other eminent members of the profession in Edinburgh.

Mr. BROWN's address was delivered on 16th December, 1852, during a series of meetings conducted by the Medical Missionary Society. In 1852-53, three meetings were held, and the addresses were given by Mr. Brown, Dr. Alison, Dr. George Wilson, Mr. B. Bell, Dr. Balfour, and Dr. Coldstream. In 1853-54, two meetings have been held, at which Professor Miller addressed the students on the "Physiology of the Sabbath."

From much that is excellent in Mr. Brown's address, we can make but one extract:—

"Is it inappropriate to recommend to medical students the study of the Christian Scriptures? What student ever suffered in his professional progress by doing so? As venerable records, they will merit his careful perusal. As possessing an unrefuted claim to be a revelation from God, they demand his regard as containing the words of eternal life; they come with power to every one whose conscience tells him that he is guilty in the sight of God. Not only in the time of busy life, not only on the day of rest from professional study, but also when he is laid on a sick-bed, and feels that he is in danger, and is not sure if he will ever again rise from it, what books, what words, will comfort and soothe the soul, but the Book of God; and if he is raised up again to health, when he feels his strength returning, and has again the prospect of getting on with his studies, when the vista of a long, an honourable, an useful life is presented to him, what book will guide him in gratitude, and guide him in childlike obedience, like the Book of God? One lesson which a man learns from the Bible, if he learns no other, is, that he is not to live for himself. Selfishness does not belong to the Christian character. He is not an isolated unit in the world, but he is linked to many others by relations of an interesting nature. He is a son, and he is to love and obey his parents: he is a brother, and he is to guide and guard his brothers and sisters. He is a companion, and he is to do good to those who are associated with him in studies or in neighbourhood. He is a man, and he is to attempt to help, and to sympathise with those who need. There are poor whom he is to visit. There are sick whom he is to tend. There are wanderers whom he is to attempt to lead back to the path of rectitude. There is scarcely a more beautiful spectacle than a medical student trying to do good to others. He has knowledge which enables him to be helpful to the sufferer. He has youth, and this gives him untiring energy in his exertions. He has the various feelings and the hopes of youth, which spur him on, and when he speaks to a fellow-student of duty, of conscience, of God, of the Saviour, he has a power of influencing the other which an older friend does not possess."

While we cordially approve of the combination of medicine and religion in the person of the medical missionary, we trust that care may be taken that the relations which we have noticed be never reversed, and that religion, or rather hypocrisy, may be never made a covering under which its *soi-disant* professors may insinuate themselves into medical practice.