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### **A Voyage To The Pacific Ocean**

Undertaken, By The Command Of His Majesty, For Making Discoveries in the Northern Hemisphere. To Determine The Position and Extent of the West Side of North America; its Distance from Asia; and the Practicability of a Northern Passage to Europe. Performed Under The Direction Of Captians Cook, ...

**Cook, James**

**London, 1784**

Chap. II.

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## C H A P. II.

*Passage of the Resolution to Teneriffe.—Reception there.—Description of Santa Cruz Road.—Refreshments to be met with.—Observations for fixing the Longitude of Teneriffe.—Some Account of the Island.—Botanical Observations.—Cities of Santa Cruz and Laguna.—Agriculture.—Air and Climate.—Commerce.—Inhabitants.*

1776.  
July.  
Friday 12.

Sunday 14.

Tuesday 16.

Wednes. 17.  
Thursday 18.

WE had not been long out of Plymouth Sound, before the wind came more westerly, and blew fresh, so that we were obliged to ply down the Channel; and it was not till the 14th, at eight in the evening, that we were off the Lizard.

On the 16th, at noon, St. Agnes's Light-house on the Isles of Scilly, bore North West by West, distant seven or eight miles. Our latitude was, now,  $49^{\circ} 53' 30''$  North, and our longitude, by the watch,  $6^{\circ} 11'$  West. Hence, I reckon that St. Agnes's Light-house is in  $49^{\circ} 57' 30''$  North latitude, and in  $6^{\circ} 20'$  of West longitude.

On the 17th\* and 18th we were off Ushant, and found the longitude of the island to be, by the watch,  $5^{\circ} 18' 37''$  West. The variation was  $23^{\circ} 0' 50''$ , in the same direction.

\* It appears from Captain Cook's log-book, that he began his judicious operations for preserving the health of his crew, very early in the voyage. On the 17th, the ship was smoked between decks with gun-powder. The spare sails also were then well aired.



With a strong gale at South, on the 19th, we stood to the westward, till eight o'clock in the morning; when, the wind shifting to the West and North West, we tacked and stretch-  
ed to the Southward. At this time, we saw nine sail of large ships, which we judged to be French men of war. They took no particular notice of us, nor we of them.

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Friday 19.

At ten o'clock in the morning of the 22d, we saw Cape Ortegál; which at noon bore South East, half South, about four leagues distant. At this time we were in the latitude of  $44^{\circ} 6'$  North; and our longitude, by the watch, was  $8^{\circ} 23'$  West.

Monday 22.

After two days of calm weather we passed Cape Finisterre, on the afternoon of the 24th, with a fine gale at North North East. The longitude of this Cape, by the watch, is  $9^{\circ} 29'$  West; and, by the mean of forty-one lunar observations, made before and after we passed it, and reduced to it by the watch, the result was  $9^{\circ} 19' 12''$ .

Wednes. 24.

On the 30th, at six minutes and thirty-eight seconds past ten o'clock at night, apparent time, I observed, with a night telescope, the moon totally eclipsed. By the *ephemeris*, the same happened at Greenwich at nine minutes past eleven o'clock; the difference being one hour, two minutes, and twenty-two seconds, or  $15^{\circ} 35' 30''$  of longitude. The watch, for the same time, gave  $15^{\circ} 26' 45''$  longitude West; and latitude  $31^{\circ} 10'$  North. No other observation could be made on this eclipse, as the moon was hid behind the clouds the greater part of the time; and, in particular, when the beginning and end of total darkness, and the end of the eclipse, happened.

Tuesday 30th.

Finding that we had not hay and corn sufficient for the subsistence of the flock of animals on board, till our arrival

at





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July.

at the Cape of Good Hope, I determined to touch at Teneriffe, to get a supply of these, and of the usual refreshments for ourselves; thinking that island, for such purposes, better adapted than Madeira. At four in the afternoon of the 31st, we saw Teneriffe, and steered for the eastern part. At nine, being near it, we hauled up, and stood off and on during the night.

August.  
Thursday 1.

