

Jens Rathke's Journal

Madeira 1798 - 1799

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Introduction

Jens Rathke's Journal is a collection of notes Rathke made during his stay in Madeira from the autumn 1798 to spring 1799. The notes taken from several notebooks¹ are systematised under specific themes. Geographical names are changed to modern standard and put in cursive together with Portuguese and Latin words and phrases.

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This work could not have been carried through without the help of *Alberto Vieira, Presidente Centro de Estudos de História do Atlântico, Funchal*. He kindly supplied me with the relevant literature about Madeira and thoroughly answered all my questions.

Rathke wrote in Danish and the English translation has been made by Richard H. Daly.



Jens Rathke (1769-1855) was a Norwegian naturalist. In the autumn 1798 he arrived in Funchal where he remained until May the following year. His task was to collect plants for the botanist Martin Vahl.

¹National Library of Norway; Ms.fol. 2058, IV.a., nr. 1 (60 s.), nr. 2 (104 s.), nr. 3 (40 s.).

In 1810 Jens Rathke was professor at the University in Copenhagen, and in 1813 he became professor in zoology at the new Norwegian university in Christiania (today Oslo).

The Journal

The Voyage to Madeira

Had I, as I wished, taken the Journey to Madeira with the ship *Oldenborg* in the Month of May, I would have reached there in some twenty Days, on Account of the constant northerly Winds then prevailing. On the other hand, with the Frigate *Freia* which was not ready to sail before the Beginning of July, it took a Period of Time of approximately two Months. In this way the prevailing westerly Winds prevented us from going out the *Kattegat*, though they were southerly at the *Helsingør* Roadstead, we would probably not get past *Kullen*², then they blew westerly and shifted to northerly; of Fear that the strong Current, which always sets down towards Sweden, would carry us away, we were twice forced to turn back to *Helsingør*.

The 7th of July we raised Anchor in the Morning, got under Sail and came in the Evening to *Helsingør*; the following Day we sailed, but had to turn back due to the westerly Wind; after we had laid still on Account of the capricious Weather with Squalls we at last got under Sail on the 16th with south westerly Wind; it became quiet around Midday under the Swedish Coast by the *Ving* Islands, so the Current nearly had sized us, if we had not luckily got Wind off Land. The same Day we greeted a Swedish Cutter that saluted first.

After having tacked in several Days with south westerly Wind we had a Misfortune that our Top Yard broke from Swaying and we had to go to *Flekkerøy* Harbour³ where we anchored the 23rd. Meanwhile a considerable English Convoy, which had left *Helsingør* together with us, passed us in the now easterly Wind.

Here we remained until the 28th, and had several particularly pleasant Tours in the Region in the Neighbourhood of *Kristiansand*, and particularly a beautiful View over the Town from the Hills in the Neighbourhood of *Isaksen's Farm Tos*⁴. Similarly a very pleasant Tour to Outer *Flekkerøy*, which was particularly pretty with Trees and cultivated Fields; there were several *Crataegus aria*⁵.

The 28th we sailed and got the Sight of the South Hook of the *Faroe Islands* the 4th of August; we had to tack because of the south westerly Winds; these and the strong Current had without Doubt caused our Mistake when in the Morning of August 12, we saw a very high

²Kullaberg, a hill on the Swedish coast.

³ On the southern coast of Norway.

⁴ Consul Daniel Isachsen's farm Kjos in Oddernes.

⁵ Hawthorn.

steep Land to the Northeast, which we meant to be the south westerly Tip of *Ireland*. We stood out from there and got near Gale towards Night, the south westerly and westerly Winds continued alternating with Calm.

In the Morning the Day after we had seen the *Faroe Islands*, the Alarm was given about 3 O'clock and we were hailed by an English 40-Cannon Frigate, sent from three Ships watching some Hollanders who, the Rumour said were bringing Ammunition to *Ireland*. It was one of the finest Mornings we had on the whole Journey. After having tacked a long Time, finally off the *Bay of Biscay*, we got a strong east Wind that was even considered to be the Trade Wind, but this Assumption proved wrong, for after 48 Hours it died away, and once again the Wind blew south westerly; we were approximately off *Cape Finisterre*.

Here we noticed the Unpleasantness of the hotter Climate; early Evening and heavy Dew that left a strange greasy Humidity everywhere. Now with September Month, the Weather settled and became rather calm. The Sunset was short, but unusually beautiful; it frequently happened that one could distinguish the differing Heights and Drift of the Clouds by their various Colours; f. Ex. the blue Sky assumed a mixed Celadon-green Light; farthest off fire-red Clouds floated, dark brown lay nearest and a grey Line seemed to show the Balance between the upper and lower Regions of the Air. The fire-red Clouds gradually changed into fire-red Stripes from the Centre of the setting Sun.

The 4th of September we began to look for Land right from Morning and the whole Day looked fixedly at the so called Butter Land; several appeared so naturally that even experienced Sailors swore that it was Land. In the Evening we changed with the Wind towards the West, and turned in the Night; towards Morning we turned again to the West and at 5 O'clock on September the 5th the joyful Announcement was that we saw Land; and to our Surprise the Calculations had been correct.

The Sight of the Land agreed fairly precise with what the Chart indicated and showed us that it had to be *Porto Santo*; we saw several high rocky Peaks which all had their steepest Sides towards Northeast, and less steep towards the Southwest; it revealed itself to be composed by two high Rocks, the one to the North, very high and barren, with Ruins of a considerable Crater; the other towards the South more covered with Earth and less high, but not grown with Trees. In between there was flat Land, with some Hills; this seemed to form a considerable Bay in which Centre *Porto Santo* laid. The Town itself seemed to be insignificant and small, but had several Vineyards around it, and the Wine from there shall be good. It is quite unfounded what some assert that *Porto Santo* is a Place of Exile; quite the

Contrary, the Inhabitants of *Porto Santo* think they are the oldest and first Colonists. Northwest from the Island two very sharp Rock Stumps rise up from the Sea, one near Land, and the other estimated by Eyesight about 100 *Alen*⁶ distant. Their corresponding Sides, the One that is nearest the Land was steeply cut on the Northeast and the other towards the Southwest, made it unlikely that there had been a Crater and that the Land between them had sunk. South of the Island and also beside it lies a Number of lesser Islands and Islets.

About seven Miles Southwest of *Porto Santo* is the Island of *Madeira*. This had a rather solemn Appearance, notwithstanding the Fact that we had it approximately with the same Point of the Compass, that is, N.W. to W., it did not show itself perfectly like the way it is drawn on the Chart, but rather as a steep ice-blue Mountain, whose sharp and pointed Peak rose up above the Belt of Clouds which incessantly surrounded it. As we approached and the Clouds drifted away from the Sides, the various lesser Peaks surrounding the main, central Part which consisted of 3 high Peaks, the one in the Middle was a little higher than the others, and with particularly sharp Ledges; to the Southwest were several almost perpendicular sharp Spires cut out. This Rock seems to be what the Inhabitants call *Pico das Torres*. The whole Island, like *Porto Santo*, has its steep Side to the Northeast and falls off towards the Southwest. At the eastern End of the Island, there are several bare black Rocks that seem to be Volcano Ruins ; one approximately 100 Feet high in Form of a Cone, has an Opening so that in good Weather one can row through it with a Boat; it is as well called *Monte Furado*.

Here we had an especially beautiful View of an enormous Number of Dolphins, close in front of the Frigate, and occasionally sprang up out of the Water to a Height of more than 8 Feet; without Doubt pursued by *bonatos* or Tuna of which we caught some; the Bait was a very simple Imitation of a Flying Fish made of Feathers, under which the Hook was concealed; when moved very rapidly over the Surface of the Water the Tuna Fish leapt up and became hooked. In Appearance, Colour and Taste it very much resembles the common Mackerel, which is also fished here and called *macarello*. When alive, the Tuna has under the Abdomen and along the Sides a Play of Blue, Silver and Sunrise-red Colours, which is beyond all Description. At the Sea Water one sees here a blue Gleam with a mixture of Celadon Colour, which was particularly pleasant to the Eye.

When we had *Madeira* beside us, or to the North, we rapidly saw the *Desertas*; no Doubt these are placed too far to the West on the Chart, according to which they lie almost South from the Bay of *Funchal*; Eyesight will rapidly convince anyone who looks at them

⁶ Alen; a Danish measure. 1 alen = 2 feet = 0,6277 m.

from the Bay of this Town, from which they almost lie in Southwest to East. *Desertas* are named, East *Deserta*⁷, the middle one⁸ and the southerly⁹. Northeast from them there rises a high, small vertical Cliff, almost like a Stone Monument of about 800 Feet in Height; it is known by the Name of the Pyramid and when viewed from Distance resembles a Ship under Sail. These Islands are unpopulated, but rent to a private Person who has Hunt there, especially Rabbits and Partridges. It can scarcely be doubted that the *Desertas* are torn away from Madeira by a Volcano, and there is no Doubt that this gave the Island's southerly Side its present Appearance.

The nearer one comes to *Madeira*, the more beautiful it appears; gradually the high Mountains towards the Coast prevent the Sight of the Peaks that lie within the Land, and one can see the many Country Houses with Vineyards, almost from the Shore to the Top of the Mountain; f. Ex. in the little Bay where *Santa Cruz* lies, but especially in the Region around *Funchal*, which in the Sight from the Sea seems to be transformed into one single Garden.

