Synsedimentairy Tectonic Instabilities of the Triassic Series of the External Dorsale Calcaire of Bokoya Massif(Internal Rif, Morocco): Geodynamic Implications

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The triassic geological context of the external Dorsale Calcaire of Bokoya Massif is evidenced on the basis of geometrical data from synsedimentairy tectonic disturbances recorded within its dolomitic series. In this study, we highlight the close correspondence between the sequential organization of these carbonate deposits and the rhythmic expression of all the markers of this instability. We show that the development of these series is conditioned as a whole by repetitive subsident downthrows and sedimentary fillings.

The sequence of these tectono-sedimentary phenomena is controlled on various scales by extensional normal faults, which derive from the same genetic processes. These structures are organized in hierarchical arborescent tectonic systems characterizing deformations growth, which evolve in accommodation with sedimentation.

We show that this heterogeneous structuring was controlled by a transtensif tectonic mode, with radial extensions, chiefly mediated by N160 sinistral faults. On a large scale, these faults determine a system of blocks tilted towards the East, before integrating downwards a detachment crustal fault, testifying for the installation of an intracontinental rift.

The stratigraphic and structural data allow connecting the Alboran micro plate to the Iberian Peninsula. Its detachment started during the Middle Triassic due to the installation of an intra continental rift located in the southern prolongation of the Triassic-Iberian chain rift. The differential process of these extensional movements is accompanied by the individualization of several pull-a-part basins delimited by the N40 and N130 faults which control the structural architecture of the internal zones. It is guided by a trans-tensional regime imposed by the migration the Alboran micro plate towards NE. This structural feature attests for the oblique nature of this intra continental rift, witch is partly adapted to the late Hercynian discontinuities.

Key words: Alboran, external Dorsale Calcaire, Triassic, Synsedimentary normal faults, oblique rift