Genesis and Paleoenvironment of the Emsian Kess Kess of Hmar Lakhdad (South East of Erfoud, Tafilalet)

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The Kess Kess of Hmar Lakhdad correspond to about fifty biosedimentary monticules of the Emsian age, situated at the south east of Erfoud (Morocco). They rise on a bar of crinoidic limestone (180 m.) and are constituted of chalk that is more or less dolomited.

The faunistic display is distinguished by the absence of stromatopores and cyanobacteries, usually present in mictritic monticules of the Devonian.

The sharp slope of these Kess Kess suggests the intervention of a stabilization process of the sediment. In the absence of encrusting organisms, the cohesion of the sediment could be explained by an early cementation of micritic clay; no perforation of the sediment and no lithoclast have however been observed.

The presence, relatively abundant, from the base to the summit of all the Kess Kess, of ferruginous microscopic structures, is attributed to microstromatolithes that would have played a determining role in trapping and linking sediments, allowing in this way the preservation of the slopes of these edifices whose growth would have then been under biologic control.

According to the autocyclic model, only the phases of stabilization-colonization are present in the Kess Kess. It is therefore an instance of truncated or aborted growth that we could attribute to the action of storms (Brachet et al, 1992); however, no sedimentologic index that could confirm this hypothesis has been observed.

The homogeneity of facies of the Kess Kess and the existing ecological communities (only one ecological community composed of corals and crinoids) allows them to be situated under the photic zone and at the limit of the action zone of storm waves, that is at an expanse of water ranging from -70 to -100 meters.

Key words: Anti-Atlas, Morocco, Emsian mounds, Paleoenvironment.