At day-light, on the morning of the 1st of August, we sailed round the East Point of the island; and, about eight o'clock, anchored on the South East side of it, in the Road of Santa Cruz, in twenty-three fathoms water; the bottom, sand and owze. Punta de Nago, the East point of the Road, bore North  $64^{\circ}$  East; St. Francis's church, remarkable for its high steeple, West South West; the Pic, South  $65^{\circ}$  West; and the South West point of the Road, on which stands a fort or castle, South  $39^{\circ}$  West. In this situation, we moored North East and South West, with a cable each way, being near half a mile from the shore.

We found, riding in this Road, La Bouffole, a French frigate, commanded by the *Chevalier de Borda*; two brigantines of the same nation; an English brigantine from London, bound to Senegal; and fourteen sail of Spanish vessels.

No sooner had we anchored, than we were visited by the Master of the Port, who satisfied himself with asking the ship's name. Upon his leaving us, I sent an officer ashore, to present my respects to the Governor; and to ask his leave to take in water, and to purchase such articles as we were in want of. All this he granted with the greatest politeness; and, soon after, sent an officer on board, to compliment me on my arrival. In the afternoon, I waited upon him in person, accompanied by some of my officers; and, before I returned



returned to my ship, bespoke some corn and straw for the live flock; ordered a quantity of wine from Mr. M'Carrick, the contractor, and made an agreement with the master of a Spanish boat to supply us with water, as I found that we could not do it ourselves.

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The road of Santa Cruz is situated before the town of the same name, on the South East side of the island. It is, as I am told, the principal road of Teneriffe, for shelter, capacity, and the goodness of its bottom. It lies entirely open to the South East and South winds. But these winds are never of long continuance; and, they say, there is not an instance \* of a ship driving from her anchors on shore. This may, in part, be owing to the great care they take in mooring them; for I observed, that all the ships we met with there, had four anchors out; two to the North East, and two to the South West; and their cables buoyed up with casks. Ours suffered a little by not observing this last precaution.

At the South West part of the road, a stone pier runs out into the sea from the town, for the convenience of loading and landing of goods. To this pier, the water that supplies the shipping is conveyed. This, as also what the inhabitants of Santa Cruz use, is derived from a rivulet that runs from the hills, the greatest part of which comes into the town in wooden spouts or troughs, that are supported by slender posts, and the remainder doth not reach the sea; though it is evident, from the size of the channel, that

\* Though no such instance was known to those from whom Captain Cook had this information, we learn from Glas, that *some years before* he was at Teneriffe, almost all the shipping in the road were driven on shore. See *Glas's Hist. of the Canary Islands*, p. 235. We may well suppose the precautions now used, have prevented any more such accidents happening. This will sufficiently justify Captain Cook's account.





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August.

sometimes large torrents rush down. At this time these troughs were repairing, so that fresh water, which is very good here, was scarce.

Were we to judge from the appearance of the country in the neighbourhood of Santa Cruz, it might be concluded that Teneriffe is a barren spot, insufficient to maintain even its own inhabitants. The ample supplies, however, which we received, convinced us that they had enough to spare for visitors. Besides wine, which is the chief produce of the island, beef may be had at a moderate price. The oxen are small and boney, and weigh about ninety pounds a quarter. The meat is but lean, and was, at present, sold for half a bit (three pence sterling) a pound. I, unadvisedly, bought the bullocks alive, and paid considerably more. Hogs, sheep, goats and poultry, are likewise to be bought at the same moderate rate; and fruits are in great plenty. At this time we had grapes, figs, pears, mulberries, plantains, and musk melons. There is a variety of other fruits produced here, though not in season at this time. Their pumpkins, onions, and potatoes, are exceedingly good of their kind, and keep better at sea than any I ever before met with.

