

6-2. - PALAEO-MAGNETISM OF THE COLLI EUGANEI AND THE ANTICLOCKWISE ROTATION OF ITALY DURING THE TERTIARY.

by Dr. H. SOFFEL, Institute of Applied Geophysics, University of Munich, Germany, Theresienstr. 41

Volcanism in the Colli Euganei ($\lambda = 11.7^\circ\text{E}$, $\varphi = 45.3^\circ\text{N}$) in Northern Italy is characterized by two eruptive cycles, one in the Upper Eocene, the other in Upper Oligocene and Miocene. The ages were determined by both stratigraphic and radiometric methods. Twentyfive different volcanic units from both eruptive cycles were sampled yielding 230 cores and 600 specimens for palaeomagnetic measurements.

Samples from 3 sites had to be omitted because of unstable remanence during ac demagnetization procedure. The remanence of the rest of the sites form two individual Fisherian distributions for the two eruptive cycles. The group of the younger eruptive cycle (number of sites : $N=16$; $d= 191.6^\circ$; $i= - 48.2^\circ$; $k= 14.6$; $\alpha_{95} = 9.2^\circ$) has a pole position ($\lambda = 158.1^\circ$, $\varphi = 71.5^\circ\text{N}$) which is in good agreement with other Tertiary pole positions from stable Europe. The group of the older eruptive cycle (number of sites : $N= 7$; $d= 135.1^\circ$; $i = - 33.7^\circ$; $k = 12.1$; $\alpha_{95} = 15.2^\circ$) has a pole position ($\lambda = 260.8^\circ$, $\varphi = 44.2^\circ$) which is far from the pole positions for stable Europe. However the declination of the older group is about 55° smaller than that of the younger group. This suggests that the anticlockwise rotation of Italy, which has been proposed by other investigators to be post-triassic, took place between the Upper Eocene and Miocene. It is therefore supposed to be contemporary with the time of highest tectonic activity in the alpine region. As the inclination of the mean directions of both groups are slightly too small compared with stable Europe, a small northward movement of the Italian plate during the Tertiary cannot be excluded.

Intervention à la suite du papier 6-2. - présenté par le Dr. SOFFEL.

GASPARINI - What is the accuracy of the standard deviation ?

Réponse : With a very large number of samples, the angle of rotation is more or less 5° exact.