Charcot's crystals in sputum containing a croupous cast (card specimen) ; Charcot's crystals in an alcoholic extract of a liver in a state of acute atrophy (yellow and red) (card specimen) ; Charcot's crystals in fæces (card specimen) / by Sheridan Delépine.

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Charcot's crystals in sputum containing a croupous cast. (*Card specimen.*)

By Sheridan Delépine, M.B., B.Sc.

[With Plate XI.]

Not having been able to ascertain the nature of the case from which this specimen was obtained, I simply show the preparation for comparison with the others. The sputum had been sent to me for the purpose of finding tubercle bacilli in it, and from that I suppose the case was not typically one of asthma.

Products in which Charcot's crystals have been observed.—Leucæmic spleen (Charcot and Robin), 1853. Leucæmic blood (Charcot and Vulpian). Hepatic blood in a case of anæmia (Wagner). Dried human semen (Boettcher). Bone marrow in leucæmia (Neumann). Expectorations in asthma (Leyden, Ungar, Curschmann). Expectorations of phthisical patients (Ungar, Fraentzel). Expectorations in bronchial catarrh (Bizzozero and Firket). Tumour of optic nerve (Foerster). Sarcoma (Zenker). Carcinoma (Firket). Prostatic fluid (Fuerbinger). Intestinal contents, &c.

January 20th, 1891.

Charcot's crystals in an alcoholic extract of a liver in a state of acute atrophy (yellow and red). (*Card specimen.*)

By Sheridan Delépine, M.B., B.Sc.

[With Plate XI.]

These specimens gradually formed in an alcoholic extract of the liver. The liver had been kept in the spirit for about two years when these crystals were first noticed, and as the vessel was not tightly closed a certain amount of evaporation had taken

place. At first the spirit contained a very large amount of leucin and tyrosin, some of which are still present in the specimen exhibited.

The somewhat sigmoid, spindle-shaped crystals which are exhibited have all the characters of Charcot's crystals. They are fragile, soluble in boiling water, practically insoluble in cold water, soluble in most organic and inorganic acids and bases. Insoluble in alcohol, ether, chloroform, and turpentine. They are supposed to be phosphates of a basis discovered by Schreiner and called *spermine*. This spermine is supposed now to be the active principle of Brown-Séquard's fluid (testicular extract).

January 20th, 1891.

Charcot's crystals in fæces. (*Card specimen.*)

By Sheridan Delépine, M.B., B.Sc.

This alvine discharge came from a female child, twelve years of age, about whom Dr. Lauder Brunton was consulted during the month of June, 1890. The child had had measles, and soon after convalescence is supposed to have caught cold. She was taken with diarrhœa and much pain in the abdomen. The evacuation soon became dysenteric in character. No physical sign could be detected. I am indebted to Dr. Brunton for two specimens of the fæces obtained on the 20th, and the other on the 27th of June. These two specimens were similar in characters.

Description of the fæces.—Very thin, watery, brownish, greenish yellow, semi-translucent. Sediment composed of an upper layer of greyish, yellowish white opaque matter, and of a thinner lower layer, composed of reddish orange, coarse granules resembling cayenne pepper. The smell of the fluid was peculiarly sour and unpleasant. The filtered fluid was alkaline, gave clearly an albuminous precipitate, but no bile-pigment reaction. The reddish masses at the bottom, when treated with nitric acid, gave the usual play of colours indicating the presence of bile-pigment, and

on account of their colour were supposed to be some form of bilirubin usually absent from the intestine.

Microscopical examination.—The following were all found in the two specimens examined:—1. Phosphate (triple and calcic); 2. Tufts of fine curved needles (fatty acids); 3. Small sheaves of prismatic crystals (probably tyrosin); 4. Fatty-looking rounded masses with concentric markings (probably leucin); 5. Bright orange-yellow colloid or resinous-looking masses, giving the reactions of bile-pigment (bilirubin); 6. Pale greenish-yellow masses, giving also the bile-pigment reaction; 7. Small plugs of mucus; 8. Fatty granules; 9. Bacteria of all sorts very abundant; 10. Food *débris* and charcoal particles very abundant; 11. Typical *Charcot's crystals* abundant all through the fluid.

January 20th, 1891.

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DESCRIPTION OF PLATE XI.

To illustrate Dr. Delépine's specimens of Charcot's Crystals.

From drawings by the author.

FIG A.—Crystals found in an alcoholic extract of a liver in a state of acute yellow atrophy. The long acicular crystals of tyrosin appeared first after slow evaporation of the alcohol. In the course of the following year the large spindle-shaped and slightly sigmoid crystals appeared amongst the crystals of tyrosin.

FIG. A shows the crystals as they appear when examined in spirit or water.

FIG. B.—Charcot's crystals found in a croupous bronchial cast. Most of these crystals are embedded in the croupous products, a few are free on the surface.

FIG. B shows them as they look after being mounted in Canada balsam.

Sheridan Delépine del.

Fig. A.

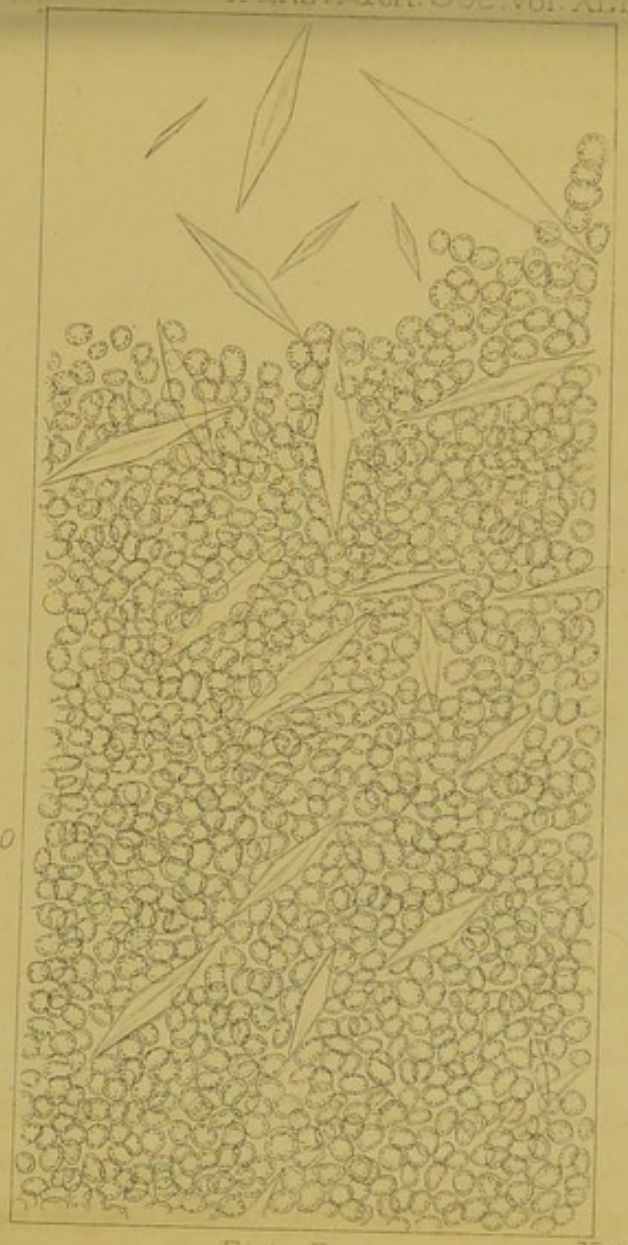

Fig. B.

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