The Indian corn, which is also their produce, cost me about three shillings and sixpence a bushel; and the fruits and roots were, in general, very cheap. They have not any plentiful supply of fish from the adjoining sea; but a very considerable fishery is carried on by their vessels upon the coast of Barbary; and the produce of it sells at a reasonable price. Upon the whole, I found Teneriffe to be a more eligible place than Madeira, for ships bound on long voyages to touch at; though the wine of the latter, according to my  
taste,





taste, is as much superior to that of the former, as strong beer is to small. To compensate for this, the difference of prices is considerable; for the best Teneriffe wine was now sold for twelve pounds a pipe; whereas a pipe of the best Madeira would have cost considerably more than double that sum\*.

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The Chevalier de Borda, Commander of the French frigate now lying in Santa Cruz road, was employed, in conjunction with Mr. Varila, a Spanish Gentleman, in making astronomical observations for ascertaining the going of two time-keepers which they had on board their ship. For this purpose, they had a tent pitched on the pier head, where they made their observations, and compared their watches, every day at noon, with the clock on shore, by signals. These signals the Chevalier very obligingly communicated to us; so that we could compare our watch at the same time. But our stay was too short, to profit much by his kindness.

The three days comparisons which we made, assured us that the watch had not materially, if at all, altered her rate of going; and gave us the same longitude, within a very few seconds, that was obtained by finding the time from observations of the sun's altitude from the horizon of the sea. The watch, from a mean of these observations, on the 1st, 2d, and 3d of August, made the longitude  $16^{\circ} 31'$

\* Formerly, there was made at Teneriffe a great quantity of Canary sack, which the French call *Vin de Malvese*; and we, corruptly after them, name Malmsey (from Malvesia, a town in the Morea, famous for such luscious wine). In the last century, and still later, much of this was imported into England; but little wine is now made there, but of the sort described by Captain Cook. Not more than fifty pipes of the rich Canary was annually made in Glas's time; and he says, they now gather the grapes when green, and make a dry hard wine of them, fit for hot climates, p. 262.





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West; and, in like manner, the latitude was found to be  $28^{\circ} 30' 11''$  North.

Mr. Varila informed us, that the true longitude was  $18^{\circ} 35' 30''$ , from Paris, which is only  $16^{\circ} 16' 30''$  from Greenwich; less than what our watch gave by  $14' 30''$ . But, far from looking upon this as an error in the watch, I rather think it a confirmation of its having gone well; and that the longitude by it may be nearer the truth than any other. It is farther confirmed by the lunar observations that we made in the road, which gave  $16^{\circ} 37' 10''$ . Those made before we arrived, and reduced to the road by the watch, gave  $16^{\circ} 33' 30''$ : and those made after we left it, and reduced back in the same manner, gave  $16^{\circ} 28'$ . The mean of the three is  $16^{\circ} 30' 40''$ .

To reduce these several longitudes, and the latitude, to the Pic of Teneriffe, one of the most noted points of land with Geographers (to obtain the true situation of which, I have entered into this particular discussion), I had recourse to the bearing, and a few hours of the ship's run after leaving Santa Cruz road; and found it to be  $12' 11''$  South of the road, and  $29' 30''$  of longitude West of it. As the base, which helped to determine this, was partly estimated, it is liable to some error; but I think I cannot be much mistaken. Dr. Maskelyne, in his *British Mariner's Guide*, places the Pic in the latitude of  $28^{\circ} 12' 54''$ . This, with the bearing from the road, will give the difference of longitude  $43'$ , which considerably exceeds the distance they reckon the Pic to be from Santa Cruz. I made the latitude of the Pic to be  $28^{\circ} 18'$  North. Upon that supposition, its longitude will be as follows:

By





By  $\left\{ \begin{array}{l} \text{The Time-keeper} - 17^{\circ} 0' 30'' \\ \text{Lunar observations} - 16^{\circ} 30' 20'' \\ \text{Mr. Varila} - 16^{\circ} 46' 0'' \end{array} \right\}$  West.

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But if the latitude of it is  $28^{\circ} 12' 54''$ , as in the *British Mariner's Guide*, its longitude will be  $13' 30''$  more westerly.

The variation, when we were at anchor in the road, by the mean of all our compasses, was found to be  $14^{\circ} 41' 20''$  West. The dip of the North end of the needle was  $61^{\circ} 52' 30''$ .

