uterine and abdominal muscular efforts.. I am also of opinion that the plugs would not have been so efficacious in this case, owing to the position of the os; nor do I conceive any other plan offered so likely a prospect of a successful issue as the one which I employed.

BATH AND BRISTOL BRANCH.
DEATH FROM THE IMBIBITION OF CHLOROFORM.
By E. C. BOARD, Esq., Bristol.
[Read April 12th, 1866.]

THE case which I purpose bringing before you this exening is one of poisoning by imbibition of chloroform; and I have thought it worth mentioning, because there are so few cases on record, and also because the *post mortem* appearances were rather interesting.

The patient was named William Wilmot, aged 42, a porter living in Queen Street, Castle Place. He was a strong muscular-looking man, but had drunk hard. The history of the case is as follows.

It seems that he had been working about a chemist's shop for some time, and his master had strong grounds for suspicion that he used to drink the spirits of wine kept there. On this occasion (May 16th, 1865) he took up a bottle which he supposed to contain spirits of wine, and drank about four ounces of the contents, not finding out that it was chloroform till he had swallowed it.

About one hour after this (about half-past 3 P.M.), he was brought to the Infirmary, having previously vomited once or twice. He could then just manage to sit up in a chair, but was very cold, and almost pulseless; his pupils were very much dilated; and he could hardly articulate. He seemed scarcely to understand anything said to him, and kept on muttering. The stomach-pump was then used; and altogether about two quarts of warm water were thrown into his stomach, and pumped out again. The water returned almost unchanged as to colour, and with no food mixed with it, but was so impregnated with chloroform as to fill the room and passage outside with a strong smell of that spirit. Brandy was then administered to him; mustard poultices were applied to the præcordial region and the calves of his legs; and he was galvanised for a considerable time, with no apparent effect. I then gave him a drop of croton-oil, and continued to administer small doses of brandy. In about an hour and a half after admission, he rallied a little; the surface became warmer; the pupils contracted; and he was more sensible to the action of the galvanic battery. In half an hour, all the worse symptoms returned; the pupils were fully dilated; the breathing stertorous; the surface covered with a cold sweat. He continued to rally for a short time, and then sink again, for an hour and a half, when his lips became dark purple, and his whole face livid. No action of the heart could be detected; and his respiration was gasping and very interrupted. I then applied the galvanic battery for nearly half an hour, when his breathing again became regular, and his lips and face regained their natural colour for a short time; but he then suddenly sank into the former state, and died at a quarter to nine o'clock P.M., six hours after he had taken the chloroform.

POST MORTEM EXAMINATION, fifteen hours after death. Rigor mortis was well marked. The body was generally well nourished. The calvarium was firmly attached to the dura mater along the mesial line. There was a considerable amount of fluid under the arachnoid, which was thickened and opaque, and did not readily peel off the convolutions.

All the ventricles were full (though not distended) of clear fluid. The brain itself was firm, and appeared otherwise healthy. The veins of the cord and the sinuses were very much gorged with blood. The lungs were very much engorged with blood; there were several small patches of pulmonary apoplexy. The heart was healthy; the blood in all the cavities was quite fluid. The stomach was about one-quarter full of dark fluid, which smelt very strongly of chloroform. Its internal surface was slightly inflamed in patches, and the mucous membrane was softened. The duodenum and commencement of the jejunum were healthy; but the lower part of the jejunum and the greater part of the ileum were of a dark chocolate colour, and became quite black after an hour or an hour and a half. The parts of the intestine round Peyer's patches were not affected in this manner. The large intestine was perfectly healthy throughout. There was no effusion or exudation into the peritoneal cavity. The liver was of usual size, but fatty. The gall-bladder was full of bile. The kidneys were granular; the capsule peeled off with difficulty. The pancreas, spleen, and bladder were healthy.

Reviews and Notices.

ON DISEASES OF THE VEINS, HÆMORRHOIDAL TUMOURS, AND OTHER AFFECTIONS OF THE RECTUM. Entirely Re-written. By HENRY LEE, F.R.C.S., Surgeon to St. George's Hospital, etc. Second Edition. Pp. 190. London: 1866.

