

STATIC VERSUS DYNAMIC CARBONIFEROUS TO TRIASSIC PANGAEA SETTINGS

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Supercontinent restorations are based on palaeomagnetic constraints, displacement patterns, accretion to collision processes, lithofacies distribution, biogeographic signature, and consolidated traditional views. Sometimes, such tools are poorly integrated or even inconsistent each other, as in the case of the type supercontinent Pangaea. The long lasting dynamic Hercynian orogeny is inconsistent with a Bullard-type fit stable from the Late Carboniferous to the Early Triassic. The Permo-Carboniferous W-European to N-American transtensional megashear, coupled with large Late Carboniferous trans-S-American and trans-N-African marine basins and with the Early Permian Mediterranean rift and deep basin evolution, is contrasting with a steady sialic and emergent Pangaea picture. Inconsistent is a long lasting stable Pangaea setting when a dynamic Irving-type fit is assumed, enabling a satisfactory solution of puzzling palaeobiogeographic and geologic problems such as: the break in Late Carboniferous Euramerian (Laurussia) and Glossopteris (Gondwanaland) floral provinces; the migration of Late Carboniferous Laurussian (terrestrial) reptiles to Gondwanaland delayed until the Late Permian radiation; the distribution of early Permian Tethyan marine benthos and related migration routes. Precision on time and mode of true Pangaea setting(s) still need interdisciplinary approach not confined to Western Europe and North America.