little or no effect. (3.) Sometimes in children we observe pyrexia with gastro-intestinal disturbance, which, although closely resembling typhoid in many of its symptoms, is very amenable to treatment. A powder of rhubarb and sulphate of potash, given once or twice daily, has a wonderful influence over this affection, and by this means we are able to distinguish it from typhoid.

The knowledge of the laws of diagnosis, and the errors likely to be made, may be called the mechanical part of diagnosis; but over and above this there is a knowledge which cannot be communicated from one individual to another, and which is possessed in varying degrees by different observers. We often reason from particulars to particulars without being able to express in general terms our experience. There is much wisdom in the lines—

“Whose old experience doth attain
To something of prophetic strain.”

ART. XVIII.—*Anomalous Fever Cases.* By THOMAS DRAPES,
M.B., Enniscorthy.

IN the practice of every physician anomalous cases of fever from time to time occur in which diagnosis finds itself sadly at fault—cases in which it is difficult, perhaps impossible, to carry out the injunction of a sometime famous nurse, “Give it a name, I beg.” A sharp contention has been for some time waged, and even still the flame of controversy flickers, around what appears to be a new importation into these islands within the last few years, the disease called “rötheln”—some practitioners (I believe I am right in saying the great majority) regarding it as a distinct and specific exanthem, while others still prefer to consider it a hybrid, or some modification of either measles or scarlatina. Many of us, no doubt, can recal the uncomfortable state of uncertainty in which we found ourselves over our first case or cases of “rötheln,” and how, on being questioned, our ingenuity was taxed to give a properly ambiguous reply. Happily in this instance, under the “fierce light” of multi-form opinion, and chiefly by the aid of our Continental and American brethren, a problem, dubious at first, appears to be approaching a tolerably satisfactory state of lucidity. In other instances, however, such a result not unfrequently is sought for in vain. This, of course, more often occurs in isolated cases of disease of which only one specimen presents itself, than in the case of a disease like rötheln which affects numbers of individuals. By way of example, I may

refer to a case which was brought forward by Dr. Nixon, and afterwards discussed at a meeting of the Dublin Pathological Society, as mentioned in the report which appears in the October number of this Journal, and respecting the nature of which highly competent medical men arrived at widely different conclusions—opinion being divided as to whether it was a case of cholera, scarlatina maligna, or enteric fever. That the two last-mentioned diseases might be readily confounded under certain circumstances in their early stages, and also that they have a close affinity in their ætiological relations, was shown in a case which occurred in my own practice, a short account of which may not be devoid of interest. Had not the patient fortunately survived, so giving the disease time to declare itself, another “anomalous case” would probably have been recorded in my note-book:—

In August, 1878, I was attending a well-marked case of enteric fever, the subject of which was a young man in comfortable circumstances, who lived on his farm, which was of considerable extent, and occupied an elevated position on a kind of table-land above the valley of the Slaney. This case was unmistakable, its nature being evidenced by the characteristic diarrhoea, rose-coloured spots, tenderness, and gurgling in iliac fossa, and terminated fatally after three weeks, death being hastened, if not caused, by congestion of the lungs coming on at the close.

On the morning of August 7th, when paying my usual visit to this young man, I was asked to see his sister, aged nineteen, whom I found in an adjoining room very ill indeed. Her sisters and the nurse stated that the day before she was perfectly well, and ate her dinner. Soon after, at 2 p.m., she was seized with sickness of stomach, green vomiting, and green stools; headache and delirium rapidly followed, and she was going about the house “as if she was mad.” Simultaneously with the sickness, the nurse stated, a red rash, “like measles,” came out all over her, and remained out some hours.

Her condition at my visit was as follows:—Temperature, $105^{\circ}6'$; pulse, 160. She wanted to get up out of bed while I was examining her—in fact, she appeared as if she did not know what she was doing, quite dazed. Tongue whitish in centre and inclined to be dry; redder, but not perfectly clean at edges and tip. Great thirst; no tympany; slight tenderness in right iliac fossa. A motion which I saw consisted of a thin dirty fluid, with greenish shreds floating in it. Severe headache; pupils natural; one or two rose-spots to be seen on abdomen. Respirations, 60; no morbid lung-signs. Since she was attacked, up to the time I saw her, nothing remained on her stomach.

Ordered—Brandy, in teaspoonful doses, with soda water, and small

quantities of boiled milk; mustard to epigastrium; an effervescing mixture, containing ammonia carb. and small doses of morphia, and with second dose of mixture, grs. xx. of quineti sulphas; feet and legs to be steamed with vinegar cloths round hot jars.

At 6 p.m. I saw her, with Dr. Boxwell, of Wexford. The vomiting and diarrhœa had ceased. Since morning visit the nurse states that she got "quite black," especially her hands and nails; that her pulse went, and that she only kept her alive by sprinkling her with cold water, and applying mustard and turpentine to different parts of the body. Temperature, 105° ; pulse could not be felt, except a mere flicker. Eyes congested. On speaking to her loudly she opened them and looked stupidly at us, but would not put out her tongue or speak. First sound of heart inaudible; the only thing heard was a series of clicks in rapid succession, which evidently corresponded to the second sound. Face pale.