Funchal

It is not a small Drawback that *Madeira* has no real Harbour. On the north Side it shall be almost impossible to anchor but for a single Place; to the South there is a little Bay at *Santa Cruz*, but here Ships seldom or never come, then some have been wrecked on the Harbour. The Bay at *Funchal* is an almost open Roadstead and insecure by on-shore Wind or the southerly and south westerly Winds that rage here in Winter Time.

It is no Doubt that this Bay is created by a Landslide and it is unreasonable to assume that it is the steep Side of a Crater; the Anchoring Ground is very sharp here and the upstanding Lava Stumps could easily damage the Anchor Ropes. (Nevertheless any Damage seldom occurs and when a Ship was damaged on the Harbour last Year in 1797 in November ?, it is considered as extraordinary, then no one recall this have happened before.) The best Place to anchor is considered to be about a Couple of hundred Fathoms from the Town towards *Ilhéu*. Some place themselves in between *Ilhéu* and the Mainland and spare their Anchor Ropes, then they are moored to Rings onshore and below the Castle Rock; but the heavy Sea in Case of Storms shall make this Place unsafe; however, three large Ships were lying there.

⁷ Ilhéu Chão.

⁸ Deserta Grande.

⁹ Bugio.

When the Ship is lying in the Middle of the Bay, the Town reveals itself almost as an Amphitheatre; the Headland *Oliveira* to the East and *do Sol* to the West frames the Bay; to the North the Overland are hidden by the Hills and Heights which are cultivated or covered with Forests; through Openings between their Peaks the higher Mountains can be seen.



Funchal. Thomas Hearne 1772.

The Landslide that has given *Madeira* its current Appearance has, without Doubt, also formed the Type of Valley or round Depression in which the Town is lying by the Beach. It is almost built in a Half-Moon. The Distance between Brazen Head and *Ponta da Cruz* seems to be about one Danish Mile and the *Funchal* occupies about one Quarter Part of this. While *Ponta do Sol* the westerly Point stretches somewhat further out to the Southwest than the eastern *Oliveira*, the Location of the Town is not quite against the Sun, but somewhat to the Southwest.



Fortaleza de São Tiago. Frank Dillon 1850.

To the East, the Town is bounded by the Citadel *São Tiago*, from which there runs a Wall along the Beach towards the West, and which at various Places has small Batteries; there

is one in particular to the West, towards the Gate; from here goes the short Piece of Road out from the Town to the long Bridge that connects the very sharp and steep Rock to the Mainland; here a Flight of Steps had been cut out and this is the only good Landing Place by the Town.



Fortaleza de Ilhéu. Frank Dillon 1850.

In West the Town is otherwise defended in particular by the known Citadel *Ilhéu*, or after the spoiled Expression, the Seaman's Loo or Lion Citadel, it lies approximately a Couple of Hundred Feet from the Mainland on a Rock, or more correctly a Piece of Lava; almost a Square, about 100 Feet high and 50 wide, of which Rifts are filled with Mortar, and on the Side facing the Land, a Flight of Steps had been placed. From this Fort is saluted, and it seems to be the only one properly manned.

Outside the Town to the East lies a small insignificant Castel on a very high Cliff. Below there is a Road that goes down towards a little Piece of the Beach, and where one could also come ashore with Boats, and also where there is a Lime Kiln.



Fortaleza do Pico. James Bulwer 1826.

To the West lies the Fort *Pico* right outside the Town and is so constructed that it commands the whole Town, so it seems more to have been built to control this than any Enemy. The Waterside which everywhere on the southern Side is steep, is flat and low where the Town has been built.

Against the Land, or towards the North, the Town is totally open. In the mentioned Wall are placed several Gates into the greatest Streets, while here is generally landing with the Boats; when one has passed the Breakers one can come ashore without getting wet, but the Boat suffers from the Abundance of loose, ball-shaped Stones from which the whole Beach consists. From here one has only few Paces into the Town; it is on the other Hand some Hundred Paces from the mentioned Flight of Steps.

All Goods from the Ships are borne ashore by Barques or very large Boats. These are dragged up onto the Beach with the Help of a Winch rotated by Oxen; when the Goods have been brought ashore, it is taken into the Town by a small, narrow and a little hollowed Sledge with 2 Oxen.



Frank Dillon 1850.

An English Man has now constructed a Sort of Crane; where Logs or Mast Trees stand upon a round Tower of Stone with a Height of about 100 Feet to take ashore heavy Goods, and a Test has already been carried out, with an old Ship that should be cut up, and in this Way was taken ashore.



Frank Dillon 1850

The Town viewed from the surrounding Hills, reveals itself as an unequal-sided Triangle; the Base is along the Beach from Northeast to Southwest, and the Sides run up towards Fort *Pico*, about 100 Feet above Sea, from which a Wall surrounds the Town and especially defends it against Seafarers. The Houses are tight against this Wall, which is so near to the Sea that the Surf not seldom breaks upon it, and occasionally throws Gravel and small Stones up against the Windows of the adjoining Houses.

Among the Buildings especially the Church and the Fort *São Tiago* at the eastern End of the Town, the Church *Encarnação* and the Fort *Pico* towards the North, The Convent¹⁰ to the West together with the Chapel of Lazarus and Church *São João* just outside the Town facing Fort *Ilhéu*, are remarkable. Almost in the Middle of the Town the Cathedral gets attention, and high above the Nun Institute¹¹ *Igreja do Monte* falls in ones Eyes, about 800 Feet above the Sea surrounded by a lovely Chestnut Wood and by *Luís Vicente's* Garden¹², called the English Consul's Garden.

From *São Tiago* to the West End of the Town is about 2000 Paces, and from the Beach to *Pico* about 800 ? It seems to have about 2000 Houses in addition to Church and close to 14,000 People. Almost all the Streets belong to the Crown, and those from North to South slope towards the Shore; those that run from East to West are lowest in the Middle, but

¹⁰ The convent Santa Clara.

¹¹ By the church Nossa Senhora do Monte was a pilgrim house probably run by the nuns.

¹² Louís Vicente bought Consul Murray's garden on Monte when Murray left Madeira.

higher towards both Ends. In addition to the Streets, of which some are about 8 *Alen*¹³ wide with the smallest seldom less than 4, there are many small, rather narrow lanes. The Streets are usually well paved and bright.



Ribeira de Santa Luzia. Frank Dillon 1850.

Over the little River or Stream¹⁴, which runs through the Town, there are 2 Bridges and the higher one is handsome and from it there is a beautiful View of the many Gardens that lie along the Stream, which always has Water and runs 2 Mills in the Town.

The pleasant Impression of the Town's many fine Houses and Buildings together with the Farmhouses, all white among the pretty green Colour, is weakened somewhat when one comes ashore, particularly with the Lack of Cleanliness which is remarkable. Everywhere in the Streets are a Lot of black Swine, very large and clipped for their Bristles.



Andrew Picken 1840.

By seaward Entrance *Funchal* shows itself more as if the Houses were built on Terraces right down to the Beach, than lying in a Valley, and one will quickly find that the Town's Ground hardly deserves this Name, if one assume as the Town, what lies beneath the Walls. Then it begins towards the East at the Church *Nossa Senhora do Calhau*, goes along the westerly Riverbank of *João Gomes*, with a Bridge over the same, then up towards the

¹³ 62,75 cm.

¹⁴ Fundao; today Ribeira do Santa Luzia.

North and Northwest to *Pico* and from there towards the South and *Porto*¹⁵ by the Stream *São João*. The Part East of the Stream *Fundao* and over to the Stream *João Gomes*, includes the Church *Nossa Senhora do Calhau*, the Carmelite Church and the Convent *Encarnação*. Between *Fundao* and *São João* the western and most beautiful Part includes the Cathedral, the Franciscan Monastery, the Convent *Santa Clara* and the Fort *Pico*.

The remaining Houses, towards the East and the Church *Socorro* in the Neighbourhood of the Fort *São Tiago*, and also those towards the West to the Landing Flight of Steps, could be considered the Suburbs. The Church *Nossa Senhora do Monte* is lying on the eastern Mountain Part and *Santo António* on the western; one will on the eastern Side of both Parts see considerable Basalt Walls with distinct Ledges, and to the West right in the Town the remarkable, under which the Town's Mills are built.



Fortaleza de São Lourenço. William Westall. 1813.

The Government House is a very large, well equipped and fortified Building in which there is also a Sort of Main Guard. Among the Rooms, the Hall is particular remarkable, where a Number of Paintings are hanging, more remarkable for their Age than their Art. Among these, Portraits of those Governors who have been here on the Island, and especially the one of *João Gonçalves Zarco*, the first of them (1420), when the Island was under Spanish Sovereignty¹⁶, distinguish themselves. Among the remaining Paintings are a mediocre one depicting *Funchal* and the remarkable one which portrays *Machim*¹⁷ holding the dead *Ana Dorset* in his arms. Their Clothing seem to have been well adjusted to the Time, and the Place has some Likeness with the present *Machico*.

The Government Secretary owned a small, but exquisite Collection of Paintings and Prints. Among the Paintings the one where Christ is taken down from the Cross by *Michel*

¹⁵ Harbour.

