

**I. The lower Miocene orogeny (Alpine orogeny, Maghrebid belt)**

**I.3 THE EXTERNAL ZONES**

**I.3.1 Definition**

The external domain corresponds to the Tethyan margin of the African continent. It consists of allochthonous nappes thrust over and into one another. From a lithological perspective, it is composed predominantly of marls ranging in age from Triassic to Neogene (derived from the African palaeomargin and locally thrust southward over distances of up to a hundred kilometres).

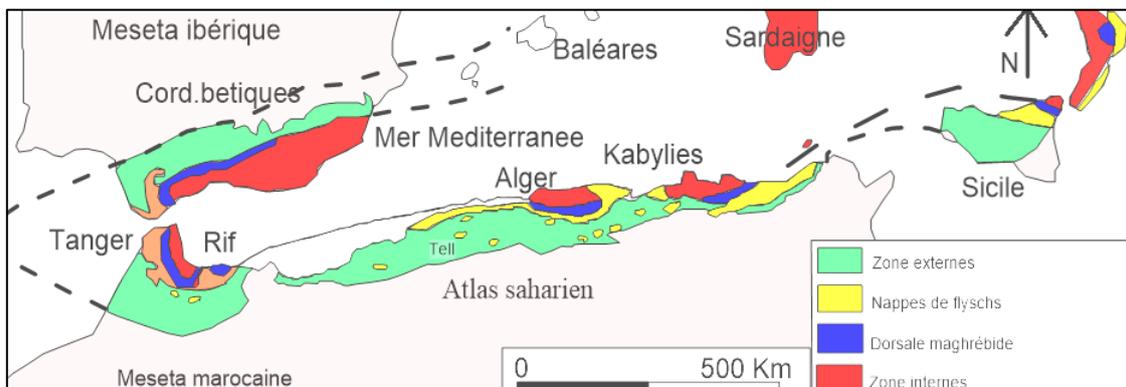
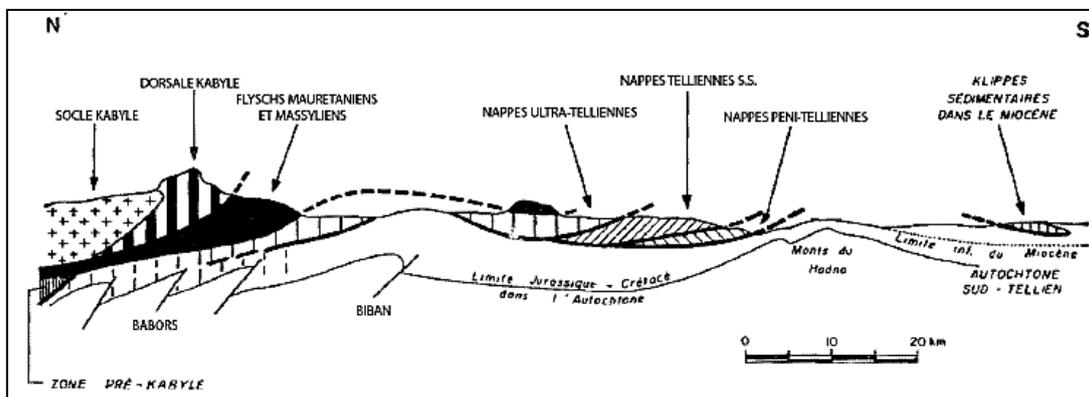


Figure: External zones in the Maghrebid chain



Structural relationship between units and domains forming the Maghrebid chain

In eastern Algeria and at the Algerian-Tunisian border, the Tellian successions have been dissected by Tertiary tectonic phases into three major entities (Vila, 1980). These are, from north to south (fig.):

- A. The ultra-Tellian nappes are characterized by bathyal formations of Cretaceous and Eocene age, along with a more detrital series in the Senonian and Eocene; these are known only from eastern Algeria and Tunisia. They exhibit characteristics closely resembling those of the Massylian flysch.
- B. Tellian nappes (sensu stricto)

