

enabled me to take the horary angles. The chronometer, at the little island of Mucara, gave lon. $78^{\circ} 13' 54''$. We passed on the southern extremity of the *Placer de San Bernardo*. The waters were milky, although a sounding of twenty-five fathoms did not indicate the bottom; the cooling of the water was not felt, doubtless owing to the rapidity of the current. Above the archipelago of Saint Bernard and Cape Boqueron, we saw in the distance the mountains of Tigua. The stormy weather, and the difficulty of going up against the wind, induced the captain of our frail vessel to seek shelter in the Rio Sinu, or rather, near the Punta del Zapote, situated on the eastern bank of the Ensenada de Cispatá, into which flows the river Sinu or the Zenu of the early Conquistadores. It rained with violence, and I availed myself of that occasion to measure the temperature of the rain-water: it was 26.3° , while the thermometer in the air kept up, in a place where the bulb was not wet, at 24.8° . This result differed much from that we had obtained at Cumana, where the rain-water was often a degree colder than the air.*

* As, within the tropics, it takes but little time to collect some inches of water in a vase having a wide opening, and narrowing towards the bottom, I do not think there can be any error in the observation, when the heat of the rain-water differs from that of the air. If the heat of the rain-water be less than that of the air, it may be presumed that only a part of the total effect is observed. I often found, at Mexico, at the end of June, the rain at 19.2° or 19.4° , when the air was at 17.8° and 18° . In general, it appeared to me, that within the torrid zone, either at the level of the sea, or on table-lands from 1200 to 1500 toises high, there is no rain but that during storms, which falls in large drops very distant from each other, and is sensibly colder than the air. These drops bring with them, no doubt, the low temperature of the high regions. In the rain which I found hotter than the air, two causes may act simultaneously. Great clouds heat, by the absorption of the rays of the sun which strike their surface; and the drops of water in falling cause an evaporation, and produce cold in the air. The temperature of rain-water, to which I devoted much attention during my travels, has become a more important problem since M. Boisgiraud, Professor of Experimental Philosophy at Poitiers, has proved, that in Europe rain is generally sufficiently cold, relatively to the air, to cause precipitation of vapour at the surface of every drop. From this fact he traces the cause of the unequal quantity of rain collected at different heights. When we recollect that one degree only of cooling precipitates more water in the hot climate of the tropics, than by a temperature of 10° to 13° , we may cease to be surprised at the