

same occurrence happened to a patient of mine two years ago, when one of my colleagues was passing round with his dresser; the man suddenly fell back in bed. He was here for a very different complaint, and had nothing but a slight sore throat, for which I had ordered six leeches, but it so happened that the inflammation inclined a little towards the larynx, and spasm of it was accidentally excited; and he died while all the parties were in the ward. I was not there at the time. There was nothing found after death but the very slightest inflammation just about the glottis.

Now in the instance before us there was considerable disease of the larynx, as I will show you; quite sufficient to account for all the symptoms. Here was, in the first place, thickening of the whole epiglottis. The mucous membrane and the cellular membrane underneath are in a state of considerable hypertrophy, also, at the glottis; and you observe an excessive growth in one spot, at the left side of the opening, an excrescence almost like fat in appearance. Then within you will find hypertrophy of the same structures. The left side of the interior of the larynx you see is very much thickened, and within the corresponding sacculus a deep ulceration exists, so that the cartilage grates under a probe introduced into it, like a carious bone. The perichondrium is gone. If in this man, at the moment of sudden dyspnoea, an opening had been made below those parts which were in a state of irritation and spasm, he would have survived that one attack: but with such disease of the larynx he, of course, would ultimately have died.

IV.

IDENTITY OF THE NERVOUS AND ELECTRIC FLUIDS. BY DR. DAVID.*

Extract from an Inaugural Thesis, Paris, 1830.

M. DAVID, having been long struck with the numerous analogies which had been detected between the phenomena of electricity and the nervous power, instituted a series of experiments upon this very interesting question; and the results very strongly confirm those which Dr. Beraudi made, and which we published. We take the following extract from the Archives Générales.

In September, 1829, M. David exposed the nerves of the thigh of a chicken. He then divided them, and introduced into the neurilemma a small brass wire, proportioned to the size of the nerve: the wire was made to touch the nervous pulp. Having then placed, near the opposite end of the metallic thread, a small needle, the latter exhibited very manifest oscillations. These oscillations appeared to M. David to be in proportion to the movements of the animal; so that they were much greater when the motions of the animal were more powerful. At some moments the oscillations of the needle were not manifest, and it was found that then the wire was not in immediate contact with the nervous pulp.

M. David repeated this experiment several times upon the largest nerves, and he frequently found the extremity of the needle describe an arc of four or five lines, and even more. If he forced the animal to struggle, at the same time that he held the extremity of the

* From the Lond. Med. and Phys. Journ.

wire at a greater or lesser distance from the needle, he could evidently prolong the oscillations of the latter.

These experiments were too imperfect to convince M. D. that the nerves transmitted an electric current. The effects might possibly arise from an involuntary shock produced by the wire against so moveable an apparatus : and, again, if the oscillation of the needle did really depend upon an electric current, the latter might be the result of oxydation of the metal. To avoid these probable sources of error, M. D. afterwards experimented with the multiplicator of Schweiger and threads of platina : the results were still the same.

The sciatic nerve of a rabbit was insulated and laid bare, and carefully sponged ; a piece of glass was gently introduced between the nerves and muscles, while the leg of the animal was bent. The sensibility of the nerve was shown by the motions of the animal during the introduction of the needles, the one above the other, but not touching each other. They were placed in communication with the galvanometer: the animal was quite tranquil, and the needle of the multiplicator was at rest. By a sudden movement of the rabbit, the apparatus was deranged, but the needle clearly deviated and moved. The needles were again introduced ; some muscular contractions succeeded ; again the needle oscillated, but so slightly as not to convince the assistants. The animal, however, soon made some very vigorous and repeated exertions, and there was no longer any doubt of the fact, for the needle now described an arc of more than two lines. The oscillations ceased with the motions of the animal, and again appeared when it moved. The

animal was excited to make contractile efforts, by stimulating the nostril or irritating the nerve, and the needle immediately oscillated, and the arc it described was great in proportion to the energy of the muscular exertions which were provoked. The phenomena could, in fact, be caused at will. With four needles, double the effect could be produced than when two only were employed. In general, the intensity of the phenomena diminished with the vigor of the animal, and they were not observable after death. When two needles were placed in a nerve, and two in a muscle, the oscillations were barely perceptible. When all four were introduced into a muscle, M. David could obtain no deviation of the galvanometric needle.

Other experiments demonstrated the reason why, sometimes, the phenomena may not arise when needles were placed in a nerve. The causes of the non-occurrence of the phenomena may be either, 1st, insensibility of the nerve from its being strained, or pressed upon, in sponging it ; 2d, its too great tension over the glass placed beneath ; 3d, blood may cover both the nerve and needles ; 4th, the perfect dryness of the nerve produced by the sponge. It is then necessary to place the nerve for a moment in contact with the muscles, and its power is restored. It is highly important that the needles and the extremities of the threads of the galvanometer should be perfectly clean.

M. David considers these experiments sufficient, 1st, to prove that organized beings have a special apparatus, which is destined to furnish an electric current ; and, 2d, to show the circumstances which are required for its production. Nee-

dles implanted in a nerve which is completely separated from the spinal marrow, produce no motion in the magnetic needle: but if a nerve is experimented upon *above* the part where it has been divided from the nervous centre, an electric current will be produced, which will cause the needle to deviate. When the spinal marrow is divided between the occiput and the first cervical vertebræ, none of the nerves will give rise to any electric phenomena. Among some sufficiently obvious inferences that M. David draws from his experiments, he observes, that muscular contraction is not produced by an inherent force in the muscular fibre, either irritability or contractility, which are purely imaginary faculties, but by the electric currents furnished by the nervous branches which the muscles receive.

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RURAL CEMETERY.

THE practice of burying the dead in cities, and especially under churches, is without doubt at enmity with good taste, ancient custom, and, *we* believe, sound philosophy. It is therefore with great pleasure we find the subject of a rural cemetery in this vicinity, taken up with so much spirit by the Mass. Horticultural Society. The spot which has been selected for this purpose, is that so well known, in Cambridge, by the name of *Sweet Auburn*—unquestionably the most delightful and picturesque spot within ten miles of Boston, and from its peculiarly varied surface and luxuriant forests, per-

fectly well adapted to this interesting purpose. Part of this tract of land is to be used for a garden of experiment, and as it contains about seventy-two acres, this very happy association may be effected without inconvenience. We present below a few extracts from the report on this subject read to the Horticultural Society at their last meeting. These extracts are taken from different parts of the report, every line of which bears strong evidence of the source from which it came. The literary productions of the learned President are no more to be mistaken than the fruit of the native vine, or the flower of the southern clime which he has labored so zealously and so successfully to cultivate and improve.

“With the EXPERIMENTAL GARDEN, it is recommended to unite a RURAL CEMETERY; for the period is not distant, when all the burial grounds within the city will be closed, and others must be formed in the country,—the primitive and only proper location. There the dead may repose undisturbed, through countless ages. There can be formed a public place of sepulchre, where monuments can be erected to our illustrious men, whose remains, thus far, have, unfortunately, been consigned to obscure and isolated tombs, instead of being collected within one common depository, where their great deeds might be perpetuated and their memories cherished by succeeding generations. Though dead, they would be eternal admonitors to the living,—teaching them the way which leads to national glory and individual renown.

“Such rural burial places were common among the ancients, who allowed no grave-yards within their cities. The Potter's Field was without the walls of Jerusalem, and