

## **STYLOLITES: MEASUREMENT OF ROCK LOSS**

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Stylolites are defined and their general characteristics summarized. A brief historical sketch of their origin is presented with emphasis on the three existing theories accepted by several authors. Petrographical observations result in estimating calcareous rock loss by solution through the measurement of insoluble detrital residue which is concentrated within the stylolitic seams. Comparing these microscopic observations with Stockdale's figures, obtained by macroscopic measurements, it is concluded, like Stockdale, that some horizons may have been thinned as much as 40 to 50 per cent of their original thickness.

The Author has developed the idea that, by knowing the concentration of insoluble grains in the rock body and in the stylolitic seam, a measure of rock loss could be established. Dealing with only one thin section available, he attempted to get some quantitative data on the thinning of strata of that rock. The stylolites are very conspicuous, cutting calcareous oolites and with a great amount of residual detritus.

One thin section of the Warrior limestone (Middle-Upper Cambrian), from Pennsylvania, was thoroughly examined. The thin section belongs to Dr. Pettijohn's collection. The Author divided the thin section in half-centimeters squares and counted quartz and plagioclase grains, both in the rock body and accumulated in the stylolitic seams. Comparing the percentage of minimum loss, obtained by microscopic observations, totaling 33,0%, with Stockdale's figures, obtained by macroscopic measurements, also referred to a minimum possible loss testified by the evidence, it seems reasonable Stockdale's statement that "some horizons may have been thinned as much as 40 to 50 per cent".