Gondwanian margin of paleo-Tethys. As a consequence, there are hardly
evidence rates decreased and were more evenly distributed over the margins;
well with that found along undeformed margins, e.g., the Cretaceous
thinning, and the resulting pattern of tilted fault blocks compares very
any fluidlastic sediments associated with the Early Jurassic phase of rift­
ing, and evaporite deposits of Jurassic age are conspicuously lacking
of Triassic seaways, but occurred across the marine carbonate belts of the
east of the central Mediterranean the zones of rifting which eventually led
Triassic to Early Jurassic rifting occurred in a continental environment
complete elimination of the oceanic Tethys between the Late Cretaceous and
ranean were replaced by dextral and compressive ones leading to the com­

Sedimentary Evolution of Passive Margins of Mesozoic Tethys

The Alpine mountain chains of the Circum-Mediterranean area and
the Near East are the result of oblique convergence between Africa and
Eurasia. This convergence was, from the Late Triassic to Early Creta­
ceous, preceded by an oblique divergence during the opening of the
Jurassic-Early Cretaceous Atlantic-Tethyan ocean. Rifting and spreading
of this ocean are discordantly superimposed onto the preexisting late
Paleozoic paleogeography of Pangaea and the paleo-Tethys. Kinematic
considerations suggest that in the Alpine-Mediterranean area the opening of
Tethys was controlled by sinistral transform movements. Whereas, in the central
Atlantic and western Mediterranean area, Late Triassic to Early Jurassic rifting occurred in a continental environment and
was accompanied by alkaline volcanicity and evaporite deposition, east of the central Mediterranean the zones of rifting which eventually led
to the opening of the oceanic Tethys did not follow the complex pattern of
Triassic seaways, but occurred across the marine carbonate belts of the
Gondwanian margin of paleo-Tethys. As a consequence, there are hardly
any siliciclastic sediments associated with the Early Jurassic phase of rift­
ing, and evaporite deposits of Jurassic age are conspicuously lacking along
the rift zone. Depositional geometry of the synrift sediments, at places, suggests listric normal faulting as a possible mechanism of crustal
thinning, and the resulting pattern of tilted fault blocks compares very
well with that found along undeformed margins, e.g., the Cretaceous
Iberian or Armorican margins. In the Tethys, this rifting phase initiated a
new paleogeography along the developing continental margins with
Bahamian-type carbonate platforms, submarine plateaus, basins, and
marginal highs. With the onset of spreading in the oceanic areas, subsi­
dence rates decreased and were more evenly distributed over the margins;
during this stage, subsidence apparently followed a curve of exponential
decay. Sedimentary facies of the dislocated continental margins were then
determined by increasing water depth and basin-wide paleo­
oceanographic events. This general paleotectonic reconstruction of
Tethyan margins is confirmed by comparable sedimentary facies in unde­
formed margins of the Mesozoic central Atlantic.

In the Mid-Cretaceous, plate motions in the Atlantic-Tethyan system
changed drastically, and sinistral and opening movements in the Mediter­
ranean were replaced by dextral and compressive ones leading to the com­
plete elimination of the oceanic Tethys between the Late Cretaceous and
late Eocene.