

cord and sympathetic more powerfully than the faradic; it is usually preferred when it is desired to affect the middle and internal ear, or the retina and muscles of the eye.

2nd. A power of producing muscular contractions in cases where the faradic fails. This is especially noticeable in paralysis, the muscles responding to galvanism when quite unsusceptible to faradism. After treatment by galvanism the muscles often answer to faradism.

3rd. A more potent electrotonic, electrolytic and thermic action. The chemical power of the galvanic current is most markedly seen in galvano-cautery and electrolysis. Its greater catalytic action makes it superior in cases of neuralgia, atrophied muscles, rheumatism, etc.

The advantages of the faradic current over the galvanic are:

1st. By virtue of its frequent interruptions it more easily produces muscular contractions. This advantage is best appreciated in general faradization, the powerful tonic effects of which are largely due to the passive exercise and consequent oxidation and other important changes of tissue that result from the several thousand muscular contractions that take place during an ordinary sitting.

2nd. It produces greater mechanical effects. These are due to its rapid interruptions, not only on the muscles but also on the contractile fibre cells, thus stimulating the circulation and, with it, the process of waste and repair. In this respect its action is similar to rubbing, pounding, shampooing, etc. These mechanical effects are especially indicated in the treatment of diseases of the abdominal viscera, which are supplied with contractile fibre cells, anæsthesia, and general muscular debility, constipation, etc.

The general differential indications may be thus summed up.

*The Galvanic should be used:*

1st. To act with special electrotonic and electrolytic power on the brain, spinal cord, sympathetic or any part of the central or peripheral nervous system.

2nd. To produce contractions in paralyzed muscles that fail to respond to the faradic.

3rd. In electro-surgery to produce electrolysis or canterization.

*The Faradic should be used:*

1st. To act mildly on the brain, spine, sympa-

thetic, or any part of the central or peripheral nervous system.

2nd. To excite muscular contractions wherever the muscles are not so much diseased as to be unable to respond to it.

3rd. To produce strong mechanical effects.

The majority of cases, however, may be best treated, not by one current exclusively, but by both currents either in alternation or succession. The differential action of the two currents may be roughly compared with the differential action of bromide of potassium and chloral hydrate—the faradic current being the bromide of potassium, and the galvanic the chloral hydrate. Bromide of potassium is a safer remedy than chloral hydrate, but there are very many cases where it is powerless, and the chloral acts as a specific, so the faradic is safer than the galvanic, and therefore better adapted for general use, and, for those who use but one current, fulfills a larger requirement; and yet there are many cases where it fails, and the more powerful galvanic current is required. Except in cases where the galvanic current is clearly indicated, it is well to begin with the faradic—just as we use the bromide before resorting to the hydrate. A combination of the bromide and chloral is frequently more effective in producing sleep and relieving pain than when either remedy is used alone, similarly a combined or alternate use of the galvanic and faradic currents will accomplish much more than either used exclusively."

Faradic electricity has been proved lately to be very useful in arresting uterine hæmorrhages, as menorrhagia and post partum hæmorrhage. It has been lately much employed during labor for atony of the uterus, and has been successful in producing strong and regular contractions. This is a very great advantage, as it has no deleterious effect on the child, as is often the case where ergot has been employed. It has been strongly recommended as a means of resuscitating asphyxiated new-born infants, and in cases of drowning.

Electricity may be administered locally for purely local complaints. Where, however, a constitutional effect is required, the general faradization (for the faradic current) or the central galvanization (for the galvanic current) introduced and fully described by Messrs. Beard and Rockwell must be employed.