

for instance, that of Wimelburg, which communicates with the cavern of Cresfield.

The determination of the temperature of grottoes presents a field for interesting observation. The cavern of Caripe, situated nearly in the latitude of $10^{\circ} 10'$, consequently in the centre of the torrid zone, is elevated 506 toises above the level of the sea in the gulf of Cariaco. We found that, in every part of it, in the month of September, the temperature of the internal air was between 18.4° and 18.9° of the centesimal thermometer; the external atmosphere being at 16.2° . At the entrance of the cavern, the thermometer in the open air was at 17.6° ; but when immersed in the water of the little subterranean river, it marked, even to the end of the cavern, 16.8° . These experiments are very interesting, if we reflect on the tendency to equilibrium of heat, in the waters, the air, and the earth. When I left Europe, men of science were regretting that they had not sufficient data on what is called, 'the temperature of the interior of the globe;' and it is but very recently that efforts have been made, and with some success, to solve the grand problem of subterranean meteorology. The stony strata that form the crust of our planet, are alone accessible to our examination; and we now know that the mean temperature of these strata varies not only with latitudes and heights, but that, according to the position of the several places, it performs also, in the space of a year, regular oscillations round the mean heat of the neighbouring atmosphere. The time is gone by when men were surprised to find, in other zones, the heat of grottoes and wells differing from that observed in the caves of the observatory at Paris. The same instrument which in those caves marks 12° , rises in the subterraneous caverns of the island of Madeira, near Funchal, to 16.2° ; in Joseph's Well, at Cairo* to 21.2° ; in the grottoes of the island of Cuba to 22° or 23° .† This increase is nearly in proportion to that of the mean temperature of the atmosphere, from latitude 48° to the tropics.

* At Funchal (lat. $32^{\circ} 37'$) the mean temperature of the air is 20.4° , and at Cairo (lat. $30^{\circ} 2'$), according to Nouet, it is 22.4° .

† The mean temperature of the air at the Havannah, according to Mr. Ferrer, is 25.6° .