

portions of those lavas that surround the inclusions and raising the percentage of silica. He suggests that such a process at greater depths and higher temperature may, under certain conditions, convert a basic rock into a more acid one, so that possibly the andesite of Strombolicchio may have been of basaltic character at an earlier period of its progress towards the surface. He offers the suggestion that other rocks or minerals once associated with the quartz have been assimilated by the magma.

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CORRESPONDENCE.

LEVEL OF LAKE LEMAN.

STR,—As Mr. Davison remarks, the level he quotes is not of reliable precision—not adequately mounted.

Would not the Pierre de Niton, in the Port of Geneva, be a more satisfactory bench mark to watch and compare with selected stations? Upon its position turns the whole of the Swiss Federal Survey.

Prof. Forel, who gives a full account of the results of levelling, does not say much as to the systems, all of which depended upon foreign (*i.e.* not Swiss) official surveys, so far as sea-level goes.

On the other hand, as compared with stations on Swiss ground, any variation of level ought to come out with certainty—and that is *the* point. I hope this interesting matter will not be lost sight of.

In Dufour's map the level of the Pierre de Niton figures as 376.64 metres. The later Siegfried map gives it as 376.86 metres, a difference of 22 centimetres. Is this evidence of altered level or of improved exactitude?

In times when the great Rhone ice-sheet was melting back from the plains, but not as yet so notably from the mountains, would not the disencumbered land westward rise more than at the east end of Lake Lemman? See Osmond Fisher's "Physics of the Earth's Crust," second edition, page 327, note 2, for equations approximately to the point.

MARSHALL HALL.

EASTERTON, PARKSTONE, DORSET, 2nd Nov. 1893.

VOLCANIC SERIES IN THE MALVERN HILLS.

STR,—The excavations for the new reservoir to the east of and below the Herefordshire Beacon have brought to light piecemeal an interesting series of beds. At no one time was there a complete exposure of them all; but as I have watched the progress of the work closely I have been able to make out with tolerable accuracy their general bearing.

The strike is nearly due north and south at this particular spot, *i.e.* parallel to the axis of the Malvern Hills. The dip 40° East.

The beds are shown by the microscope to be (commencing from the East): obsidian or very fine ash, coarse ash, and some basic rock. Some of the slides correspond in a remarkable degree with others cut from rocks further south. I hope in time to be able to establish connection between them. The whole area, however, has been subjected to so much movement and shattering that the greatest care and patience will be necessary to unravel the problem.

GREAT MALVERN, Oct. 30th, 1893.

HENRY DYKE ACLAND.