duced it carefully into the joint, easily found the body, but could not draw it further inward. I followed it with my finger across the joint to the inner condyle, and tried to detach it, but was foiled. I now seized it in a pair of forceps, drew it as far as possible out of the wound, and, with a scalpel introduced as far as was safe, separated it, leaving a very small part of the body behind, in the hope that it would shrivel away. A good deal of synovia flowed during the operation. The bodies were lipomatous, and, while warm, looked, except that they were more pear-shaped, exactly like native oysters without the beard; the colour and size were exact imitations while they were warm, but, on getting cold, the translucent parts changed in appearance, and then became still more white and opaque on being put into spirit.

Representations (natural size) of the bodies removed. The one on the right is that which grew from the inner condyle; the left, that which grew from the outer.

December 2nd. She had had occasional attacks of pain, but not severe. The temperature varied from 98.4 to 100; pulse quite normal. I undid the bandages, removed the cotton-wool and the collodion covering, which was rather loose. The wound had not healed. Between its lips was a clot of blood, looking as purple and as fresh as though it had only just been effused. The knee appeared a good deal smaller than it was before operation; she had some slight tenderness over the whole joint, but chiefly at a place over the inner condyle, which she, unprompted, described as "the place where you removed the larger body".

December 13th. The wound was healed. There was hardly any tenderness, probably no real tenderness; but it was difficult to judge. She had rather frequent and prolonged fits of hysterical weeping. I removed the splint, and moved the leg through about thirty degrees, quite smoothly and without pain.

December 23rd. She went out walking, well and free from pain. The size of the knee was: above patella, 15 inches; across, 14½ inches; below, 13½ inches.

March 8th. The patient not having presented herself for examination as ordered, I found her at her residence. The knee was perfectly well, having the same dimensions as above. The part of the inner loose body which I had been obliged to leave attached could not be detected. The other knee showed some swelling and tendency to hyarthrosis. She states that she never has any pain nor sense of weakness in the left knee, but occasional pain in the other.

In considering the result of these cases and the choice of operation, it is to be observed that the subcutaneous method must have failed in the two last, the bodies being, all three of them, attached to the synovial membrane of the joint. The fact of their having marked limits to their mobility—much wider in the case of de G. than in that of Alice D.—had apprised me of this condition. In the first case, although the body was evidently perfectly free, and although I made a quite sufficiently wide opening in the capsule of the joint, it was impossible to extrude the substance; this I attribute to its hardness and to its rounded shape. These observations bear out the remarks in my second lecture, viz., that the subcutaneous method must in certain cases fail, and that such mode of operation should be avoided when limited mobility indicates persistence of the peduncle; further, that such method will occasionally fail, even when larger mobility exists, and gives assurance of an entirely free substance.

We now come to those precautions which render extraction of such bodies by the direct method a very safe proceeding. Numbers of such operations have been performed without antiseptics and without any ill consequences; the secret of such success lying in exclusion of air from the wound. This essential must in great measure depend on the assistant who closes the deeper parts as the body moves outwards, and as it escapes, the skin. Then, if the incision be large, it must be stitched with wire or catgut, covered with collodion, and, when that is dry, with well cleansed cotton-wool, the limb being bandaged and placed on a splint.

Such is the method which was followed with C. H. with complete success.* My assistant was very careful and skilful in carrying out my directions; but I saw, then, that had the extraction presented greater difficulties than it actually did, entire exclusion of air might have been impossible. In my next cases, therefore, I operated under the carbolic spray. In the case of T. de G., I had to pass forceps into the joint, and then divide a broad pedicle, yet no bad symptom followed. In the case of Alice D., still greater liberties were taken with the joint. I passed my finger right across it from the outer condyle, beneath the rectus tendon to the inner; divided two pedicles, one being broad and thick; moreover, a quantity of synovia flowed out during the operation. No bad symptom, no pyrexia followed; hence I hold that these results justify what I said at the conclusion of my previous lecture, that the antiseptic method renders this operation absolutely safe; also, that this great improvement in surgery must completely change the relative value and safety of all such operations as compared with subcutaneous methods.

