

Davaine and Delafond) as an immovable, oblong, highly refractive body, found in the blood of animals affected with the disease. Its size (according to Davaine) varies much, from  $\frac{1}{1000}$ " to  $\frac{1}{2000}$ " or even  $\frac{1}{3000}$ ". It is unaffected by water, alcohol, ether, acetic, nitric, or phosphoric acid, or soda, potass, or ammonia. Sulphuric acid readily destroys it. It is occasionally found united in chains of two or three links.

Lastly, the *Bacillus ulna* is distinguished from the *B. subtilis* by the greater thickness of its filament and by its rigidity. Its length is about  $\frac{1}{250}$ ". Cohn found it in a stale infusion of boiled egg.

The *Vibrios* are distinguished from all the preceding genera by their rotary motion. This motion, which most writers had restricted to the spiro-bacteria, Cohn, I think, rightly applies to the movements of the vibrio. The *V. rugula* is generally seen with one or two slight curves in the form of the signs ) or S. A flexible thread,  $\frac{1}{2500}$ " to  $\frac{1}{1200}$ " long; rotation slower than in the following species. This organism was found in the evacuations of cholera and diarrhoea by Leeuwenhoek, and by Davaine in the pus of balanitis also.\* The second species, the *V. serpens*, is distinguished by the greater number and regularity of its curves, by the rigidity of the filament, and its more rapid rotation. The thread is also considerably thinner than the *V. rugula*, and its length is about  $\frac{1}{2000}$ ". The motion is serpentine in appearance.

The *Spirilla* (including the *Spirochæta plicatilis*, for I do not think Cohn is justified in separating the two genera) of Dujardin† are distinguished by the greater regularity and closeness of the curves of the spiral, and their uniform corkscrew motion. The distinguishing character of the flexibility or rigidity of the threads in the genera *Spirochæta* and *Spirillum* respectively, insisted upon by Ehrenberg and followed by Cohn, is rightly set aside by Dujardin as superfluous. All the spirilla, of which Cohn gives three species—*S. tenue*, *S. undula*, and *S. volutans*—were found by him in the decomposing tissues of a fresh-water snail. They are distinguished mostly by their size from each other. The *S. volutans* is by far the largest of all the bacteria, if we apply the name to the genus at all. It is thus described by Ehrenberg, "*Filis valde tortuis robustis et elongatis*." Cohn fancies that he has found traces of organisation within it.

I have above given a short *résumé* of the labours of the most trustworthy naturalists upon the morphology of bacteria. I shall now only add a few remarks upon the limitations we should place on the term.

In the first place, then, it seems right to consider bacteria as strictly forming part of the vegetable kingdom, and this, as I have before remarked, is the opinion of all the most trustworthy authorities of France, Germany, and Italy. I should have included our own country in this geographical list had I not lately been somewhat startled to find a learned professor in a recent lecture at the Royal Institution‡ reported to have represented bacteria to be "*animalcules*." Secondly, I think the name bacteria ought to be restricted to those minute rod-like hyaline bodies, the *B. termo* and *B. lineola* of Cohn. They have a more or less rapid to-and-fro motion. The so-called "*locomotive bacteria*" of some physiologists are probably in many instances specimens of the larger *V. rugula*. Rivolta considers that the true bacteria have no proper locomotive powers, only the vacillatory movements common to all small particles of matter suspended in liquids. Thirdly, we must, I think, always associate the presence of the true bacteria (especially the *B. termo*) with putrefactive or analogous changes in organic liquids.

At some future period I hope to give a short account of the etiology of these organisms, and the part they play in the causation of disease.

\* Davaine, *Entozoaires*, 1860, p. 5. † Infusoirs, p. 209.

‡ See report in *Illustrated London News*, Feb. 14th, 1874, p. 162.

## ON A HITHERTO UNDESCRIBED FORM OF SKIN DISEASE.

By H. S. PURDON, M.D., L.R.C.P.,

PHYSICIAN TO THE BELFAST GENERAL HOSPITAL AND TO THE HOSPITAL FOR DISEASES OF THE SKIN.

I HAVE had, during the last nine years, frequent opportunities of seeing patients at the Belfast Hospital for Skin Diseases who suffered under a peculiar and yet trivial affection of the skin, usually confined to the upper extremities. I briefly noticed this disease in the *Medical Mirror*, August, 1867, when giving the statistics, &c., regarding the patients attending the Skin Hospital. Since then I have had more opportunities of observing the eruption, and now beg to offer one or two remarks thereon.

This affection of the skin is peculiar, and is only met with in those workers who are employed in the "spinning room" of our flax-spinning mills. Those attacked are usually young girls called "doffers," whose occupation is principally to "doff" or remove the bobbins from the machines, and to clean and oil the same. The following case is an example of the disease.

