

were found to set up a most violent reaction in two sittings, and the wound thereafter showed little disposition of repair. In this case, the cause lay also in a low state of vitality, much more than in the night.

The degree of penetration of the rays is sufficient to enable us to see through the body, but their therapeutic influence falls very short of their full penetration. Schiff has shown that the light must be applied not to the healthy side but directly over the diseased side. Edwards looks upon this fact as a proof that the therapeutic effect depends not only on the X-rays, else it would be felt through the whole thickness of the part, but on some associated electrical current. Kummell and Jankau, for somewhat similar reasons, have advanced their electrochemical theory.

Barthelemy's tropho-neurotic theory would seem to gain support by Pfahler's experiment, which consisted in covering half of a tumour with tinfoil or lead, and after a series of 8 exposures, the tumour being removed, showed degenerative changes in its unprotected section. Likewise he found that glands outside of the range of exposure remained cancerous when the parent growth had become fatty under exposures. It is true, however, that such a degeneration may occur spontaneously.

The method of comparing the efficiency or the quality of different tubes and the diverse forms of exciting apparatus, fails to convince every one, owing to discrepancies in the results obtained by different men with apparently identical apparatus. Most radiographers prefer the so-called soft tubes and the static machine as the source of electrical energy. Hopkins has discarded the coil owing to either the bad or unsatisfactory results he obtained with it. Codman, in his admirable summary of the subject of X-ray burns, says that the static machine is less likely than the coil to produce them. In regard to tubes, I prefer a good Mueller self-regulating tube; others look upon all regulating tubes as no wise superior for routine treatment.

Leonard, speaking of the varied effects of X-radiations, says: "The variation is one in degree and not in nature and depends (1). on the nature of the tumour and its host, and (2). on the amount of the alterative agent employed, both of which are difficult to measure in different cases and with different apparatus. The quality and quantity of the rays vary with the efficiency of the apparatus and the expertness of the operator. The degree of change produced varies widely with the