¹⁶ This is wrong and must be due to a misunderstanding.

¹⁷ Robert Machim and Anna d'Arfet shall have fled from England in 1346. They were bound for France, but a terrible storm brought the ship astray. It stranded in Madeira where Anna died.

Angelo distinguished itself; specially Mary's Posture and outstretched Hand was so impressive that it seemed almost to talk, and a beautiful Piece by *Rubens* that showed Paris giving the Golden Apple to the fairest Goddess.

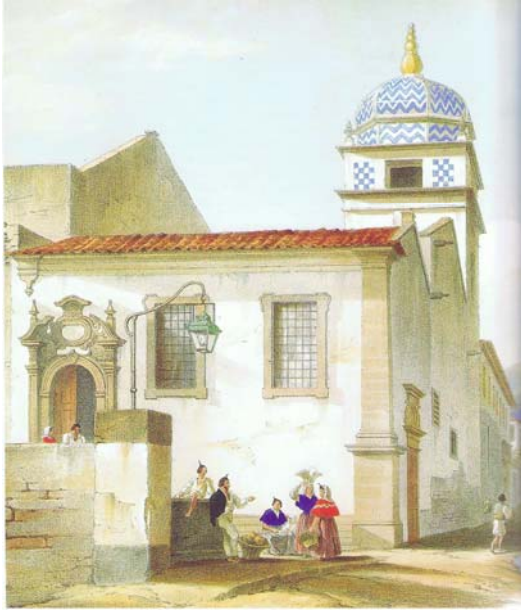


Funchal Cathedral from the Beach. Frank Dillon 1850.

The Cathedral is a beautiful Building in the gothic Style with a newfangled Frontispiece that is incongruous against the rest. Inside it is magnificent and some of the lesser, newly built small Altars are beautiful. One of the Kings¹⁸ of Portugal wrote to the Pope to get Madeira elevated to a Bishopric, but the Clergy opposed this because the Island was too poor to support a Bishop. The King then undertook to build the Cathedral and support the Clergy by receiving the Tithes himself. This rapidly increased considerably and gave an annual Surplus which now falls on the Government.

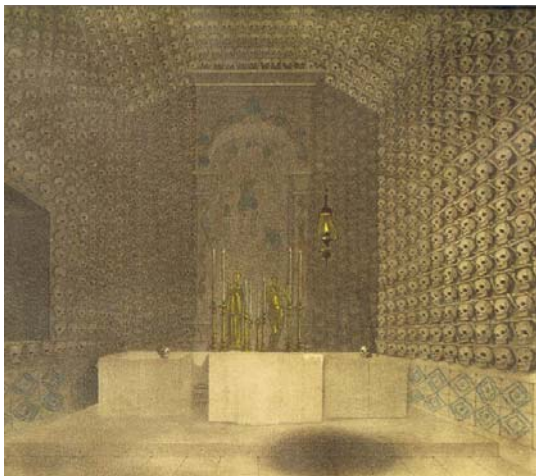
The public Promenade right in front of the Cathedral, was originally a Piece of Land that belonged to the Church, and is called *Terra de Sé*. It is about 400 Feet long and 50 wide and is divided into Pleasure Sites and planted with 4 Rows of different Trees, most Orange Trees; among the others is very tall and lovely *Ricinus communis* which grows here so willingly that I have seen it in a Garden in 6 Months become more than 16 Feet high and 6 Inches thick.

¹⁸ King Manuel ordered a cathedral to be built in Funchal. The construction started in 1493 and the cathedral was consecrated in 1517. In 1514 the pope had founded a see in Funchal.



Convento de São Francisco. Frank Dillon 1850.

In the Franciscan Cloister near the Church, there is in addition to the large one, a small, very tasteful Church. In the very Cloister there are various Chapels; among others, a small, very rich one in the Passage with the Monks' Cells, with this Heading "*hic est scala caeli*"¹⁹. There is a high, spacious Chapel Where the Wall from Top to Bottom is covered with Skulls, Thigh and Arm Bones of Humans. The Origin of this is said to be the Idea of a Monk who, instead of throwing them in a Bone House placed them in this Way; and in Truth this has something peculiarly not dreadful but almost rather beautiful attached to it, by the Form in which they are placed; particularly they point at a Skull where the lower Jaw Bone has grown tight so this Person at least in his old Age, must have lived without any hard Food.



S. Daniel. 1806.

¹⁹ Here is the ladder to heaven.

In the Passage around the little Yard in the Cloister, a considerable Number of Paintings is hanging, all of them depict Stories of the Saints, about Saint Francis and Franciscan Monks; most of them are tasteless, some ridiculous; f. Ex. the one that depicts a Monk's Journey when he is leaning on the Back of an Eagle, no Doubt to show that the Monk was not riding. Another where Christ is carrying the Cross and the Devil with a ridiculous Figure and Position, comes behind with a Jar under his Arm, from which he is throwing Sand into the Footmarks of Christ so that the French [Franciscan?] coming behind will not see them. One is particularly disgusting, where St. Francis gives the Apostle Paul a Cross and at the same Time borrows his Sword to cut off the Head of the Church's Enemies; from Fear that it shall not be understood what the Painter seems to have made clear, the Meaning is added in Portuguese and Latin. There are small Cupboards placed in the Wall itself, and these Paintings that depict Suffering, are opened during Lent.

The Church *Nossa Senhora do Monte* has not only the loveliest Situation, but is a most tasteful Building and richly decorated inside; here is also a famous Picture of Mary, very richly dressed with many Gems; it is sometimes carried in a Procession to the Town to bring Rain after long lasting Drought. This Church is also very rich, then there are constantly Pilgrimages here from all over the Island; there is also a spacious House, built at the Side of it, for the Travellers.

In addition it has many Paintings that are well executed, taking into Consideration that the Painter *Ferreira*²⁰ was a Native, had never been off the Island and shall have had only some mediocre Prints as Guide. Among the Paintings of *Ferreira* there is a remarkable on the right Side towards the Altar; it shows the 3 Kings who is coming to see Christ; they have long Cloaks with Ermine Fur; one of their Servants has a Shoe perfectly like the ones we now use; the other a well-painted Negro, is wearing yellow Boots like those of yellow Leather that are used here on the Island.

In General, Taste and Abundance and Cleanliness is prevailing in their Churches, and there is a Kind of general Esteem for these Buildings, so a Catholic will seldom pass them, even when they are lousy, without uncovering his Head, and the more zealous also bend their Knees.

²⁰ João Nicolau Ferreira Duarte (1731-?) painter, born in Funchal. In the late 1780s he opened a workshop in Rua Carreira which delivered paintings with religious motives for the Madeira churches.



The Hospital *Misericórdia* has an Device for Foundlings; they are placed there in a Basket without anybody asking who their Parents are, and are brought up at the Expense of the State; a Constable has Duty to seek out Children who are exposed or placed on the Street during the Night and bring them to the Hospital. Women that undertook to breastfeed these Infants, were often attacked first in the Breast and later other Places with a Rash similar to venereal Scabies. After they have reached a certain Age, these Children are handed over to whoever will have them; commonly they die in Infant Age, and those who know this Institution assert that only about ten out of 100 reach working Age.

In *Funchal* there are certainly 5 to 600 People living merely from Beggary. It is particularly the Funerals which provide them with their principal Subsistence. In the Countryside in the Vicinity of the Town there is the same Begging, and doubtlessly it is an important Reason for the sad State of Industry.



Miradouro do Largo das Cruzes. Frank Dillon.

Outside the wall

Madeira has like all mountainous Countries, a great Variety in the Views; some of which are particularly rich, as that from the Church *Encarnação* and the exceptionally beautiful rural from the upper Bridge in the Town. From here one can see, on both Sides of

the little Stream, a Collection of the loveliest Gardens, which is not in its real Splendour before the End of October; then they are standing full, especially of very great Orange Trees, a Multitude of Bananas, Papayas, Hedges of Myrtle and *Vinca*²¹, Begonias, *Chrysophyllum Ruselia*, a single Date Palm and some very high Cypresses; and also, various Species of Bay-Tree, *Clethra arborea*, various lovely *Convolvi*, Jasmine and Roses, the latter has been imported.

The whole View opens with the wide View over the Buildings of the Town and the Vineyards on both Sides of the Land lying here as in Terraces and at last the open Sea. To the North, or to the Land, this View is equally beautiful with the surrounding Gardens planted with Yams and Potatoes among Fruit Trees, especially large Fig and Mulberry Trees and Cane 6 to 8 *Alen* high, ending with the Vineyards and Country Houses, lying here in a greater Multitude than in any other Part of the Island, due to the Water.

I want to take as an Example a View from a Neighbour Hill by the Church *Nossa Senhora do Monte*, where the Chapel²² is lying east of *Bello Monte*, known under the Name of the English Consul Murray's Garden. The Horizon here forms a Circle bounded by Mountains and Hills on all Sides, except for the one at the South where the Town is lying and where the Sea ends the View. The Hills are for the most Part green, here and there with Trees and Groves of Chestnut, Walnut, Bay and Pine; the Hills rise as in Storeys above each other. The one where the Citadel lies, commonly called *Pico*²³, is the lowest, most peculiar; then there are 4 very regular where the Church *Santo António* is located; above these the one with the mentioned beautiful Garden and Chapel, and finally on Top of the smallest, the Church *do Monte*²⁴, which seems to enclose and watch over the whole.

