panitic, particularly over the small intestines. Her breath was rather short; she had some cough, which she had before her confinement; she did not notice any expectoration. The tongue was coated with white fur. She was very thirsty; did not care to eat; had been sick two or three times. The bowels were moved twice or thrice a day, very loose, said to be "quite of a black colour". She frequently passed wind from the bowels, not offensive. As to her urine, she did not know. The skin was slightly hot, dry; pulse 130, small, with slight wiry feel. She had no pain in the head; wished to be left alone; dosed a good deal, and, when dosing, muttered and wandered a good deal; sometimes she awoke up and seemed quite lost. A good deal of brandy and some port wine had been given, with beef-tea and gruel frequently during the day.

I suggested scruple doses of sulphate of lime, with some chloric ether and aromatics; with bags of M'Dougal's carbohc powder to be placed in the bed. I expressed the belief that the perchloride had been taken up into the system, and that death would result.

I saw her again on March 31st, the seventeenth day. She had continued to become worse. She was lying on the back, with the knees drawn up and the arms extended; she slipped down in the bed. The face was slightly flushed; skin warm and dry; the abdomen perhaps a little more swollen; when it was pressed, she cried out "Oh, dear!" She was lying in a dosing state, with much talking and wandering; was roused with difficulty, and then appeared for a time lost; sometimes she did not appear to know those around her. She took little nourishment; drank the brandy and water and beef-tea when given to her. Pulse 140, very small, somewhat wiry; breathing short, quick, with frequent sighing. Several very loose, quite black, motions were passed into the bed. A good deal of urine passed, and also into the bed.

She continued much in the same state, and during the night of April 5th, the twenty-second day, appeared to be in a deep sleep, but it was found that she was dead.

Post Mortem Examination.—The examination of the body was made in the afternoon of the second day, about thirty-six hours after death. The body was well developed, with a moderate amount of fat; some port-wine-coloured fluid issued from the mouth. There was no appearance of decomposition. The abdomen was large, prominent, tympanitic. The arms were swollen, the superficial veins very distinct near the chest, the swelling extending somewhat up both sides of the neck. The intestines were much distended with flatus; the coats were rather thin, apparently healthy. There was no unpleasant odour from the flatus when it escaped. The stomach was rather large; it contained some port-wine-coloured liquid. There was a good deal of congestion in the omentum, of a dark brown red colour; little or no congestion of the peritoneum. About a pint of brownish coloured fluid was found in the peritoneal cavity; no effusion of lymph anywhere. The uterus lay in the cavity of the pelvis, large and doughy. The uterus was removed for further examination; and, on dividing the veins at each side, some thin dark brown coloured blood escaped. The liver and kidneys were apparently healthy. There was some emphysema at the upper part of both lungs, otherwise they were healthy. There was not any particular congestion at the lower part; no fluid in the pleura. The heart was apparently healthy. There was some dark brown coloured, partially coagulated, blood in the right auricle and ventricle.

The uterus was large and doughy; it measured about five inches in length, four inches and a half across the fundus; the walls were nearly one inch in thickness. There was no injection of the peritoneum; the surface, perhaps, was not so glistening as usual; it had no lymph, or other exudation, upon it. The fimbriated extremities, and also portions of the Fallopian tubes, were of deep brown colour, from great congestion of the small vessels; the veins in the neighbourhood were of a dark brown colour, and much congested; some black coloured fluid could be pressed out of the divided veins at each side of the uterus. The body of the uterus, both anteriorly and posteriorly, was marked with leaden-coloured streaks beneath the peritoneum, passing obliquely outwards and downwards. On section of the posterior wall, several open sinuses were divided, which contained ink-black coloured fluid about the consistency of milk. The inner surface was covered with a deep brown blackish, slightly mucous, secretion, which, when washed away with a stream of water, left the tissue at the inner surface of a mottled deep brown, mixed with a blacker colour. The usual reticulated appearance of the inner layer of the contractile tissue was observed beneath this coloured layer. When placed under water, the soft tissue at the inner surface had lost nearly all the shaggy appearance it has soon after the separation of the membranes and the placenta. The former situation of the placenta was marked, as usual, by the soft tissue being thicker and in greater abundance at this part than at the other portions of the surface. Studded over the inner surface, especially at the seat of the placenta, and directly surrounding it, were numerous larger and smaller

