deducible, is that, in effusions which we know to be of tubercular origin, paracentesis becomes warrantable merely with a view to the mitigation of existent symptoms. In the young gentleman No. 16, there were all the stethoscopic signs above in repetition noticed as so indicative of effusion. Dr. Day, Mr. Bisshopp, and myself, at our examinations after the two operations, were much interested at the descent of respiratory sound as the more general symptoms of amendment became manifest. When he had made what might be regarded a full recovery, and when I examined him six months after the operation, only a patch of coarse crepitation, and at the very base, existed; and this, doubtless, was soon to be succeeded by the normal vesicular sounds. This patient, at this date, is without a trace of his malady. In No. 17, in the instance of empyema in the little boy, the auscultatory sounds were quite in accordance with the other conditions of long standing compression of the pulmonary tissue. I was informed several months ago by Mr. Manser that the breathing was then heard low down, and that the little patient gave every promise of full recovery. In the last named example, absorption was followed by the proper puerile respiration, and full recovery.

It is always important in these cases to carefully note the cardiac sounds; and, in those instances in which thoracentesis is contemplated, it is absolutely imperative, as the trocar can never safely be introduced without a knowledge of the exact position of the heart. In eight of the above recorded examples, this organ was pushed under or more or less beyond the right edge of the sternum. In No. 6, the cardiac sounds were heard in greatest intensity at the right sternal edge; here there was no risk of entering the pericardium when the left thorax was pierced. In No. 7, the apex-beat was felt, and the sounds were best heard beyond the right sternal border. In No. 11, the cardiac sounds were but very faintly heard; and I concurred with Dr. Fuller and Mr. Rix that, in such a case, the greatest caution was needed in the introduction of the trocar. The side of effusion was most carefully auscultated, lest the pericardium should be wounded. In case No. 14, the heart could be felt and most distinctly heard beneath the right nipple. In No. 16, the cardiac sounds were intensified towards the right. Displacement of the heart, and the twisting of the aorta and large vessels, may give rise to morbid sounds, which cease to be heard when, by absorption or operation, the fluid has been removed and the organ has resumed its normal position. When orthopnoea is added to other of the graver symptoms, the heart-sounds are generally pronounced feebly, consequent upon the mechanical pressure exerted upon this organ or the great vessels. Auscultation in such cases gives information of the greatest consequence. The removal of the apex-beat and the greatest intensity of the sounds are by far most marked in left-sided effusion. In antero-posterior expansion, the cardiac sounds become feeble or lost. The auscultatory signs, not only of the lungs, but of the heart, are necessarily varied by a variety of phenomena. Pericardial effusion may be coexistent with pleural effusion, as in case No. 9. Cohesions, empyema, costal approximation, long duration of the disease, and other circumstances, must very naturally modify cardiac action. In some cases of left pleurisy, the cardiac sounds are best heard to the left of the nipple, and, in exceptional instances, even below the axilla.

In some cases, a considerable amount of fluid may be contained in the pleural sac; and for some time this may remain, without giving rise to any marked symptoms, or to any great inconvenience to the patient. A person under such circumstances may look tolerably well, have a fair appetite, and even pursue his occupation; nor may there be much fever, pain, or local distress. Bronchitis, pneumonia, and phthisis present objective symptoms which at once lead us to suspect the true nature of the malady; but it is not so in certain low and masked forms of pleuritic effusion. In the last named affection, a strict attention to the physical signs is of the greatest importance; and it has repeatedly come to my observation that a neglect of the physical signs has led to the gravest mistakes. A patient will present himself under the idea that his case is by no means serious. He does not, and has not, suffered much. The absence of acute pain, and not having experienced any marked attack of illness, favours the supposition that his complaint is not of great consequence; and it has most probably been referred to cold or some undefined temporary loss of health. He tells you, however, of his having for some time had a cough; that his breathing becomes accelerated on increased exertion, and that he cannot lie on either side; and, on being interrogated, he admits the loss of flesh and strength. The facial indication confirms our suspicion. If, in addition, there be languor of the circulation, as evinced by cold extremities and an irregular pulse, and a tendency to syncope, very conclusive evidence is then presented. Effusion into the pleural cavity cannot, however, remain there for an indefinite period harmlessly. Its mechanical disturbance, and the other derangements to which it gives rise, fail not sooner or later to become manifest. Hasse says sometimes the effusion may prove perilous or