All of these Hills are particularly well cultivated; some of them are surrounded by Walls like Steps and with an immense Network of Canes, to which the Grapevines are tied. In between are many Villages with their Cottages with Cane Roof, large Gardens with Orange, Fig and Peach. The Town itself is located in the Middle, and Loo Rock with the Ships in the Harbour ends the Whole. Even in the Winter Time, in December and January many Trees with Leaves and the Oranges with ripe Fruit are seen and a Multitude of Canary Birds enlivens everything.

Another beautiful View is that from the Bridge below the high Fort to the East. The Valley is here very narrow, in many Places scarcely 60 Feet wide; through this runs a fairly

²¹ Periwinkle.

²² Capela de Nossa da Conceição.

²³ Peak.

²⁴ Nossa Senhora do Monte.

large Stream that creates a Fall of 30 Feet of Height. On the Place where it is almost 80 Feet long with one single Bow; the Hill is on both Sides about 2 to 300 Feet high and at the Middle of the eastern Side, there is a little Ledge where one has helped the Nature by shaping the Rock smooth. Here is a small House and the Chimney is a Niche cut out in the Rock; down below and to the Side is an Apple Orchard with some Yams, also some tall *Ricinus* grow here which decorate very much. Under the House a Grotto is used as Pigsty, and further down there is another Grotto decorated most pretty by Nature with Brambleberry Bushes. These were everywhere here and the long Stalks climb up Stone Walls where they give very good Fences. This View ends likewise in the Sea, and very steep as everywhere; this Place has most Signs of Volcano.

In their Gardens prevails a strange but hardly very good Taste. The Entrance is decorated with various Ornamentations, often with an Image of a Saint or a Biblical Story in blue and white so called Tiles. This leads to a long Passage of high, square, white-washed Stone Pillars with Seats and Places for Herb Pots; these serve also as Support for Vine and Illuminations. Over the Entrance there is sometimes placed a Sort of Garden Pavillion, f. Ex. at *morgado Angústias*, where the famous *miranda*²⁵ of *Don Guiomar*²⁶ lies almost halfway between the Town and the Landing Flight of Steps.



Andrew Picken 1840.

The Country House itself always lies at some Distance from the Road at the End of such a Passage with a little Pleasure Garden in Front of it and near the End of the Garden most often is a Water Fountain, among which there are some that distinguish themselves; f. Ex. at the *morgado* by the Fort *Pico*, where the Picture of Neptune in Wood well painted is seen in the Middle of a Grotto, which external is painted á la Fresco; internal there are put

²⁵ *Mirante*, view point or observation tower in Portuguese. From here Captain Skinner did his observations when he made his chart over Funchal, printed in 1775.

²⁶ It was *Dona* Guiomar. *Dona* Guiomar Madalena de Sá Vasconcelos Bettencourt Machado de Vilhena (1705-1789) had inherited a great property, and as unmarried she managed innumerable *morgados*, chapels and also houses in Funchal. She was a great wine trader and some years she was in charge of 70% of Madeira's total wine export. When she died the firm was insolvent, but as the *morgados* and chapels were inalienable they came to her nephew Louís Vicente .

Lamps, and Water falls in Drops like a Curtain in Front of the Grotto, fills the Bottom and flows out in small Falls.

Another likewise beautiful is *Accioli's morgado*, about halfway from the Town to *Nossa Senhora do Monte*. Here the Fountain is lower than the Garden, surrounded by considerable Grottos and large enough to have a Boat in it. Occasionally there is in the Middle of the Garden a very great Chestnut or Bay Tree, f. Ex. the Place *Till*. There is rarely an Abundance of Flowers. The *Bello Monte* Country House which was built by the English Consul *Murray*, is one of the most beautiful Constructions, and has certainly been a Benefit for the Region with its fine Water Conduit of more than one English Mile in Length.

About half a Geographical Mile from the Town is the Beginning of the great Water Conduit which Consul *Murray* has built to get Water for the *Bello Monte* Country House. Here there has also been set up a Sandstone Plate, upon which it is engraved that the Water Conduit, begun in 1784, belongs to the above-mentioned Estate.

The Road from the Customs House up to the Church *Nossa Senhora do Monte* gives a clear Impression of the Country. This Part between the Stream *João Gomes* to the East and the *Fundao* to the West, is rising insignificant within the Town, but very steep towards the Ledge where upon the Convent *Encaração* is lying; the next Ledge is less steep with the nice Summer House and the Garden *Vale Formoso*; after which one comes up to the 3rd with a considerable *morgado* to the Left, and on the 4th Ledge a better one to the right, the *morgado* of the *Accioli* Family. Between this and *Bella Monte* is the 5th Ledge where the English Consul *Murray* built the especially beautiful, large and tasteful Garden with Country House, which is visited by all Travellers. It ascends upward the Slope until one comes to the Top of the sixth Ledge, where the Church *Nossa Senhora do Monte* lies, with the Priest's House on one Side, and on the other Side a House for numerous Crowds coming on a Sort of Pilgrimage to this Church from all Parts of the Island.

Many walk up to the Church by 2 wide Flight of Stone Steps, one with Iron Bars and with about 100 Steps, and here one sees a Kind of Amphitheatre of 4 Miles in Circumference, enclosed in South by the boundless Sea; in this Circle's outermost Circumference are forested Hills and Heights, and closer various Churches and Chapels; with a great Number of the largest Country Houses or *morgados* and *fazendas*²⁷ with their Gardens and Constructions, among which the Orange and Bay Trees are particularly noticeable. Small Villages and

²⁷ Estate.

Peasant Houses with one or more Fig Trees outside, a considerable Number of *Águados* or Water Conduits, and finally the Town down in the Centre; in a kind of wry Triangle with *São Tiago* and *Socorro* being the eastern Point, *Pico* the north-western, and the Landing Place with the Fort Loo Rock or *Ilhéu* being the southern one; and a not insignificant Number of Ships that at all Times of the Year are lying right outside this.

Following the Footpath along the Coast to the Fort *Gorgulho* between the mentioned Fort and *Ponta da Cruz*, the Rock Point with a Cross, one comes to a Place where the Earth has fallen down in a Funnel shaped Depression, with a Multitude of Lava Types and some with a Chalcedon-like Layer. Going down into it on the West Side, right off to the right Hand there is a small Burrow, but it does not go very far inwards. By descending towards the Opening, the Sea is seen and heard with terrible Rumbles roaring up and down in the Opening, which resembles a Kettle 10 to 12 Feet wide and over 30 Feet deep. This is more than 200 Feet from the Beach. Going down some steep Cliffs towards the Sea, one notices where the Sea has its Inlet; namely, a particularly beautiful Grotto, with a little very small one towards the East. The whole is a very regular Collection of Basalts that forms a real and excellent Arch about 30 to 40 Feet above the Sea. At Ebb Tide there are the hollow Shocks of the Water under the Ground in the inner Hollow, and when it presses against the Entrance, the frightful Swells are almost deafening. A little outside this and west from *Ponta da Cruz* there is another also exceedingly beautiful and solemn Cavern with a square Portal, but since the Sea here always has terrible Swells, it is almost life-threatening to come into it with the Boat.

There is yet a 3rd Place before one comes to Fort *Gorgulho* where the Sea rushes down, without Doubt into a terribly deep Burrow; then the Air is pressed out through the Opening with a storming Sound, and when a wrong Wave rushes in, the Sea is thrown up in a Column, some Feet thick, more than 40 Feet into the Air.

The waterfalls

The 6th of October an Excursion²⁸ from *Funchal* to the Waterfalls²⁹. The Road from the Town to the Nun Institute was very well paved with Trap Stones which were set on Edge and in Squares; so that a main Rim runs along the Road, and several crosswise between these Squares which are filled with small Stones; this Method is particularly applicable in steep Roads, when the Water thereby brings fewer Stones out of Place.

²⁸ Together with *José Joaquim de Vasconcellos*.

²⁹ In Ribeira do Santa Luzia.



The Nun Institute lies north of the Town, about in the Height that one sees over the Hills that surround the Town, and seems to be about 800 to 1,200 Feet above the Sea. From here the Road went some towards the West through the Forests; which consists of Chestnut and Walnut Trees, mixed here and there with some various great Bay Trees, namely *Laurus* and *Clethra arborea*. The Soil on this Island is the red, fine, toughen Clay which commonly colours the Streams red after Downpour. The Ground was here also covered with Grass and Plants, which is not the Case where there is no Forest then the Sun burns all Plants.

After having passed some small Streams that in *Porto* are called *leito* to differentiate them from the larger ones called *ribeiro*, we came to a Farm House, which actually consisted of 3, namely one for the Creature, one for the Family and a Kitchen; the one for the Family was a Square, built of the Trap Stone that is common here: about 12 Feet in a Square and 6 Feet high, without Mortar or Clay, but still very tight. The Roof was a thin Construction covered with Cane; almost like the Danish thatched Roof for the Peasant Family; a Bed or a Sort of Bunk, was placed at the one End above this hung a Pole attached under the Roof, over which their best Clothes hung, namely a Coat for the Man, and a blue woollen Shirt, and a Sort of red woollen Coat for the Women. These People seem not to be poor but rather of the Middle Class, here was a Lorgnette.

