

of voltaic electricity be transmitted through the lungs by those portions of the nerves which remain attached to them, no affection of the breathing supervenes, and the lungs after death are found quite healthy, unless the electricity has been applied of such power, or for so long a time, as to cause inflammation; in which case, the appearances on dissection are those of inflammation, and not those produced by mere division of the nerves.

*On the Effects produced upon the Air Cells of the Lungs when the Pulmonary Circulation is too much increased.* By Sir Everard Home, Bart. V.P.R.S. Read May 31, 1827. [*Phil. Trans.* 1827, p. 301.]

In examining the air cells of the lungs of a hare that had been coursed, the author found the superficial large cells filled with colourless coagulable lymph, forming white specks, and the smaller, more interior ones filled with coagula of red blood. No such appearance was seen in the lungs of hares, snared or shot. A run of fifteen minutes with greyhounds so exhausts the hare, that it is frequently known to die from over exertion before the dogs are able to reach it. To examine the state of the lungs, in which the white specks were seen, they were injected with mercury through the bronchiæ, and then immersed in rectified spirits to prevent them from collapsing, and in this state examined microscopically and drawn by Mr. Bauer. The drawings accompany the paper.

The white specks appear to be portions of coagulable lymph, separated from the circulating blood in consequence of its disturbed state, and the author considers them as giving great insight into the nature of that destructive disease called tubercles in the lungs; and in support of this idea quotes Dr. Baillie's description, and refers to his plates of them in his *Morbid Anatomy*.

*Theory of the Diurnal Variation of the Magnetic Needle, illustrated by Experiments.* By S. H. Christie, Esq. M.A. F.R.S. Read June 14 and June 21, 1827. [*Phil. Trans.* 1827, p. 308.]

Mr. Christie having been led to doubt the validity of the explanation of the moving easterly variation adopted by Canton, but at the same time having observed that the changes in deviation and intensity appear always to have reference to the position of the sun with regard to the magnetic meridian, was led to connect these phenomena with Professor Seebeck's discovery of thermo-magnetism, and Professor Cumming's subsequent experiments; and to refer the phenomena of diurnal variation to the effect of partial heating, modified, perhaps, by that of rotation, and by peculiar influence in the sun's rays.

In support of this opinion, he cites passages from papers by Professor Cumming and Dr. Traill, whom a similar idea appears also to have impressed. But in place of looking to the stony strata, of which the earth's surface consists, as the elements of the thermo-magnetic