round black spots, which, on closer examination, were found to be the open extremities of the uterine sinuses, containing an ink-black coloured fluid somewhat thicker than milk. On examination with a rather strong watchmaker's eye-glass, the situation of the placenta was seen studded with white points, which, on being transfixed with the fine point of a needle, could be drawn out a short distance, and were found to be the extremities of the utero-placental arteries. Several of these arteries were traced, and found to be immediately adherent to the tissues of the uterus; their orifices were open, their canals quite free; no trace of any coagulum were found in them. Incisions made into the walls of the uterus at and near the seat of the placenta divided several sinuses, all containing more or less of ink-black fluid similar to that previously described. Incisions through the peritoneum, across the leaden-coloured streaks, divided large sinuses filled with similar ink-black fluid. The inner surface of the sinuses was slightly stained black, but in none of them was there any appearance of coagula; at the lower part of the inner surface, some blood had been extravasated into the tissues. The orifice had a somewhat ragged appearance, but not the least evidence of any laceration. The ovaries were quite healthy; the portion of the vagina removed was also healthy.

[To be continued.]

PYÆMIA IN HOSPITAL AND PRIVATE PRACTICE.

By T. HOLMES, M.A., F.R.C.S.,
Surgeon to St. George's Hospital.

IN defending the term "hospitalism", which he has adopted from Sir J. Simpson, Mr. Erichsen naturally quotes the example of the hospital at Lincoln as showing that pyæmia may prevail in a hospital while the town is free from the disease. I was not aware that any one had ever doubted this, or that it could be necessary to invent a new term for so very old a fact. I would merely observe by the way, that the fact, if admitted, that pyæmia was prevalent in a hospital at one particular time while not prevalent in the town, does not prove that at another time it might not be absent from the hospital while prevailing in the town. It does not, in fact, prove that the disease is in any proper sense a hospital disease, and still less if the hospital be known to be faulty in construction. Every one knows and must admit that, as a hospital is intended for the treatment of considerable numbers of the graver cases of injury and disease, the results of errors in the construction of such places are likely to be of a very serious nature. This consideration was little attended to in old times (and the greater part of the Lincoln Hospital was built about a century ago), and hence many of our older hospitals are very defective in construction; and for many of them, I have no doubt, entire demolition and reconstruction would be necessary, if it were proposed to use them for the purpose of treating cases of serious injury or operation in anything like the proportion in which such cases are found in our great metropolitan hospitals. The defective construction of the hospital in question has led to an unhealthy condition, on which I dwell many years ago in the joint report on the hospitals of the United Kingdom (*Sixth Report of the Medical Officer to the Privy Council for 1863*, p. 655), written by Dr. Bristowe and myself. I have there pointed out obvious and confessed defects of construction and of drainage, which had produced previous outbreaks of erysipelas, phagedæna, and pyæmia, in one of which it became necessary to close the hospital for some months. Improvements were made in the drainage, the wards were altered and enlarged, and other minor alterations were made; but it has been found impossible to remedy the original faults in the construction of the hospital. Last year, Dr. Bristowe was requested to visit the place, and to make a thorough examination of the hospital and its site; and, in consequence of that examination, recommended the entire reconstruction of the building. Sir J. Paget and Mr. Erichsen, while at different times they were attending to a professional summons to the town, were asked to look at the hospital, and also gave their opinions, though necessarily more hastily; and Captain Douglas Galton also surveyed the building, and gave suggestions for its alteration or partial reconstruction. The surgeons who had practised in the hospital, and whose operating practice appears now to be considerably more active than it would have been when the hospital was constructed, were unanimous in recommending the entire reconstruction of the building, which, indeed, was obviously unfit for the purposes of an active surgical hospital, and, in fact, was probably never intended for such purposes. The governors of the hospital came to the very sensible conclusion that, as they had already spent a good deal of money in alterations without curing the mischief, as the alterations which Captain Douglas Galton or those which Mr. Erichsen suggested were very costly, and their result appeared uncertain, they would build an entirely new hospital. I