Here we got as a Loan 2 Walking Sticks for the Way; they were about 3 *Alen* long, with an Iron Tip, usually of *Clethra arborea* and particularly serviceable on steep Places. This Tree is also used for Fire-making; that is, 2 Sticks are rubbed so long against each other as to give Fire. Here on The Way back we got a Plate of Grapes, a Glass of Water and a Towel to wash and dry our Hands; however, after the Grapes it seemed that they expected Payment; Avarice and Greed for Money seems to be usual everywhere.

From here we continued our Walk between the Hills and ascended constantly towards the Northwest, always clayish and over Layers of Lava and Trap Basalt; also where the Hill was a Liver Stone, but very hard; and which Plates lay towards the Southwest with an Angle over 40°; moreover, the Hills were here in some Places almost vertical, more than 200 Feet, and down in the Valley ran the Stream. The Water from this Stream can not possibly have made this Valley; the underlying Rock was of another Appearance than the higher. The Mountain Path gradually became steep, and without the Help of the long Canes, it would

hardly have been possible to pass here. Likewise, our Guide very well understood to lighten the Way for us.

This was a Farmer over 50 Years, but still so cheerful and quick that he did not shun any Trouble. To get the Plants that grew in the steepest Cliff-sides, he lowered himself down with the Help of a Rope, which he to this Purpose carried over the Shoulders and fastened around one or another Tree in the Mountainside. We got f. Ex. *Sideroxylon inerme*, which until this Month were, though not all, still blooming. In addition to the Branches he took for us, he also brought a large Suit of Branches and Leaves of the same Tree, to give his 2 Cows, which also thrived especially well by this. The Way he came with this was terrible, and would for everybody else seem impossible. His name was *António*, and since he had been with several others who had collected Plants, he knew several Names, f. Ex. *Lingua, serrina, Betonica, Eupatorium* etc.; he still had rather small Children, despite his Age. He was paid by *Vasconcellos* about 4 Reals a Day.

After having ascended long upwards, mainly over low Hills, the Way went down into a particularly pleasant Valley, where we had the Waterfall to the North, and a Couple of 1000 Paces from this to the South, another corresponding, but not so steep, seemed to be 2 to 300 Feet high, with a large and spacious Grotto at the Foot, where one clearly saw the burnt Slag, as if it had its Origin in the volcanic Eruption; below, the Stream worked its Way through a Heap of Stones and Bay Trees, some of which seemed to be over 16 Feet high. Here also were Gardens of Yams, *Arum esculentum*; the Roots were Food for the Peasants and their Swine got the Leaves; here were many Walnut Trees and the Nuts are gathered by the Lads and sold in the Town. Here we took our Rest, and our Men were astonished to see that we ate Meat on their fasting Day, Saturday or *sabado*, when they can not eat anything but Fish. From here we went towards the Waterfall; some 100 Paces from it there was a hollow Tree Trunk, from where we had the best View of it; then when we later were some Steps from it, one has Trouble to look up to the Top. It was curious to see that this very high and broad Cliff-side was almost smooth and nicely papered all over with Green; namely *Marchantia* and *Jungermannia*, but no large Plants. It was just unfortunate that generally here is so little Water; except in the rainy Season.

From here we returned to the Town, which we reached about 8 O'clock in the Evening, and were still able to see the Road in the Starlight, which here is approximately as clear as by the northerly Climates.

Santa Cruz

14th of October a Tour with Mr. *Banger*. We rode from *Funchal* about 7 O'clock in the Morning, ate Breakfast at his Country House, rode from there up towards the Nun Institute; where from a Hill we had a particularly beautiful Sight of several Farmhouses that constituted a Sort of Village lying in the Slope or Hillside, each with a little Garden.

The Stream ran deep in the Valley, and around this was a Forest of Chestnut Trees, that, from the Height upon which we stood, namely 2 to 300 Feet above it, looked like small Bushes. From there we rode up to the Top of a Hill that seemed to be about 800 Feet and more above Sea Surface; from here we had the most beautiful View in all Directions; over the *Funchal* Harbour, the *Desertas* and the Sea. From here we made a Detour to the East and at last came down to a Plain between the Hills, covered with *Genista canariensis*, with wooden Stem almost 10 Feet high. They gave this Place a particularly strange Appearance, and in the Opening between the Hills, one saw nothing but the Rock Loo that lay as if in the Clouds.

From here we came so far East that we saw *Santa Cruz* in the Valley. We rode over cultivated Fields, but poorly prepared; they were simply ploughed and sown, but neither harrowed nor cleared of Weeds. They sow these Fields in October with Rye, Wheat, and occasionally Barley, in Hope of Rain in November and December, when the Grain sprouts, and is harvested about June. A great Quantity of Fields is everywhere lying uncultivated, although the Location and the Soil are very good, but they are short of Water. Where this is to be had, Streams are collected in square brick Cisterns, and on certain Days of the Week, led into the Gardens through Ditches hollowed in the Ground; it is stored from here in a Cistern placed in a neighbouring Garden, and so on. *Funchal*, which lies in the largest and deepest Valley does not suffer from this Lack, but the higher surrounding Regions to the East of the Island do suffer. When digging for Water they have to go rather deep to find some.

We finally came to the protrusive Point of Land³⁰, that seems to be the most distinguishing Border Mark between the Town of *Funchal* and the Precincts of Santa Cruz, and here the Marks after Volcano were as clear as around *Funchal*. Layers of Lava lay here in the same Direction, namely from Northeast to Southwest, under some thirty Degrees. But what was curious, was that here the Strata were separated by a vertical Dyke of a Trap Stone from Southwest to Northeast, and that the Ground together with the Stones, had sunk from

³⁰ Ponta da Garajau.

here on one Place, and that the Trap Stones had remained behind like a Wall, quite vertical and formed a Sort of great, enclosed Theatre on the right Hand.

From here a steep Way goes down towards the Shore, and one comes to a small Waterfall. Noticeable by a very large Fig Tree nobody knows who planted, and around a little Garden of Yams or *Arum esculentum*, which belongs to the nearest Peasant Family, as well as some Vine. The Cliff overhangs this Place, and around the Source a great Quantity of *Adiantum capillas veneris* is hanging, which is called *capellet venie* by several Peasants. We worked us in under this Fig Tree and there had the most pleasant Midday Meal that I can remembered. While the Day was burning hot and over 80° Fahr., we really felt how pleasant the Shade of this Type of Tree is, and how pleasant it must be in the Orient to be able to sit under one's Fig Tree. From here the Tour went back to *Funchal* past the Chapel³¹ where the Dragon Tree stands, of which I have only seen very few here, namely 2 besides the one we passed at *São Tiago* at 3 1/2 O'clock in the Afternoon.

Everywhere on this Tour, which was at least 3 Danish Miles and more, we had seen Traces of Volcano. The highest Tops were of Lava and was red like burned Clay; according to *Banger*, the Country has this Appearance all over. Likewise everywhere we saw Stones, and the Rock also seemed to have gathered itself around a little Core. The Core itself was difficult to discover, then the Stones seemed to be of very hardened blue Clay which could still be smelled, and is mixed with a Quantity of small Thorn Garnets. These Balls, which have some Resemblance to our *Kiesboller*³², are here frequent; sometimes they are of a longish, egg-shaped Form, but all of them are falling apart or allowing themselves to be peeled into concentric Shells.

The Soil on the lowest Hills is here reddish, generally as if burnt, and here and there covered with Lavender, Rosemary, Marjoram and *Anthirrhium orontium*. Here one often sees grazing Cattle that are of a very good Sort, big and all red. The Sheep, on the other Hand, that most often stand tethered here, are of the Moroccan Sort; produce fairly much Wool, but this is short, curly and felted. The Goats are reddish and black with larger Horns than usual.

³¹ Nossa Senhora das Neves.

³²Ball formed pyrite.

Pico Ruivo

On the 28th of October I left *Funchal* at 10 O'clock with Mr. *Banger, George*³³ and *Joaquim Vasconcellos* for *Curral das Freiras*, where we arrived 1 O'clock; from there to Captain *Maurício's* Place 7 O'clock; lay there in the Night in a little Hay House on Straw (the same as Mr. *Becket*³⁴ had lain in); stayed there the next Day, because of bad Weather, then it was raining and storming, and Thunder was heard during the Night. The 30th at 3 O'clock in the Morning, we went to *Pico Ruivo* by Moonlight, and were almost halfway by Daybreak. We did not reach the Top until 10 O'clock in the Morning; had Breakfast. From there we went down the northern Side to *Santana*, where we arrived 9 O'clock in the Evening; lay there and went in the Morning the 31st, 10 O'clock from there to the Hermitage *António da Serra*, where we came in the Evening 6 O'clock, and slept there that Night on Straw in the Kitchen. On the Morning of November 1st, we went to the Crater, about 1/2 an English Mile from the Hermitage, and from there to *Machico* which we reached about 10 O'clock in the Morning; after Breakfast we went by Boat to *Funchal*, which we reached 3 O'clock in the Afternoon.

