SHORTER ARTICLES.

MONT PELÉ FROM MAY TO OCTOBER, 1903.

THE changes which have taken place in the new cone of Mont Pelé within the last few months have been very considerable, and are worthy of record. The wonderful growth of the spine upon the top of the cone has been fully described by Professors Lacroix, Heilprin and Sapper and the author. The author's article in the *American Journal of Science* for October brought the detailed history of the cone down to the month of April last. There was at that time a tremendous spine or tooth more than 1,000 feet in height, rising from the side of a cone-shaped base, the top of which was higher than the old altitude of Morne Lacroix. The tip of the spine was about 600 feet above the highest part of the new cone. Since the first of May there have been considerable variations in the activity of the volcano and in the form and altitude of the cone and spine. It is the purpose of the present note to give the readers of SCIENCE a condensed statement of the facts as they have been observed by the French commissioners during the past six months and reported by Professor Giraud and Captain Perney in the *Journal Officiel de la Martinique* published at Fort de France.

During the month of May the apex of the spine rose slowly until the thirtieth, when there occurred a loss of about fifty meters. Considerable incandescence was observed at night, when the condition of the clouds permitted observations to be made, and there were several eruptions of steam to an altitude of from 3,000 to 4,500 meters. Most of the dust clouds thrown out by the mountain pursued the familiar course down the valley of the Rivière Blanche. There was marked increase in the energy of action during the last week of the month, which diminished, however, during the first week of June. During June the spine rose again with varying degrees of rapidity, until it seems to have regained much of the altitude lost at the end of May. Minor eruptions were numerous during the month, and the dust-flows, of 'Nuages Denses' of Lacroix, rushed with violence and great velocity down the valley of the Prêcheur, as well as that of the Rivière Blanche. The latter fact is of interest in connection with observations made in February and March, that the northwestern side of the new cone had become continuous in slope with the exterior of the old cone of the mountain.* The V-shaped gash in the old crater has long ceased to be the sole exit for the flows of dust-laden steam, or the principal factor in guiding their course. The records show that the western side of the spine kept losing material constantly, so that late in June and early in July it was even more pointed and blade-like than in March. Between July 5 and 7, however, there was a loss of altitude amounting to fifty meters, and another fifty meters was lost in the succeeding week. On the 18th it was observed that eighteen meters more had disappeared. This diminution continued into August, a measured loss amounting to twenty-five meters having occurred by August 6.

On August 17 Professor Giraud saw the mountain free from clouds for the first time in several days, and perceived that the *dome* of the cone surmounting the crater had undergone profound modification, the central portion having risen twenty-seven meters within ten days. Reddish-brown clouds frequently appeared in the midst of the blue and white vapors which were continually rising from the crater. During the night the dome sometimes showed itself incandescent; some of the luminous points persisted throughout the whole night, and there were frequent discharges of incandescent blocks. The increase of activity continued in marked degree for several days, and the main mass of the dome, as distinguished from the spine, continued to rise. There were numerous dust-flows down the valley of the Prêcheur and of the Blanche, and on the 22d, in the direction of the Lac des Palmistes and Grand' Rivière as well. Night after night the top and slopes of the new cone or dome were incandescent, and often sufficiently so to cast a strong illumination upon the clouds. Fumaroles were active in the valley of the Sèche, as well as in the valley of the Blanche. The growth of the great dome continued rapid, one hundred and

* *Am. Jour. Sci.*, Vol. XVI., p. 277, October, 1903.

four meters being the measured increase from August 21 to 31. The eruption of September 2 caused a loss of thirty meters, and the succeeding five days saw thirteen meters of this regained; a gain, however, which was only temporary, fifteen meters being lost upon the following day. During the remainder of the month there was an irregular increase of thirty-one meters, with a loss between the 15th and 18th of five meters. The total increase in height of the dome for the six weeks ending the first of October was about one hundred and twenty-seven meters.

The great spine which was such a wonderful part of the mountain from November, 1902, to June, 1903, had practically disappeared early in August when the main mass of the cone, or the 'dome' as it may well be called, began to rise so rapidly. The first spine rose from the northeastern quarter of the new cone. On September 8, after four days in constant cloud, the summit appeared and it was seen that the dome culminated in a sharp tooth or spine rising from its northwestern portion. Within a week this new spine was pushed up twenty meters, but an eruption on September 17 destroyed it. At the end of the month (September) the highest part of the dome was at the south.

During about six weeks in August and September the activity of the volcano was so great as to cause serious fears of the recurrence of great eruptions, and several warnings were sent out by the geological commission to the inhabitants of the northern and northeastern parts of the island of Martinique. On September 12, at 2 P.M., there was an eruption, the dust cloud of which covered the Lac des Palmistes and rapidly descended the eastern slopes of the mountain toward the village of Morne Balai to the altitude of about seven hundred meters; that is to say, it reached the limit of the zone devastated by the eruptions of May, 1902. A week later three such clouds followed one another in quick succession nearly to the same extent. On September 16 an eruption cloud rose vertically to the extraordinary altitude of 7,000 meters. During the latter part of September, however, the activity diminished again, and is recorded as being very feeble on September 30. The bulletins from October 1 to 19, the date of the latest received, indicate only feeble activity of the volcano, with occasional persistent luminosity of the dome. The seismographs which were installed in the observatory at Morne des Cadets in the fall of 1902 had recorded no earth tremor by April 1. Light earthquake shocks made their imprint on these instruments on July 23 and August 28, and others have been noted by the observers at Assier.

Edmund Otis Hovey.

American Museum of Natural History,
November 3, 1903.

*THE HUXLEY MEMORIAL LECTURE.**

The fourth annual Huxley memorial lecture of the Anthropological Institute was delivered in the lecture theater of Burlington House by Professor Karl Pearson, F.R.S. The president of the institute, Mr. H. Balfour, occupied the chair.

The lecturer's subject was 'The Inheritance in Man of Moral and Mental Characters,' a subject to which he has devoted many years of close and constant study, and the importance of which, as he observed, from a national point of view can hardly be exaggerated. It was a question of vital importance, he observed, as to how far mental and moral characters were inherited as compared with physical characters. Few denied the inheritance of physique in man, as in animals, but few too applied the results of such acceptance to their own conduct in life. We were agreed that good homes and good schools were essential to national prosperity, but were apt to overlook the possibility that the home standard was itself a product of parental stock, and that the relative gain from education depended to a surprising degree on the raw material. Since the publication of Francis Galton's epoch-making books it was impossible to deny *in toto* the inheritance of mental characters. But it was necessary to go a stage further and ask for an exact quantitative measure of the inheritance of such characters and a comparison of such measure with its value for the physical characters. Accordingly he had some six or seven years ago set

* From the London *Times*.