

fragments, had migrated into the subserosa where many suffered disruption and deposited their debris in the intercellular spaces. This material stimulated hyperplasia of the connective tissue and differentiation of a second generation of macrophages. These cells phagocytosed the intercellular debris and some are likewise in process of disruption. At the stage studied the third generation of macrophages is just appearing in the form of lymphocyte-like cells with a characteristic cytoplasmic vacuole. A few of these cells contain later products of hemoglobin disintegration and are transporting this finely granular debris to the intercellular spaces of the underlying hepatic parenchyma.

*32. Vitamine E and anaemia.* CLARA L. KOHLS and HERBERT M. EVANS, Department of Anatomy, University of California.

Blood was taken from the jugular vein of the lightly anaesthetized rats. Erythrocytes and leucocytes were counted in the usual way. Hemoglobin was determined by the Hellige normal haemonometer with standard prisms.

Our findings indicate that lack of vitamin E alone does not produce anaemia. We have established this for a great number of cases, in all of which functional tests have proved the existence of sterility into old age in animals known to suffer earliest and most uniformly from E sterility—second- and third-generation E-free animals well advanced in life.

Their blood picture in no way differed from that of their litter-mate controls on synthetic diets with adequate E and proved fertility or from that of natural food animals.

First-generation animals on E-free diets showed a hemoglobin value and erythrocyte count equal in value to that of the litter-mate brothers not deprived of E.

It was also determined that animals reared on the diet free from E (highly purified casein-sucrose mixture) do not show anaemia.

The removal of blood equal to 2 per cent of the body weight on two successive days is followed by the regeneration of erythrocytes and leucocytes as rapid as that of animals on natural foods. It is complete in approximately three weeks.

*33. A correlated study of the development of reflex activity in fetal and young kittens and the myelinization of tracts in the nervous system.* ORTHELLO R. LANGWORTHY, Department of Anatomy, Johns Hopkins University.

The myelinization of the central nervous system has been followed in fetal and young kittens and an attempt has been made to correlate the behavior of these animals with the function of definitive myelinated reflex arcs. This is obviously easier in the younger animals where the behavior is not complicated and relatively few fibers have acquired their myelin sheath. In the youngest animals studied there were medullated fibers in the spinal cord and the functioning of the myelinated reflex arcs might well explain the reflex activity of the animal.

A study of the morphological material demonstrated that the ventral spinal roots myelinate before the dorsal. Myelinization occurs first in the cervical portion of the cord and proceeds in a caudal direction. In the brain stem the vestibular nerve and its connections become medullated early. The posterior-