Some of Mr. Anderson's remarks on the natural appearances of Teneriffe, and its productions; and what he observed himself, or learnt by information, about the general state of the island, will be of use, particularly in marking what changes may have happened there since Mr. Glas visited it. They here follow in his own words:

"While we were standing in for the land, the weather being perfectly clear, we had an opportunity of seeing the celebrated Pic of Teneriffe. But, I own, I was much disappointed in my expectation with respect to its appearance. It is, certainly, far from equalling the noble figure of Pico, one of the western isles which I have seen; though its perpendicular height may be greater. This circumstance, perhaps, arises from its being surrounded by other very high hills; whereas Pico stands without a rival.

Behind the city of Santa Cruz, the country rises gradually, and is of a moderate height. Beyond this, to the South Westward, it becomes higher, and continues to rise towards the Pic, which, from the road, appears but little higher than the surrounding hills. From thence it seems to decrease, though not suddenly, as far as the eye can reach. From a supposition that we should not stay above one day,  
I was





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I was obliged to contract my excursions into the country; otherwise, I had proposed to visit the top of this famous mountain\*.

To the eastward of Santa Cruz, the island appears perfectly barren. Ridges of hills run towards the sea; between which ridges are deep valleys, terminating at mountains or hills that run across, and are higher than the former. Those that run towards the sea, are marked by impressions on their sides, which make them appear as a succession of conic hills, with their tops very rugged. The higher ones that run across, are more uniform in their appearance.

In the forenoon of the 1st of August, after we had anchored in the road, I went on shore to one of these valleys, with an intention to reach the top of the remoter hills, which seemed covered with wood; but time would not allow me to get farther than their foot. After walking about three miles, I found no alteration in the appearance of the lower hills; which produce great quantities of the *euphorbia Canariensis*. It is surprising that this large succulent plant, should thrive on so burnt-up a soil. When broken, which is easily done, the quantity of juice is very great; and it might be supposed that, when dried, it would shrivel to nothing; yet it is a pretty tough, though soft and light

\* See an account of a journey to the top of the Pic of Teneriffe, in *Sprat's History of the Royal Society*, p. 200, &c. *Glas* also went to the top of it. *History of the Canary Islands*, p. 252 to 259. In the *Philosophical Transactions*, vol. xlvi. p. 353—356, we have *Observations made, in going up the Pic of Teneriffe, by Dr. T. Heberden*. The Doctor makes its height, above the level of the sea, to be 2566 fathoms, or 15,396 English feet; and says, that this was confirmed by two subsequent observations by himself, and another made by Mr. Crosse, the Consul. And yet, I find, that the Chevalier de Borda, who measured the height of this mountain in August 1776, makes it to be only 1931 French toises, or 12,340 English feet. See Doctor Forster's *Observations during a Voyage round the World*, p. 32.

wood.





wood. The people here believe its juice to be so caustic as to erode the skin\*; but I convinced them, though with much difficulty, to the contrary, by thrusting my finger into the plant full of it, without afterwards wiping it off. They break down the bushes of *euphorbia*, and suffering them to dry, carry them home for fuel. I met with nothing else growing there, but two or three small shrubs, and a few fig-trees near the bottom of the valley.

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The basis of the hills is a heavy, compact, blueish stone, mixed with some shining particles; and, on the surface, large masses of red friable earth, or stone, are scattered about. I also often found the same substance disposed in thick *strata*; and the little earth, strewed here and there, was a blackish mould. There were likewise some pieces of slag; one of which, from its weight and smooth surface, seemed almost wholly metalline.

The mouldering state of these hills is, doubtless, owing to the perpetual action of the sun, which calcines their surface. This mouldered part being afterwards washed away by the heavy rains, perhaps is the cause of their sides being so uneven. For, as the different substances of which they are composed, are more or less easily affected by the sun's heat, they will be carried away in the like proportions. Hence, perhaps, the tops of the hills, being of the hardest rock, have stood, while the other parts on a declivity have been destroyed. As I have usually observed, that the tops of most mountains that are covered with trees have a more uniform appearance, I am inclined to believe that this is owing to their being shaded.

