

CHAPTER III

DYNAMIC ELECTRICITY

DYNAMIC electricity may be described as electricity in motion, the supposed motion taking place along suitable conductors. The direction of flow is generally taken as from positive to negative, but this is only for ease of description, as any change in the one direction is accompanied by an equal change in the other.

Sources of Supply for Therapeutic Purposes—1.

Electric Mains.—This is the ideal source. As supplied from the power station for lighting, etc., electric current may be direct (written D.C.) or alternating (written A.C.). In the direct the direction of flow is constant; in the alternating the direction of flow is periodically reversed—*i.e.*, in one cable the current will rise very rapidly from neutral to 100 volts positive pressure (if it is a 100-volt circuit), remain for an appreciable time at that potential, then fall rapidly to 100 volts negative pressure (see Fig. 2). From *A* and *B* is one complete cycle, and the periodicity of the cycles varies on different circuits. It is commonly 50 per second, or somewhat higher.

The direct current is, generally speaking, the more convenient for therapeutic purposes. It can be used without much modification in the common types of X-ray apparatus, for the generation of high-frequency currents, and for the electric arc; with suitable modifications, for galvanism and faradism,