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## Age Determinations on Feldspar from the Lower Omo Basin

by

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Total degassing  $^{40}\text{Ar}/^{39}\text{Ar}$  age determinations have been made on a concentrate of fresh feldspar from lapilli in a pumice-lapilli-tuff of the Nkalabong Fm., Lower Omo Basin, Ethiopia.

THE feldspar sample supplied to us for analysis was a separation from individual lapilli collected in the field by Professor K. W. Butzer from a pumice-lapilli-tuff in the Nkalabong Fm., Lower Omo Basin, Ethiopia. Contamination with any non-volcanic feldspar possibly present in the matrix was thus avoided. Examination of a bulk sample of the tuff provided by Mr F. H. Brown suggests that the tuff contains only fresh juvenile pumice lapilli. These lapilli show no signs of devitrification and there seems to be no reason why the feldspar ages should be discrepant in any way.

The feldspar concentrate being very small (of the order of 0.3 g), it was necessary to analyse it by the neutron irradiation total degassing  $^{40}\text{Ar}/^{39}\text{Ar}$  method<sup>1-3</sup>. Because of the very young age of the feldspar the neutron-generated  $^{37}\text{Ar}$  was utilized in order that a further correction for the presence of argon isotopes generated from calcium during irradiation could be applied (Table 1).

The average apparent total degassing  $^{40}\text{Ar}/^{39}\text{Ar}$  age of  $3.95 \pm 0.11$  m.y. obtained is regarded as a very close estimate of the age of eruption of this tuff. No factors which might cause discrepancy have been observed.

On the current Geological Society of London time-scale

Table 1. ANALYTICAL RESULTS OF TOTAL DEGASSING  $^{40}\text{Ar}/^{39}\text{Ar}$  AGE DETERMINATIONS

Sample	<i>J</i>	<i>R</i> <sup>1</sup>	<i>Q</i>	Atmospheric contam. (per cent)	Apparent age and error (m.y.)	Average apparent age and error (m.y.)
Feldspar concentrate from Nkalabong Fm.	0.0755	0.274	0.002064	67.2	$3.90 \pm 0.10$	$3.95 \pm 0.11$
	0.0773	0.273	0.002110	67.1	$3.90 \pm 0.12$	

USGS P-207 standard muscovite (age 81.3 m.y.) used as internal standard. *R*<sup>1</sup>, Ratio radiogenic  $^{40}\text{Ar}$  to neutron induced  $^{39}\text{Ar}$  (corrected for argon isotopes generated from calcium utilizing values of neutron induced  $^{37}\text{Ar}$ ).

*Q*,  $e^{t/\tau^{-1}}$ .  
*J*, Constant of proportionality at reactor sites occupied by standards and corresponding samples.

this age is "Pliocene". On the evidence from North America it would appear to be roughly equivalent to the early Blancan.

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## Reproduction in Wild and Captive Dolphins

by

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Gonadal changes and characteristics of the corpora albicantia provide information on reproductive activities in wild and captive dolphins.

LITTLE is known about reproductive patterns and less about gonadal changes in the smaller Delphinidae<sup>1,2</sup>. Norris and Prescott<sup>3</sup> have reported on some reproductive events in wild and captive dolphins of Californian and

Mexican waters, and more is known<sup>4,5</sup> about the larger Pilot whale (*Globicephala*) but, as Slijper<sup>6</sup> emphasized, there is need to clarify what happens during the reproductive life of all the smaller odontocetes. Quite apart from