REMARKS ON ENTERIC FEVER.

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[Concluded from page 379 of last number.]

IN the case of another lady, which occurred some time ago, which passed on to a fatal termination, and in which I took a sad and mournful interest, I could not, after much subsequent and painful investigation, discover the ordinarily recognised cause of the disease. Without entering into the details of the facts, I have always been driven to the conclusion that a repetition of family bereavements and the fatigue and watching during an illness, produced so much depression and exhaustion in the system as to develop in the organism those conditions which end in the more ostensible phenomena of the distemper. Previously to that time, I had always held to the doctrine of an imperative necessity for the specific poison being imported into the body. My subsequent experience, from certain seeming illustrations and circumstances, has gone to confirm the belief that, under special and peculiar conditions, enteric fever can become instituted in the system without any external agencies other than such common causes as give rise to that lowered tone of vitality which favours the springing up within itself of the morbid phenomena in question. In my early life, and prior to the time when the now recognised types of continued fever were known as they now are known, I can call to mind sporadic cases which, from time to time, occurred in an agricultural and very sparsely populated part of the country, where the theory of a specific poison being superadded to other elements in the causation is hardly in any wise tenable. And I feel persuaded that the correct solution of these still contested and debatable questions relative to the etiology of enteric fever, mainly lies not amongst the physicians and practitioners in the metropolitan cities and large towns, but rather with those whose powers of observation are confined to small and separated communities, such as in villages and rural districts. I have often thought that if this subject, and kindred inquiries, were to be broadly taken up by the rural members of the British Medical Association, such an amount of information and facts would be elicited as to finally settle many points still uncertain and held in dispute. Such etiological researches in urban centres and dense populations are liable to be vitiated in innumerable ways. Doubtless, enteric fever can, as the rule, be traced to bad drainage, polluted water, and, in more limited degree, to contagion; but I also now firmly believe, as asserted above, that it may occasionally with truth be referred to an autogenetic origin. In medicine, as in theology and politics, it is now found there is need, in many hitherto accepted propositions, of broader survey and greater liberalism of thought; and that many dogmas and arbitrarily demarcated definitions must be subjected to the test of a sounder reasoning and deeper scrutiny.

Since the foregoing paragraph was written, I happened to meet my friend Dr. Baylis, the able and indefatigable Sanitary Inspector for West Kent; and I asked his opinion relative to this my belief in the autogenetic doctrine. This gentleman assured me he is becoming more and more a convert to this theory. He told me he has latterly been in various parts of the county to investigate into the cause of several sporadic cases of enteric fever, some of which were in peculiarly isolated positions; and, after much labour and inquiry, he could only arrive at the conclusion that all the arguments and all the circumstances excluded the notion of an imported or resuscitated specific

* The subsequent complication had nothing to do with an open or suppurating condition of the wound, but was due to rheumatic constitution and other causes.

poison. In three instances, the history, the surroundings, and all the particulars, went only to the confirmation of such way of thinking; but in all the examples were present those ordinary and acknowledged conditions which favour the development of enteric fever. And Dr. Baylis remarked that there are now grounds for believing that Dr. W. Budd's theory, which has influenced many, is too absolute and overstretched.

