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[1] *Vauchez et al.* [2013] propose a "conceptual model" for the uplift of the North Pyrenean Agly massif related to an Albian northward décollement of the post-Variscan cover of this massif. Understanding and dating the Cretaceous evolution of the Pyrenees are particularly important because this evolution was related to the opening of the Northern Atlantic and to the counterclockwise rotation of Iberia with respect to Eurasia. The Vauchez et al. data concerning the top-to-the-north shearing of the base of the northeastern part of the Agly cover are convincing and confirm one of the conclusions of *Paquet and Mansy* [1991]. However, several points used for the model, especially chronological aspects, are not well established or contradictory with previous publications.

[2] The Agly massif is mainly composed of Variscan metamorphic (HT-LP granulite to greenschist facies) and plutonic rocks. The massif is surrounded by three E-W-trending synclines, the St-Paul syncline to the north, the Lower Agly syncline to the north-east, and the Boucheville syncline to the south, composed of Triassic, Jurassic, and Lower Cretaceous (up to the Albian) sediments previously forming the cover of the Agly massif. The sediments forming the Boucheville and Lower Agly synclines were metamorphosed, entirely for the first one, partly for the second one, during the HT Lower to Upper Cretaceous metamorphism (peak at about 95 Ma), whereas the sediments of the St-Paul syncline were not metamorphosed. Remnants of the Jurassic and Lower Cretaceous cover lying on the Agly basement are also metamorphic [*Berger et al*., 1993; *Fonteilles et al*., 1993].

[3] The following points are needed to be discussed:

[4] 1. The authors consider (section 6.2) that the exhumation of the Agly basement, the northward movement along the ductile extensional shear zone located at the base of the Mesozoic cover of the Agly massif, the opening of the Albian "Boucheville basin" and the HT metamorphism of the rocks forming the Boucheville and Lower Agly synclines, especially the Albian marls, were contemporaneous events, thus Albian in age. The authors do not explain how sedimentation and metamorphism of the Albian marls could be coeval, and how these events were dated here. Note that several times the Albian is considered by the authors as "Late" or "Upper" Cretaceous instead of Early Cretaceous.

[5] 2. The authors consider that the Boucheville syncline corresponds to a single basin (the "Boucheville basin") formed during the Albian time on the southern border of the uplifting Agly massif (section 2 and Figure 13). This hypothesis is contradictory with the fact that the upper Aptian-lower Albian pelagic black marls and the middle Albian-lower Cenomanian "Flysch noir" forming most part of this syncline correspond to a fine distal sedimentation, not only far from the contact with the massif but also close to it. No clast, eventually originated from the Agly basement (and/or cover), appears within these series. The fact that similar Albian pelagic marls constitute a large part of the St-Paul and Lower Agly synclines indicates that all the Albian marls were certainly deposited in a unique basin.

[6] 3. The authors, considering that the age of the northward décollement of the Agly cover is Albian, conclude (section 6.2) that this fact is contradictory with previous interpretations admitting that the Albian basins were formed as pull-apart basins linked to an E-W-trending left-lateral movement between Iberia and Europe [see *Debroas*, 1987 and references herein]. However, this "contradiction" does not exist if the décollement is more recent than the Albian.

[7] 4. The authors admit that a normal fault previously described and interpreted by *Bouhallier et al*. [1991] as a Variscan major detachment at the boundary between the micaschists and gneisses forming the Agly massif "may be related to the Upper Cretaceous extension" (section 6.2 and Figure 13). However, *Olivier et al*. [2004] (paper not cited) have shown that there is no detachment (and no jumping metamorphic grade) at the gneiss/micaschist boundary and that the thin mylonitic bands observed at this level display either top-to-the-north or top-to-the-south movements and are similar to many other mylonitic bands, considered to be Variscan, distributed at various levels of the basement.

[8] 5. The authors do not mention the fact that the Paleozoic formations of the Agly massif and the remnants of its Mesozoic cover are locally covered by continental sedimentary breccias containing Aptian and Albian clasts, some of them being metamorphic, but these breccias do not contain clasts from the Variscan basement. The age of these breccias is unknown but a latest Cretaceous or earliest Tertiary age is generally admitted. The authors consider that the Agly massif

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was unroofed as soon as the Albian time, and thus, it is difficult to explain why no Variscan metamorphic or plutonic rocks are reworked in the breccias.

[9] 6. The authors show that the ductile deformation of the base of the Lower Agly syncline happened at rather high temperature (in a 337–387°C range) and that, consequently, this deformation is coeval with the metamorphism. However, this deformation is mentioned not only where the sedimentary rocks of the syncline are clearly metamorphic (scapolite and mica zone) but also where they are not clearly metamorphic (no characteristic mineral), i.e., in the western and eastern outcropping parts of the syncline. The link between décollement and metamorphism could then be questioned. Moreover, the interpretation of the stretching lineations observed at the base of the Lower Agly syncline is complicated by the fact that the Agly basement has been northward thrusted upon the syncline probably during the Eocene phase. Consequently, the present-day contact, which is generally either very steep and south dipping or vertical, corresponds mostly to the Eocene thrust fault.

[10] In conclusion, the Alpine evolution of this part of the Pyrenees is still poorly constrained. Obtaining new data especially about the ages of the various events, such as the exhumation of the Agly massif, and distinguishing Cretaceous from Eocene deformations would be crucial.

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