

ent varieties of rays as short wireless wave, heat, infra-red, visible light, ultra-violet rays, grenz rays and X-rays. The X-rays themselves are of different wavelengths, the shorter being those used in X-ray therapy and the longer for diagnostic purposes.

#### Properties of X-Rays.

Of the many physical properties of X-rays, the following four are of importance in Radiology:—

First there is their biological effect upon the body. This may be curative, as in the treatment of cancer, or it may be destructive, as in the case of over-exposure of workers to the rays. In the latter case the rays may affect the skin, the blood or the organs of reproduction. X-rays workers guard against the dangers of over-exposure to the rays by wearing lead glasses, lead-rubber gloves and lead-rubber aprons.

The second property of X-rays is their power to affect a photographic emulsion. This enables one to take an X-ray photograph, or "radiogram."

The third property of X-rays lies in their power to cause certain substances to fluoresce, *i.e.*, to give off light rays. This is utilised in "screen examination" of patients. If, in a dark room, an X-ray tube is placed behind a patient, and in front of him a "screen" of cardboard coated with a layer of barium, platino-cyanide or calcium tungstate, a fluorescent image of the structures of the body is visible on the screen as long as the tube is emitting X-rays. This enables one to study moving organs, such as the heart, lungs, intestines, etc.

The fourth property of X-rays is their power of penetrating objects and tissues that are opaque to ordinary light. The heavier an element the greater its atomic number and the more opaque it is to X-rays. This is the basis of the X-ray photograph. The varying density of the different components of the body causes a varying contrast in the shadows which go to make up a clinical radiogram. For example, air, with its low atomic number, is transparent in such a picture. Air is present in the lungs, stomach and intestines. A little less transparent are fat, water, soft tissues and muscles. Bones, containing calcium, phosphorus and magnesium have a high atomic number, are relatively opaque to X-rays, and cast a well-defined shadow in a radiogram. Stones in the kidney are usually composed of a combination of fairly opaque salts and are usually clearly visible. If, on the other hand, there is no natural contrast in or round the structure to be examined, an artificial contrast medium must be used. Thus a barium meal may be given to outline the œsophagus, stomach and intestines, or a barium enema to outline the colon. Opacol is used to outline the gall bladder, and Uroselectan to demonstrate the functioning of the kidney.

The long display of lantern slides was followed with close attention and at the close of the lecture much appreciation was expressed of the kindness of Dr. Cochrane Shanks in giving us such an exceedingly interesting lecture.

#### REVIEW.

"Angles," by Miss Margaret Morrison, A.R.R.C., S.R.N., M.R.B.N.A. (Published by Messrs. Hutchinson. Price, 7s. 6d.)

From time to time we have reviewed several of Miss Morrison's novels and we have now to announce the appearance of another work from her versatile pen. Recently a lady remarked that she thought nurses were highly privileged because of the contacts they made and their opportunities for studying the great book of human nature from life itself. Just on that remark, as it happened, this new novel was handed in, and as one follows its pages one finds an object-lesson on the truth of what she said. Here the pen of "a ready writer" unites experience and

observation with a vivid and fertile imagination. Miss Morrison enjoys "playing about with words," and so her pages are never laboured, but rather she perceives a joy in continual weaving.

The Prologue to the book gives a kind of key or interpretation to what is to follow although it has nothing whatever to do with the story. There is the dramatist charmed with a fine statue of Andromeda among the stage "props" for the production of his play. In it he sees the same feeling of freedom of spirit, in the sculptor, as that which attended him in writing his play; the dramatist and sculptor meet, it may be said, in the world of spirit; not so the stage manager with his commercialised conceptions. The stage cleaner, too, is at her own level when she suspects that Andromeda "was no better than she ought to be." The electricians give their views, but, in the long run, the idealist triumphs and the statue remains in the finished production of the play.

Throughout the work there is always the motif "angles" in personalities and the conflicts that arise thereon. There is a Jane Austenish touch about the earlier part of the book that leads us into the company of people who still retain something of the Victorian type and find absorption in the quiet backwaters of life. But here there are angles too, plenty of them. There are the two "spinster angels," one preoccupied in a continuous effort to smooth over the scars on other people's feelings arising from the "angles" of her managing sister. There is the good General, made Hon. Secretary to every village scheme and constantly studying how to avoid frictions among his neighbours. There is the proverbial busybody, descendant of a line of worthy vicars, occupied, she always is, with the concerns of her neighbours. The inevitable Duchess is there; her presence is so necessary to the success of flower shows or similar functions in the life of the community. A friendly likeable collection of folk they are, still standing back from modern ways yet bringing a breath of refreshing, soothing simplicity into that other atmosphere of the book that is more distinctly modern.

So they go on in their quiet way until suddenly we find ourselves plunged into the realisation that we have unconsciously been led into the heart of some mystery arising on the "angles" of a really attractive pair of people who live in an equally attractive mansion which, because it was once partially destroyed by fire, presents a Queen Anne frontage when you come from one direction and a Georgian when you come from the others—"angles" again.

The problems of these two people lead us into the company of an old-fashioned clergyman to whom the sorrows of humanity and its guidance are an absorbing problem. In his person he indicates what is one of the lessons of the book—that true freedom lies in the love that *gives*.

Altogether, Miss Morrison has woven for us a tale that is interesting and a pleasure to read, and we recommend our readers to get a copy or order one from their libraries; thus they will give pleasure to themselves and encourage the work of one of their fellow Members who has struck out on a new path.

#### HOSPITALITY.

##### MISS SWABY-SMITH AT HOME.

Miss Swaby-Smith was At Home recently to members and friends and a large number of guests came along to enjoy her hospitality. Her parties are always appreciated and she makes a most kindly hostess, always alert to welcome her guests and to see that they are being entertained. Many appreciations were expressed of her kind hospitality and the pleasure she had given to her friends.

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ISABEL MACDONALD,  
Secretary to the Corporation.

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