

is generally as much as from one to a hundred ⁱⁿ a day and sometimes from one to ten thousand, so that with constant amplification it would be difficult to avoid overloading the tubes.

A fluxmeter, an instrument to measure the quantity of electricity, is connected to the receiving set in place of a loud speaker. When the pointer goes past certain limits, either too high, or too low, an electric contact is made which takes out or puts in some amplification. A pen, connected with a sliding contact that regulates the amount of amplification, writes on a moving strip of paper the line which indicates the amount of static.

Mr. Friis states that the invention of the instrument is too recent to have yet given any comprehensive data, and he suggests that by using a slowly rotating loop antenna in the set, not only the intensity but the direction of the static may be automatically recorded.

HEREDITY AND GLANDS INFLUENCE CANCER

Cancer is caused by the related operation of several factors, rather than by a single cause. This is the conclusion reached by Dr. Leo Loeb of Washington University, after many years of research on breast cancer in mice.

Since 1910 Dr. Loeb has been collaborating with Miss A. C. E. Lathrop of Granby, Mass., on inbred strains of mice in order to determine what effect family predisposition has on the incidence of spontaneous cancer. Recently Dr. Loeb's results have been verified by Dr. C. F. Cori of the Institute of Malignant Diseases in Buffalo.

Briefly Dr. Loeb believes that hereditary disposition, in the case of mammary cancer in mice, plays a very important role in the spontaneous development of the disease, but that heredity alone is not decisive. The presence of certain internal secretions is essential to supplement or cooperate with the animal's innate sensitivity. When these secretions are withheld, the animals do not so readily develop the disease - a discovery that may have important practical bearing on efforts to prevent cancer or at least to lower the cancer rate among human beings.

In dealing with the causes of cancer, the problem always narrows down to the question, what makes this particular group of cells grow so outrageously. Various causes have been and are continually being suggested to account for this misplaced energy, from microorganisms to the psychic condition of "worry". It is known that continued irritation of a mechanical or chemical sort can induce cancer, but the spontaneous development of the disease, the sudden rush of energy, the "will to grow", on the part of a particular group of cells, for no visible reason, is extremely baffling.

Dr. Loeb established the fact that among mice, inbreeding of different strains produce families with distinctly different degrees of susceptibility to cancer of the mammary gland, which is the most common form of cancer among mice. He felt convinced, therefore, that heredity plays an important role in the spontaneous

appearance of cancer among mice and, in all probability, that it also plays an important role in cancer incidence among human beings although the usual statistical methods fail to reveal the importance of heredity. Dr. Loeb found that some mice families showed as high as 60 or 70 per cent. cancer rate while others showed only 4 or 5 per cent. or even less. He found, however, that the hereditary influence could be checked in female mice by cutting off the supply of internal secretion from the ovary. The normal growth of the mammary gland is dependent upon the hormone from the ovary and similarly the excessive, abnormal growth of cancerous tissue in the mammary gland is influenced by the ovary secretions. By removing the ovary at the age of six months or less, just after the mouse is sexually mature, Dr. Loeb was able to lower very decidedly the cancer rate. In strains where the normal rate was 60 to 70 per cent. the castrated mice showed a rate of only 11 per cent.

Dr. Loeb concludes that the causes of cancer are complex and that the balance of different factors, hereditary sensitivity and the supply of internal secretions, beside whatever external stimuli may be applied, must be studied quantitatively in order to give greater insight into the cause and prevention of the disease.

AMERICAN SEEKS SOURCES OF OLD PERSIAN TALES

Armed with a knowledge of six languages and a camera, Prof. Martin Sprengling, University of Chicago Arabist, will penetrate the historic birthplace of the Arabian Nights Tales this summer, and obtain first-hand some of the most ancient legends known to man. He is to give particular attention to the fables of Kalila and Dimna, older than the Thousand and One Nights themselves, and source material for the modern Uncle Remus Tales. Many of the stories which he plans to bring to light have been lost to civilization for centuries, and contain rare bits of humor, adventure, and romance.

The principal work of the expedition will consist of collecting, editing in Arabic, Persian, or Syriac, and translating into English, this group of stories. Prof. Sprengling has already in his possession hundreds of manuscripts upon which these tales have been preserved, either in Arabic or in Persian. He regards the collection as incomplete, and his proposed expedition is being planned in order to make it as complete as possible.

Tradition has it that the Kalila and Dimna stories originated somewhere in India, where they were woven by wise men who instructed the princes of India in the ways of government. These were brought to Persia by a learned physician, and from the courts of Persia they were disseminated to all parts of the world, and became incorporated in the literatures of many nations. As many as thirty-eight different countries are said to have traces of this literature. The most popular children's bed-time stories had their origin in Persia.

Prof. Sprengling will first go to Paris, thence to Italy, and from there to the Near East. He plans to visit the leading bazaars, private homes, museums, universities, and curio shops in his search for original manuscripts and authentic copies of these legends. He will probably return to Chicago some time in October.
