

he felt in the left flank, and appeared the size of two fists. The tumor had probably existed for at least twenty years. Laparotomy was performed and the mass removed. It proved to be a cyst about the size of a fist, having irregular walls and being filled with 300 grammes of a sanguinopurulent fluid. Microscopically the cyst wall was lined with high columnar epithelium, alternating with small projections composed of ducts of cuboidal epithelium, the same duct-like structures being present in the connective tissue walls. The authors suggest that the cyst was of embryonic origin and are inclined to class it with the embryonic cysts of the ovary, testicle, and thyroid gland.—W. T. L.

The Passage of Tubercle Bacilli into the Lymphatic and Thoracic Duct after Ingestion.—NICOLAS and DESCAS (*Cent. f. Bakt. u. Parasit.*, 1902, vol. xxxii. p. 306). Large numbers of tubercle bacilli were suspended in a fatty broth and fed to dogs. In a certain number of cases, after three hours, tubercle bacilli were present in the thoracic duct in such great numbers that they could be demonstrated in stained smears, and by inoculating the chyle into animals tuberculosis could be produced. The authors point out the importance of these results, although somewhat limited, as an explanation for the development of generalized tuberculosis arising by way of the alimentary passages.—W. T. L.

Experimental Investigations upon the New Formation of Inflammatory Granulation Tissue.—ALEXANDER MAXINOW (*Beiträge zur Path. Anat. u. zur Allg. Path.*, Fifth Supplement, 1902). Maxinow has studied experimentally the formation of granulation tissue by introducing sterilized foreign bodies into the subcutaneous tissues and intermuscular tissue of rabbits and dogs. For this purpose small glass plates and celloidin sacs were generally used. Examinations were made of the inflammatory products in both fresh and hardened preparations. Maxinow believes that the cells making up the greater portion of the granulation tissue retain throughout their development a certain specific character and perform definite functions in the general process of tissue repair. The first cell to appear after the introduction of the foreign body is the polymorphonuclear leucocyte, the specific granulated cell of the blood. These cells wander from the vessels and presumably prepare the tissue in some way for the succeeding invasion of other cells. In aseptic conditions the leucocytes show little or no phagocytic action. They soon disappear or degenerate where they lie. The fibroblasts are the true forerunners of the new connective tissue, and are derived entirely from the pre-existing connective tissue cells. They are, moreover, highly differentiated cells, and cannot exist in certain locations where both leucocytes and polyblasts show definite development. They are capable of movement. In rabbits they are never phagocytic, in dogs phagocytosis is sometimes observed. The collagen fibres or intercellular substance is the later product of these cells. The new capillaries are formed by a proliferation of the endothelial cells of pre-existing blood-vessels. The capillary endothelium represents a highly differentiated type of cell, and its multiplication is devoted solely to the formation of new

bloodvessels. One of the most important cells is that called by Maximow the polyblast. This cell is the small lymphocyte of the blood, which, according to Maximow's researches, is identical with the lymphoid cell found in the connective tissues and the clasmatocytes and clasmatocyte-like cells of the adventitia of small vessels. The polyblast is capable of motion, and shortly after the introduction of foreign substances into the tissues, great numbers of these cells wander from the bloodvessels and enter the surrounding tissues. The fixed cells also enter into this invasion, although they form comparatively but a small portion of the total number of polyblasts. After their escape from the vessels the polyblasts undergo various changes. They may become larger and assume phagocytic properties, and are then identical with the well-known phagocyte of epithelioid cell; or they may take on a form similar to the fibroblast, and when they lie between fibroblasts they are in some instances actually capable of producing connective tissue, although this does not seem to be their primary function. When the young polyblasts penetrated into the cavity of the foreign bodies their different stages of development could be traced during the growth of the cells. The peculiarity of their centrosome apparatus aids in the differentiation from other cells. During the entire inflammatory process the emigration of polyblasts from the vessels continues, but in the later stages of inflammation, when plasma cells begin to appear, the polyblast assumes not the form of the phagocyte but of the plasma cell, and the author believes that this cell is only a form of the polyblast. Giant cells arise from a confluence of polyblasts. After the function of the polyblast is fulfilled, by far the greater number degenerate, and only a small percentage remains as plasma cells or the mixed lymphoid cells of connective tissue.—W. T. L.

* Gonorrhoeal Endocarditis, with Cultivation of the Specific Organism from the Blood during Life.—HARRIS and JOHNSTON (*Johns Hopkins Hospital Bulletin*, 1902, vol. xiii. p. 236). The authors report a case of gonorrhoeal endocarditis, in which the organism was cultivated from the blood twenty-four hours before death. The patient's fatal illness developed ten weeks after his primary urethral infection, and began with chills, headache, and prostration. During the attack of acute urethritis typical gonococci were found in the urethral discharge. His latter illness was characterized by rigor and an irregular fever. A loud systolic murmur was heard at the apex of the heart. Cultures were made from the blood on five different days. In the last one typical gonococci were obtained on hydrocele agar and in a medium consisting of a mixture of 10 c.c. of agar and $\frac{3}{4}$ c.c. of blood. At autopsy an acute endocarditis was found affecting the mitral valve, and from the enormous vegetation, as well as from the heart's blood, gonococci were cultivated. The authors review the technique of blood cultures, and conclude that except when dealing with the typhoid or paracolon bacillus a liberal dilution of blood is not necessary, and may even be fatal for the cultivation of the gonococcus where the best results are obtained when the blood is immediately mixed with melted agar and plated. Fluid media appears less satisfactory, for if it is used the oxygen supply is restricted. They conclude, further, that the bactericidal power of the blood has little