THE subjects of the essays of which this book consists have already been treated of by Mr. HENRY LEE at various times during the last eighteen years. These essays have now undergone a thorough revision by him, and are arranged here in two classes—those relating to Diseases of the Veins, and those on Diseases of the Rectum.

In the part on Diseases of the Veins, Mr. Lee gives us his views regarding the pathology and treatment of the condition commonly described as phlebitis, and, in close connection therewith, pyæmia or septicæmia. On the elucidation of this subject he is well known to have bestowed much care; and indeed, as he intimates in his preface, to him is due the merit of having been among the first to point out the way in which the complex phenomena hitherto included under the name of phlebitis should be investigated.

The name Phlebitis, Mr. Lee says, has been made to include three distinct affections; viz.,

"A primary inflammation of one of the larger veins of the body; the secondary affections, which occur in veins situated at a distance from the original lesion; and the general infection of the system, which results from the admixture of diseased secretions with the blood."

What is the relation between inflammation of a vein and the formation of a coagulum in it? This question, Mr. Lee shews, is not always easily answered; for the coagulation may either be the cause or the effect of the inflammation—determined, in the first case, by a diseased condition of the blood independent of the vessels; and in the second by an impression conveyed through the coats of the vessels. "Practically, these two classes of cases are not easily distinguished; for it is impossible in any in-

dividual case to say how far the blood in a vein may have become directly influenced by the contents of the *vasa vasorum* which are poured into it. The blood from the inflamed cellular coat may in this way be directly conveyed to the interior of the vein, and thus be a means by which the impression is produced which causes the coagulation of the blood in the interior of the affected vessel; or, on the other hand, should the coagulum be first formed, the obstruction of these minute vessels may be the means of producing the characteristic congestion of the venous coats. It is evident, then, that the vein and its contents may act and react upon each other." (P. 24.)

The coats of veins appear, says Mr. Lee, comparatively tolerant of mere mechanical injury; but the case is different when irritants have entered them. An irritating substance may act in different ways. It may induce coagulation at the part, and thus be arrested; or it may be partially arrested in this way, and partly carried on; or it may be only temporarily retained by a clot. In either case, the morbid matter produces disease of the part where it is contained—phlebitis; which, whether primary or secondary, is essentially the same; the latter being the more dangerous because the more important organs are attached, and because the general mass of the blood has become contaminated.

A coagulum in a vein, when formed of healthy blood, produces obstruction, but little local and no constitutional disturbance. The coagulum ultimately dissolves, and the circulation is restored. Or it may remain, and become attached to the vein, allowing, by its gradual recession and the removal of its fluid parts, a channel to be formed for the flow of blood. All this may occur without inflammation; but, when the coagulum is composed of vitiated blood, it becomes a source of irritation and inflammation. These effects are most likely to take place at the point of injury; especially if mechanical injury have involved the veins, thus obstructing the circulation. In this case, also, when large veins are interfered with, the distal veins are liable to be distended, and, as was observed by Hunter, to be inflamed. Or the vitiated blood may stagnate in the smaller vessels of a part remote from the original seat of injury—as in the skin and internal parts. These secondary obstructions, Mr. Lee says, cannot all be accounted for on a merely mechanical view.

"In the skin..........a circular patch will assume a livid hue, and every point will be equally affected. The blood in each capillary branch will become stagnant, while the surrounding skin will retain its natural appearance. It is quite unreasonable to suppose that all the vessels on the affected portions of skin should be obstructed by minute portions of the original clot, and that none of these should have passed into the unaffected portions of the skin. Such an action can only be accounted for by the coagulation of the blood in the part." (P. 30.)

In the smaller veins, a coagulum may undergo the same changes as in the larger veins, by being dissolved and removed, or shrinking into a fibrillated tissue. If irritating matters be present, inflammation is set up; the obstruction is increased by the deposition of lymph; and frequently mortification takes place, especially in the skin; in the lungs, liver, and spleen, a kind of softening or decomposition more generally occurs. If mortification do not occur, the indurated mass becomes softened from the

centre to the circumference, and converted into a puriform fluid.