Arabella C—, aged fourteen, a "doffer," was admitted at the Skin Hospital December, 1873. She has an extensive eruption on both forearms and arms. The skin of the affected parts is dry, harsh, and covered with a papulo-pustular eruption. The forearms exhibit, scattered over them, innumerable little black specks, showing the orifices of gland-ducts obstructed by sebum, which gets the black spot from dust adhering thereto. In some places the eruption (before the stage of maturity is reached) has a "shotty" feel, somewhat similar to what is felt in small-pox. The skin generally over the patient's body is of a yellowish colour and anæmic appearance. She was ordered to wash the affected parts with soft soap, to use the dilute citrine ointment, and to take a tonic aperient mixture.

As already remarked, the eruption is confined chiefly, if not always, to the forearms and arms of the young girls called "doffers," who are employed in the spinning room, the temperature of which is high. These girls are lightly clad, even in winter, "perspire at every pore," and after a time their skin becomes of a dirty yellowish hue. The constant sweating makes the orifices of the sudoriparous and sebaceous gland-ducts more open and visible; and then the oil (which is train or sperm oil) with which the machinery is oiled saturates their arms and hands, and clogs and obstructs the orifices of these gland-ducts. The retained secretion, acting as an irritant, gives rise to inflammation, causing in the first instance a papular eruption, which, however, soon becomes pustular at the summit, with a black spot in the centre; these elevations, however, rarely burst or scab. The disease seems to me to be a combination of lichen and acne, if I may so express myself. The papules in the first instance are produced by an inflammation of the follicles due to retained secretion acting as a foreign body and giving rise to irritation accompanied by prolific cell-growth. I have never met with an eruption similar in appearance, &c., in any of the towns where I studied dermatology, and it seems to be peculiar to the class of people I have mentioned, Belfast being the great centre of flax-spinning.

I wrote to some of my professional brethren who attend the dispensaries in Belfast and the immediate neighbourhood of flax-spinning mills, and who have thus good opportunities of observing this complaint, asking them to give me any information they could regarding it. Dr. Newett, medical officer of the Ligoneil Dispensary, says: "I repeatedly see the cases of lichen-like eruption, chiefly on the arms (if not altogether so), to which you refer." Dr. Spedding, one of the medical officers of the Belfast Dispensary, writes: "I have often observed the eruption you speak of. During the small-pox epidemic it often confused me, when there were symptoms of pyrexia present. It always remains papular, is frequently, in the young, upon the face as well as the arms, and might be mistaken for acne. I have observed that it is only those employed in the hot rooms who have it. In fact, from its presence I can always diagnose the patient to be a 'spinner.' I have never tried any treatment for it, believing such to be useless while they are

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engaged in a warm moist atmosphere." With regard to the eruption being observed on the face, which Dr. Spedding mentions, I think it is accounted for by the person wiping her face, whilst it is perspiring, with oily hands.

Belfast.

#### CASE OF

### THROMBOSIS FOLLOWING INJURY OF THE LEG; RECOVERY.

By CAREY COOMBS, M.D. LOND.

MR. W— is a farmer, aged fifty-seven. He had been healthy and hardworking until the year 1864, when he had swelling of the abdomen and legs for several weeks; but after this was gone he had little sickness until 1866, when he had an attack of broncho-pneumonia. He was then very ill, but made a good recovery.

In the last week of August, 1870, he was helping a man to carry a heavy oak sapling, when the man's end dropped. Mr. W— thus received an extra amount of weight, and let the log fall upon his right thigh just above the knee, so that the leg was immovable, and he could not get rid of the piece of timber until help came.

When first seen (Sept. 1st) a few days after the accident, the right thigh presented slight swelling on its inner side (lower third), which was tender on pressure and painful. Rest and a cooling lotion were prescribed; but the pain remained, and the leg began to swell. On Sept. 15th there was vomiting, which lasted for several days. The right thigh swelled, and continued doing so until the skin was tense and shining, when the other leg became œdematous, then the nates, then the abdominal wall, the swelling extending up the back to the spines of the scapulæ early in November. On Sept. 27th he had a severe rigor, but it was not followed by any marked change in the symptoms.

There are no exact notes of the state of the urine &c. at this period, but albumen was never found in the fluid, which was frequently examined during the illness.

The treatment had been palliative merely up to the middle of October, when mercurial pill was given for a few days. On the 31st October a pill containing digitalis, blue-pill, and squill, of each one grain, was prescribed, and was given night and morning for three weeks. After this, dilute mercurial ointment was rubbed into the thighs for eight or ten days. At this period (end of November) the swelling of the abdomen, back, and legs grew less, and gradually disappeared. Four months after the accident the œdema of the trunk and legs had passed away, but elastic bandages have been applied to the legs ever since, and the swelling reappears in them now and then.

