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COURSE OF THE ELECTRIC CURRENT IN BATHS.

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As the subject of the Electro-chemical baths, for the extracting of deleterious minerals from the body, is attracting no small degree of attention as a lately discovered medical agent, scientific truth bearing on the subject is of interest to the public.

There are two kinds of electro-chemical baths now in use—the full body-bath and the foot-bath. In one the whole body is immersed in water up to the shoulders; in the other, the feet only. In the full body-bath the electricity does not pass down through the body under the water, but passes immediately from the body along and near the surface of the water to the sides of the metallic bath-tub. In the footbath, the electricity passes through the whole course of the body before it reaches the water.

I prove that the electricity in the full body-bath does not pass through the body, by the following experiment: First, provide a large metallic bathing tub, and fill it with water, and let the experimenter immerse his body in the water up to his neck. The body in the bath is to be insulated from the tub in the usual way, by being placed upon a board in the bottom of the tub. Connect the bath-tub to the zinc pole of the battery by means of a wire. Let this wire, before reaching the battery, be attached to a galvanometer. Now, let the man in the bath take hold of a metallic handle attached to a wire from the copper pole of the battery, and the needle of the galvanometer is deflected ten degrees. This shows that the electricity has passed from the man's body to the metallic bath-tub, and thence on the zinc pole of the battery.

Now, vary the experiment. Disconnect the galvanometer from the wire leading to the bath-tub. Place against the sole of the foot at the pottom of the bath-tub, a small metallic plate soldered on to the end of a wire covered with gutta-percha, to insulate it from the water and the tub. Connect this wire to the zinc pole of the battery, and attach it to the galvanometer. Now, let the man in the bath again take hold of the handle from the positive pole of the battery, and the needle still points north, proving decidedly that no electricity is passing down through the body in the bath, but that it has left the body at or near the surface of the water, and is passing along to the metallic bath-tub, and thence to the zinc of the battery. In this experiment the wire from the bath-tub must also be in connexion with the zinc of the battery, as well as the wire from under the man's foot. This circumstance is essential to the experiment, inasmuch as we thereby give to the electric current which has entered the man's body from above the surface of the water, an opportunity to take either of the two directions ; that, along the surface of the water, or that, down through the body and out at the foot.

It is evident from this experiment that the foot-bath is preferable to the body-bath, in the elimination of minerals from the system, inas-