fatal through its character or amount, without the appearance of such symptoms as to excite alarm. Amongst the other morbid conditions produced, a febrile temperature is generated; the digestive organs become impaired, and a diminished vitalism is the consequence. Claude Bernard has beautifully shown that, when digestion is not normally carried on, the gastric secretions do not retain their physiological properties, and are unequal to those functions in vital chemistry which are so necessary to the process of chymification; hence we see one cause why it is that fever in pleuritic effusion becomes of the hectic character, and is followed by exhaustion. In chronic cases, flatulent dyspepsia is most common, and the patient is usually troubled with acid eructations. In empyema, I have generally noticed these conditions as permanent symptoms.

It is a fact of practical importance, and one which should always be borne in mind, that thoracic effusion is sometimes thrown out with great rapidity, and even a few hours will be long enough for a large amount of liquid to collect. Its sudden presence in the sac generally produces much systemic disturbance; but, as the mediastinum and the diaphragm give way, and as the intercostals become stretched, the feelings of dyspnoea and distress become mitigated; the organism is rendered more tolerant of, and accommodates itself to, the extraneous product. I have been astonished at the celerity with which these collections form in children, which peculiarity may, perhaps, be accounted for by the quicker circulation and the greater exudative tendency which there is in children than in adults. In all the acute affections of childhood, if there be any dyspnoea or signs of pulmonary disturbance, physical examination of the chest should never be omitted. When effusion occurs in children, it is nearly always as the complication or sequel of some other form of disease. Bronchitis, pneumonia, or pleuropneumonia, are the frequent associations or forerunners of this condition. It forms the not uncommon sequel in eruptive fevers, when the liquid is nearly always sero-purulent or purulent. The younger the child, the less chance is there of recovery in this affection. In the acute empyema of children, pus may be secreted from the outset of the inflammatory symptoms. In children, the effusive tendency is more prone to extend to the pericardium than in the adult; and a fatal termination in these little patients sometimes comes on in sudden and unexpected manner.

[To be continued.]

ARSENICAL POISONING BY ARTICLES OF DRESS.

By R. R. CHEYNE, F.R.C.S.Eng., Nottingham Place.

THE following case of arsenical poisoning, in a little relative of my own, from wearing a ruby-coloured merino tunic, occurs *à propos* to give emphasis to the remarks in the JOURNAL upon the poisonous nature of red wall-papers, founded upon an article in the *Gazette des Hôpitaux*. The attention to which this case is entitled, as a warning against the too confident use of articles of clothing dyed red with coralline dye, will be rendered evident by the concise report of the analysis made by Dr. Dupré of the Westminster Hospital for the purpose of investigation.

Master T. B. M., aged 2 years and 4 months, after some indications of disorder and a few restless nights, vomited several times on October 1st last, and had slight diarrhoea. Vomiting after food continued until the 6th, when it ceased until the 13th. During the same period, there existed depression, anorexia, now and then tremor, or a kind of quivering of the muscles, once a screaming fit in the night (as if from fright), and a state of extreme irritability, with frequent micturition. The degree of illness in the child thus far seemed to be out of all proportion to any discoverable local lesion. On the sixth of the month, however (the day on which the vomiting subsided), he awoke agitated, and, after a warm bath, a rubeoloid rash appeared, succeeded by a cough, which day by day became more troublesome, being most severe for an hour, between 3 and 6 A.M. The eruption was capricious as to its extent and duration, leaving, when absent, a mottled look of the skin, which was also stained by the red dye drawn out of the tunic by the very profuse perspiration characterising the disorder. It was this latter circumstance, with the fact, now observed, of the recurrence of the vomiting not long after the tunic (which had been left off for several days) was again worn, that led me to the discovery of the real wolf in lamb's clothing with which I had to contend. Upon inquiry, I learnt that this ruby-coloured merino frock was first put on on September 24th, and was laid aside on October 6th, when the little patient was strictly confined to bed. For the week following, there was exemption from sickness; and then (two days after the use of the tunic was resumed) the stomach again rejected food. It seemed likely, therefore, that the gastric disturbance was in some way excited by wearing that particular garment; and if, as I imagined, the existence of arsenic

therein could be proved, the case and its treatment would become plain. Of course, the needed proof was now sought, the merino in the process being committed to destruction.

