

SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

Seventy-ninth meeting.

Rockefeller Institute for Medical Research.

President Jacques Loeb in the chair.

31 (1209)

**The intranuclear origin of the mammalian red blood corpuscles
observed in living cultures.**

By **R. W. TOWER** and **C. F. HERM** (by invitation).

*[From the Department of Physiology, American Museum of Natural
History, N. Y.]*

The present experiments on the origin of the mammalian (cat) red blood cells were the outgrowth of a study to determine the different stages in the development of the normoblast into a true red corpuscle by means of a living culture of red bone marrow. It was early found that the modern explanation of the formation of the mammalian red blood corpuscle did not agree with the activities observed in the cultures and that instead of witnessing a normoblast re-modeled into a non-nucleated corpuscle by losing its nucleus we saw this same normoblast sending out unnucleated straw-colored bladders from its nucleus, these bladders finally separating off as true red corpuscles. This process was not confined to the normoblast type but was evident in the lymphocyte series of white cells. Moreover our observations show that the normoblast in the mammal (cat) and the red corpuscle in the bird (chick) arise from white cells by an intranuclear activity and at the time when they first emerge from the parent cell they are almost indistinguishable from each other.

The principal results are:

1. The mammalian red blood corpuscle is a nuclear bud which escapes into the circulation as the true red cell.

2. The mammalian normoblast and the red corpuscle of the bird are the product of intranuclear activity and are phylogenetically identical.

3. Phagocytosis of red cells by the giant cells (megakaryocytes) in normal blood-forming tissues is by no means common. The true process is undoubtedly the manufacture of red cells and not the destruction of them.

32 (1210)

The use of pancreatic vitamine in cases of infant malnutrition.

By **WALTER H. EDDY** and **JOSEPH C. ROPER.**

[From the Department of Pathology, New York Hospital.]

Preliminary experiments by the senior author had demonstrated that pancreatic vitamine is removed very completely by treating the containing extract with Lloyd's reagent (50 g. Lloyd to 1 liter of extract). When the activated Lloyd powder is dried it retains its power as a vitamine carrier and in case of rats exercises the same power as water solutions of vitamine.

Basing work upon the above fact, attempts were made to restore to growth marasmic children, by mixing activated Lloyd powder with their cereal. In these studies Dr. Roper assisted in selecting the children from the wards of the New York Hospital and in directing their treatment.

Experiments were begun in October and the treatment has now been applied to ten babies, including one furnished by the Babies Hospital through the kindness of Dr. Bartlett.

In all the cases the addition of the powder has been followed by increased growth of a normal tissue-forming type. In the case at the Babies Hospital this growth was the first normal increase since July 25.

In one case at the New York Hospital the child was being fed on cereal and condensed milk. This case was selected for special control study. For this purpose five rats were selected