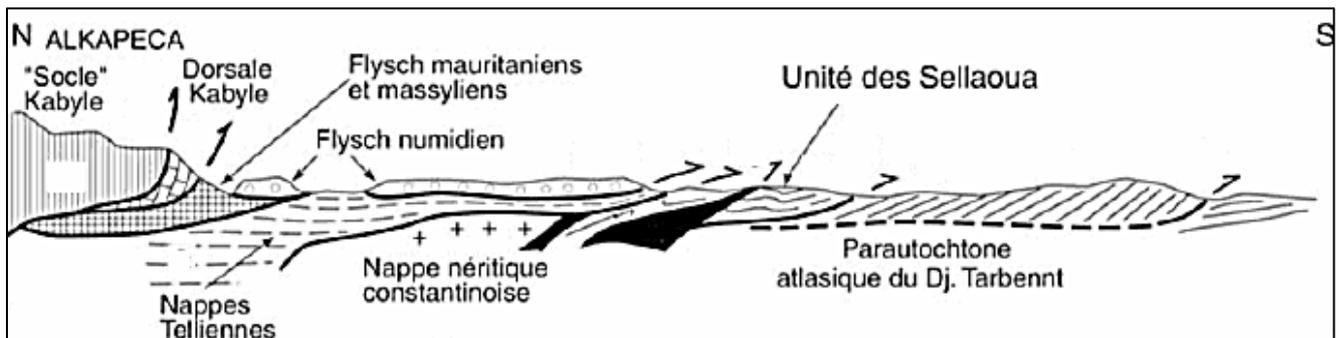
These consist of Liassic platform carbonates overlain by more marly Jurassic deposits, followed by Cretaceous strata that transition from detrital to marly-argillaceous-calcareous facies, and finally thick Eocene marls.

C. Peni-Tellian nappes

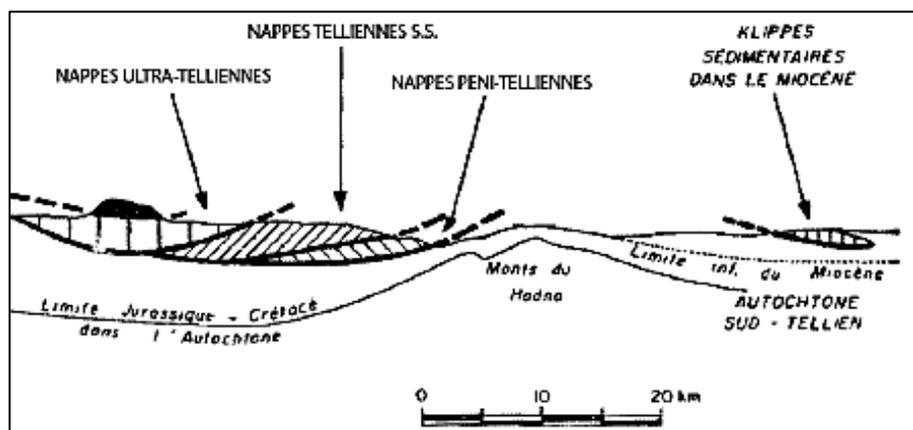
The neritic successions spanning Cretaceous to Oligocene comprise carbonate and marly formations. The peni-Tellian nappes, defined in eastern Algeria, exhibit characteristics akin to those of the Constantinois neritic domain. These are less extensively structured during the Middle Miocene and are referred to as the allochthonous foreland or Tellian series; they occupy an intermediate position between the northern Tellian nappes and the southern autochthonous or para-autochthonous Atlasic units. From west to east, the following are distinguished:

- ✓ The south-Sétifien allochthonous assemblage
- ✓ The Constantinois neritic nappe
- ✓ The Sellaoua imbricate scales unit

Figures below illustrate an example of the structural arrangement of the aforementioned domains and units in Algeria (Constantinois region, northeastern Algeria).



General cross-section of the Maghrebide in the Northeastern part of Algeria (Constantinois)



Entities types of external zones