

INFRA-RED IRRADIATION.

(With a Foreword by Lord Horder, K.C.V.O.).

In this little book on Infra-Red Irradiation* Dr. William Beaumont, M.R.C.S., L.R.C.P., brings up to date the results of years of experience and experiment in a branch of physical medicine which has lately aroused considerable interest. He recounts very clearly the limitations as well as the possibilities of Infra-red irradiation, thereby clearing away many of the extravagant claims which sometimes obscured its value as a treatment. He maintains that it is particularly valuable to those distressing minor ailments associated with considerable pain which prove so difficult to treat and which are the cause of much unnecessary loss of time and work.

In his introduction the author gives a very lucid definition of the subject of the book, and we hope we may be pardoned for quoting from this section. "The phrase 'Infra-red Rays' is employed to designate a precise group or band of rays in the electromagnetic spectrum. The complete range of electromagnetic rays includes the rays of radium, the X-rays, the Ultra-violet rays, the Visible rays, the Infra-red rays and the Hertzian rays. It should be clearly understood that, whenever any of these rays are arrested suddenly, their energy is converted into another form, and one of the commonest is heat. This is better expressed by saying that wave motion, radiation energy, is transformed into a form of energy capable of giving the sensation of heat and producing the effect attributed to heat. . . . The rays that give the greatest skin sensation of heat are the Red rays and the shorter Infra-red rays. With the longer Infra-red rays this skin sensation is not so perceptible, and it gradually diminishes in the region of the Hertzian waves." In connection

with the results of Infra-red irradiation not attributable to heat Dr. Beaumont writes thus:—"If the clinical effects produced were entirely due to heat, it would not be worth while discarding the old name Radiant Heat. . . . It is evident . . . that there is some factor other than heat responsible in some measure for the results obtained." Of yet another ambiguous expression he writes:—"Another source of confusion is the introduction of the term 'Luminous Infra-red.' The Infra-red rays are neither luminous nor visible." With regard to the apparatus employed for the production of this type of radiation two classes of apparatus are in use, one of which produces visible light

chiefly in the red and yellow portions of the spectrum in addition to the Infra-red, and the other which produces only the invisible rays. The correct designations for these types of apparatus are "Luminous Source of Infra-red radiation" and "Non-luminous Source of Infra-red radiation." When the non-luminous source is used it is necessary to warn the patients that the surfaces, although not radiant, are capable of inflicting a burn. Some of these generators are so constructed that the separate units, each of which contains an isolated element, can be arranged at equal distance from the patient. It is thus possible to irradiate both sides, for example, of a shoulder.

The chapter on "Psychological Effects" raises many interesting points. The effects are divided into eight categories as follows:—(a) Absorption and penetration, that is to say, the power of penetration of living tissue and the effects produced when the rays are

stopped or absorbed by it, (b) Antagonism to other rays, especially the X-rays and the Ultra-violet rays, (c) Erythema, (d) Pigmentation, (e) Effects on cellular elements of the blood stream, (f) Rise of body temperature, (g) Stimulation of cell activity, (h) Absorption of exudates, especially such as occur in synovitis or fracture. The chapters at the end of the book on "Treatment of some common symptoms" and "Application to disease" are probably of greater interest to nurses, whose work does not bring them into contact with the methods of physical medicine, than are those dealing with apparatus and technique. The symptoms which usually benefit by Infra-red irradiation are pains of the neuralgic type and what the patient describes as "stiffness." It is also claimed that people suffering from insomnia are helped by this treatment. The diseases for which this irradiation is valuable as an auxiliary treatment are Rheumatic Fibrositis, Rheumatoid



Hanovia Duo-Therapy Model
COMBINED INFRA-RED AND ULTRA-VIOLET IRRADIATION
(Showing Face-Screen).

Arthritis, Osteo-Arthritis, disorders of the nervous system such as Sciatica, and also the paralysis caused by Bell's Palsy and Infantile Paralysis. Some skin diseases are benefited, but others do not respond well.

This book is thoroughly recommended to nurses and masseuses on account of the clear light it throws on a now-popular form of treatment and the valuable hints on the apparatus and technique which it contains. Certain of the portable lamps and generators are suitable for those nurses who practise this treatment.

Lord Horder considers that an analysis of 1,000 cases of treatment by Infra-red Irradiation demonstrates the author's fitness to deal with his subject and affords an excellent basis for statistical results.

* H. K. Lewis & Co., Ltd. Price 6s. 6d.

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