

experiments', and his greatest original contribution to science was his magnificent discovery and proof that the earth is a colossal natural magnet in itself. Dr. Kramer's paper contains many extracts from the various writers on magnetism, and should prove of wide interest.

#### Goethe's Scientific Works

A SPECIAL issue of the Berlin journal, *Forschungen und Fortschritte*, dated March 1932, includes thirty-nine pages devoted to a series of articles by more than thirty authorities dealing chiefly with Goethe's influence as a man of science. The subjects covered include mathematics, the theory of colours and optics, chemistry, geology, meteorology, botany, zoology, and anatomy, together with an appreciation of the Goethe Museum at Frankfurt. In the restricted space at the disposal of each author, it has only been possible to deal very briefly with what are often abstruse and involved matters of history, but, nevertheless, these articles should prove a very useful guide to those who propose to take up the study of Goethe's scientific works. The modern critic of Goethe's central idea of the unity of plan has little to add to Schiller's acute observation of 1794, quoted by Prof. O. Abel—"Das ist keine Erfahrung, das ist eine Idee", and Goethe's response—"Das kann mir sehr lieb sein, dass ich Ideen habe, ohne es zu wissen, und sie sogar mit eigenen Augen sehe", is an admirable epitome of his own attitude towards the central idea.

#### Source of 'Nagana' in South Africa

DR. E. WARREN, director of the Natal Museum, has reported, according to a message in the *Times* of March 10, that experiments carried out by Mr. Davidson, an independent naturalist, "completely destroy the theory at present accepted about the reservoir of infection from which the tsetse fly transmits the widespread cattle disease known as Nagana". It is generally accepted—and has, in fact, been repeatedly proved—that the blood of game animals harbours trypanosomes which, when conveyed to domestic animals by the tsetse fly, give rise to the serious and often fatal diseases which are grouped under the term 'nagana'. Mr. Davidson now claims to have shown that the trypanosome responsible is derived from the latex of certain plants "on which the tsetse fly normally feeds". Further information on these observations (which appear to have satisfied Dr. Warren, by whom they have been "carefully checked") will be awaited with much interest. It is well known that leptomonad-like flagellates are common in the latex of *Euphorbia* and other plants, being transmitted from one plant to another by certain plant-sucking bugs; but no evidence has as yet been published that these organisms can cause disease in vertebrates; and up to the present time no trypanosome has ever been discovered in a plant. The tsetse fly has occasionally been observed to plunge its proboscis into certain fruits, but in the past it has seemed very doubtful if these constitute a regular source of food supply.

No. 3255, VOL. 129]

#### Chester Roman Amphitheatre Appeal

DETERMINED efforts are to be made to save the Roman amphitheatre at Chester, which is threatened by the proposal to construct a by-pass road that, on the lines contemplated at present, would pass through the centre of the arena. The Council of the Chester and North Wales Archaeological Society has issued a statement in which it is pointed out that even if the road could be constructed without damage to the remains, which is doubtful, it would put excavation in the future out of the question, while it is inevitable that the northern area adjoining the road would be developed for building purposes, and also made inaccessible. The Office of Works, which has been approached in the matter, views with approval the scheme to save the amphitheatre, which is the most considerable in Great Britain. The Office of Works would itself undertake the cost of excavation and be responsible for the future maintenance of the monument if the site was placed in its keeping. The cost of diverting the by-pass road to avoid the amphitheatre is estimated at a sum of £8000. The Council of the Archaeological Society, therefore, appeals to the people of Chester, and of Great Britain, for a sum sufficient to enable this monument to be preserved. A stay of three months has been granted to afford an opportunity for the amount required to be raised.

#### Metallurgical Literature

THE annual general meeting of the Institute of Metals was held on March 9 and 10, and the incoming president, Sir Henry Fowler, delivered his address on the first day. Referring to the literature of metallurgy forty years ago, Sir Henry remarked that it was very meagre in Great Britain, especially as regards non-ferrous metals; and that possibly this lack was in part responsible for the formation of the Institute of Metals, for among its original objects was the publication of a journal containing original papers and abstracts. Abstracts appeared for the first time in the second volume of the *Journal* of the Institute, occupying 41 pages. In the last issue of the *Journal* in which they were incorporated, they occupied (with index) 436 pages. Now that the *Journal* is being published monthly, it is hoped that abstracts will be available within six weeks of the original publication of important papers. Sir Henry stated that more than a thousand periodicals, in about twenty languages, are searched systematically by a band of more than thirty qualified abstractors, who provided in the past twelve months more than four thousand abstracts. The magnitude of this undertaking is probably unique as the work of a single institution.

#### Practical Applications of Fundamental Research

SIR HENRY FOWLER went on to speak of the importance of fundamental research and of the 'marrying-up' of research with its practical applications. There is nowadays unquestionably much better understanding between the research worker in metallurgy and the practical engineer, due to the