The Way from *Funchal* went past the Church *Santo António* always upwards to a Hill from where we could no longer see *Funchal*; here the Way went down to the Stream *Subriedo*³⁵, and then upwards; we here saw a high Peak³⁶ whose Height by a Bet was measured and found to be 3/4 of an English Mile. At this Height it began to become somewhat chilly, and here grew a Multitude of Sorrel and also ordinary Roses; there were several Apple and Pear Trees, which seemed to be wild. This Sort of Fruit thrives better here than in *Funchal*. Also the Grasses are more frequent and varied, and in much better Growth, and the Blackberries were sourish and not sickly sweet as those around *Funchal*; here was a Multitude of Mint, *Pulegium*, Thyme, *Maioran* [*Oregano*]. Approaching the Valley by *Curral das Freiras*, the Bay Trees began, and *Spartium aphyllum* grew to the Height of a small Tree in the Cliff Crevices; the Mountain where one walks down into the Valley has a little Layer of small Basalts that lie from the Northeast towards the Southwest.

The Church and the Priest's House and Garden, are a particularly pleasant Sight: they are located on a high Terrace formed by Nature in the Middle of the Valley; before one get there is a very beautiful Waterfall to the East, and around this, some Bay Trees, very high and very leafy. The Church was simple, but clean and tasteful, and the Priest seemed to be a well informed and hospitable Man. The Way from here to the Residence of a certain Captain

³³ George Welsh.

³⁴ Not identified.

³⁵ *Ribeira do Arvoreda*.

³⁶ Probably *Boca dos Namorados*, 1000 – 1100 m. high. ³/₄ English mile = 1143m.

Maurício, was in some Places very steep until we approached his House, which lay in a small Depression between the Mountains, with a Stream winding past; it was already dark when we got here and took our Night Quarter in a little House for storing Straw, which lay isolated from the other, was built in a Square, scarcely 5 *Alen* long and wide and 3 *Alen* high, without a Door, of Stone, rather mediocre thatched with Straw. In the Night it was Rain and Storm with Lightning and Thunder towards the Morning. The Weather varied next Day, the Thermometer stood at 56° F.

I saw here for the first Time Vine winding around Trees. This Method of Cultivation is used north of *Pico Ruivo* and along the whole north Side of the Island; they seek out or plant on a Piece of Land, Chestnut, Bay, Walnut or other Trees; beside them are planted Vine, which wind around their Trunks and Branches; the bright Vine Leaves and Grapes hanging down as a pleasant, contrasting Sight against the darker Colour of the Trees; but this Method of Cultivation is probably just as much as the Climate, the Reason why the Wine from the northerly Regions is fetching 50^{pto} less in Price than the one from the south Side of the Island, where the Plants wind around and rest upon Trellises made of Cane, as the larger Trees deprive the Vine Water and also Light and Warmth. On the other Hand, the Trellises, which are lower and open, allow the Sunbeams to fall through and with the Soil, free from Vegetation, highly contribute much to improve the Grape Juice.

Here we saw a Wine Press, which was a very huge Stone; namely a Piece of Basalt about 4 *Alen* wide and long, and 3 *Alen* high, hollowed in the Form of a Mortar and with an Opening and a Drain from the Bottom through the Side. The Grapes were thrown in, after the small sour and unripe were removed to be distilled to Brandy. Two Lads trampled them to Pieces, and when no more Must ran out, the half pressed Grapes were gathered in a Heap, a Rope was winded around and a Weight laid upon the Top, after which the Skins were used for *Agoa Pie*, which here is more spirituous, sourish and refreshing than the southern. The Must is collected in an oblong Tray, and later scooped in a Wine Barrel and from there to the Leather Sack to be brought to *Funchal*.

Senhor Capitão was himself present and wrote down how many Leather Sacks that were filled, and received every tenth with the Mark *Sr (Senhor) CL (Caseiro)* the Farmer³⁷. This Farmer had built a very nice House, and if somebody might like to make a Pleasure Trip there in the Summer Time they could enjoy Comfort for Payment. But *Senhor Capitão*, who seems similar to our Bailiffs, had observed this little Prosperity; and according to Reports, he

³⁷It was 10% tax on the wine and *Senhor Maurício* was probably a tax collector.

intended to drive him from the Property; such an ungodly Misuse of Authority being not uncommon, and one or another Expression should be more than enough as a Pretext to bring this about.

There were Carnations in his Garden, eatable Lupines, Bean Species, Yams; the Root of the Latter is very sweetish and juicy, resembles the Potato in Taste, but is somewhat woody and causes a little Soreness in the Jaws; one has also noticed that the Sheep, by eating the Leaves get Flukes or Liver Flukes. *Capitão Maurício* asserted that by hard Storm from the South he had noticed Drops of Salt on Trees, and this even more than 1 Mile from the Sea. Here were also *Echium vulgare* and *Polypodium vulgare* common.

The Bread that the Peasants eat is made from Rye, small well baked and tastes good. In the Woods there are many Walnuts; these are placed in a Sort of Basket under the Roof in their Kitchen, and in the Middle of the Floor a Fire is lit by which they are rapidly and well dried; the same Method is used with Flax, of which some is cultivated here. The Apples in this Village I think were the best I know to have tasted on Madeira; similarly the *batatas* were exceedingly good.

A wild Cow was just caught, it was very large and now began to get tamed; these go astray in this Mountain Regions, and are later caught by those who have gone out on Wild Board Hunt; for which they have well trained Dogs and are armed with Sticks made from heavy Wood like *Laurus lucens* or *Clethra arborea*, mounted with Iron and bought for 2 Rix-dollars; they are indispensable in these Rock Regions for supporting oneself and for springing over from one Place to another. Their Length is commonly 3 to 4 *Alen* with a thicker, heavier End facing downwards; many especially Elderly still understand very well to jump with the Help of these Sticks (*pao*).

The Water in the Streams rises after Rain so significantly that it becomes difficult to pass it, but as the Peasant Lads walk with bare Feet and wear a Type of Pants that is really just a Piece of Cloth; they easily wade across with a Person on their Shoulders with the Water reaching almost to their Waists. Towards Evening we went along to look for a Wild Boar and saw some of the Difficulties in the Way to *Pico Ruivo*.

In the Evening we dined at a Peasant in the Kitchen House; here the Fire was laid almost in the Middle of the Floor, and yet there was no troublesome Smoke; over this stood a huge Kettle, and around stood the 2 numerous Families who lived in this House. The Kettle contained Potatoes, *batatas*, Yams, Chestnuts, Turnips and several Vegetables cooked together into a Kind of Soup that tasted very good and was undoubtedly a very healthy Food.

The following Night we slept together with *Capitão Maurício* in a better, but unhealthier House; as it was built against a Rock, that served as one of the Walls, and the Rest was of Stone; here lay a Lot of new Wine that fermented. The Attic was so spacious that it served as Bedroom; the Roof rose at an acute Angle and was well covered with Straw. The Smell of the new Wine was very unpleasant and despite the Height of the Attic, the Space was still some restricted. The Floor here had been made of Planks from *Laurus*, and the Trellises were partly from this Tree and partly from *Clethra arborea*, but all were bad sawn. Here too we slept on Straw.

The Night was very clear. *Banger* called out 2 O'clock and asked if we could go to *Pico Ruivo*, and now there were no more Questions. We left 3 O'clock by Moonlight. Sr. *Banger*, *George*, *Joaquim Vasconcellos* and I with 4 Men, one as Guide and the other carrying our Cloths. The Beginning of the Way was troublesome, namely where one had to go along the Side of the Mountain; and this is straight up and straight down and of the Character that a Plank with Cuts was placed there for Foothold; below was very deep; moreover, the Stream was difficult to cross since it had grown considerably and was now like a small River.

The Way went steadily upwards, and most often, by the Side of the Stream; in some Places we came through small dense Groves, which in the Moonlight had the most peculiar Appearance when one came out of them. When we came to the real Foot of the Mountain *Pico Ruivo* the Dawn was beginning; I do not recall ever to have seen any Sights that could be compared to the Views from these Places.

Tremendously deep Valleys below us, and exceedingly high Column shaped Mountains here and there around us, but out of whose vertical Sides Trees protruded, particularly *Erica arborea* and *Heberdenia excelsa*; above our Heads lay Pieces of Rock, all quite burnt in a disorderly Collection, as if they might fall at any Moment; they served some Goats and those that came to seek them, as a Hiding Place. In a high Rock Pillar we saw a Hole through which Daylight was shining.

As we climbed higher the Views again changed; we came upon the Roof of the above-mentioned Pieces of Rock and saw the high Mountain called *Pico Canario*; around and below were nothing but old Trees, no young. The Reason was as in Norway that one prefer to keep Goats rather than other Cattle; probably because of the Difficulty to herd the others from falling down. A little above here the Valley was closed by a Sort of Twig Fence, where the Goats and the Pigs were driven to be taken.

The Way followed the Stream; the Water where it runs from the highest down to the lowest was collected in a Sort of small Ledges or Basins and gathered in Streams. This is the first Origin of the Streams, and gave a particularly nice Sight in these almost vertical Cliffs.

