

factors gave rise to cancer of the thigh, which is practically unknown in any other occupation. It is now known that one single substance in the oil is responsible for the cancer, and oils can be tested to find out if they are carcinogenic. Men who work among tar furnish another example of those liable to occupational cancer; warts, which rapidly turn to cancer, break out on their arms. Much is done now to prevent this by examination of the arms and treatment of warts before they become malignant. The dyeing trade had also, in the past, its toll of cancer, but gradually this is being prevented.

There are two schools of thought with regard to the cause of cancer. The first believe that it is due to a very minute micro-organism of the virus nature, and the other maintains that the cause is chemical. It is held that some chemicals which are normal in the body, in certain circumstances become abnormal and cause changes in the nature and growth of the cells. Doctors and nurses are asked, "Is cancer infectious?" and the answer is definitely "No." If it were, it might be confidently assumed that they, themselves, would be the most liable to develop it, and this is not so. Sometimes the question is asked, "Has the type of food eaten anything to do with the rise of cancer?" and again the answer is "No." Over-civilisation is often blamed, quite wrongly, for giving rise to cancer. There are records of the disease as far back as 2,500 B.C., and perhaps the world was not so over-civilised then. Furthermore, it can be pointed out that even toads are subject to cancer, and civilisation has not affected them yet to any appreciable extent! The question, "Is cancer inherited?" is more difficult to answer. Again we can say "No" if, by "inherited," we imply that, because a mother dies of cancer, her offspring will also be affected. On the other hand, it has been demonstrated that by constant in-breeding a race of mice can be produced which is particularly liable to develop cancer. One curious point has come to light in the investigations as to the prevalence of cancer in various parts of the country. There appear to be some districts where it is more common than in others. We must not, however, base too many arguments on this fact, because the statistics have not yet been fully correlated and there are many circumstances which must be taken into account. It must be remembered that there are some parts of the country that young people leave; therefore there is likely to be a larger proportion of people who have reached the so-called "cancer age." In certain groups of people, for example the Army, there is a very small percentage of cancer, but it must be remembered that in the Army the men are nearly all young.

Dr. Donaldson gave the audience the great privilege of viewing films illustrating healthy growing tissues and others showing cancer cells and the effects upon these of radium. These films are the result of much work and study by the late Dr. Ronald S. Canti on the subject of radium. It is well known that to watch growing tissues under a microscope, for hours on end, is extremely tiring. The observer is compelled to look away for a time in order to rest the eyes, and when he returns to the microscope he may not be able to identify again the particular cell or cells in which he was interested. The methods by which Dr. Canti built an apparatus, which takes periodic photographs of microscopic slides in the form of a cinematograph film, was described. It proved so successful that the British Empire Cancer Campaign had a special apparatus built for him later to his own design. This was timed to take pictures of the slides every five minutes, and by passing these rapidly through a cinematograph the opposite effect to that of a slow-motion picture is produced. The growth and life of the minute cells was revealed before our eyes in a wonderful moving picture that made us feel that a whole universe was encompassed within the space of the living body. The first film showed how the cultures are

made, then the audience saw the cells spreading out from the original piece of tissue. In greater magnification was shown the manner in which cells roll up in a ball preparatory to splitting into two, then, by means of the dark-ground method, the interior of the cells was shown with the chromosomes within the cell protoplasm grouping themselves at either end of the cell before it divided. The action of phagocytes ingesting other cells was shown, and it was interesting to note that these phagocytes bore a certain resemblance to the cancer cells shown on the second film. The cancer cells were larger than the normal and moved about and divided much more rapidly. They were very irregular in shape, but in a culture of older forms the appearance was more rounded. The effect of radium upon the normal and the cancer cells was next shown, and was very striking. In a very short time a remarkable stillness came over the field, the cells ceased to divide and to move about and soon appeared to curl up and shrivel. The effect of radium is much greater upon cancer than upon normal cells, and it is this selective power which enables it to be used so widely in the cure of cancer. Radium used to be worth about 40,000 times as much as gold, but since the discovery of radium-bearing areas in Canada, it is probably now worth about 6,000 times as much as gold. We were shown the methods of storing radium in a special safe and also pictures of Dr. Canti's apparatus and the deep X-ray apparatus used in the treatment of cancer.

In conclusion, Dr. Donaldson gave a short account of the methods of organisation whereby the British Empire Cancer Campaign seeks to educate the public.

Warm appreciation was expressed of a more than usually interesting lecture by the large audience present.

#### WIDOWS', ORPHANS' AND OLD AGE CONTRIBUTORY PENSIONS (Voluntary Contributors) BILL.

The Council have had under consideration the Contributory Pensions (Voluntary Contributors) Bill, and instructions have been given to write to certain Members of Parliament asking them to urge for its amendment in so far as the income limit of entry into the proposed Insurance Scheme is £250 for women and in the case of men £400. This inequality is regarded as unfair in consideration of the fact that large numbers of women are not only called upon to provide for themselves during their working life and in old age but have to undertake considerable financial responsibility in connection with family relationships. We all know how very frequently these family obligations are assumed by nurses. In other respects the Bill provides benefits which will be available for most nurses, and particularly private nurses, who have not come under the existing National Health Insurance Scheme, will welcome its passage into law.

#### LECTURE.

On Thursday, May 27th, at 3 p.m., Miss Macdonald will give a lecture on "Fairy Faith in the Highlands and its Problems for Psychology."

#### OBITUARY.

##### Miss Beatrice Kent, S.R.N.

It was with a sense of abiding sorrow that Members of the Association received the news of the death of Miss Beatrice Kent, S.R.N., and, although an adequate testimony to a truly great colleague will doubtless be inserted elsewhere in these pages, we cannot allow the official organ of the Corporation to appear without reference to this sad event. At the Meeting of the Council on April 23rd a Resolution was moved by Miss Bickerton from the Chair, and carried by a silent, upstanding vote, placing on record the esteem in which Miss Kent was held by the Council and the sense of loss we feel on her passing.

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ISABEL MACDONALD,  
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