

derived from electricity; and it is occasionally used, both under the form of sparks taken from the pelvis, and that of moderate shocks transmitted through it. Ophthalmia, and some other varieties of inflammation, have been removed by the electric stream; it has also sometimes succeeded in discussing tumours, and relieving pain. The general rule for the medical employment of electricity is to apply it at first under the milder forms, and gradually to raise it, if necessary, to the more powerful, taking care only not to employ it in too high a state of intensity, but in the greater number of cases rather to expect advantage from its continued and moderate use. In the treatment of paralysis, for example, by the application of electricity, the only rational indication is to excite moderate muscular action with the view of increasing the muscular power; to this, sparks of sufficient strength are adequate, and in employing shocks, there is always some risk of exhausting the irritability of the part through which they are transmitted.

GALVANISM.

THE peculiar power which is generated when two metals moistened or acted on by certain chemical liquids are in contact, at first named Animal Electricity, since Galvanism, has been applied as a remedy in various morbid affections. Its effects on the animal system are such as warrant this application. Its activity is shewn by its exciting, when applied in sufficient intensity, strong sensations in sensible parts, and contractions in parts endowed with ir-

irritability, more powerful than what are exerted by any other stimulant.

Between galvanism and electricity there are so many points of resemblance, that they have been considered as ultimately the same power, and there is every reason to admit their identity. Still from the different states in which they exist, their effects on living matter are not precisely similar. The sensation which galvanism excites, though somewhat analogous to that produced by electricity, is dissimilar; and the action of galvanism appears to be more extended, both to the nervous and muscular systems, than that of electricity, which is more local in its action. The galvanic excitation produces sensations and contractions in parts, which, from disease, or temporary suspension of power, are not sensible to electrical impressions; and the stimulant power which both exert, appears in galvanism to be greater in proportion to its intensity than in electricity; or the sensations and muscular contractions which the galvanic discharge excites, are more than proportional to its power of producing electrical phenomena. Hence it is the most delicate test by which the presence of irritability can be detected.

The diseases in which galvanism has hitherto been employed, are principally those of the nervous kind. In paralysis, it has been affirmed to have restored the capability of muscular contraction, and consequently the power of motion. Cases of chorea, tetanus, and some other spasmodic affections, have been related, in which perfect cures were accomplished by its application. It appears, in several instances, to have relieved deafness, particularly that species of it arising from torpor of the auditory nerve; and it has been successful in discussing indolent tumours. The transient nature of the operation is, with regard to it,

as well as electricity, an obstacle to their advantageous application: it is also more difficult to apply galvanism in a high degree of intensity, than it is to apply electricity. The former, however, has been affirmed to have succeeded in some cases in which the latter had failed; and even admitting their similarity of action, it affords a method of varying the application, which is often of importance in the protracted use of a remedy.

Galvanism is applied by connecting two metallic wires with the two extremities of a galvanic battery, and bringing them in contact with the part affected, so that it shall form part of the circuit of the galvanic discharge: the one wire is kept in contact with the part it touches; the other is alternately applied for a moment, and removed, and this is continued for some time. If the skin is moistened, the galvanic influence is communicated more readily and effectually; and still more so if a small piece of metallic leaf, as tinfoil, be laid on the parts to which the wires are applied. Sometimes even the cuticle has been previously removed by a blister, but the application of the galvanism is then attended with pain, and this is altogether unnecessary, if a galvanic apparatus of sufficient power be employed. One constructed of plates of zinc and copper, four inches square, and including from 25 to 50 of each metal, is sufficient for the greater number of purposes, a greater or less number of the plates being included in the circuit, according to the strength of the application required. The liquid best adapted to excite it is a solution of muriate of soda, with a little muriatic acid; diluted nitric acid, though more powerful, having its power sooner exhausted, and its action being attended with an effervescence, and a disengagement of nitrous gas.