

that we were in possession of microscopes, telescopes, and electrical apparatus.

I could not begin a regular course of astronomical observations before the 28th of July, though it was highly important for me to know the longitude given by Berthoud's time-keeper; but it happened, that in a country where the sky is constantly clear and serene, no stars appeared for several nights. The whole series of the observations I made in 1799 and 1800 give for their results, that the latitude of the great square at Cumana is  $10^{\circ} 27' 52''$ , and its longitude  $66^{\circ} 30' 2''$ . This longitude is founded on the difference of time, on lunar distances, on the eclipse of the sun (on the 28th of October, 1799), and on ten immersions of Jupiter's satellites, compared with observations made in Europe. The oldest chart we have of the continent, that of Don Diego Ribeiro, geographer to the emperor Charles the Fifth, places Cumana in latitude  $9^{\circ} 30'$ ; which differs fifty-eight minutes from the real latitude, and half a degree from that marked by Jefferies in his *American Pilot*, published in 1794. During three centuries the whole of the coast of Terra Firma has been laid down too far to the south: this has been owing to the current near the island of Trinidad, which sets toward the north, and mariners are led by their dead-reckoning to think themselves farther south than they really are.

On the 17th of August a halo round the moon fixed the attention of the inhabitants of Cumana, who considered it as the presage of some violent earthquake; for, according to popular notions, all extraordinary phenomena are immediately connected with each other. Coloured circles around the moon are much more rare in northern countries, than in Provence, Italy, and Spain. They are seen particularly (and this fact is singular enough) when the sky is clear, and the weather seems to be most fair and settled. Under the torrid zone beautiful prismatic colours appear almost every night, and even at the time of the greatest droughts; often in the space of a few minutes they disappear several times, because, doubtless, the superior currents change the state of the floating vapours, by which the light is refracted. I sometimes even observed, between the fifteenth degree of latitude and the equator, small halos