After a few moments consultation—time was precious and we expected a rapidly fatal issue—it was decided to give her the chance of a cold affusion. The hair was removed, her head and shoulders brought out well clear of the bed, and two or three jugfuls of cold water thrown over her. This was followed by an immediately favourable result. She answered when spoken to and said she was frightened, put out her tongue readily, and then seemed inclined to fall off into a somnolent state.

Ordered—Turpentine to chest, front and back; $\frac{3}{4}$ ss. of brandy every half-hour, and an ammonia and bark mixture; also blister to nape of neck.

At 11 p.m. I saw her again and found her somewhat improved. The pulse could be counted, 160, but only the merest thread; temperature, 105.8° ; respirations, 36; answered a little when spoken to; but as she seemed inclined to relapse into lethargy, I repeated the cold affusion on her head, which, this time, she violently resisted.

August 8th, 10 a.m.—Temperature, 101.2° ; pulse, 136; respirations, 36; pulse of considerably more volume; one motion during night; intelligent. 7 p.m.—temperature, 102.8° ; pulse, 140; respiration, 44; tongue red at edges, heavily coated with thick dry cracked saburra; intellect clear on addressing her; said she was better, and that we had "cut her head," but remembered nothing of last night. Some gurgling and tenderness in right iliac fossa; one motion, buff coloured, clear fluid on the top, more solid part subsiding. To continue mixture; $\frac{3}{4}$ ss. of brandy every two hours; beef tea, one tablespoonful hourly; milk.

August 9th, morning.—Temperature, 100.8° ; pulse, 124; respirations, 36; no motion since; tongue nearly clean; throat sore and fauces congested; a bright scarlet rash on feet and legs, up to two or three inches above knee, also on back of hands; diffused redness over chest, but this may have been produced by the turpentine; slight gurgling still in iliac region. Brandy reduced to two teaspoonfuls every second hour; poultice throat.

From this on she made a rapid recovery—two days after, on the 11th, being almost convalescent. Temperature, 99·5°; pulse, 85; feeling well, and wishing for food.

On making inquiries no case of scarlatina could be discovered in the neighbourhood, nor was it prevalent at the time. There had been no illness in the house for years until these two cases occurred, so that direct infection from a similar case may be excluded as a cause for the girl's illness, which, I think it can hardly be doubted, was a genuine case of scarlatina.

With respect to sanitary surroundings there was the usual farm-yard in close proximity to the back of the house, well furnished, of course, with manure and offal of various kinds, which, however, do not appear to be very provocative of zymotic diseases, judging from the comparative immunity of the farming classes from these affections. But there was one institution in the yard which, it is more than probable, was the *fons et origo mali*. This was a pump, the water of which was sensibly contaminated by the sewage from the cow-houses, pig-styes, &c. Although they stated they did not use this for drinking purposes, they admitted they sometimes made tea with it, and if this was done, as it probably was, to save the trouble of bringing water from a greater distance, it is not at all unlikely that they may have taken occasional draughts of it, if none of the good water was at hand.

This case presented some curious features. Had it ended fatally during the first forty-eight hours it would not have been an easy matter to decide what cause of death to assign in the certificate. My own opinion, expressed at the time, was that it resembled more the onset of scarlatina maligna than any other disease; and had there been no other case of illness in the house, I should probably have given that opinion without much hesitation. But the fact of a case of enteric fever already existing under the same roof, and that this case presented some symptoms uncommonly like those of enteric fever—viz., diarrhœa, iliac tenderness and gurgling, and a few rose-spots on the abdomen—naturally created some doubt as to the nature of the case, and, moreover, after the initial diarrhœa, which, as well as the vomiting, was green, the motions had almost an identical appearance with that of typhoid stools. Was it, then, a fever of "mixed" character? It is possible that this patient may have imbibed the germs of both diseases—if there be specific germs peculiar to each—and that one disease aborted, while the other went on to its full development. At a meeting of the Pathological

Society of Dublin in the year 1878, Dr. Nixon exhibited specimens from the body of a girl who died from what appeared to be a combination of these two diseases, there having been scarlet rash, sore throat with subsequent diphtheritic exudation, and after death Peyer's patches were found to be engaged, and "the characteristic appearances of *psorenterie* were also observed."^a But on reviewing all the circumstances, I am inclined to think that this is not the true explanation of what occurred in the case I have related. That we need not resort to it will, I think, be conceded from consideration of the fact that cases of scarlatina do occur of an abdominal type, in which entero-colitis is a prominent feature, and diarrhœa, vomiting, and abdominal tenderness concomitant symptoms—so much so that, as mentioned by different authors, they mask the true scarlatinal character of the disease, and have been mistaken for symptoms of enteric fever, especially when, as not unfrequently happens in such cases, no rash appears. And in many cases of undoubted scarlatina, *post mortem* examination reveals engorgement or other pathological change in Peyer's patches and the solitary glands of the intestine. Disregarding then the idea of a double infection, to what are we to look as the essential cause of the gastro-intestinal symptom at the commencement of this and similar cases? In malignant scarlatina the citadel is, as it were, at once attacked and overpowered, and this is frequently the signal for a general capitulation of the remaining forces. The poison produces its profoundest effects on the central nervous system, as evidenced by high temperature, violent headache, delirium, somnolence, cyanosis, extreme cardiac debility, pointing to implication of the centres of the vagus. When diarrhœa occurs under these circumstances, Dr. Hensch, of Berlin, who has made very careful observations in this disease, considers it due to paralysis of the splanchnic nerve, caused by the contagious matter^b—a highly probable supposition. There is, however, another aspect in which we may regard these symptoms, which we would do well not to lose sight of. It is not unreasonable to regard such phenomena as vomiting and diarrhœa as efforts at elimination. If there be, as undoubtedly there is, a profoundly disturbed condition of the nervous system, there is at the same time a highly contaminated condition of the blood. In fever the zymotic influence, which is believed to be actively at work until it has exhausted all the material in the system