The Way in several Places became very difficult over the steep Cliffs; *Erica arborea* gradually diminished in Size; at the Foot of the 3 last Cliff Ledges, or of the real Top of *Pico Ruivo*, there was an enormous Layer of Column shaped Basalt with a very acute Angle, scarcely 20 Degrees from Northeast to Southwest. From this Point, the Path became particularly difficult, and a Couple of Times the Dogs gave Voice for Wild Boar. We reached the Top about 10 O'clock, and went about 1,000 Paces over small Pieces of Lava looking like very coarse Sand, in some Places hardened together into an almost permanent Structure. The Colour was brown red, here and there Stumps of Lava stood out from the Mountain. We went to the Edge of what I believe to be the most terrifying Abyss imaginable; namely we looked down into the Island's northern Valleys which, when the Fog in this Moment dissipated, revealed themselves in a frightful Depth.

On the Peak itself, some *Erica* and some Lichens were growing. Here was nothing that was like a Crater, unless one believes that only one Side of this was left. From here we could look out over the Island in all Directions; it appeared from here as more round than usually imagined. *Pico Ruivo* had here an Appearance like a Core around which the others were lying; the eastern were particularly high with many individual Peaks, like some very high Pyramids; likewise those in the Southwest; to the North the Land sinks more gradually and does not carry so many Marks of violent Earth Fire; the Parish of *São Jorge* and *Santana* can be seen, and to the South down towards *Funchal*.

It was also an overwhelmingly magnificent Sight to see the Fog gradually dissipating and gathering into Clouds on the Surface of the Sea; from here it slowly rose and got many different Forms; particularly those in the Horizon, where they often lively showed what the Sea Folk call the Land of Butter. The Thermometer stood here 11 O'clock on 48° Fahr. At the same Time it was over 78° in the Town *Funchal*. I regret that I had not a Barometer with me then mine was broken. It is known that Capt. *Cook* estimated this Point by measuring it from the Sea to be about 1 English Mile perpendicular Height above Sea, and I will rather belief this to be too little than too much.³⁸

From *Pico Ruivo* we went down on the other Side towards *Santana*; the Way was better, but also less interesting. We descended here fairly easily and passed through a Scrub

³⁸ Rathke was right; Pico ruivo is 1862 m. high, while one English mile is 1524 m.

Forest of *Erica*. The whole Way was more sloping and seldom very steep; there were not so many Signs of Volcano; the Mountains had more Regularity and like the usual Trap Mountains.

Gradually as one approaches the Church *Santa Ana*, this Parish shows itself very beautiful; here similar Ball shaped Stones with a Sort of Core were found, like those in the Vicinity of the Nun Institute, and on various Places on that Side. The Soil here has the same red Colour, but here it is more clayey. Most Places here seem to lack Water to be properly cultivated; where this was had, Yams, Potatoes and *batatas* grew very well. The Vine here as mentioned above, were planted against high Trees, especially Chestnut Trees. The Grain and the Meadows were pleasantly green and many of them were overgrown with Broom and Bracken, and likewise, with Blueberry and Whortleberry; Cattle Breeding seems to be in better Operating and Everything showed a more rural and industrious People; here there were fewer Country Houses, but the Farmers Houses nicer, fewer magnificent Gardens, but more green Meadows; at the so called *Capitão* we saw a Sawmill fairly well constructed and with Saw Logs from Bay Trees, likewise a Windmill; they used with great Utility the ordinary Lava for Millstones.

The Grain here was very much destroyed by *Curculia*, which also has this Name in Portuguese; Chestnut Leaves were scattered around the Grain Heap to prevent it, but without Effect. They thresh here with Oxen that walk around on a circular Place that is a little deeper than the Rest of the Ground, and they pull a Plank upon which the Man that steers is standing. Most of their Farm Tools are made from Chestnut Wood. The Wine from this Region has a pleasant and refreshing Acidity, but is neither the oily nor has the Colour as the one from the southern; it is light like young French Wine. Their *agoa* Pie was very good and strong, their Rye Bread good and white; as the one which by us is baked of bad Wheat, and no Doubt also was some Wheat mixed in; the Butter was also very good.

The Church *Santa Ana* was very nice and lay pleasantly; the Views from here were particularly beautiful; the green flat Meadows, the Trees with the Vine and the well built Houses, as in separated small Villages, gave this an Appearance always changing due to the intermediate Heights. In this fine and among the northern the best Parish, there was no School and absolutely no Scheme to get the Children educated, though they paid considerable to the School Authority, namely a certain Portion of each Pipe of Wine.

Craftsmen here are few in Number and Money is rare, and the ordinary Way when one needs f. Ex. a Chair-Maker, is to take him with his Family into the House and give him free

Stay until the Work is finished. There was a French Emigrant, a Gild by Profession, working under similar Conditions at the Church *Santo António*.

The Way gradually became more uneven and at last we came down a very steep Way to *Faial*, where they bring their Wine and other Things, which are brought by Barques to *Funchal*. A fairly great Stream, called after the Place ran out here; here was also a very high solitary Cliff out towards the Sea to the North, and without Doubt contributed by its Protection, so the Wine here is the best on the North Side, 25^{psto} better than this.

From here we had a very pleasant Road, with much varying Views, mostly upwards, to the Pilgrim House *António da Serra*. This Place has a deserted though not unpleasant Situation; here and there around it one sees the Ruins of the Houses of Settlers who some Years ago were taken by Force partly from various Places on Madeira and partly from *Porto Santo*, and placed here to cultivate the Land. But they could not stand to live here, and partly died, and partly moved away. However, a fine Church and a well appointed House were built by voluntary Collection in *Funchal*; and one says that not only Catholic Purposes, but also the dear Cupid, who everywhere finds such faraway Places to hide, obviously joined the Play. Matters of Love contributed and among the Pilgrims the Latter are not the most uncommon.

The House itself was very well equipped; one first entered, from a Sort of Hall by the Staircase, into a Salon with a Fireplace in the Corner; from the Salon is a Passage, and on both Sides there are small Rooms, 3 on each Side, with a Kind of Bunk, a Table and Benches; downstairs there is a spacious Kitchen and a large Room beside it. We were lying in the Kitchen after we had made up a big Fire here and ate our Evening Meal. Below and almost in the nearest Building there lived an old Woman who should obtain the Necessities for Pilgrims; one such arrived, that had made a Promise to go here. The Priest had a little House just at the other Side of the Church, and here they had begun with a very long Wall to enclose the whole Place where the House and the Church stood.

In the Morning we went from here to the so called Crater; this seemed to be scarcely over 4,000 Feet in Circumference and 200 Feet deep, filled with Stones and Soil, and totally overgrown with Mint and Buttercups. Only few of the Stones lay uncovered, and these were of the usual Types on the Island; some Water had gathered in the Middle, and in Winter Time it shall stay here in a Quantity. There seemed not to be much noteworthy about it than the distinctly regular Form, then it was perfect Funnel shaped.

From here we went to *Machico*. The Way was good, but the Region everywhere bare of Forest and either not or only mediocre cultivated. The Broom was in full Bloom at this time, about 3 to 4 *Alen* high, the same Height had the Whortleberry, *Vaccinium*

arctostaphylos, which grows here in particular great Abundance, and likewise *Erica arborea*. We walked the whole Time in toughen and fine red Clay, and when the Road began to slope towards the Sea, we came in the same Kind of Lava Stone that one meets on the south Side. The Road at last became particularly steep and we saw down from the Height into a nice Valley where a big Stream wound down through it, and where Houses, about a Pair of Hundred in Numbers, lay on the Side of the Stream. The Road down here was paved like the one from *Funchal*.

The main Church was lying east of the Bridge over the above mentioned Stream; the old famous Chapel was located to the West down to the Sea. The Bridge was handsome with 3 Arches. The Chapel was old but venerable; it seems to be nearly 40 Feet long, 20 Feet wide and 30 to 40 high; all the Woodwork was Cedar and artificial carved. The Altar was said to be just upon the Place where the Cedar Tree had stood, in which *Machim*³⁹ had carved his Name and under which he was buried. Inlaid in a Wooden Cross was a Piece of this Tree which was very worm eaten and must have been extraordinarily old.

In the Bay which goes up to *Machico*, the Surfs are far from being so hard as elsewhere here on the Island, and the Landing far from being that difficult. We got a Boat here with 8 Men to go to *Funchal*. We climbed aboard while it was still on Land, and at once the People undressed and quite naked, with Speed and Care pushed the Boat out and then everyone was on his Place.

Their Boats are well built and sail well; behind they are very narrow, with a little Room as a Cabin, almost as the so called Cabin in the Norwegian Pair Oared Boat; the Bands are close to each other, and the Stern and Stem are very high; by the Rudder there is a very short Tiller for Steering, tucked into a Hole in the Rudder. They often use 2 Sails, and in Addition there was a Square Sail very broad at the Top and the Drag Line was simply thrown around the Stem with a loose Knot.

We soon got a Headwind and had to row, and we scarcely had any Reason to complain of these Fellows as lazy, then they rowed against a Wind and Waves that I scarcely had believed possible they could have rowed against; the Land was all over very steep and almost impossible to climb, everywhere burnt, and frequent with complex Holes, so when the Sea rushed in and out here, it had a dreadful but also beautiful Appearance. We reached *Funchal* at 3 O'clock in the Afternoon.

