the most so consisted in its influence on the nervous system of animals. The origin of muscular motion is one of those profound mysteries of nature which we can scarcely venture to hope will ever be fully explained. Physiologists, however, had long entertained a general conception of the conveyance of some subtle fluid or spirit from the brain to the muscles of animals along the nerves; and the discovery of the rapid transmission of electricity along conductors, with the violent effects produced by shocks, transmitted through the body, on the nervous system, would very naturally lead to the idea that this nervous fluid, if it had any real existence, might be no other than the electrical. But until the discoveries of Galvani and Volta, this could only be looked upon as a vague conjecture. The character of a *vera causa* was wanting to give it any degree of rational plausibility, since no reason could be imagined for the disturbance of the electrical equilibrium in the animal frame, composed as it is entirely of conductors, or, rather, it seemed contrary to the then known laws of electrical communication to suppose any such. Yet one strange and surprising phenomenon might be adduced indicative of the possibility of such disturbance, viz. the powerful shock given by the torpedo and other fishes of the same kind, which presented so many analogies with those arising from electricity, that they could hardly be referred to a different source, though *besides* the shock neither spark nor any other indication of electrical tension could be detected in them.

(379.) The benumbing effect of the torpedo had been ascertained to depend on certain singularly constructed organs composed of membranous columns, filled from end to end with laminæ, separated from each other by a fluid: but of its mode of action no satisfactory account could be given; nor was there any thing in its construction, and still less in the nature of its materials, to give the least ground for supposing it an electrical apparatus. But the pile of Volta supplied at once the analogies both of structure and of effect, so as to leave little doubt of the electrical nature of the apparatus, or