iphery of the tubercle. The author traces the origin of the giant cells to the epithelioid cells, and believes that they arise as a result of a partial necrosis of the cytoplasm. Following upon the destructive properties of the multiplying tubercle bacilli, total necrosis and caseation of the tissues developed, beginning at the centre of the areas of infiltration. The author believes that though his conclusions are drawn from animal experiments, the results of his investigations are applicable to man as well as to animals.

Experimental Researches upon Cancer in Mice.—JENSEN (*Zent. f. Bakt. u. Paras.*, 1903, xxxiv. 122) reports a series of experiments made with a carcinoma obtained from a white mouse. The primary tumor had a typical carcinomatous structure, although there were no metastases. Portions of this tumor were transplanted through nineteen generations of white mice, and successful results were obtained in from 40 to 50 per cent. of the cases. The transplantations were usually made either by placing small portions of the tumor or mixtures of tumor and salt solution beneath the skin of the mice. Besides the variety of white mice in which the tumor occurred, gray mice were found to be susceptible, although in less degree; but all efforts to transfer the growth to other varieties of mice, to white rats, guinea-pigs, rabbits, and goats were unsuccessful. It appeared that the growth of the tumor in the inoculated animals was dependent upon a true transplantation, for if the tumor cells were mashed by grinding them in a mortar before the inoculations, the experiments resulted negatively. No evidence was obtained which warranted the assumption that the growth was of parasitic origin. Observations made to determine the viability of the carcinoma cells when subjected to different temperatures, light, etc., showed that positive inoculations could be obtained with isolated portions of the tumor which had been kept at from 1° to 3° C. for eighteen days, and at room temperature for twelve days, while at body heat the tumor cells became inactive after twenty-four hours. At a higher temperature the tissue was rapidly killed. All inoculation experiments were negative with portions of the growth heated for five minutes at 47° C. Intense light likewise proved very destructive to the cells, although it apparently penetrated but a short distance into the pieces of tissue. Partial drying was injurious, and a ½ per cent. carbolic acid solution caused death of the cells after a period of five minutes.—W. T. L.

The Action of Bacteria on the Hæmoglobin of Blood.—LOBBÉ (*Arch. de méd. exp. et d'anat. pathologique*, 1903, xv. 364) has found that both pathogenic and non-pathogenic bacteria act as reducing agents when grown in contact with hæmoglobin or oxyhæmoglobin. Their action was found to be of two distinct kinds. Gradual reduction and transformation of hæmoglobin into methæmoglobin was apparently caused by secretions from the bacteria, for such reducing substances could be demonstrated in filtered toxins from the bacteria. The nature of the changes in the hæmoglobin varied according to the species of bacterium used, and the substance produced by the bacteria was, therefore, considered as more or less specific. On the other hand, the marked reduction of oxyhæmoglobin into reduced hæmoglobin appeared to