

phenomena which comes before us. Every organic or inorganic movement, every molecular change excites a corresponding development of electricity, and the process of nutrition, like every other vital action, is subject to this law. Now a continued current passed through the human body marks its presence in two different ways. At the points of entry and exit, that is, at the two poles, in virtue of an electrolytic action inseparable from the passage of the current, we find an accumulation of acids on one side and of bases on the other. This is a fact commonly known, and I shall have to refer to the therapeutical importance of these acids and bases. In the organic substance intermediate between the two poles, the interpolar region as it is called, through which the current spreads in rendering itself from the point of entrance to that where it is discharged, there is a twofold action. The one is contemporaneous with the current itself, the other is posthumous. The contemporary action consists in an exaggerated vital and circulatory activity, favorable to the rapidity of nutritive changes. This will explain the absorption of certain effusions, either interstitial or intra-articular, under the influence of a current directed through them. The posthumous action, enduring after the cessation of the current, is in effect charged as a second battery. It is consequently endowed with a supplementary electro-motive force or tension, which in its discharge prolongs the topical and trophic effects that the preliminary current had begun; and it still further advances the retrograde metamorphoses which we see in non-malignant neoplasms. Yet we encounter some who say that there is no such thing as interpolar action, and that the current leaves no visible or tangible trace of its presence. Who has ever been eye-witness of a current in a nerve-trunk? Who has ever seen the something which is transmitted by the telegraph wires? As it is with many natural phenomena, such, for example, as nutrition, which

we only know by its effects, so it is with the current. Let anyone who denies the fact of interpolar action but just apply one pole to the forehead and the other to some part of the body, the hand or foot, and he will at once have sensory evidence of two phenomena which constantly follow: First, the appearance of flashes of light, and secondly, a change in taste of the saliva. How should we account for these invariable phenomena, unless there be an interpolar action of the electric current? Place one pole on the neck, over the pneumogastric nerve, and let the other be held in the hand. You will thus stop many a threatened vomiting. It must be some interpolar action which produces this effect. Indeed, nervous pathology as a whole (nervous, medullary, cerebral, or peripheral) requires ordinarily nothing more as a means of relief than the interpolar action of the continued current. If interpolar action were not a reality, electro-therapeutics would soon become an idle word, for it would be reduced almost to the simple chemical or mechanical effects of polar action; and these we might in a great measure afford to neglect. As we recognize this sceptically treated interpolar action by its unavoidable consequences, so we have, as evidence of its presence, the effects of polar action. On this point, again, I am accused of empiricism; and my accusers merely substitute their erroneous interpretations of the respective action of each pole for the formulas that I have laid down. I have said the negative pole is more irritating, more charring, more destructive than the positive pole. In opposition, I am told that as acids abound more in the human tissues than the bases, we ought to find a greater proportion of acids at the positive pole than of bases at the negative pole: hence the preponderant action, quantitative, of the former. But the fact is overlooked that a current has no caprices, and acts only according to the laws of its nature; that electrolysis or decomposition takes place molecule by molecule, equivalent of acid for