He is at present (November, 1874) attending to a small farm, but suffers much from dyspnoea on active exercise, from discomfort in the abdomen on stooping, and from sharp pain in the epigastrium when he lies on his back. His appetite is good, his tongue clean, and he has rather a healthy appearance, except on the approach of cold weather, when the lips and ears become blue and the face has a "congested" look, which suggests impeded circulation. His urine is almost always high-coloured, and contains much deposit of urates, and he has a tendency to constipation. Both these conditions are favoured by a habit of drinking very little fluid of any kind at any time. The cutaneous veins of the abdomen are large and tortuous, and fill from below, and the epigastrium is distended by a large tumour, which pulsates, expanding laterally as well as anteriorly. This movement, and the epigastric pain felt on lying down, are increased by cold. A loud rasping murmur (systolic) is audible over the tumour. The heart is large and very irregular in its action; there is a loud murmur with, or rather *taking the place of*, the first sound, most audible on the left side of the sternum; the second sound is double. The lungs appear to be healthy, and there is no cough.

*Remarks.*—There can be little doubt that there was plugging of the femoral and iliac veins and inferior cava, and that the obstruction was clearing away at the time that the mercurial treatment was pursued. The exact amount of injury to the circulatory system during the illness cannot

be defined, because there are no data as to the state of things beforehand. It is certain that the abdominal veins were not tortuous, and that there was no pulsation in the epigastrium *before* the accident. Of the cases published in THE LANCET this year, of sudden fatal results from like causes, Dr. Browne's most resembles the above case.

Castle Cary, Bath.

### INTESTINAL OBSTRUCTION OF ELEVEN DAYS' DURATION; STERCORACEOUS VOMITING; RECOVERY.

By A. H. BREWER, L.R.C.P. LOND., M.R.C.S., &c.

E. G—, single, a spare, healthy-looking man, aged forty-nine years, came to my surgery this evening (Oct. 29th, 1873), complaining of violent, colicky pain in the abdomen, which began slightly this morning, and has gradually increased in severity through the day. He says that for the last three or four days he has not felt in his usual health, but attributes this attack to an "over-dose" of steak-and-kidney pudding, of which he dined too heartily yesterday. He states that he always enjoyed good health, the only ailment which has ever troubled him being slight occasional attacks of "spasms in his bowels." The last occurred about two months back. He appears in great pain, and sits or stands with his arms across his abdomen. His face is pale, and expression anxious; skin cool and perspiring; tongue coated and flabby; has been sick three or four times during the day; bowels acted naturally this morning. There is slight general fulness of the abdomen, with tympanites; no localised or general tenderness; the greatest amount of pain is referred to the right iliac and hypochondriac regions. He was ordered to go to bed directly, and apply linseed-and-mustard poultices to the abdomen, and to take a mixture of ether and laudanum every four hours. This his stomach rejected, but a five-grain soap-and-opium pill every four hours soon relieved his pain, and on the 30th and 31st he was much as usual, except that his bowels did not act, although he took two podophyllin and colocynth pills and a drop of croton oil.

On Nov. 1st I took the following note:—He is not nearly so well this morning, the bowels have not acted, and he has been sick several times, the ejecta being of a dark unhealthy character. His expression is anxious, and he says "he feels very ill"; skin cool, and perspiring slightly; pulse 90, soft and regular; tongue dry, thickly coated with a white fur. He complains of a good deal of pain over the abdomen generally, but especially over the right iliac fossa, where there is marked fulness, dullness on percussion, and slight tenderness; the other regions of the abdomen are tympanitic. There is no hernial protrusion anywhere, nor is there history of any old abdominal mischief or of organic malignant disease; there is no tenesmus, no passage of blood or mucus from the rectum, nor is the rectum loaded with hardened faecal matter. Here is a case of intestinal obstruction, probably due to some mechanical blocking up of the caput coli. Ordered a copious injection of warm water (this returned without any sign of faecal matter), and a pill containing half a grain of acetate of morphia and half a grain of extract of belladonna every four hours, with hot linseed poultices to the abdomen.

Nov. 2nd.—No change in any of the symptoms. Advised to see Dr. Ward to-morrow.

3rd.—Met Dr. Ward in consultation. Symptoms remain unchanged. Ordered one grain of opium in powder, with one grain of sugar, instead of the morphia pills. The powders produced sickness, so the opium was simply moistened with water and made into a pill.

On the 4th the symptoms were unchanged until the evening, when he twice vomited undoubted stercoraceous matter.

5th.—Has not been sick since last evening. Expresses himself as better. After consultation with Dr. Ward, the same plan of treatment—opium internally and poultices to the abdomen—was continued.

6th.—General condition the same. No return of sickness.

7th.—Saw him in consultation with Dr. Ward. He has passed flatus from the rectum three or four times. To con-