\* *Glas*, p. 231, speaking of this plant, says, that he cannot imagine why the natives of the Canaries do not extract the juice, and use it instead of pitch, for the bottoms of their boats. We now learn from Mr. Anderson their reason for not using it.





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The city of Santa Cruz, though not large, is tolerably well built. The churches are not magnificent without; but within are decent, and indifferently ornamented. They are inferior to some of the churches at Madeira; but, I imagine, this rather arises from the different disposition of the people, than from their inability to support them better. For the private houses, and dress of the Spanish inhabitants of Santa Cruz, are far preferable to those of the Portuguese at Madeira; who, perhaps, are willing to strip themselves, that they may adorn their churches.

Almost facing the stone pier at the landing-place, is a handsome marble column lately put up, ornamented with some human figures, that do no discredit to the artist; with an inscription in Spanish, to commemorate the occasion of the erection; and the date.

Friday 2,

In the afternoon of the 2d, four of us hired mules to ride to the city of Laguna\*, so called from an adjoining lake, about four miles from Santa Cruz. We arrived there between five and six in the evening; but found a sight of it very unable to compensate for our trouble, as the road was very bad, and the mules but indifferent. The place is, indeed, pretty extensive, but scarcely deserves to be dignified with the name of City. The disposition of its streets is very irregular; yet some of them are of a tolerable breadth, and have some good houses. In general, however, Laguna is inferior in appearance to Santa Cruz, though the latter is but small, if compared with the former. We were informed, likewise, that Laguna is declining fast; there being, at

\* Its extended name is St. Christobal de la Laguna; and it used to be reckoned the capital of the island, the gentry and lawyers living there; though the Governor General of the Canary Islands resides at Santa Cruz, as being the center of their trade, both with Europe and America. See *Glas's Hist.* p. 248.





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present, some vineyards where houses formerly stood; whereas Santa Cruz is encreasing daily.

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The road leading from Santa Cruz to Laguna runs up a steep hill, which is very barren; but, lower down, we saw some fig-trees, and several corn fields. These are but small, and not thrown into ridges, as is practised in England. Nor does it appear that they can raise any corn here without great labour, as the ground is so encumbered with stones, that they are obliged to collect and lay them in broad rows, or walls, at small distances. The large hills that run to the South-west, appeared to be pretty well furnished with trees. Nothing else worth noticing presented itself during this excursion, except a few aloe plants in flower, near the side of the road, and the cheerfulness of our guides, who amused us with songs by the way.

Most of the laborious work in this island is performed by mules; horses being to appearance scarce, and chiefly reserved for the use of the officers. They are of a small size, but well shaped and spirited. Oxen are also employed to drag their casks along upon a large clumsy piece of wood; and they are yoked by the head; though it doth not seem that this has any peculiar advantage over our method of fixing the harness on the shoulders. In my walks and excursions I saw some hawks, parrots, which are natives of the island, the sea swallow or tern, sea gulls, partridges, wag-tails, swallows, martins, blackbirds, and Canary-birds in large flocks. There are also lizards of the common, and another sort; some insects, as locusts; and three or four sorts of dragon flies.

I had an opportunity of conversing with a sensible and well-informed gentleman residing here, and whose veracity

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I have





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I have not the least reason to doubt. From him I learnt some particulars, which, during the short stay of three days, did not fall within my own observation. He informed me, that a shrub is common here, agreeing exactly with the description given by Tournefort and Linnæus, of the *tea shrub*, as growing in China and Japan. It is reckoned a weed, and he roots out thousands of them every year, from his vineyards. The Spaniards, however, of the island, sometimes use it as tea, and ascribe to it all the qualities of that imported from China. They also give it the name of tea; but what is remarkable, they say it was found here when the islands were first discovered.

Another botanical curiosity, mentioned by him, is what they call the *impregnated lemon*\*. It is a perfect and distinct lemon, inclosed within another, differing from the outer one only in being a little more globular. The leaves of the tree that produces this sort, are much longer than those of the common one; and it was represented to me as being crooked, and not equal in beauty.

