Paleocene of the Pyrenees and the North Sea Basin: Differences and similarities (Extended abstract)*

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with 2 figures

Abstract. Paleocene deposits of the Pyrenees and the North Sea area are difficult to compare on account of their lithological and fossiliferous differences. However, they seem to share a similar history of sea-level changes, which makes possible an attempt of correlation between them using sequence stratigraphy.

Résumé. En raison des différences lithologiques et fossilières, les dépôts Paléocènes des Pyrénées et de la région du Mer du Nord sont difficiles à comparer. Cependant, parce qu’ils partagent une histoire de changements des niveaux marins, c’est possible d’essayer une corrélation entre elles basée sur la stratigraphie séquentielle.

In order to develop useful criteria for the current task of redefining Paleocene stages, new field data from the Pyrenees have been compared with published informations from the North Sea area. Both sedimentary domains were large embayments during that epoch, but with quite separate connections to the global ocean. The former area opened westwards into the North Atlantic, the latter was connected to the much cooler Arctic Ocean through the Barents Sea (Fig. 1). Such palaeogeography must have enhanced the latitudinal disparity of general sea water temperatures between the two areas.

Partly for that reason and also because of the lack of direct connections, the Paleocene period is represented by very different lithofacies and biofacies in these two, otherwise neighbouring areas. In the SE of England, for instance, Paleocene sediments are predominantly of a fine-grained terrigeneous character (ANDERTON et al. 1979, ZIEGLER 1988). By contrast, those of the Pyrenees are mostly of a carbonate nature, having been deposited in environments ranging from extensive shallow-water carbonate platforms to deep-water, clastic starved