^a British Medical Journal. 21st Oct., 1878. P. 531.

^b British Medical Journal. 4th Jan., 1877. P. 16.

capable of responding to such influence, has its accomplished work in what may shortly be described as a septicæmic condition of the blood. This condition must terminate in one of two ways—either the vital fluid is so decomposed—devitalised—that it can no longer minister to the requirements of the body, all function is interfered with, and death results; or an outlet is obtained for the poison through one or more of the emunctories of the system. We know how constantly septicæmia provokes eliminative efforts on the part of nature, which at one time selects this, at another that, excretory organ. In a case of septicæmia following a too prolonged sojourn of a bougie in a strictured urethra which came under my notice, and which I published in *The British Medical Journal* some time ago, a case which nearly proved fatal, elimination appeared to take place by means of persistent green vomiting, and profuse herpetic eruption on the ears and back of the head. May we not then regard the vomiting and diarrhœa which occurred in this case of scarlatina as efforts at elimination? The fact that the diarrhœa ceased from the time the rash appeared, the throat at the same time having become sore, would seem to indicate that such unusual routes of elimination were no further needed, the disease having, as it were, secured its natural outlets. Diarrhœa being a common accompaniment of the invasion of malignant scarlatina, it would be a matter of no small moment to be in a position to decide upon what, as a rule, it depends, for it is impossible to adopt therapeutic measures with anything like definiteness of aim and clear prospect of success while unable to make up our minds with respect to conflicting theories as to the nature and origin of symptomatic phenomena. In this particular instance it appears to me the choice lies between two—that of Dr. Hensch, that the diarrhœa is due to a paralytic condition of the splanchnic, and the elimination theory. If the first be correct, purgative medicines would be likely to be useless, if not pernicious; if the latter, they might possibly be beneficial. Hence, probably, Trousseau was not averse to giving moderate doses of mercury and saline aperients in this disease. And although diarrhœa is considered an unfavourable symptom, for the simple reason, probably, that it is usually seen to accompany the more serious forms of disease, still it is a question whether without it they would not be still more serious, inasmuch as the free evacuations may assist in carrying off no inconsiderable amount of the morbid poison.

One thing, I think, we may regard as certain, that in the case

related cold affusion saved the patient's life. She was moribund when it was first applied, and each time it was resorted to the result was salutary in an almost startling degree. This corroborates the opinion—if it needs corroboration—sanctioned by many high authorities, that whenever the great nerve centres are overpowered by a morbid poison, the remedy *par excellence* is cold affusion. In cases such as this one, where these centres are rather surprised than completely overwhelmed, and where they are apparently in a condition of unimpaired integrity almost up to the very onset of the attack, we may look for a hopeful result from this treatment; but even in the coma of advanced typhus fever it is a powerful stimulant and restorative, and I have seen patients in this state rapidly recover consciousness when two or three jugfuls of cold water were thrown over the head and shoulders. Although not aware of it being a recognised treatment, I do not see why it might not be used with benefit in the coma of uræmia, as an auxiliary measure, with the object of arousing nervous energy sufficient to keep life going until purgatives, diuretics, &c., should have had time to act.

As to how the two diseases occurred in different individuals under the same roof, without any discoverable source of infection, except that of impure water, I am unable to offer any explanation.

There is an opinion which finds currency—that the same infective source can give rise to different and distinct diseases in different individuals, according to their susceptibilities and peculiarities of constitution, producing in one typhoid, in another scarlatina, in a third diphtheria, and so on—that there is, as it were, a septicæmic substratum common to all these septic diseases, the ultimate evolution and development of which is determined by individual idiosyncrasy. This view, of course, militates altogether against the “germ theory” of disease, but labours under the disadvantage of being *not proven* in any particular case. It is next to impossible to demonstrate the absence of different specific germs in any infective medium—they are too subtle not to elude the most vigilant scrutiny—whereas there is strong evidence that, at any rate, in the case of *some* diseases a certain specific germ, and no other, is capable of exciting them. Recent experiments of Koch, Pasteur, and others (as related by Prof. Lister at the annual meeting of the British Medical Association) on such diseases as splenic fever, anthrax, cholera des poules, &c., throw a flood of light on this obscure question—a question which, let us confidently hope, awaits its final solution in the medicine of the future.