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Peri-Tethys Programme: Tertiary palaeogeographical maps

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Altogether 24 palaeogeographical maps have been constructed as part of the 1994 – 2000 Peri-Tethys Project, covering the Late Carboniferous to Pleistocene (DERCOURT et al. 2000). Seven of these maps portray the Tertiary palaeogeographical and environmental settings of the Peri-Tethys domains for the Early Eocene, the early Middle Eocene, the late Early Oligocene, the late Early Miocene, the early Middle Miocene, the mid-Late Miocene and the Middle/Late Pliocene. The Tertiary maps reflect the large-scale inversion which affected the platforms at either side of the African/Apulian – Eurasian convergence zone in response to increasingly effective continent – continent collision. The concurrent tectonic fragmentation caused an increasing palaeoenvironmental and palaeobiogeographical differentiation between various domains of the Tethys and Peri-Tethys realms, which differentiation became particularly pronounced from the Eocene – Oligocene transition onward (origin of the Paratethys). The ensuing history portrays general trends of time-progressive termination of marine as well as terrestrial sedimentation and of regional uplift propagating from the west to the east on the platforms proper and along the Peri - Tethys/Tethys transitional zones. These large-scale developments reflect in part temporal and spatial differences in rates of motion of Africa relative to Eurasia and in the onset of subduction roll-back and slab detachment along the convergent plate boundary. The net-result of the northward motions of the African/Arabian block relative to Eurasia shows that these motions were most pronounced in the east, as expressed by the overall, anti-clockwise rotation of Africa/Arabia, whereas the position of the westernmost part of the northern margin of the African plate relative to Iberia remained fairly stable throughout the Cenozoic. Further interpretations of the time-successive paleogeographical maps also show that episodes of major change in the collision zone proper had clear counterparts on the Peri-Tethys platforms. In the Neogene, such episodes of major

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change pertinent to the EEDEN programme occurred, for instance, in the late Early Miocene to early Middle Miocene, in the Late Miocene and around the Early – Middle Pliocene transition. The present-day land – sea distribution patterns and the pronounced differences between highly elevated mountain chains and deep basins in the circum-Mediterranean area originated in the course of the Pliocene.

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