Another of the effects, described and commented on by Mr. Lee, of the admixture of diseased secretions with the blood, is to give the blood a tendency to separate into its elements. In this case, "fibrine in combination with albumen will be deposited in some part of the vascular system, where it may become united to adjacent parts, or the portions of fibrine so deposited may undergo further changes, which bear some resemblance to ordinary suppuration."

Speaking of the decomposition of blood in the living vessels, Mr. Lee says that death in pyæmia more often results from the poisoning of the blood by the introduction of putrid matters than from any other cause. When putrid fluids are injected, there may or may not be coagulation and embolism; but the symptoms produced "are altogether more severe, rapid, and diffused than those which follow the injection of fluid containing solid particles." Mr. Lee relates some experiments of Gaspard bearing on this point; and refers also to an important monograph recently published by Dr. Polli of Milan, who, from experiments, has arrived at the following conclusions:

"1. That the injection of a certain quantity of pus into the circulation produces pyæmia, and such diseases as are characterised by multiple abscesses.

"2. That the injection of putrid matter produces septicæmia, or those diseases recognised by the name of putrid infections, and characterised by a typhoid gastro-enteritis.

"3. That the injection of matter obtained from contagious diseases—glanders, for instance—will reproduce the same affections." (P. 40.)

When a septic agent is introduced into the blood, there is usually an interval before constitutional symptoms are manifested; and this is specially observed in diseases of bone. Here, when there is no adhesive inflammation circumscribing the suppuration, the unhealthy secretions are prevented from escaping by the unyielding structure.

"An unhealthy inflammation is propagated along the endosteal membrane; the cells of the bone may then become infiltrated with inflammatory products, the sinuses and small veins become closed with coagula, and, if these coagula break up, there is nothing to prevent the diseased secretions and pieces of decomposing fibrine from finding their way into the general circulation. The morbid matter is detained for a certain time, during which the process of decomposition is established. The first infected portions of blood, together with the morbid matters which they contain, then pass on to infect the blood in adjacent vessels. The dissolved and putrifying fibrine from these proceed further towards the centre of the circulation; in its course it will loosely coagulate fresh portions of blood, and then determine their decomposition. Every additional quantity of blood that is infected will add to the amount of putrid fluid in the vessels, and thus the disease will propagate itself, quite independent of the original source whence the morbid matter was derived. Each portion of blood which is attacked loses its vitality, passes into a state of decomposition, and becomes itself the means of infecting other portions. The contaminated blood may then be found in the vessels in every stage of decomposition, or it may have passed out of the vessels in which these changes have taken place, having first stained them of a deep

livid colour. Long tracks of purple veins will occasionally be found, some being blocked up with viscid blood in various stages of putrescence, and some having discharged their contents, and being comparatively empty." (Pp. 42-43.)

At pages 49 to 56, Mr. Lee describes the *post mortem* appearances after the introduction of putrid fluids. Among the results produced, some often resemble similar changes arising from other causes, while others are peculiar, especially the simultaneous attack of disease in several parts of the same organ or in different organs. The changes which occur in the lungs, heart, liver, spleen, kidneys, skin, muscular structure, and serous membranes, are described.

After a notice of symptoms, Mr. Lee speaks of treatment. In the local treatment, the author says, "The distinction between the process by which fibrine or fibrinous coagula are deposited from the blood and that by which lymph is secreted from a lining membrane is of primary importance, not only in regard to the pathology of this class of diseases, but also with regard to their surgical treatment. No surgical interference could arrest a morbid process which extends by continuity of action in the lining membrane of a vein; but such interference is both indicated and warranted if the occasional and severer symptoms of phlebitis proceed through its contents, generally in a more or less coagulated state." (P. 61.)

