DR. A. K. MACBETH, reader in chemistry in the department of science at the University of Oxford, has been appointed professor of chemistry in the University of Adelaide, South Australia.

DISCUSSION AND CORRESPONDENCE

THE PERIOD OF GESTATION IN THE MONKEY, MACACUS RHESUS

So far as we know, there is no exact record on the length of the period of gestation in any primate other than man; hence the following report of mating and parturition in *Macacus rhesus* will prove of interest.

For over a year the female in question had been found to menstruate regularly in cycles of 26 days. The successful mating took place from the ninth to the twelfth day after the beginning of the last menstrual period and just before the leucocyte count of the vaginal content had reached zero. This is also about the time at which Corner (1923) and Allen (1927) had found ova in the Fallopian tube of the same species of monkey. For theoretical reasons, therefore, it is almost certain that conception took place within the three-day period when the female was left with the male. A male rhesus was born almost exactly six lunar months after conception.

From the fourteenth to the thirty-seventh day after conception the vaginal content of the prospective mother showed slight admixture of red blood cells. This phenomenon is regarded as the "placental sign," discovered by Long and Evans (1920) in the rat and interpreted as slight leakage from the developing placenta. In the rat the sign is infallible. The finding of a slight bleeding under similar conditions in the monkey arouses the hope that an easily ascertainable sign may be found in the first six weeks of human gestation. After the disappearance of the erythrocytes there followed a period of massive vaginal leucocytosis.

Details concerning the phenomena outlined above will be discussed in a fuller account to appear elsewhere.

CARL G. HARTMAN
CARNEGIE INSTITUTION OF WASHINGTON,
BALTIMORE, MARYLAND

THE FLOODS OF 1927 IN THE MISSISSIPPI BASIN

THE flood of 1927 whether measured by the volume of water carried, the area overflowed or the economic loss produced was the greatest of recorded history in the Mississippi Basin.

A full account is given by H. C. Frankenfield and others in a *Monthly Weather Review Supplement*. The setting for the flood was produced by heavy rains that fell as far back as the second week of August, 1926, over Kansas and Oklahoma and thence eastward to and including the greater part of the Ohio Valley. These rains so thoroughly saturated the soil throughout the middle drainage of the Mississippi that further heavy rains coming in September and October, 1926, caused general and in some cases destructive floods in the drainage above Cairo, Ill. The distribution of the rainfall from August to December, 1926, was such as to keep the main river and its tributaries at relatively high stages in a season when stages are normally low. Superposed on these conditions a record-breaking flood occurred in the Cumberland River late in December, 1926, continuing until early January, 1927, and thus the foundation was laid for a serious spring flood in the Mississippi, conditioned only upon the amount and distribution in time and space of the rains of January to April, both inclusive. It so happened that heavy rains fell in March and April and in such sequence as to produce a catastrophic flood in the lower Mississippi Valley. The rains of the third and fourth week of January, 1927, started a flood wave in the Ohio which continued down-river to New Orleans, reaching that place in 38 days. This was the second of a series of flood waves that passed down the river during the interval January–June, 1927, due to heavy rains in the middle drainage area. After the middle of March heavy rains fell between the mouth of the Des Moines and the mouth of the Ohio and during the last week of the month heavy rains also fell over the Missouri Valley south of Omaha, especially over the Kansas and Osage basins. These and other rains resulted in a crest stage at Cairo, Ill., of 52.8 feet on March 25 and that stage was followed by the maximum crest of 56.4 feet on April 20, and by lesser crests of 44.0 feet on May 19 and 49.7 feet on June 8. The characteristic feature of the 1927 flood was a series of flood waves as indicated by the data just given for Cairo, Ill. Higher stages than those recorded would have been experienced had the levees held.

The report contains an estimated stage that would have been recorded had the levees held all along the line. It also submits and discusses the maximum possible stage on the main river under the most favorable conditions. Space does not permit touching in detail upon these phases of the subject.

The progress of the several flood waves was accurately forecast by the Weather Bureau, at least a week, and, in some cases two weeks, in advance; the unique service, however, was furnished when the necessity arose of forecasting the depth of the wave of crevasse water that passed overland through the Atchafalaya Basin to the Gulf of Mexico. In the absence of a contour map for Louisiana, one had to be constructed, over-night, so to speak, by the New