give them all honour for their spirited conduct; but I do not see the bearing of the above history on the general question of the propriety of treating acute surgical cases in hospitals, which is the real question raised by the word "hospitalism". Every reader of Sir J. Simpson knows this; and it was in order to raise this question that the word was invented. If Mr. Erichsen mean to continue the use of the word in order to impress on the mind of the profession the important but surely familiar truth that care ought to be used in the construction and management of hospitals in which acute disease is treated, my only objection would be to the confusion thus inevitably produced in the public mind, and to the unfair prejudice so created against all hospitals, whether properly constructed or otherwise. The fact that many of our smaller and older country hospitals are not fitted for the reception of acute cases, at least in any considerable number, and that they are liable to be visited by fatal outbreaks of septic (or, as we then called them, "secondary") diseases, is fully dwelt on in the Report above alluded to (see p. 547 and other places). It used at that time to be very generally believed that such "septic" affections were confined, or almost entirely confined, to the hospitals of large cities. I hope the Report in question did something towards dispelling this delusion, which rested a good deal on hearsay, and a good deal on a misapprehension of the significance of death-rates. An attempt is now being made to enforce the doctrine that septic diseases are confined, or almost confined, to hospital practice. As this is notoriously untrue of erysipelas, which every one meets with in private practice, it is not likely to be true with respect to the closely allied disease, pyæmia. Mr. Prescott Hewett's paper at the Clinical Society was hardly required in order to show the fact that pyæmia is met with in private; but it raised the very interesting question, whether there is really much difference in the relative frequency of the occurrence, more than the difference in the proportion of cases likely to lead to pyæmia would account for.

Mr. Erichsen assumes with much confidence that pyæmia was absent from the town of Lincoln while the hospital was, as he terms it, "pyæmia-stricken"; but he adduces no proof of the fact. A casual observation even from so respectable an authority as one of the surgeons of the hospital, that "he had never met with a case", is surely no serious proof. Many deaths from pyæmia occur which are only recognisable as such on *post mortem* examination. I need hardly remind readers of this JOURNAL of the details of my late lamented colleague Dr. Fuller's death. Then, again, the number of deaths from pyæmia is but small absolutely; and, though such cases may not have occurred in one surgeon's practice, they may in another. In the Lincoln Hospital, I am not aware that the number of cases of pyæmia occurring in the recent outbreak has been given; but I find in my account of the hospital in 1863, that during the previous three years, out of a total of sixty-four deaths in the hospital, five only were attributed to pyæmia. How easily might not a corresponding number of deaths (not, I repeat, necessarily the same number, for the causes of pyæmia are more rare in hospitals) have occurred in private unobserved or unverified? Struck by the disastrous termination which pyæmia often produces, and that in cases to which they have given special attention, surgeons are rather apt to exaggerate its real frequency. We have shown in the Report above referred to (p. 554), that the total number of deaths from pyæmia in three large London hospitals—viz., Guy's, St. Thomas's, and St. George's—where, as a rule, every case is examined after death, and the *post mortem* examination is carefully reduced to writing, was, during a specified period, 0.115 per cent. of the cases admitted, or 1.23 per cent. of the total number of deaths; that the deaths from pyæmia, as compared to the deaths from all causes tabulated by us, were in London hospitals 1.7 per cent., and in country hospitals 3.4 per cent. And we have shown also that a certain (and not a very small) proportion of these deaths from pyæmia occur in persons who are admitted suffering from the disease. This was proved to be the case in six deaths out of fifty recorded in one table from metropolitan hospitals, and might very likely have been so in other cases as well. In fact, every one who has attended the medical and surgical practice of hospitals knows that cases are occasionally admitted with pyæmia from apparently trivial causes; and in private practice many such are, as I believe, vaguely diagnosed as "fever" or under some other designation, and are buried unexamined. Are we to believe with Mr. Erichsen that, although pyæmia occurs in private from the slightest and less probable causes, yet those operations which so much more commonly produce pyæmia in hospitals never do so in private practice? It would at least take somewhat more cogent proof than has yet been offered before we could accept so strange a doctrine.