In saying a word as to treatment, the great principle to be observed is the administration of those agents which best promote the elimination of the specific poison and those products resulting from a retrograde metamorphosis of the nitrogenous elements of the blood and the tissues. Hildebrand long ago declared the aphorism, to which now all authors agree, that continued fever can neither be cured nor yet cut short. So far as in our power lies, to direct its course, maintain the general strength, and to treat intercurrent complications, are the requirements; nor is a little in the accomplishment of success dependent upon good nursing and the observance of nicely regulated regiminal rules. To guide the ship through, and not attempt to subdue the storm, was the figurative language but apt illustration of Pitcairn. When the febrile process once becomes established, it will inevitably pursue its course. A correct knowledge of the duration of the disease is all-important; and not one of the least of those practical improvements resulting from the precise definitions which we can now give of the three types of continued fever is, that in any part of the febrile attack we can look with more certainty ahead, and judge with not a little of certitude of what we are to expect. Prior to the now demarcated distinctions in the pathology and diagnosis of these respective types, there was much confusion and not a little of guessing. Events now can be anticipated. I can well recollect how the late Dr. Alison, with whom I was once much associated, and whose practice in fever I had ample opportunities of observing, used to regard the characteristic symptoms of enteric fever as the mere fortuitous and incidental occurrences of typhus. The primary lesion of the bowel in the one form, marked affection of the great nerve-centres in another, and diaphoresis and relapse in a third kind, did not receive that special attention which they now attract. More correct acquaintance with fundamental differences has placed the treatment of fevers in the present day on veritable vantage-ground.

In the beginning of this paper, I have dwelt upon the very significant fact, as pertains to the enteric type, that it not unfrequently happens that for a few days we hardly know what disease we have to deal with. With the least suspicion of its advent, much caution is needed. The pulse and temperature may be some guide; but the pulse and temperature may both run high, and then rapidly fall to the normal standard. Only a few days ago, I was requested to see a lady who seemed to have very suspicious symptoms of fever. The pulse was above 100; the temperature 102 deg. There had been rigors, pains in the limbs; and she had headache, anorexia, and sickness. The question was asked, "Is it fever?" My reply was guarded. I said, at my first visit, "I cannot tell; it will require a little more time for the decision". The symptoms quickly declined, and in a few more days she was out and well.

The conditions of biliary disarrangement, as I have already insisted upon, ought not to be combated by the fearless use of drastic cathartics. It should be held in mind that the morbid product in this distemper spontaneously seeks an outlet in the intestinal canal, precisely as eruptive fevers localise their effects on the skin; and that to institute irritation in the glands of the ileum and colon is to hurry on to its development the ulcerative process in these structures. An aperient should be sought in some mild laxative, such as castor-oil, a few grains of rhubarb in peppermint-water, or in a small dose of Gregory's powder. Purging is not only harmful in its immediate effects on the mucous membrane, but large plashy stools, and, still more, aqueous evacuations, reduce the general strength, which from the first should be most carefully and jealously husbanded. The mineral acids, and more especially the hydrochloric acid with the chlorate of potash, are to be commended as forming a generally required remedy. According to Murchison, when the blood becomes loaded with nitrogenous products which are more or less ammoniacal, acids are to be regarded as beneficial. When the surface is hot and dry, the solution of acetate of ammonia with nitre and camphor, constitute a good medicine. In the case of Dr. Ievers' patient above referred to, and in whom there was acute mania, wine and cold to the head had a good effect; and strict orders were enjoined that she should be watched and rather perseveringly persuaded to keep in bed, than force to be employed. A patient with this symptom should never be tied down in, or powerfully restrained from getting out of bed. I have seen this absolute restraint followed by exhaustion, great harm, and death. In Mr. Marsack's case, there was very distressing tympany. Charcoal, galbanum, lime-

