

IN considering the findings of the committees, it must be borne in mind that the geological evidence, more especially in its stratigraphical aspect, is crucial. Several members of the geological committee have visited the sites personally and concur with Dr. Leakey in his view that after the Kanjera and Kanam deposits had been laid down there was great local tilting and volcanic activity. The committee "does not believe that the [skeletal] fragments can have been introduced into the calcareous deposit at a later date . . . the two fragments said to be found *in situ* belong in fact to the original deposit". The palaeontological committee finds that the fragment of human jaw from Kanam was associated with a fossil fauna which justifies its reference to the lower Pleistocene, while the Kanjera fauna "cannot be later than the middle Pleistocene". Thus from these two findings it appears that the human remains are referable on both geological and palaeontological grounds to lower and middle Pleistocene dates. As to the character of the human remains, the report of the anatomical committee is not unfavourable to their high antiquity, so far as can be determined by their condition, points out the absence of Neanderthaloid characters, and, while adverting to the abnormal thickness of one of the skulls, sees no feature inconsistent with their inclusion in the type of *Homo sapiens*. On the archaeological evidence, the human skeletal remains, thus regarded as within the category of 'modern man', are associated with what for this purpose may be termed a pre-Chellean, and a Chellean industry, which are equated with the cultures of Europe of like character through the Oldoway series. The latter are said to be of equal or somewhat greater antiquity than those with which they are comparable in Western Europe. It is to be noted that, archaeologically, the association of the Kanam jaw fragment with a pebble industry assigns it to Oldoway I, a stage earlier than that with which Oldoway man was originally associated—the later phase of Oldoway II.

Control of the Tsetse Fly

ONE of the most terrible scourges of Africa is the disease known as sleeping sickness, which is caused by a trypanosome, a blood-parasite, carried and spread by two species of tsetse fly. Hence there was a large gathering of the fellows at the meeting of the Zoological Society on March 21 to see the film exhibited by Mr. R. W. Harris, who showed what is being done by the Government entomologists to mitigate, if not terminate, the ravages of this insect. Since this war of extermination has to be carried on over millions of square miles, any such campaign might seem hopeless. But it was made manifest that, in so far as Rhodesia is concerned, a considerable measure of success has been attained. This has been done by the use of an ingenious trap devised by Mr. Harris's father, Mr. R. H. T. P. Harris. The trap is made of canvas; box-like in form, and much wider at the top, it is mounted on four legs, keeping it well off the ground. In bulk it is roughly of the size of, say, a small antelope. The flies are not very

discriminating, and on sighting this canvas 'stalking-horse' alight on it, and crawl down according to their habit, to reach the shaded under-side, there to suck the blood of their prospective victim. Their exploration is thorough, but fruitless. But presently, they find a long slit through which daylight appears, entering from a special cage at the top. They at once pass through, and upwards, into what they take to be the daylight and freedom beyond. Passing into this light-filled cage they are unable to escape. Enormous heaps of flies were shown which had been taken from this trap. Yet another trap was shown designed to induce the flies to deposit their larvae therein. Millions of pupæ are taken in this way.

DR. BEVAN joined with Major Austen, who forcefully reviewed the main results of this work at the end of the paper, by deploring the efforts which have been made to control the tsetse fly by killing off big game animals. More than 15,000 head of game in one year were slaughtered to this end. This takes no account of the numbers which died from wounds, owing to the lack of skill of the natives armed for this purpose. This state of affairs has fortunately been stopped, for a period at least, owing to the need for financial economy. It is the more deplorable because, as Major Austen and others have shown, if the very last of the big game animals of Africa was wiped out, sleeping sickness would still remain, since there are numerous small animals which also act as hosts for the trypanosome concerned. Even now, considerable misapprehension exists as to tsetse flies. Commonly one hears of *the* tsetse fly. As a matter of fact there are twenty species, all of which feed on blood. Only some of these depend for their food on game animals. *Glossina palpalis*, carrying *Trypanosoma gambiense* and *G. morsitans*, carrying *Trypanosoma rhodesiense*, are the most formidable of sleeping sickness disseminators. But, as Duke and Swinnerton have shown, in certain circumstances, *G. swynnertoni*, closely allied to *G. morsitans*, may also cause human trypanosomiasis, or sleeping sickness. Dr. Bevan gave a most helpful and interesting summary of what is being done in the suppression of this scourge, and the methods adopted towards that end. It is devoutly to be hoped that his protest against the wholesale slaughter of game, as a means to that end, will now cease, since all the highest authorities agree that even if successful, it would be a futile measure. More than that, as evidence has already shown, it might lead to an aggravation of the evil.

