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Deep valleys in the Swiss Molasse Unit - 10 million years of erosion and sediment accumulation

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Based on actual knowledge of erosive and accumulative processes, a puzzle is put together in order to reconstruct the landscape history of the last 10 Million years. The following questions are addresssed:

- Why and how did the sedimentation of the Swiss Molasse come to an end in the Late Miocene?

- How did the landscape and the river pattern evolve in the Pliocene?

- In what kind of landscape did the first glaciers advance 2.5 million years ago?

- What processes did form the landscape in interglacial times?

- What is the erosive potential of foreland-glaciers?

- When and why the overdeepened valleys in the Molasse have been eroded?

- Was it the "big ice-age" with this deep erosive impact?

- What happened in the younger ice-ages after that event?

It is argued, that the valleys in the Molasse were pre-designed already in Pliocene times. Their overdeepening by glacial erosion happened during early Pleistocene ice ages, and this process ended after one specific ice age more than 700’000 years ago. Since that time, sediment accumulation in the valleys prevails over erosion. The statements and conclusions may be discussed controversially. However, further reflections and research on this issue need to be stimulated.