water, and other remedies, failed to relieve the distension. It was at length resolved to introduce the long tube, which gave instant relief; and the patient's comfort was each time immediately obtained. In some instances, there is difficulty in getting the tube to act; but Mr. Marsack dexterously introduced it for many consecutive days, and without any disappointment whatever in its effects. Sometimes this instrument does not answer, because an ordinary stomach-pump tube is used, in which the orifice is usually at the end instead of being at the side of the tube, when the hole is much more liable to be plugged up. When there is pulmonary congestion, with much meteorism, this mode of drawing off the gas, and thus allowing the diaphragm to resume its normal position, gives relief to the breathing; and, if there be considerable thinning of the lining membrane of the ileum, as there sometimes is, by the ulcerative destruction of the mucous and muscular coats, the probabilities of fatal perforation are greatly lessened. The practitioner should not fail to carefully decide between mere passive distension of the abdomen and the tympanites of positive peritonitis. Where there is lung-complication, large hot linseed-meal poultices covered with cotton-wool, and over both oiled silk, are a most valuable remedy. Where there is great heat of surface, tepid sponging gives comfort, and often induces sleep. Continued insomnia has sometimes to be more specially treated. The loss of sleep is exhaustive. Morphia, chloral-hydrate, and the bromide of ammonium, in such examples, should be employed. In hæmorrhage from the bowels, that grave complication may be treated with tannic and gallic acids, turpentine, lead and opium, and the tincture of ergot. Large doses of the perchloride or pernitrate of iron I have known of signal service.

With regard to the administration of stimulants, much discretion is needed, and all the objective symptoms ought to be fully and carefully considered. To stimulate without the proper indications would be to favour acceleration of the pulse and increase of temperature, and to render the patient restless and uncomfortable; and to not supply this aid when demanded would be to allow the asthenia to become more proclaimed, and those congestive complications which are so intimately connected with irregularity and powerlessness in the circulatory function to become more developed. The right and timely use of such means of treatment can hardly be over-estimated, as in many instances a critical period is thus tided over, and the lowered forces of vital action receive support, whereas the case would otherwise have a fatal ending. Some few years ago, there was in fevers a fashion to over-stimulate, as there is now, perhaps, a tendency to overfeed. It may also here be observed, that there is with many a loose and an irregular way in ordering wine and brandy. They should be given with the care and accuracy of medicine. They are emphatically remedies. Half, three-fourths, or a wineglassful of wine may be ordered, without any reference to the size of the glass; and thus a patient may get as much more than, or only half, the quantity desired. Stimulants ought always to be measured in a graduated measure. The nurse should at once write down the quantity and time at which every dose is administered. A similar record should be kept of the medicines, food, and drinks taken, the passing of the excretions, and any other events occurring during the intervals between the practitioner's visits. The doses of wine or brandy can thus be altered according to the requirements of the case. In most instances, for the first three or four, or even six days it may be, wine is not required.

At the outset of the complaint, the vascular system is roused to preternatural energy, when the radial pulse and the cardiac impulse are fuller and more beating. When, in the course of these abnormal efforts, the excitement begins to be subdued, then arrives the period for the consideration of stimulants. The decision should not be from the radial pulse *alone*, because in some instances there is not just correlation between the artery at the wrist and the ventricular power. The radial pulse may be sometimes felt; and when it is regular, when the præcordial impulse is greatly lessened, and even when it is abolished, the flat hand should be placed over the præcordial region; the impulse noted; and the stethoscope should be applied to ascertain the true character of the heart's sounds. Stokes long ago pointed out the necessity of precise knowledge as to this particular. Diminished and enfeebled systolic contraction proclaims debility and the need of wine; and, if such obtain in the earlier days of the attack, the tendency to asthenia is markedly evident. The last named physician attributed this softening of the cardiac parietes to the interstitial infiltration, as it occurs in typhus. This view, however, of such cause is not tenable. It is quite true that the muscular walls become softer, as I have repeatedly seen on inspection; but it must be remembered that in all febrile diseases there is a primary and general blood-lesion, and greater or less interstitial absorption of all the tissues, as well seen in the voluntary muscles. The process of assimilation becomes vitiated with the first development of morbid phenomena, and a rapid deoxidisation

goes on in all organs and structures. It is a fact, however, of importance to reflect, as pertains to this particular question, that not unfrequently the heart sustains a loss of contractile power when there has not been time for those pathological changes in its elementary structures, such as are seen when softening is induced from more acknowledged and manifest causes. Again, putrescence after death in all fevers is often rapid. The enfeeblement of this organ, its diminished or even abolished impulse, the altered or absent first sound, and alteration in the blood-wave in the systemic arteries, are doubtless very mainly to be accounted for by the impress which the fever-poison makes upon the cerebro-spinal axis, on the great splanchnic nerves, and on the cardiac plexus in especial.