The above considerations express, as well as I can put them in a brief space, my reasons for dissenting strongly from the introduction into our surgical literature of the new term "hospitalism", and for protesting still more strongly against the doctrine which that new term is intended to

convey—namely, that there is a specific unhealthiness generated in hospitals from which cases in private practice are exempt. Whenever this doctrine has been advanced, and has been challenged, its defenders have always resorted to the same line of argument as that to which Mr. Erichsen has recently been driven; *i.e.*, they have spoken vaguely about the prevalence of secondary or septic diseases in hospitals, have adduced the example of some hospital or hospitals in which definite errors of construction or of management have led to definite bad results, have assumed that nothing of the sort takes place in private practice, and then have triumphantly asked whether their case is not proved. We reply, undoubtedly not; because, if the argument were reduced to a syllogistic form, it would be found that the minor proposition is a pure assumption. Every one knows that pyæmia is unhappily prevalent in hospitals, though every one does not know how small the proportion of cases really is. Every one also is now beginning to know that pyæmia occurs moderately frequently in private, although the cases which we usually see accompanied by pyæmia in hospital practice are much more rare in private. But no one knows, even approximately, in what proportion of cases pyæmia occurs in private—and until that is known it is not right to argue, as Mr. Erichsen does, as if pyæmia had been proved to be absent from private practice. On the contrary, the more alive we are to the symptoms, and the more we know of the history of cases in private, the more frequent do we find this disease to be.

I am very sorry to trespass so much on the space of the JOURNAL, and still more sorry to challenge the teaching of so eminent a surgeon as Mr. Erichsen; but the matter is a very important one, and, when we hear a hospital-surgeon speaking of stamping out pyæmia by applying the pickaxe to our hospitals, as the cattle-plague was stamped out by using the poleaxe on the infected beasts, I think other hospital-surgeons may be excused for saying that nothing in their experience, and nothing which has been published in the experience of others, justifies language so calculated to mislead the public as to the condition of the hospitals in which we practise, and as to the results of the treatment of cases in them at the present day.

ON THE GRAPHICAL REPRESENTATION OF THE MOVEMENTS OF THE CHEST-WALL IN RESPIRATION.*

BY ARTHUR RANSOME, M.D., M.A., Manchester.

A STETHOGRAPH has been constructed which gives an accurate tracing of the course described by any point on the chest-wall, in the forward and upward directions—*i.e.*, in the vertical plane at right angles to the anterior surface of the chest. With this instrument, many tracings have been made both in health and disease. The following, chiefly from the anterior ends of the third ribs, are selected as specimens of the results obtained, and to illustrate the conclusions drawn from them. It has been observed:

1. That the anterior end of the rib takes a different course in its ascent from that of its expiratory descent (Figs. 1 and 2).

2. That in most cases the uppermost line is that of inspiration.
3. That this course is liable to variation in consequence of the action of the will (Figs. 3 and 4).
4. That in the action of coughing, after the inspiratory stroke, there is a slight forward bulging of the rib, perhaps from the compression of the air in the lungs by the action of the diaphragm, then a downward fall for a space of about 0.2 inch, and afterwards an almost horizontal in-drawing of the rib (Fig. 6), quite unlike anything that could be produced by the simple angular movement of the rib.
5. That in sneezing, the course of the rib is similar to that taken in the act of coughing, except that there is no forward bulging at the commencement of expiration (Fig. 7); and in the latter part of its course the rib only drops about 0.15 inch for 0.8 inch of in-drawing.

* Read before the Manchester Literary and Philosophical Society.