

nish in altitude and lose their precipitancy of form, becomes more stable and less liable to monstrous fallings and catastrophes.

The Himalayas are from a geological point of view, a very young set of mountain ranges; they still tumble about on an embarrassingly large scale. The fall which has recently made such a stir, began on September 6, 1893. That day the Maithana Hill (eleven thousand feet), a spur of a large mountain mass pitched bodily, rather than slid into the valley.

The Himalayas are indeed passing through their dramatic geological period, when they give rise to such landslips as this at relatively frequent intervals. Of the Gohna Lake we have been told much, but little of the fall that caused it. Eye-witnesses appear not to have been articulate. We can, however, form some idea of what it was like from the minute and accurate account we possess of a great and famous Alpine landslide; I refer to that which buried part of the village of Elm, in Canton Clarus, on September 11, 1881.*

The cause of the fall was simple, and reflects little credit on Swiss communal government. About half-way up the hill there dips into it a bed of fine slate, excellent for school slates. In the year 1868 concessions were given by the Commune for working this slate for ten years, without any stipulations as to the method to be employed. Immense masses of the rock were removed. A hole was made one hundred and eighty metres wide, and no supports were left for the roof. It was pushed into the mountain to a depth of sixty-five metres!

The roof by degrees became visibly rotten. Lumps of rock used to fall from it, and many fatal accidents occurred. The mass of the mountain above the quarry showed a tendency

to grow unstable, yet blasting went forward merrily and no precautions were taken. Cracks opened overhead in all directions; water and earth used to ooze down through them.

The actual facts are these. Ten million cubic metres of rock fell down a depth (on an average) of about four hundred and fifty metres, shot across the valley and up the opposite (Duniberg) slope to a height of a hundred metres where they were bent 25° out of their first direction and poured like a liquid, over a horizontal plane, covering it, almost uniformly through a distance of fifteen hundred metres and over an area of about nine hundred square metres to a depth of from ten to twenty metres. The internal friction of the mass and the friction between it and the ground were insignificant forces compared with the tremendous momentum that was generated by the fall. The stuff flowed like a liquid. No wonder the parson, seeing the dust cloud rolling down the valley, thought it was only dust that went so far. His horror, when the cloud cleared off and he beheld the solid grey carpet, beneath which one hundred and fifteen of his flock were buried with their houses and their fields, may be imagined. He turned his eyes to the hills and lo! the familiar Plattenbergkopf had vanished and a hole was in its place.

The roar of the fall ceased suddenly. Silence and stillness supervened. Survivors stood stunned where they were. Nothing moved. Then a great cry and wailing arose in the part of the village that was left.

Such was the great catastrophe of Elm. The hollow in the hills, whence the avalanche fell, can still be seen, and the pile of ruin against and below the Duniberg; but almost all the rest of the debris-covered area has been reclaimed and now carries fields, which were ripening to harvest when