The reader need hardly be reminded here of the well-nigh general acceptance of the views of Virchow, that fever has its immediate cause in alterations of the nervous system, and that there is primarily more or less of a paralysed condition of the sympathetic and the vagus. This perversion and arrestment of function in the system is somewhat analogous to that depressed state produced by opium and other narcotics. To then stimulate is to carry on life for a time artificially. I remember how Dr. Alison was in the habit of remarking that wine is doing good when the tongue becomes more moist and cleaner, when the pulse declines in frequency, when the breathing is rendered slower, and when the patient is less restless. If the tongue remain parched or dry, if the pulse be accelerated, the skin hotter, the respiration more hurried, and the patient evince augmented restlessness and discomfort, the wine or brandy should be diminished. When there is much tremor and subsultus, stimulants are needed, as they were in the instances of the young gentleman's case, No. 4, in whom as, I have observed, jactitation was pronounced in remarkable degree. In young people, as the rule, far less wine is required, and in some of these it may not be required at all. In the old and intemperate, wine is indicated in greater quantity. Coldness of the extremities, cool, moist, and relaxed skin, and suddenly slow pulse, demand immediate and often large doses of wine and brandy. It has been my own plan to order a certain number of drachms of wine or brandy to be given every two hours, or, in advanced and perilous cases, every hour. They should always be administered in diluted form. Sometimes one or other may be taken in milk or beef-tea. This is better than giving them in larger quantities and at longer intervals. When the prostration is in grave and alarming degree, ammonia, ether, camphor, and musk are amongst the best diffusible stimulants. As respects diet, care should be taken not to oppress the stomach, and urge on the patient more that can be digested. The assimilative process becomes impaired relatively with the declension of strength and the advance of the disease towards the crisis. It should be held in mind that glandular secretions are given off in diminished quantity and in altered quality. The salivary, gastric, and pancreatic fluids become thus affected. From such considerations, too much farinaceous food should not be allowed. There is the most dependence to be placed on good beef-tea, and I have long been in the habit of recommending it to be thickened with corn-flour, tapioca, vermicelli, or arrowroot. Strong chicken-broth, veal-and-ham broth, and meat jellies, may from time to time be substituted as a change, and more especially during convalescence. During the days of more urgent symptoms, strong beef-tea should mainly be depended upon. Good milk with a small quantity of lime-water is most valuable. Having known perforation to be caused by a too early return to a solid diet, I have for a long time requested during convalescence strict rules as to the food. For three or four weeks, it is safer for the patient to eat light and digestible articles of diet. Another evil is to be guarded against. Remedies, wine, and food should not be so constantly given as to interfere with sleep. Sleep itself is a restorative: and it is a great mistake to be constantly giving something to break in upon sleep and rest. When recovery has fully set in, the stimulants may with advantage be changed. The patient has then mostly become tired of port wine. Sherry, Burgundy, and Madeira may be substituted. It is well to be cautious as to malt liquors, as I have known their too early use to have a tendency to reinstitute irritation in the bowels. Fresh air and change of scene add not a little in the restoration to health.

