

## THE ERUPTION OF VESUVIUS.

THE eruption of Vesuvius has quieted down since last week, though scoriæ and ash continue to be ejected and there still seems to be a slow flow of lava, but in comparison with the activity of the eruption on April 8 the volcano is quiet—until next time. How soon or how long deferred this may be cannot be predicted, but the pause has enabled us to take stock of events and form some estimate of this outburst as compared with previous ones. The most important qualification of earlier reports is in regard to the reported flow of lava through the streets of Ottajano; an outburst of lava on the outer slope of Monte Somma would be remarkable indeed, but later accounts show that none such took place, the damage at Ottajano and San Giuseppe being due to a very heavy fall of ash.

The reports from the Vesuvian Observatory and the definite statement of Messrs. Thos. Cook and Son that their electric tramway has not suffered more than a temporary interruption of traffic, due to the fall of ash, show that no lava flowed in that direction. On the other hand, there seems to have been an extensive outflow into the Atrio del Cavallo and on the south side of the volcano. The lava, which stopped just short of Bosco-Trecase, seems to have reached further than the stream of 1754.

In spite of the prominence given to these lava streams in the daily papers, the eruption seems to have been less remarkable, in this respect, than that of 1895, not to mention others of earlier date, but the volume of volcanic ash produced and scattered over the surrounding country has been very great, and the aspect of the volcano has been materially changed, not only by the addition of a mantle of grey ashes, but also by the destruction of a portion of the cone. The upper part of the funicular railway has been destroyed—blown away, so far as can be made out—in the enlargement of the old crater; the volcano as a whole is noticeably lower than it was, and must have resumed very much the aspect it showed after the eruption of 1822.

The Naples correspondent of the *Times* described in Tuesday's issue the nature and results of the recent eruption. Some extracts from this narrative, dealing with points of scientific interest, are subjoined, with a diary of events abstracted from Press reports.

The most intense activity occurred on the night of Saturday, April 7, when the sides of the cone subsided and the streams of lava, already set free, gained a terrible impulse. The electric phenomena of thunder and lightning, which ordinarily attend any great volcanic convulsion, were then at their height, and the ejection of large blocks from the crater and fiery scoriæ is said to have surpassed anything within the memory of the present generation. The main courses taken by the lava flow seem to have been six in number: towards Ottajano on the north, to San Giuseppe and Terzigno on the east, past Bosco-Trecase to Torre Annunziata on the south, to Torre del Greco and past the observatory on the west. Of these, the most formidable stream was that which descended towards Torre Annunziata, those which deviated towards Torre del Greco and Terzigno being only its branches. At Torre Annunziata the lava stopped just short of the wall of the cemetery outside the town.

The actual area of ground covered by lava cannot yet be conjectured, though it is believed to exceed that covered by all recent eruptions. Next in importance comes the fall of volcanic dust and scoriæ. The direction of this fall varied each day. The worst suffering was inflicted upon Ottajano and San Giuseppe Vesuviano towards the north-east. In both places a large number of houses succumbed to the weight that fell on their roofs. Considerable damage was also done, from the same cause, at Torre del Greco.

During the first three or four days the dust plunged the towns in the immediate vicinity of the volcano into utter darkness, and materially increased the panic that had already set in. Even Naples was in a state of semi-darkness, from which it had hardly emerged on April 12. The roofs and roads seem to be inches deep in an extraordinarily fine, reddish-grey dust, which rises in dense clouds behind every carriage and foot passenger.

In some places the drift of ash seems fully a yard deep; at Ottajano and San Giuseppe in the lightest deposits it must measure three inches. The great danger in both places—and, indeed, in most of the towns on the slopes of Vesuvius—would be a heavy rainfall and the formation of mud-torrents, which will more than complete the ruin already begun by the lapilli. At the coast towns, Torre del Greco, Torre Annunziata, Resina, and others, the work of disencumbering the streets and buildings of the lapilli and ashes is already in active progress.

It is difficult to compare the extent of this latest eruption with that of those which have preceded it. Eye-witnesses of both declare it to have been more formidable than that of 1872, which practically destroyed Torre del Greco for the fourth time. The distance to which the ash was carried is so dependent on other atmospheric influences that it cannot constitute a test. In this case the ash seems to have reached Bari and towns on the Adriatic coast. One notable change has been wrought by the eruption. The cone, which has for so long been such a distinctive feature of the mountain, appears to be gone.

The following diary of the eruption is in continuation of that given last week:—

*April 11. Vesuvius Observatory.*—Report from Dr. Matteucci:—"For brevity's sake I do not give details of my position and that of the carabinieri at the observatory, which has been very unpleasant and alarming. Throughout the night and up to 8 o'clock this morning we were completely enveloped in dense showers of dust. As I telegraph everything tends to reduce anxiety, and the seismic instruments show quieter records than yesterday. I shall remain here as long as possible—as long as I have food. If my words could influence the population they would be words of encouragement and sympathy in full confidence that Vesuvius will shortly become calmer."

Showers of volcanic ash and other fragmentary products continue to fall. San Giuseppe almost buried in places by mounds of ash and lapilli, and Ottajano in much the same condition. Torre Annunziata remains abandoned, and Torre del Greco is almost deserted. The roads in Naples are covered with a thick layer of volcanic dust, which continues to fall upon the city. The summit of the volcano cannot be seen on account of the dense clouds of steam and dust over it, but it is reported that the shape of the cone has undergone great change, and Dr. Matteucci estimates that the top is now nearly 250 metres lower than before the eruption.

*April 12.*—Seismographs quiet. Volcanic ash has ceased to fall in Naples, Portici, Torre del Greco, and Torre Annunziata, but the shower continues at Ponticelle, St. Anastasia, and Somma.

*April 13.*—No noticeable disturbances. The volcano still surmounted with a dense cloud, which appeared, however, to be disappearing.

*April 14.*—A shower of ash fell at San Giuseppe Vesuviano and Ottajano to a depth of about 1½ inches. Heavy falls of dust also recorded in the communes of Collina, Strocchia, Boscoreale, Somma, and Ottajano. Slight earthquake shock felt at Ottajano and Terzigno.

*April 15.*—At 2 p.m. a heavy shower of ash began falling at Ottajano, Boscoreale, Bosco-Trecase, and Torre del Greco, causing intense darkness. There was a slight fall of ashes at Portici, Resina, San Sebastiano, and San Giorgio.

*April 16.*—No signs of activity. Seismographs quiet.

*April 17.*—Conditions normal except for a shower of ash falling on Ottajano and St. Anastasia. Dr. Matteucci reports from the observatory that, with the exception of a few hours, last night was calm. The activity of Vesuvius is limited to a decreased emission of dust, falling in the eastern districts.