Decided amelioration of the symptoms followed at once. The vomiting did not recur, the cough subsided, the eruption, less diffused, took the form of patches of erythema, and the perspiration soon diminished. Yet the progress towards recovery was very slow. At the end of the month, there was still but little power of taking food, and an appearance of cachexia, in marked contrast to the fair condition of health presented by the child upon his return from the country a few weeks since. It is to be hoped that a careful tonic treatment, and a stay for some time at the seaside, may do much to repair the mischief and restore the constitution.

It will be noticed that this case did not present all the symptoms sometimes observed (Taylor's *Medical Jurisprudence*, page 111) in similar instances of arsenical poisoning. Thus there was no conjunctival irritation, etc. The salient points of the case were depression, sickness, anorexia, profuse perspiration, eruption, cough, nervous irritability, and frequent micturition, leading to and leaving a cachectic state of constitution.

In the following report of Dr. Dupré, reference is made to a cerise-coloured cashmere frock, as well as to the one now in question, of a ruby colour. The former had been left off last May, and, therefore, has no relation to the present inquiry. Still it may be supposed that, before the washings to which it had been subjected, it, too, contained more than mere traces of arsenic.

Dr. Dupré's report is as follows.

"I have carefully examined the little frocks you brought to me some time since, with the following results. Both frocks are dyed with one of the red coal-tar colours; this particular one is called coralline, I believe. The colour of one frock was tolerably fresh and dark; from the other frock, a great part of the colour had apparently been washed out. The darker one contains 0.048 grain of arsenious acid per square foot. The paler one also contains arsenic, but in excessively minute traces only. (Signed) A. DUPRÉ."

The evidence I have adduced in the above case clearly, I think, confirms the statement that red, no less than green, colours in articles of dress may contain arsenic, an arsenical mordant being often used to fix the coralline dye, and as such are highly prejudicial (*Gazette des Hôpitaux*).

Green and (it thus appears) red wall-papers, artificial flowers, linings of caps, cakes, sweetmeats, covered with arsenical green, or packed in arsenical paper, French plums, figs, and other fruits, similarly packed, and other miscellaneous articles, have all been sources of arsenical poisoning. It is also well known that the process of manufacture has a most unwholesome influence, and is fraught with danger to those employed. The question, then, may, with all earnestness, be asked, Are the facts of the great competition in trade and the excessive desire for rich and beautiful colours in the decoration of our houses, etc., sufficient reasons for disregarding the painful lessons of experience? Undoubtedly, there is often great ignorance, if not criminal recklessness, displayed upon this very important subject.

OBSTETRIC MEMORANDA.

THE USE OF THE TOW-PESSARY.

HAVING read the communication of Dr. Copeman on the above subject in the number of the *BRITISH MEDICAL JOURNAL* for October 24th, 1874, and having had some experience in the use of the tow-pessary, I venture to give a few remarks, in accordance with the wish he has expressed that, "if others try it, they will record their experience in the *JOURNAL*."

I have long used a cotton-wool pessary, both in my private and in my hospital practice, with great comfort and advantage to my patients; indeed, in cases of retroversion and retroflexion, I now never employ any other kind of supporter. However, I must take exception to the following words of Dr. Copeman. "The instrument to which I specially allude is the pessary, of which there is now such an infinite variety; perhaps proving that, where so many different ones are contrived, many of them have been found of little value. My experience of them certainly leads me to the conclusion that but few of them are to be depended upon, and that some of them are quite useless." The writer evidently finds fault with the instruments. This I hardly think fair to the several pessaries; and, as I have devised no special instrument, I speak without bias when I say the instrument may be perfect as a pessary, needing only to be suitably adapted. Of necessity there must be

