Determination of Barbiturates in the Blood and Urine of Experimental Animals Anæsthetized with some Barbituric Acid Derivatives. (*Journ. Pharm. and Exper. Therap., vol. lvii, p.* 116, *June,* 1936.) *Brundage, J. T., and Gruber, C. M.*

The writers studied ontal sodium and sodium amytal. The estimations were carried out by Koppanyi's colour method. Injected at the rate of 100 mgrm. per kilo body-weight within a period of seconds after the injection, the concentration found in the blood is about half that calculated if it were uniformly distributed throughout the body. The amount in the blood then falls rather slowly, and is still present in detectable quantities 24 hours after administration. For several days after the injection there is a substance excreted in the urine giving the colour reaction of the barbital compound, but not possessing anæsthetic properties when injected intraperitoneally into mice. G. W. T. H. FLEMING.

The Effect of the Barbiturates on the Rate of Sedimentation of Red Blood-corpuscles. (*Journ. Pharm. and Exper. Therap., vol. lvii, p.* 119, *June,* 1936.) *Dorfman, R. I., and Brooks, C.*

The writers found that evipan injected into dogs caused within 13–28 minutes an increase in the sedimentation rate but a decrease in cell volume. At approximately 1–2 hours afterwards both returned to normal. With sodium barbital these changes took place in 1 hour and returned to normal in 5–7 hours. With sodium amytal the same changes occurred, with a return to normal in 6–10 hours. G. W. T. H. FLEMING.

The Relative Hypnotic Effects of Some Aryl and Unsymmetrical Alkylaryl Thio-ureas. (*Journ. Pharm. and Exper. Therap., vol. lvii, p.* 19, *May,* 1936.) *De Beer, E. J., et al.*

The writers investigated the hypnotic potency of 60 of these compounds. Some had a hypnotic potency of a high order. The hypnotic effect improves with increase in molecular weight in homologous series, the maximum effect being reached when the alkyl substituents reached the propyl to amyl groups. The aryl and lower unsymmetrical alkylaryl thio-ureas are consistently more potent than their urea analogues. The higher alkylaryl thio-ureas closely resemble in potency the few analogous ureas examined. G. W. T. H. FLEMING.

Delayed Death in Relation to Barbiturate Structure. (*Journ. Pharm. and Exper. Therap., vol. lvii, p.* 128, *June,* 1936.) *Holck, H. G. O., and Cannon, P. R.*

A number of rats after having been given nostal (isopropyl-β-bromallyl-barbituric acid) recovered from the narcotic effect, but died 2 to 3 days later from pulmonary œdema, generally accompanied by pneumonia and fatty degenerative changes in the liver, kidneys, heart and lungs. Such delayed deaths occurred occasionally from sub-hypnotic doses. Adding one CH_2 group to the isopropyl group of nostal (giving pernoston) decreased the tendency to delayed death, and adding still another CH_2 (rectidon) abolished it. Methylation of one nitrogen in nostal also gives a compound (eunarcon) which only rarely causes delayed death.

The chlorine homologue of nostal and dichlorallyl barbiturate also causes delayed death; no such death was seen after the administration of the chlorine homologue of pernoston.

Delayed death did not follow the administration of the closely related isopropyl-allyl-barbiturate (allurate) nor the isopropylethyl barbiturate (ipral), nor could it be shown after administering one of the supposed early decomposition products of nostal, namely, iso-propyl-acetonyl barbiturate. Nine other barbiturates (amytal, barbital, evipal, neonal, ontal, pentobarbital, phanodorm, phenobarbital and sandoptal) did not cause delayed death in rats. Rabbits are much less prone to this kind of delayed death. It does not occur in mice after nostal.

G. W. T. H. FLEMING.