

SCIENCE

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GENERAL PROBLEMS AND TENDENCIES IN CANCER RESEARCH¹

AFTER the successful continuous transplantation of rat sarcoma and mouse carcinoma had shown that we possessed a method suitable for the study of the biology of tumors, and which promised a rich harvest of results, the decade following the year 1901 was to a great extent devoted to the study of propagated tumors rather than to the analysis of the first origin of tumors, although this latter problem had never been entirely neglected. Within recent years, however, much attention has been given to the origin of tumors. The so-called endemic occurrence of cancer which we observed in the case of cattle and rats, and which certain investigators noted in the case of mice and other animals, suggested to us sixteen years ago the possible significance of heredity as an etiological factor. Some years later, observations which we made in a mouse-breeding establishment in Granby confirmed this hypothesis; but it is only during the last six years, following the observations of Tyzzer and Murray, that our investigations, carried out in conjunction with Miss Lathrop, proved on a very broad basis the very great significance of heredity in the transmission of cancer in mice, the partial independence of the age and frequency factors, and the correlation between cancer frequency and structural and functional characteristics of the animal. The results of hybridization experiments which we carried out on a large scale indicate that in some crosses the tendency to a high

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¹ An address before Section VIII. of the II. Pan-American Scientific Congress on January 5, 1916.