

Tertiary Basins of Spain: Paleomagnetic framework

Foreword

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A major thrust in magnetostratigraphic research on terrestrial sediments is the dating of terrestrial mammal evolution, determining sedimentation rates and timing basin development in terrestrial sediment. In North America long sedimentary sequences containing vertebrate fossils are available for study because Cenozoic basin sediments have been uplifted and exposed through continued tectonic activity. As a result mammalian evolution in North America has been relatively well dated using magnetostratigraphic techniques.

In Europe, however, the type localities for many of the classical vertebrate faunas are from regions of limited exposure. In general the longer the sedimentary exposure the more likely that magnetostratigraphic techniques will be successful. Along the southern margin of Eurasia from Spain to China terrestrial sediments contain

abundant faunas are exposed due to the continuing tectonic activity. Spain, therefore, is a potential source of valuable information on the evolution of European mammalian faunas because of the excellent exposure of sediments containing abundant mammalian faunas. Recent magnetostratigraphic studies in Spain by Spanish and Dutch workers have been fundamental in correlating and dating mammalian faunas throughout most of the Neogene into the late Paleogene. The papers presented in this volume serve to emphasize the important progress made in magnetostratigraphic research in the last few years, in particular work originating from the paleomagnetic laboratories at Barcelona and Utrecht. It is certain that important questions concerning mammalian evolution and migration, sedimentary basin analysis and paleoclimatology are being answered and will be answered by these studies.