when the reflexions occurred at the liquid–air interface of the virus suspension. Breakage was not, however, significantly increased by reflexions (including negative transients) generated at other interfaces in the system. The details of the hydrodynamical analysis of the stress engendered in the TMV by the laser-induced acoustic transient have been presented in greater detail elsewhere[3].

Although it is certainly possible that the TMV breakage encountered in our studies was, in fact, caused by some unknown effect, we have considered the various possibilities and have been unable to attribute the effect to anything other than the hydrodynamical stress produced by the extreme velocity gradients of the acoustic pulses.

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Received April 18, 1969.

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Fort Ternan Hominid

SIMONS's paper[1] on the Late Miocene Hominid from Fort Ternan, Kenya, states, *inter alia*, at the end of the second paragraph, "It is the intention of this paper to indicate the continuing validity of this synonymy", that is, that the genus *Kenyapithecus* Leakey is no more than a synonym of *Ramapithecus* Lewis.

In his attempt to do this, Simons draws upon the evidence, so far published, concerning a few of the fossil mammals found in association with *Kenyapithecus wickeri* at Fort Ternan, which, he claims, supports his view. He makes a number of statements which are so far removed from the facts that it is essential that these should be corrected for the record. For the rest I am content that he and I should continue to disagree on the interpretation to be placed upon the available facts; but the facts must not be misstated.

The most surprising claim made by Simons is that "most of the Fort Ternan mammals represent incursive groups from Eurasia". I do not know how he arrives at this conclusion, because most of the Fort Ternan mammals have not, as yet, been studied and described. Even if he had written that "most of the mammals so far reported on from Fort Ternan represent incursive groups from Eurasia" it would not be true. The position is that, so far, only the following mammals from this site have been published (in preliminary notes). Primates: (1) *Kenyapithecus wickeri;* (2) *Proconsul* c.f. *nyanzae;* (3) *Dryopithecus (sensu stricto)* sp. indet; (4) c.f. *Oreopithecus* s.p. indet; (5) a hylobatid which is either *Limnopithecus* or *Pliopithecus*. Rodentia: (6) *Leakeymus*; (7) Cricetodonts; (8) Phyomids. Bovidae: (9–12) four genera mentioned in a preliminary report, not yet named. Rhinocerotidae: (13) *Paradiceros*.

Four of the five primate genera also occur in the Lower Miocene deposits of East Africa, and their origin probably lies still further back in Simons's Oligocene material from the Fayoum of Egypt. None of these four therefore can be regarded as evidence of "incursive groups from Eurasia", but rather as of essentially African origin.

The fifth genus, *Oreopithecus*, has not yet been established from our Lower Miocene deposits, but can also possibly be derived from certain African Oligocene primates, and is also most probably of African origin.

Of the rodents, the Phyomids are usually regarded as of African origin, and Simons does not dispute this. He does, however, state, categorically, that the genus *Leakeymus*, as well as the Cricetodonts, is of Holarctic origin. Until the study of the 10,000 or more fossil rodents' jaws and skulls from the Lower Miocene of East Africa has been completed and published, this seems to be a somewhat unwise statement. But even if *Leakeymus* and the Cricetodonts prove to be of Eurasiatic origin, this only makes the score, so far, two out of eight.

Turning to the Bovidae, Gentry has indicated that the fossils upon which he has issued his preliminary notes have "a relationship at the generic level to the Eurasiatic fauna". This does not necessarily mean, however, that they were "incursive from Eurasia". The movement could just as well have been in the opposite direction! Even if we accept the view which Simons prefers (not as a fact, but only as a tentative theory), the score is still only six out of twelve. Finally, the rhinoceros, *Paradiceros*. What Hooijer said was that it was possible that there might be a rhinoceros of this genus in the Bugti beds of Baluchistan. Even if this should prove to be the case it would not prove that *Paradiceros* came from Asia; the movement could have been in the other direction.

For the rest, it should be noted that the still unpublished mammals from Fort Ternan include at least two species of monkey, two probiscideans, three giraffids, several additional bovids, several more rodents, at least one hyracoid, several suids, a probable anthracothere and numerous carnivora. So Simons's claim that "most of the mammal fauna of Fort Ternan is of Eurasiatic origin" is certainly not well founded at present.

Simons does refer briefly to the Fort Ternan mastodont. As it has a very clear affinity with the Kenya Lower Miocene species, it cannot, I feel, be regarded as "incursive". Simons further claims that "giraffids or other artiodactyls suitable for giraffid ancestry do not occur in the Early or Middle Miocene faunas of Uganda and Kenya. This is their earliest appearance in Africa." He thus shows his ignorance of the literature. There are primitive giraffids in the Lower Miocene of Kenya (Whitworth), as well as in the Middle Miocene of Libya (Arambourg and Savage). The suggestion therefore that the presence of giraffids at Fort Ternan "suggests a Eurasian incursion" is unfounded, even though it be admitted that giraffids did penetrate in numbers to Asia.

The question of the relative geological age of the deposits at Fort Ternan on the one hand and those of Chinji, in the Siwaliks, on the other is still uncertain, more particularly because most of the collections of fossils which are said to have come "from the Chinji beds" were the result of the "common practice of purchase of such fossils from local collectors", as Simons himself stresses. Only when properly conducted scientific excavations, like those of Fort Ternan, have produced a well documented *in situ* fossil fauna from the Chinji beds, will it be possible to make proper comparisons.

Because our excavations at Fort Ternan are far from complete and the study of all the fossils (both those already available and those still to be found) will take a long time, I suggest that it is inexpedient to try to draw too many conclusions at this stage. Let us rather get more facts, both from East African and from the European and Asiatic sites.

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Received April 18, 1969.

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