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The young man's book of amusement

Halifax, 1848

Vegetable Galvavnic Pile

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the last century, and since that period, the science of Voltaic electricity has done more towards the progress of chemical research, than any other apparatus yet discovered. The Voltaic Pile consists of a series of plates composed of zinc and copper, in alternate layers; it is found that when a pile is thus raised, each alternate pair of plates being separated by a piece of moistened flannel, that smart shocks will be received by any person who may make a communication between the top and bottom of the pile. An electrical arrangement of this kind usually consists of about fifty pair of plates.

Vegetable Galvanic Pile.

A galvanic pile has been constructed by a scientific gentleman, entirely of vegetable substances. For this purpose, he cut discs of horse-radish and beet-root of two inches in diameter. He then prepared equal discs of walnut-tree wood, which were raised at their edges, to contain a little solution of acidulous tartrate of potash in vinegar, in which they had been previously boiled, to free the wood from rosin. Sixty pairs of discs were employed in the following order; viz. horse radish, beet root, discs of wood. The spinal marrow of a prepared frog was connected with the pile, by means of a leaf of *cochlearia*; the muscles of the frog were connected with the top of the pile by means of a double band of grey paper, wetted with vinegar; and, as often as this circuit was completed, contortions were excited in the animal.

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*Galvanic Experiment with Frogs.**

Frogs have been found the most convenient subjects for galvanic operations. Galvani prepared these animals by skinning their legs when recently dead, (they are usually killed by decapitation,) and leaving the legs attached to a small part of the spine, but separated from the rest of the body. Any other limb may be prepared in a similar manner, viz. the limb is deprived of its integuments, and the nerve which belongs to it is partly laid bare. The strongest contractions are produced when the galvanic electricity is caused to pass through the nerve to the muscles. Frogs which have been galvanized, very quickly become putrid.

The Effect of Galvanism upon Living Animals.

The following Experiments, which are not attended with any circumstances that can wound the feelings of humanity, may be easily made to shew the action of voltaic electricity on living animals.

* Perhaps most of those who try galvanic experiments merely for the purpose of amusement, would choose to dispense with the operations of decapitating and skinning frogs. It may therefore be observed, that an ample proof of the power of galvanism over the dead animal muscle, may be obtained by galvanizing any animal killed for domestic use. It will only be necessary to point the wires from the battery, and to penetrate the skin with them, at the two parts between which a communication is intended to be made.