mechanism whereby the NHPs participate in control of genome expression, however, their results do certainly suggest some generalities about NHPs; such as that at least some of the NHPs must bind to the chromatin complex in cooperation with histones. Certainly many more studies must be performed using chromatin from different tissues and species before systematic comparisons among them all can be made. Such comparisons it is hoped, will begin to give clues as to which of the NHPs are responsible for control of the specificity of transcription and how each of them accomplishes this function. □

European geophysics

from a Correspondent

AFTER conferences in Zurich (1973) and Trieste (1974) the European Geophysical Society held its third meeting at the Free University of Amsterdam on September 7–10.

THE meeting attracted participants from both eastern and western Europe and the United States including a significant proportion of graduate students and 'younger' research workers.

In an effort to provide a forum for as many geophysical interests as possible, and to give the meeting a more open character, the scientific organisation was changed this year into a divided programme of eight convened symposia (containing some invited contributions) and seven more loosely stuctured subject sessions arranged on the basis of submitted abstracts.

In the symposium on Reliability of Palaeomagnetism: Criteria, Methods and Error Estimation several authors emphasised the importance of multicomponent magnetisations, and there were few contributions which treated the problem from a purely rock magnetic standpoint. Among the most notable of these was that by H. Soffel (University of Munich) who showed the domain structure in pyrrhotite from a Devonian diabase. Using the Bitter technique and with the help of a Super-8 movie, Soffel demonstrated lamellae-shaped domains, the absence of closure domains, pseudo-single domain effects and the phenomena of domain wall pinning and magnetic viscosity. Soffel later used the same technique to justify the use of basalts with low Curie temperatures (<70 °C) in palaeomagnetic studies. Domain structure studies at different temperatures showed that the largest titanomagnetite grains had the lowest Curie temperatures. Smaller grains and some grain margins had the highest Curie temperatures and it was these which carried the magnetically hard part of the natural remanent magnetisation.

The problem of multicomponent magnetisation in basaltic rocks was considered by R. Løvlie and K. M. Storetvedt (University of Bergen) with R. L. Wilson (University of Liverpool). Løvlie, in a paper read by Storetvedt, discussed Tertiary basalts from the Faeroes and questioned the general validity of the baked contact test for identifying primary magnetisations, suggesting that the Middle and Upper Lava Series could have been completely remagnetised in the Middle–Upper Tertiary times. In the Skye lavas Storetvedt showed that the large range of inclinations is due to a composite palaeomagnetic record and made the point that the original direction of magnetisation isolated in laboratory treatments is not always the most significant.

Many of the papers on sediments in the same symposium carried a similar theme. R. Thompson (University of Edinburgh) reviewed the criteria for assessing the reliability of palaeomagnetic data derived from unconsolidated sediments. He stressed the need for careful consideration of the physical and chemical factors which might affect the intrinsic magnetic character of unconsolidated sediments and emphasised the importance of chemical remanence. Thompson later went on to establish minimum criteria for establishing geomagnetic excursions by example from two cores from southern Sweden which spanned the time of the supposed Laschamp event (13,000–10,000 BP). Thompson showed that low inclinations and anomalous declinations were not repeatable between these cores and indicated that they were due to inwashed sands and older material.

Doubts were also cast on the validity of the intensity minima of the geomagnetic field during polarity transitions. Løvlie developed a model based on redeposition experiments of deep sea sediments which is compatible with a zone of gradual consolidation in which alignment and immobilisation depend on the grain size distribution of the magnetic particles. The implication is that the intensity minima associated with polarity transitions are due to some intrinsic character of the sediment rather than a weakening of the intensity of the geomagnetic field.

A symposium on The Sources of Marine Magnetic Anomalies: Nature and Location showed that interpretations regarding the source of marine magnetic anomalies are being rethought rapidly. The notion that the anomalies reside in the oceanic basalts which form oceanic layer 2A would seem to be an oversimplification and a much thicker source layer (perhaps the whole crust) seems likely. C. Harrison (University of Miami) and N. Watkins (University of Rhode Island) demonstrated that holes drilled into the Atlantic oceanic basement to a depth of a few tens of metres do not reveal consistent magnetisation. In particular there is much variation in inclination and the implication is that the source of the anomaly is distributed throughout the oceanic crust. W. Lowrie (University of Zurich) came to a similar conclusion from the Deep Sea Drilling Project. Results from 55 sites have inclinations which do not agree with expected values; also NRM intensity shows large between-site scatter and Lowrie concluded that layer 2A shows much lateral as well as vertical inhomogeneity.

Interesting results obtained by French research workers in Antarctica were described in the environmental geochemistry session. C. Boutron (University of Grenoble) presented data, collected at South Pole station, on heavy metal concentrations in snow samples which covered the period 1950–1974. He showed how concentrations of lead and copper had increased by factors of 2 and 3 respectively over this period (though no systematic trend was found for cadmium). While the results were in general agreement with aerosol data, the author stressed how dependent the enrichment determinations were on the reliability of the reference values adopted for the mean crustal composition. Caution was also expressed against attributing the high measured enrichments to global pollution alone; the influence of local sources requires full investigation also.

Some of the stabilising effects of partial melting of upwelling mantle material at ocean ridges were considered by E. R. Oxburgh and E. M. Parmentier (Oxford University) in a symposium on Kinematics and Dynamics of Plate Tectonics. By describing the sequence in which mantle material becomes depleted by removal of high density garnet, they were able to show that density differences between the starting material and the final residue were at least of the same order as density differences arising from the typical temperature variations which drive convective motions in the mantle. Although not proposing an alternative to the thermal convection mechanism for plate motion, Oxburgh pointed out that compositional density differences can be expected to have an important modifying role in determining the form of mantle circulation. □