Hunter proposed compression on the vein at the inflamed part, so as to make the sides adhere; or to the part just above the suppuration, if this have taken place. But, says Mr. Lee, as lymph is not effused from the lining membrane of veins in the early stage of phlebitis, Mr. Hunter's method can only produce a coagulum, which, for reasons already given, cannot be depended on for preventing morbid matters from entering the current of the circulation. Hence, when superficial veins are affected, Mr. Lee obstructs the vessel by a process of acupressure. Two needles are introduced under the vein; a piece of plaster is laid over the skin in the course of the vessel, and retained by firm India-rubber bands placed over the extremities of the needles; and the vein is divided by subcutaneous section between the points of compression. The result is permanent union, effected between the opposed portions of cellular tissue on the outside of the vessel.

In speaking of the constitutional treatment, Mr. Lee refers to the experiments of Dr. Polli on the sulphites. These he regards as having been well designed and carefully performed, and often crucial in their nature. But the results obtained by Dr. Polli and others require to be verified by clinical experience; if, under this test, the alleged efficacy of the sulphites hold its ground, the merit of the discovery can scarcely be overrated. Mr. Lee believes that, "although these remedies may prove useful in cases of putrid infection of the blood from the injection or absorption of decomposing agents, they will not be of much use in the ordinary forms of pyæmia."

In the remaining parts of his work, Mr. Lee treats of Varicose Veins, Varicocele, and Diseases of the Rectum—Congestion, Inflammation, Hæmorrhoidal Tumours, Fistula Ani, Stricture, Obstruction of the Bowels, Diseases of the Sphincter Ani, Malignant Diseases, Recto-vaginal Fistula, and Congenital Malformations. Various of the modes of proceeding which he advises in regard to these affections have at different times been placed before the profession; and the remarks which he has here collected are full of practical instruction.

Mr. Lee merits the thanks of the profession for having thus brought together into one volume his views on various important subjects to which he has devoted much attention, and in regard to many of which he has not only increased our knowledge as regards pathology, but has improved the surgical treatment. Throughout his writings, as here contained, one great merit is conspicuous; viz., that his operative proceedings are founded on a consideration of physiological and pathological processes, and are made dependent on these in such a manner as to render the Surgeon the assistant of Nature.

Progress of Medical Science.

MEDICINE.

LIME-INHALATIONS. Dr. Geiger, of Dayton, Ohio, recommends lime-inhalation in diphtheritic affections. He says that, having obtained the false membrane expectorated by a boy, he placed a portion of it in lime-water, and found that it dissolved very readily, and then felt satisfied that, if some method could be devised to bring the lime into contact with the membrane in the windpipe, it would dissolve it there. He obtained some unslacked lime, placed it in a vessel, and poured upon it first cold water; and upon inhaling it, could discover no effects. He then poured over another portion hot water, and inhaled the steam arising from it. After inhaling it a few moments, he could distinctly feel in the air-passages the smarting action of the lime, and determined to try the effects of the lime inhaled in this way in the next case of diphtheria, or pseudo-membranous croup, occurring in his practice. He has, he says, used it in this way, and so have others, with favourable results, already reported. Dr. Schuleck reports to him two cases of pseudo-membranous croup successfully treated by lime-inhalations.

EAR-COUGH. Dr. C. Fox believes that a sympathy of action exists between the auditory canal and the larynx. He says: 1. The sympathy between the ear and the larynx, as well as the stomach, has been long known, although the majority of recent writers seem to have overlooked it. 2. This sympathy is not manifested in every individual, but in about seventeen per cent., and seems to depend on a state of hyperæsthesia of the nerve which supplies the auditory canal. 3. The nerve of the ear concerned in the production of this phenomenon cannot be a branch of the vagus, as Romberg and Toynbee have affirmed, but is in all probability a branch of the fifth cranial nerve. 4. This sympathy is an example of a reflected or sympathetic sensation, in which the connexion between the nerves concerned takes place in the nervous centre. 5. Cases occasionally occur where a cough is solely dependent on the existence of some source of irritation in the auditory canal. 6. The explanation of the sympathy between the ear and the larynx enables us to understand the mode in which pain of the ear becomes occasionally a symptom of a thoracic aneurism. Dr. Fox advises examination of the auditory canals in all cases of obstinate cough, where none of the more frequent causes of this symptom can be discovered.