This brings us to the consideration of the two following aspects of radium therapy. First, the power of penetration of the rays. Second, the ease with which it may be handled.

The power of penetration of certain rays is, as is known, very great; theoretically, there can be no obstruction. In fact, the depth to which a ray acts depends not only on the absolute power of its penetration, but at the same time: (*a*) on the number of rays which attack a given point (whence the importance of the quantitative value of radio-activity on which we have often insisted); (*b*) on the greater or less facility with which this or that tissue allows itself to be influenced.

If, then, we think, as MM. Delbet, Hennenschmidt and M. Tuffier have shown, that, given certain apparatus, this penetrative action is limited, and relatively weak (about 3 centimetres), we have determined on the other hand that this limit might be extended by the use of a greater number of rays and by suitable technique, notably against certain forms of neoplasm. Here is an example:

In the case of one of our patients, in the course of treatment we reduced at each new application and held in check for seven months a lympho-sarcoma of the mediastinum in the following manner. We set up action by crossing the rays, the apparatus being applied simultaneously in front and at the back of the thorax, with filters light in proportion to the intensity of radio-activity, and we multiplied the points of application by displacing the apparatus before the duration of the applications could change the cutaneous covering. The original cervical neoplasm, which had reappeared very markedly immediately after a first operation, had been treated by radium (cross-fire) a year before; under that influence it had disappeared entirely and had not since returned.

It is in order to obtain an action at the greatest possible depth that we advocate, in certain cases, especially when it is a question of getting into the vital part of a tumor, the use of filters or screens of less and less density and thickness, or even dispensing with them altogether, and consequently making use of the greatest number of rays possible.* that is to say, compatible with the sufficient integrity of the tissues which are for a given time in direct contact with the apparatus. That is, moreover, the method of procedure of Robert Abbé, when, by

*Quite recently the use of 19 centigrammes of pure radium (quite a large quantity), applied on a single point of an enormous tumor of the breast for forty-eight hours, produced in one of our patients on the sixteenth day an appreciable reduction, which we never observed to the same extent in as short a time with weaker doses. The tumor, cut out by Dr. Arron on the 16th day of application, showed evident histological changes along the course of the rays (at a depth of 2.5 centimetres).