The Kea Parrot

WHETHER or not we may be able to boast 'home-bred' keas depends on an experiment about to be made at the Gardens of the Zoological Society of London. An artificial cave is to be made in the parrot-house to induce, if possible, a pair of these birds to breed, and it may well be successful. The kea parrot of New Zealand was years ago to be found in large numbers. Then, unfortunately, it took to attacking sheep, tearing holes in the back to get at the flesh, with fatal results to the sheep. It

was said to do this for the sake of getting at the fat covering the kidneys, but this, obviously, is a statement founded on insufficient knowledge of what this implies. The damage done, as evidence has shown, was grossly exaggerated, and, when inflicted, was due to hunger. It was shown that keas could, and did, exist in numbers, without doing damage in areas where the food supply was constant, although in and around sheep-farms. But be this as it may, the fear and dislike which its presence has engendered, threatens its existence. Hence it is to be hoped the experiment of the Zoological Society will be successful.

Alcohol-Petrol as a Motor Fuel

IN connexion with the leading article in *NATURE* of March 11 on the subject of power alcohol, it is of interest to find that an alcohol-petrol mixture has begun to be distributed in Great Britain from garages over a wide and extending area under the name of "Koolmotor Alcohol Blend" at the same price per gallon as No. 1 Petrol. A mixture of alcohol in petrol has been in common use in racing cars for a year or two, but now the ordinary public will have for the first time an opportunity of testing its merits, in particular the absence of knocking. The anti-knock value is said to be equivalent to approximately 85 octane number. An alcohol of 99.9 per cent purity produced in England is being used. It is probable that the use of a fuel of this type in England, with the opportunity it will give for general experimenting, will have an effect on engine design. As the result of motor racing, which has as its real object the improvement of design and not the establishing of speed records, engines of high compression ratios have been introduced which need special fuels if they are to be used to advantage.

A BLEND of alcohol with ordinary petrol has now been prescribed by law in Czechoslovakia. Science Service of Washington, D.C., gives details of the spirit, 20 per cent alcohol and 80 per cent petrol, which the Government has apparently instigated in order to give a boost to the potato industry. Potato starch yields the desired grade of alcohol by hydrolysis and fermentation and all motor fuel is, apparently, to be treated with the specified percentage of alcohol before retail sale. There is, further, one technical matter which seems to have been solved in this connexion. Alcohol, as produced by economical distillation methods, usually carries with it 4-6 per cent water, which makes it impossible to mix directly with straight-run petrol, particularly of the paraffin base type. Recent research has resulted in a new distillation process, economical on a large scale, which permits dry or 'absolute' alcohol to be made with the aid of benzene. This product is now available under the new Czechoslovakian edict. The somewhat curious corollary to all this is that ordinary petrol will now go on the restricted list in that country, like ethyl and methyl alcohol in Great Britain, and, presumably, only chemists, research laboratories and the like will be able to receive permits to purchase pure petrol.

Darwin's Barometer

THE British Association has recently received on loan from the Royal Society the barometer used by Charles Darwin during the voyage of the *Beagle*, and it is now exhibited among the other relics of Darwin in Down House, his home in Kent, now in the custody of the Association. The barometer, made originally by the firm of Newton, has been restored by Messrs. Negretti and Zambra with the advice of the Meteorological Office, the scales have been re-engraved, and it is now in working order as Darwin had it. The instrument is of the straight type, contained in a wooden case three feet long, with a thermometer near the base. The barometer scale reads down to 18.2 in., so it was suitable for use up to fairly high altitudes, and Darwin is known to have carried it when ashore during the voyage. A double mercury cistern and locking arrangement is provided to allow of carrying the instrument without disturbance.

British Polar Year Expedition

THE National Polar Year Committee has received a report dated December 31, 1932 from Mr. J. M. Stagg, leader of the British expedition at Fort Rae in Canada. From this it appears that the party had its first taste of winter conditions on October 1, when the first snow fell and the rain recorder was permanently frozen up. The temperature at the date of the report was about -40° F. Difficulties have also been experienced with the clocks. Special low temperature clocks proved useless out of doors, but the party found that by removing all the oil from ordinary clocks, they functioned satisfactorily. The recording pen of the anemograph has also proved troublesome. Sounding balloons have been sent up but none had been recovered, though a cabled message has since reported the recovery of two meteorographs with good records. Communication with the sub-station for auroral photography about twenty miles south-east of Fort Rae was by wireless, but with the onset of winter, a telephone line was taken across the frozen Great Slave Lake. Auroral activity has been poor though some form of aurora can be observed more or less continuously from dusk until dawn. Some four hundred photographs have been taken, using the double station communication to obtain simultaneous exposures at Fort Rae and the sub-station twenty miles distant. The moon is only below the horizon for a short time daily, and during full moon auroral photography becomes almost impracticable. The sub-station is manned by one member of the expedition for a week at a time. The expedition's schedule includes full meteorological records every three hours, hourly cloud observations, and observations of aurora every five minutes and continuously when photography is being done.

Recent Acquisitions of the British Museum (Natural History)

ADDITIONS to the study series of mammals in the Zoological Department of the Museum include the skins of a male and female golden cat (*Profelis aurata*) from the Cameroons, presented by Mr. F. W. Carpenter. The specimens illustrate the two colour