

through two wires, such wires repel each other, because their opposite sides are in similar magnetic states.

A Communication of a singular Fact in Natural History. By the Right Honourable the Earl of Morton, F.R.S. In a Letter addressed to the President. Read November 23, 1820. [Phil. Trans. 1821, p. 20.]

Being desirous of domesticating the Quagga in this country, his Lordship endeavoured to procure some individuals of that species, but being disappointed in obtaining a female, an attempt was made to breed from the male and an Arabian chestnut mare; the result was a female hybrid, now five years old, and showing her mixed origin both in form and colour.

The Arabian mare has since been bred from, by a black Arabian horse, and the produce, namely, a two year old filly and a year old colt, though in most respects fine specimens of the Arabian breed, are marked with certain stripes and lines belonging exclusively to the Quagga: the manes are especially unlike those of the Arabian breed. It is a striking fact, observes his Lordship, that so many features not belonging to the dam, should in two successive instances be transferred by her to the progeny of a sire who has them not.

Particulars of a Fact, nearly similar to that related by Lord Morton, communicated to the President, in a Letter from Daniel Giles, Esq. Read November 23, 1820. [Phil. Trans. 1821, p. 23.]

In the litter of a black and white sow, by a boar of the wild breed, the chestnut colour of the boar strongly prevailed; a second litter from the same mother, by a boar of a very different breed, retained many peculiarities of the wild breed; and even in a third litter the chestnut colour was to a certain extent evident.

The Croonian Lecture. Microscopical Observations on the following Subjects. On the Brain and Nerves; showing that the Materials of which they are composed exist in the Blood. On the Discovery of Valves in the Branches of the Vas breve, lying between the Villous and Muscular Coats of the Stomach. On the Structure of the Spleen. By Sir Everard Home, Bart. V.P.R.S. Read December 7, 1820. [Phil. Trans. 1821, p. 25.]

By a microscopic examination of the retina and optic nerve, Mr. Bauer found them to consist of globules of $\frac{1}{800}$ to $\frac{1}{1000}$ of an inch diameter, united by a transparent viscid and coagulable gelatinous fluid: the brain also, according to the same observer, consists of the same globules, united by the viscid jelly, and forming a fibrous arrangement.

After describing the peculiarities in texture of the different parts of the brain, Sir Everard adverts to the circumstance of lymphatics

never having been found in that organ, and shows that the veins are supplied with valves, and perform the office of absorbents, carrying their contents into the superior longitudinal sinus, which appears rather to be a reservoir than a vein, for the fluid that passes through it is not simply circulating blood, but contains the colouring matter in a decomposed state, and is black as ink.

There can be little doubt, says Sir Everard, that the communication of sensation and volition is more or less dependent upon the viscid mucus which links the globules of the brain and nerves together; he then proceeds to show its existence in the blood, and that it is the medium by which the colouring matter is attached to the surface of the red globules. It would appear therefore, continues the author, that the principal materials of which the body is composed are found in the blood, with the exception of fat; fat, however, is found in the blood of the skate and salmon, and perhaps is united with the alkali in human blood.

Sir Everard next details the result of his examination of the veins of the coats of the stomach, and of the vasa brevia, which are also supplied with valves, and which act the part of absorbents. In tracing these veins towards the cavity of the stomach, they became indistinct just as they entered the villi.

This paper concludes with some observations respecting the structure and uses of the spleen, from which Sir Everard concludes that it is a reservoir to receive the superabundant serum carried into the circulation from the stomach into the splenic vein; and not only of the serum, but of the coagulable lymph, globules, soluble mucus, and colouring matter, which are carried to the thoracic duct when wanted.

On Two New Compounds of Chlorine and Carbon, and on a New Compound of Iodine, Carbon, and Hydrogen. By Mr. Faraday, Chemical Assistant in the Royal Institution. Communicated by W. T. Brande, Esq. Sec. R.S. and Prof. Chem. R.I. Read December 21, 1820. [Phil. Trans. 1821, p. 47.]

After some general observations respecting the action of chlorine upon compounds containing carbon, and more especially upon carburetted hydrogen gas, Mr. Faraday details the processes by which he succeeded in obtaining two binary compounds of carbon and chlorine; the first, which he calls perchloride of carbon, was formed by exposing the triple compound of carbon, hydrogen, and chlorine, with excess of chlorine, to the agency of the direct solar rays; muriatic acid was formed, and a white crystalline compound at the same time generated. The author next describes the method of purifying this compound, and details its properties, which are briefly these:—it forms crystals, which appear to result from a primitive octahedron; it does not conduct electricity; it is slowly volatile, like camphor, at common temperatures, fusing at 320°, and boiling at 360°. It is not easily combustible; but when retained in the flame of the lamp,