"an infinite variety of pessaries", since the vaginae of an "infinite" number of women vary much. Indeed, I believe the variety to be so great, that each vagina has to be studied carefully in its bearings and relations—in fact, in its every aspect—in order to properly fit a pessary. As the ophthalmic surgeon has with the nicest care—even to the use of decimals in his numbers—to adapt by means of glasses the focus of the vision of his patient, so must it be with the pessary; and it was for this reason I cast about me to find one which, without all this delicate nicety of application being required, would mould itself to the vagina into which it might be introduced, and of itself, as it were, fulfil all expected of it and required. For this, the cotton-wool is in many respects the best agent. In order to save expense, I recently tried, in the hospital, tow instead of cotton-wool, and I shall record my experience of it.

I must first state that I did not use "the piece of linen greased on the outside to facilitate introduction", but simply the tow itself, well larded over its surface; the Ferguson speculum being introduced, and the tow pushed through it by means of a long curved forceps, sufficient being used to meet the wants, as I considered, of each particular case. The power of adaptation to the vagina seemed to me to be less than that of the cotton-wool; and the patients complained of discomfort—some of heat and smarting, others of actual pain, not before felt, when I employed the wool.

I allowed the tow, if it would, to remain in for two or three days; and, on withdrawing it, noticed the pain it gave, especially if the speculum were not used. And, on examining the os, the vaginal portion of the cervix uteri, and the vagina itself, I found them, especially the two former, scarlet; so red from excessive congestion were they. In some instances, the engorgement ran on so far that, as I withdrew the tow, the overfull blood-vessels gave way—the compression from the tow being removed—and the blood flowed from them just as if leeches had been applied, or the scarificator been used.

Satisfied in my own mind that this agent was a powerful irritant to the delicate mucous membrane, and was doing my patients harm, I discarded it at once, and have not since tried it, as it did not occur to me that it would answer better swathed in the greased linen in the manner Dr. Copeman has described. This plan, I must say, did enter my mind, but was rejected, because, theorising, I imagined the linen would curtail the expansile power of the tow and its capability of adapting itself to the vagina, and, when greased, would facilitate its slipping from the vagina, and would, moreover, require to be renewed with each fresh dressing, so that nothing was gained on the score of economy. Again, I found in many cases that the tow became rolled into a hard ball, and was forced from its berth in *vagina* by the efforts in defecation and even in emptying the bladder. For these reasons, I have returned to the cotton-wool; but, as Dr. Copeman speaks so highly of the tow covered with the greased linen, I shall try his method, and report the result.

Better than even the simple cotton-wool pessary, is the cotton-wool soaked in glycerine or in glycerine-water; for it may be retained *in situ* much longer, owing to the deodorant properties of the glycerine. Moreover, in cases of congestion of the uterus and vagina, the blood-vessels are depleted, the serum being withdrawn by the process of exosmosis; and, if any abrasion or ulceration be present, the reparative processes are brought into play, and the mischief remedied.

G. DE GORREQUER GRIFFITH, L.R.C.P.Lond., Senior Physician to the Hospital for Women and Children, Pimlico.

THE INDUCTION OF PREMATURE LABOUR.

I VERY much doubt whether another reader of my last communication, On the Induction of Premature Labour, besides Dr. Swayne, could be found who would assert that I had compared my two cases with his case (No. 11). No such comparison was made or intended.

Dr. Swayne has laid great stress as to the safety of the child in the difference between the "old fashioned method" and the new. As briefly as possible, I will give the result of Dr. Swayne's twenty cases as I find them in the summary of his cases in the *JOURNAL* of August 8th.

Dr. Swayne gives three cases in which the "old fashioned method" of treatment was employed, two of which recovered and one died. Of the remaining seventeen cases under the new method, five recovered and twelve died. If, from his own statistics, Dr. Swayne is satisfied that the safety of the child is greater under the use of the new method than the "old fashioned method", I am not, but I am inclined to believe that Dr. Barnes's bags are superior to either of the two methods; and, should I ever be called on again to induce premature labour, that would be the method I should employ, certainly not sponge or tangle-tents.

Dr. Swayne complains of unfair treatment on my part towards him. If I have in any way been unfair, I can truly say I am sorry for it, and