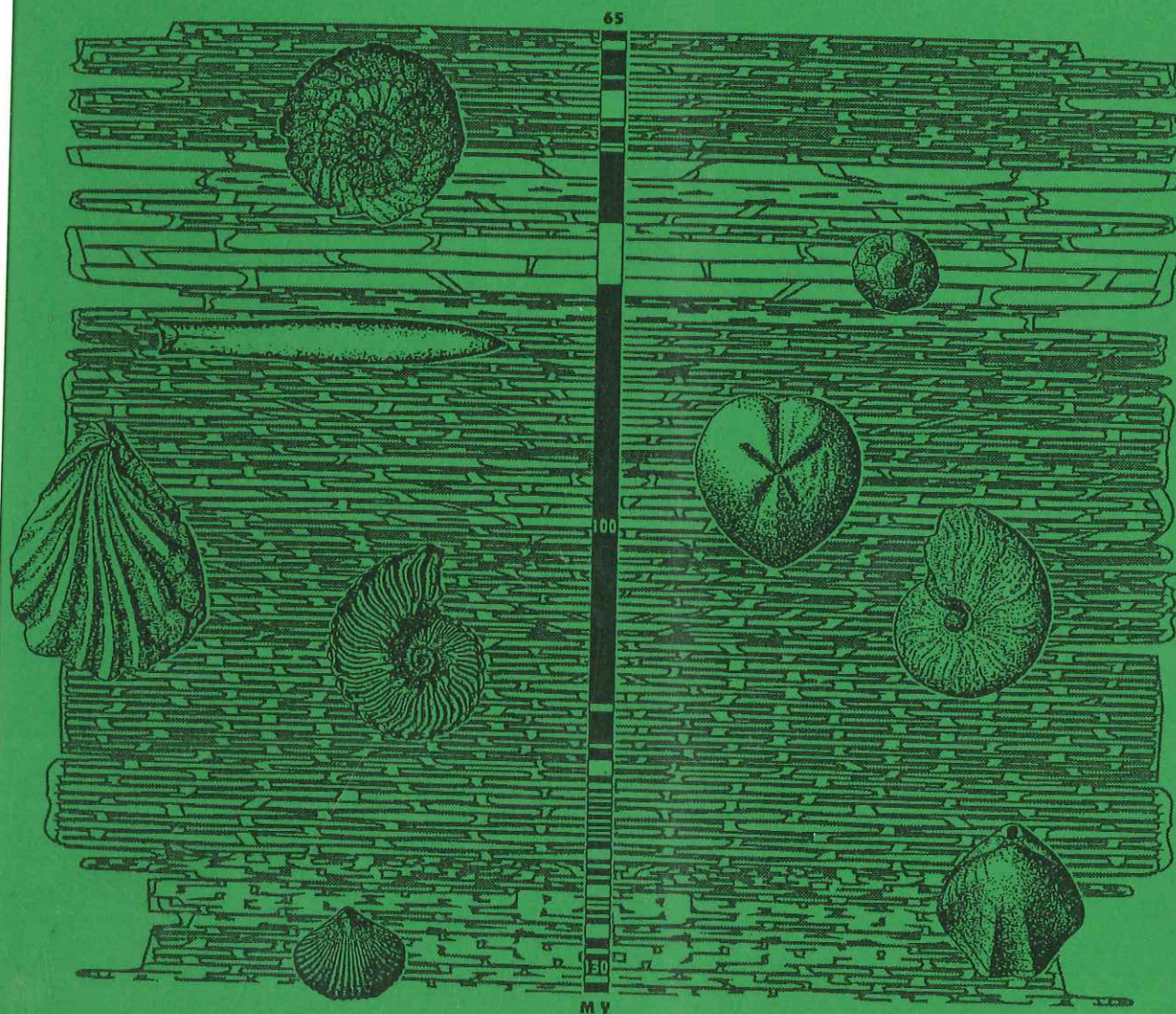


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# Second International Symposium on CRETACEOUS STAGE BOUNDARIES

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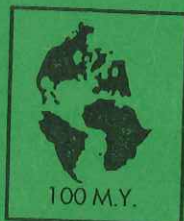
## ABSTRACT VOLUME



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**Pollen response to short term climatic changes in the Late Maastrichtian at ENCI, South Limburg, The Netherlands.**

The study is based on a quantitative palynological analysis (Normand, 1993) of a very detailed sampling of a 2 m 50 sequence of chalk taken below the Horizon of Nivelles, in the upper part of the Gulpen Formation, late Maastrichtian, at the ENCI Quarry Maastricht, South Limburg, The Netherlands. This chalk is very rich in dinoflagellates (several thousands per gram) but rather poor in pollen and spores (a few tens per gram). Despite the scarcity of the pollen content a very clear quantitative response is shown to short term climatic changes deduced from an isotopic analysis (18 O/16 O) made on the samples. A progressive and cyclic cooling of the sea water upwards in that sequence (based on the isotopic analysis of sediment where planktonic elements - coccoliths - are very dominant) is matched by greater amount of pollen of the types *Normapolles* and *Triporates* received from the continent. They are supposed to represent temperate forest elements of a vegetation also containing subtropical elements such as palms. A trend for the pollen to anticipate the more progressive cooling of the water is noted. A correlation between these and Milankovitch cycles is attempted.

Normand, S., 1993. Etude palynologique quantitative du Maastrichtien supérieur dans les carrières CBR à Hallembaye et ENCI à Maastricht. *Mémoire de Licence en Sciences géologiques et minéralogiques, Univ. Liège*, 58 pp.