

CONCLUDING REMARKS.

The Samoan, like the Tahitian Group, appears from the account here given to be a series of volcanic islands, proceeding from vents opened along two separate lines having the common trend of the Pacific groups. In Savaii, the westernmost, we find evidence of the most recent fires, both in the lavas of the island and the traditions of the natives; and the comparatively unbroken surface of the great mountain cone is another proof of the same fact. Going eastward, Upolu has distinct craters on its east and west extremities, while a small part just east of the centre, has the deep gorges, columnar cliffs, and compact rocks of Tahiti. The great length of Upolu, as well as the line of craters along the summit, indicates that here several vents on one fissure have been active in producing the island. They were earliest extinct about the centre, and here were soonest turned over to denuding agents; while either side of the centre the volcanic effects, which tend more to build up than to pull down, have kept the slopes in many parts nearly unbroken, so lately have the fires ceased action. Tutuila, farther east, has the fewest indications of recent lava streams, and the most of denudation. It is hence evident, that the fires were soonest extinct to the east, and burnt longest and to the latest period on the western island, Savaii.

The fact of a coincidence between the earthquake that destroyed Valdivia (Chili), September 7th, 1837, and unusual agitations of the sea at the Gambier and Samoan Islands, has been noticed by Dumoulin.* Minute particulars with regard to the successive tides at Tutuila, harbour of Pango-pango, were obtained by Captain Wilkes, while at that island, from the Rev. W. Mills, and they are published in the second volume of the Narrative, Appendix VIII. p. 427. The observations were made by Mr. George Burader.

At 2h. 20', Nov. 7, the sea rose suddenly two feet above high water mark, spring tide; in ten minutes it sunk again to low water mark, neap tide; in five minutes rose to the same height as before; in another five minutes (2h. 40') sunk to low water mark, spring tide; then rushed in with violence, and in two minutes was three feet above its greatest previous height, after which it receded again, and at

* Compt. Rend., vol. vii. p. 75, 1838.