There is not a little satisfaction in the reflection that the greater attention which is now being given, not only on the part of the profession, but on the part of the legislature, and on the part of the public generally, to all matters pertaining to sanitary improvements, and that consequently the death-waste from enteric fever will soon become manifestly diminished. The medical attendant will become more and more appealed to, and his opinion will have increasing influence in all matters that have reference to the general health. It is very desirable that, in all instances of enteric fever, whether coming on endemically or when only occurring sporadically, the greatest attention should be di-

rected by practitioners to the investigation of the cause. Examination into the surrounding conditions, and the ascertainment of circumstances as to whether it may or may not have been imported (as it is certainly contagious, though in limited degree) will in most instances solve the question; and more, with such vigilance at once bestowed, the spread of the affection can often be greatly curtailed. It would seem to be undeniable that, in all towns where new drainage-works have been fully and efficiently carried out, there is one danger of which the very perfection of such public necessities has proved a cause. The gases, by having none of these outlets which they had when the old drains were bad and loosely made, or when there were open drains, become constrained and concentrated in their new channels; hence there is greater pressure on the traps of the houses by their being forced up the private drains. I have known some apt illustrations of this fact. Great numbers of the occupants of houses would be glad to render themselves safe from this danger, if they knew how such could be accomplished; but unfortunately there has been, on the part of the public, little heed given and much ignorance relative to these matters. The suggestions of the medical advisers would, if the facts of such cases were clearly pointed out, in the great majority of cases be complied with. A few of the rules for observance would be to insist on the importance of the waste-pipe of cisterns being carried, not into the drains, but into the open air; that the soil-pipes of the closets should be tapped; that the main drain, after it leaves the house, should be ventilated by a four-inch pipe being carried above the roof, and as remote as possible from any upper windows, and that the efficiency of the traps should be from time to time ascertained.

I believe there has been more confidence in syphon-pipes than has been warrantable. I am satisfied, from some investigation relative to this particular point, that gases not unfrequently pass through the water of such syphons and give rise to disaster. During certain winds when the external air rushes up the drain, the noxious gases are often driven through the syphon; for it must be remembered that, through the lighter specific gravity of such gases, their pressure is made on a thin stratum at the uppermost part of the water in the bend of the syphon, and then the polluted air bubbles through. This I have ascertained to be the fact. The only safety lies in a ventilating shaft. Cesspools ought always to be tapped. An architect not long ago told me that there is frequently a great omission in the examination of a house, by the overlooking of the large leaden pipe which immediately leaves the pan of the closet. These pipes, this gentleman said, are apt to become corroded and perforated, whereby a main-drain may ventilate into a house. Another fertile cause of fever throughout the country is to be found in shallow wells frequently made in proximity with tenements and cottages. They often receive surface-water, and become contaminated by percolation from adjacent drains. In all towns where there is a public water-supply, there should be a compulsory service. Good drainage and pure water have told most favourably on Tunbridge Wells. Within the last few years, the huge sum of more than £200,000 has been expended in effecting these two invaluable requisites. Enteric fever has here become comparatively rare; and, when isolated cases have occurred, they could in nearly all instances be traced to some fault in house arrangement or the negligence of individuals. And it may be said that there is now no town in the kingdom better drained, nor one which has a supply of purer water.

QUARANTINE FOR PUERPERAL FEVER.

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IN the JOURNAL of March 25th appears an article from Dr. Napier of Frazerburgh on the "Duration of Quarantine required after Puerperal Fever", in which he alludes to my letter on the same subject in the JOURNAL a few weeks since. I should not have written now, had he not assumed that I held certain opinions. He says: "The disease is inferred to be always contagious, Dr. Hicks evidently ignoring the idea of epidemic puerperal fever as a reality." If Dr. Napier will read all I have written, he will find no such statement directly or indirectly. With regard to my inferring that the disease is always contagious, I think, for all practical purposes, it must be treated as such till we can say whether any given case be so or not. If Dr. Napier be able, upon the early days of a case, to pronounce one way or the other, I am sure he will be rendering great service to the profession by showing the distinction. Till then, whether we believe that puerperal fever can originate epidemically or not, I submit that the most safe way will be to treat all cases as possibly contagious.

I may add that, although we cannot find any extraneous origin for a