From him I learnt also, that a certain sort of grape growing here, is reckoned an excellent remedy in phtisical complaints. And the air and climate, in general, are remarkably healthful, and particularly adapted to give relief in such diseases. This he endeavoured to account for, by its being always in one's power to procure a different temperature of the air, by residing at different heights in the island; and he expressed his surprize that the English physicians should never have thought of sending their consumptive patients to Teneriffe, instead of Nice or Lisbon.

\* The Writer of the *Relation of Teneriffe*, in *Sprat's History*, p. 207, takes notice of this lemon as produced here, and calls it *Pregnada*. Probably, *emprennada*, the Spanish word for *impregnated*, is the name it goes by.





How much the temperature of the air varies here, I myself could sensibly perceive, only in riding from Santa Cruz up to Laguna; and you may ascend till the cold becomes intolerable. I was assured that no person can live comfortably within a mile of the perpendicular height of the Pic, after the month of August\*.

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Although some smoke constantly issues from near the top of the Pic, they have had no earthquake or eruption of a volcano since 1704, when the port of Garrachica, where much of their trade was formerly carried on, was destroyed †.

Their trade, indeed, must be considered as very considerable; for they reckon that forty thousand pipes of wine are annually made; the greatest part of which is either consumed in the island, or made into brandy, and sent to the Spanish West Indies ‡. About six thousand pipes were exported every year to North America, while the trade with it

\* This agrees with Dr. T. Heberden's account, who says that the sugar-loaf part of the mountain, or *la pericosa* (as it is called), which is an eighth part of a league (or 1980 feet) to the top, is covered with snow the greatest part of the year. See *Philosophical Transactions*, as quoted above.

† This port was then filled up by the rivers of burning lava that flowed into it from a volcano; inasmuch that houses are now built where ships formerly lay at anchor. See *Glas's Hist.* p. 244.

‡ *Glas*, p. 342, says, that they annually export no less than fifteen thousand pipes of wine and brandy. In another place, p. 252, he tells us, that the number of the inhabitants of Teneriffe, when the last account was taken, was no less than 96,000. We may reasonably suppose that there has been a considerable increase of population since *Glas* visited the island, which is above thirty years ago. The quantity of wine annually consumed, as the common beverage of at least one hundred thousand persons, must amount to several thousand pipes. There must be a vast expenditure of it, by conversion into brandy; to produce one pipe of which, five or six pipes of wine must be distilled. An attention to these particulars will enable every one to judge, that the account given to Mr. Anderson, of an annual produce of 40,000 pipes of wine, has a foundation in truth.





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was uninterrupted; at present, they think not above half the quantity. The corn they raise is, in general, insufficient to maintain the inhabitants; but the deficiency used to be supplied by importation from the North Americans, who took their wines in return.

They make a little silk; but unless we reckon the filtering-stones, brought in great numbers from Grand Canary, the wine is the only considerable article of the foreign commerce of Teneriffe.

None of the race of inhabitants found here when the Spaniards discovered the Canaries now remain a distinct people\*, having intermarried with the Spanish settlers; but their descendants are known, from their being remarkably tall, large-boned, and strong. The men are, in general, of a tawny colour, and the women have a pale complexion, entirely destitute of that bloom which distinguishes our Northern beauties. The Spanish custom of wearing black clothes continues amongst *them*; but the men seem more indifferent about this, and, in some measure, dress like the French. In other respects, we found the inhabitants of Teneriffe to be a decent and very civil people, retaining that grave cast which distinguishes those of their country from other European nations. Although we do not think that there is a great similarity between our manners and those of the Spaniards, it is worth observing, that Omai did not think there was much difference. He only said, that they seemed not so friendly as the English; and that, in their persons, they approached those of his countrymen."

\* It was otherwise in Glas's time, when a few families of the *Guanches* (as they are called) remained still in Teneriffe, not blended with the Spaniards. *Glas*, p. 240.

