The human tissues are very susceptible to radium rays. It is unsafe to carry radium about in one's pocket. Several cases are on record of inflammation and ulceration of the skin following such a procedure.

Even the carrying of it in a glass tube from one patient to another may set up inflammation similar to that induced by an improper use of the Rontgen Rays. Any ulcer formed by it may last for weeks or months.

The chief physiological effects of radium, so far as at present investigated, can be arranged in three groups:—

1. Effects on the skin, producing inflammations and ulcers.
2. Effects on the nervous system, producing paralysis and death.
3. Luminous effects produced in the partially blind.

From this latter effect Dr. Turner thinks there may be a possibility of teaching blind persons to write or draw.

THE LEADING CHEMICAL CAUSES OF GASTRO-INTESTINAL CATARRH.

Some definite information about the poisons which may be contained in the different kinds of food has been supplied by Professor Adams, of Chicago, in an article published in the *Clinical Review* for October last. The poison is usually present in the food at the time when it is ingested, but, if certain living bacteria be swallowed and can maintain their existence in the stomach or intestines, they will there manufacture toxins which are extremely virulent. In practice, the poisons most commonly met with are those of bacterial origin, whether the bacteria be alive in the food or whether only the toxic products of their growth be present. As regards particular articles of diet, "fish" may contain ptomaines from being putrid, or may be poisonous from having lived in water containing sewage. It is said that the sturgeon is, of all fish, the most susceptible to bacterial infection, a fact which explains the frequency of poisoning by fish in Russia and Germany. Fish which have fed on certain poisonous medusæ are also dangerous to eat, and the fact that certain otherwise harmless fish become poisonous during the spawning season is explained by the presence in their flesh at the time of a toxin (allied to the ptomaines) which is generated by the ovaries and testicles, something, one supposes, in the nature of an internal secretion. Prof. Adams, of course, alludes to the infection of oysters with the typhoid bacillus and to the poisonous effects of mussels which have fed on sewage, but he says that poisonous mussels lose their poison when placed in pure sea water. A ptomaine has been separated from poisonous mussels by Bieger; it is called mytilotoxin. As regards "meat," all kinds may become infected by bacteria after the animal has been killed, and, very naturally, dried or tinned meats are the most likely to become poisonous in this manner, the sausage being the article of diet which has caused the largest number of cases of poisoning. But, in addition, the flesh of an animal which was diseased when it was killed has been known to cause toxic symptoms; for instance, the Bacillus enteritidis has been found in the flesh of a cow (!) which had had diarrhœa for two days. Professor Adams does not refer to the question of the possibility of infection by the flesh of tuberculous animals. "Milk," being an admirable culture medium for the growth of many kinds of bacteria, is not infrequently found to be poisonous, quite apart from the presence in it of such a specific organism as the typhoid bacillus; and, as regards "ice-creams," it has been shown that the poison they occasionally contain is also of bacterial origin, and not, as a rule, the copper, tin, or lead of the cases in which they have been frozen. From milk, and from ice-creams which had caused gastro-enteritis, a ptomaine called tyrotoxicon has been isolated; and the same body has been obtained from poisonous "cheese." Fortunately, the numerous bacteria which grow so readily in many kinds of cheeses produce no toxic principles. Professor Adams does not say much about vegetables, but mentions the occurrence of ergot of rye in grain, and that a poisonous ptomaine may be generated in immature and poorly-kept corn meal. As the risk of eating uncooked vegetables is chiefly due to their contamination with the ova of the larger parasites, such as the hydatid, the subject scarcely comes within the scope of this paper. As regards the preservatives in common use, he mentions formalin and boric acid as being used for preserving milk and meat. The former he condemns utterly; and, while in connection with milk he says that boric acid may produce injurious effects, in connection with meat he says that it is not considered harmful. Salicylic acid and benzoic acid are dangerous preservatives; while among the colouring matters sometimes used for jellies, &c., he mentions the aniline dyes as being all of them poisonous.

previous page next page