

chlorine atom to form an associated molecule. In this way a number of sodium ions will arrive at the negative electrode. Here the positive charge of the ion will be neutralized by the negative electrode, and a free atom of sodium will result. This is the primary change, but immediate secondary chemical changes take place. The sodium atom splits up the water into the hydroxyl radical OH, with which it combines to form caustic soda, and free hydrogen, the latter escaping in the form of bubbles of gas from the surface of the solution around the electrode; while certain of the hydroxyl radicals, which possess a negative charge, will be started on their journey towards the positive electrode.

In the same way the chlorine ions will arrive at the positive electrode, part with their electrical charge, and become free atoms of chlorine. This immediately splits up the water, the hydrogen combining to form hydrochloric acid, with liberation of oxygen. Thus around the negative electrode alkali is produced, around the positive acid.

Solutions of salts, bases, and acids form electrolytes; but carbohydrates, proteins, and some other chemical substances do not, and no current will flow through a solution of such a substance, indicating that the changes above described are essential to the passage of electricity through a liquid. Some gases and solids, or melted solids are electrolytes.

The human body, having a large number of different salts in solution, will obviously act as an electrolyte, and a constant current in its journey through the body will produce many ionic changes; a consideration of the changes possible will go far to point out a rational line of treatment.

The movement of ions will also act upon muscles and nerves (motor and sensory) under certain circumstances, causing contraction in the muscles