³⁹ See footnote 17.

Terra dos Canários

When one ascends approximately 4,000 Feet or 1/6 of a Geographical Mile, always steeply upwards, from *Funchal's* Custom House to the Church *Nossa Senhora do Monte*, it is probably about 2,600 Feet above Sea. At this Height the Atmosphere is already notably cooler than in *Funchal*; the Chestnut Trees loose the Leaves earlier than in the Valley, and the Clouds lie often in this Height. Here it seems to be the lowest Point where Snow has been seen in the Winter Months. It seldom lies long after the Sun Rise. The Dragon Tree thrives in this Height. *Ruscus hypophyllum*, *Phlomis leonurus*, *Viburnum tinus*, *Laurus foetens* and *Clethra* bloom in January in the garden *Bello Monte*; *Spartium*, *Geranium pinatum*, *Calendula arvensis* and several others are blooming on the Ground, *Pteris aquilina* as well.

At more than double this Height lies a remarkable and strange Plain called *Terra dos Canários*; here the Snow was lying in the Middle of January, but only in Spots, and the Temperature had fallen to 46°, and in the Snow it stood precisely at the Freezing Point, or 32°. Actually what falls here cannot be called Snow, but rather Hail, round of Size like small Peas. Here the Ground was covered with Moss, *Erica scoparia* blooming, *Vaccinium*; *Taxus baccata*, *Juniperus oxycedrus* thrived well here. *Pteris aquilina* was completely withered.

Still the Folk Legend tells that in very old Days People shall have cultivated and lived on these Plains; and that they had Conversation and Community with the Devil; and that he in the End pushed them off the Cliffs; one still shows Remnants of their Houses and 2 Wells. A Bishop shall for his own Pleasure have spent 2 Months here, and after this Time these Places shall have been cleansed of the evil Spirit. But either they are still too superstitious, or probably too little aware of the Possibilities to make use of this Place. Presumably the lower Places are more comfortable for People which want Day Work in Town.

Porto da Cruz

The Distance from *Funchal* to *Porto da Cruz* is estimated to be 3 Leagues or 15 English Miles, but this is without Doubt 1 League or 5 English Miles too much. The Way is bad, especially when one approaches *Porto da Cruz*, where it is rocky and steep, and in some Places with Poles rammed into the Ground to get Foothold. We were about 7 Hours on the Way there, and 7 back again, and we travelled to and from mostly during the Night.

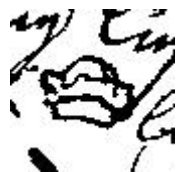
The Road, although difficult, is particularly pleasant when one reaches the Top of the Hills that lie to the North of *Funchal*; later a low Forest begins, and then a larger of *Erica*

arborea and *Vaccinium excelsum Banks?*, together with a Part of *Laurus cinnamon* and *foetens*. *Erica arborea* was in full Bloom at the End of February and extraordinarily pretty. The Black Thrush, *alanbird*, sang the whole Night by Moonlight, as did the Song Thrush. The Morning was beautiful but the Air was cold and piercing as in the northerly Climates. Everywhere here the Climates change according to Altitude, that one can scarcely imagine the Difference other than by also mentioning this.

Madeira was in older Time so covered with Forest that it was necessary to eradicate it, but it happened without the least Reflection. There is no Doubt that the Climate thus has underwent a Change; after Eradication of the Forest, it was possible to cultivate Vine in greater Height than before. One was also no longer in so great Danger of Inundation from the 3 Streams which run through the Town; a large Part of the Town's Ground would be inundated if the Streams rose to the Height that, according to Tradition and to the Appearance of the Ground itself, they in older Days had risen to; but in Addition to the Difficulties and Costs of Building- and Fuel Materials, it has also caused Landslides many Places.

A great and remarkable Landslide is this in the Vicinity of *Porto da Cruz* about 30 Years ago, and similarly a more recent one about a Year ago. Everywhere during Winter Time, these are no longer infrequent; it seems likely that what the Island has won in Warmth, it has lost by the Fact that the Island on high Places lacks Water and is difficult to cultivate. The View is particularly lovely from a remarkable but totally bare Hill towards the Sea, upon which there lies a small Armoury that also serves as Prison and a Sort of Castel. From here one sees the little Amphitheatre which is actually called *Porto da Cruz*; on all Sides filled with Chestnut Trees and a few Oak and Bay Trees for supporting the Vine; very few *lettadas*, or arranged as on the South Side, with Poles and a Kind of Trellis of Canes. Here and there between the Vine Gardens, there are Orange Trees, of which the Fruit was even better than those from *Funchal*, and also Fig, Peach (in Bloom) and a Number of Apple Trees.

The Houses here are pretty, with Door- and Window Frames of *Porto Santo* Limestone. Their Furnishing is simpler; here was the Sofa with a Sort of Heaven on four Poles with Curtains like a Bed. The Head of the House appeared in a Kind of Pope's Cap of fine Leather with Frills, like a Crone.



Water was brought in before and after the Meal to wash oneself ; just as 2 Glasses were poured from a Bottle, it was immediately filled.

It is curious that their Oranges and Apples are better here than those that grow around *Funchal*. The Wine here is the best that is cultivated on the North Side, but it always has the strange sharp Taste which distinguishes Wine from the North, and the Cause is difficult to explain. That the Wine here is better than the Rest must be ascribed to the Location; *Porto da Cruz* is protected from almost all Winds by the surrounding Mountains and the Hills; among which the one to the Northwest distinguishes itself by its Height and the regular Form; its almost perpendicular Side is to the Northeast, upon which some Wheat is grown. To the North there is the mentioned barren Hill; this consists of a Mass of rounded Stones almost kneaded into half hardened yellow grey Clay; the Mass is resting upon black Lava full of Holes, in which, to the Northeast, there is a Cavern from which the Sea, with frightful Boom, is thrown out at High Tide. On this Hill a Lime Kiln and Brick Kiln are placed. To the Northeast one sees a high Cliff in the Sea, through which there is a Hole big enough to allow a Boat to go through in quiet Weather. This is called *Monte Ferado*. In a Hill south of *Porto da Cruz* they sometimes find Crystals.

We left this Place at 5 O'clock in the Afternoon, and went back in a particularly pleasant Moonlight, and arrived at *Funchal* at 1 O'clock in the Night. To be carried in a Litter from *Funchal* to *Porto da Cruz* and back again, altogether about 30 English Miles, one pays the 4 Men who alternate, 10 *Tostores* to each, or 40 *Tostores*, about 5 Rix Dollars and 2 Shillings, or one Guinea; though the Way is so arduous that it is difficult even to go there without any Burden, they cover this Distance almost as rapidly as a Man can walk, and yet one still has Trouble to keep up.

Porto Moniz

5th of March, 1799, in the Company of Joaquim Vasconcellos, an Excursion to the westerly and northerly Part of Madeira. We departed from *Funchal* 9 1/2 O'clock, were in *Câmara de Lobos* 11 O'clock, in *Ribeira Brava* 4 O'clock, in *Lombada* 6 O'clock. After a one Day Stay the Journey continued 10 O'clock the following Morning to *Estreito de Calhéta* where we came 4 O'clock, stayed there at Night, and continued the Journey the following Day 12 O'clock; were in *Lonzadeo*?⁴⁰ near *Porto Moniz*, remained there at Night, and were the

⁴⁰ Not found on the map, and as Rathke himself was bewildered, it can have been Lamaceiros.

following Day in *Porto Moniz*, from there to our Night Quarter, from which we the following Day (Sunday) 8 O'clock went over *Serra do Porto Moniz* and *Estreito de Calhéta* to *Lombada*, where we came at 8 O'clock, slept there, and went the following Day, at 11 O'clock back to *Funchal*, where our Arrival was 8 1/2 O'clock.

The Roads are in most Places only mediocre, in some even dangerous; from *Funchal* to *Ribeira Brava* they are good, particularly in the Parish *São Martinho* and *Companário*, where they are paved on those Places where it is necessary, and also provided with Bridges. From *Ribeira Brava* they become more steep, especially where one goes over to *Tábua* and from there to *Lombada* (an Estate owned by the Luís Vicente Family). In the Parish *Ponta do Sol* the Road was only mediocre, and after what is told it had long been planned to make a new one; from this Place it went down very steeply to the Port *Ponta do Sol*, and then steep up towards *Canhas*, but here was well paved. In *Canhas* the Roads were fine and good, and on very few Places steep, but descended steeply towards *Madalena*, and even worse upwards on the other Side of the Stream, which despite its Depth and Speed had no Bridge; over *Arco de Calhéta* the Road was good and went in a Sort of Bow down towards *Calhéta*, where it followed the Shore to the Port *Calhéta*, over Ball shaped Stones; from there, most steeply up towards *Estreito de Calhéta* where we left the Road along the Shore and went up over the Ridge or *Serra*; a fairly good and in most Places pleasant Road to the Island's north western End; only where it descends to the Port *Porto Moniz* it is very steep and stony.

Desertas

3th of April 10 O'clock in the Evening, travelled from *Funchal* by Boat to *Desertas* where we arrived 4 O'clock in the Afternoon the next Day; remained there overnight and slept in a Grotto on the Table *Deserta*, or the most northerly, went 4 O'clock in the Evening the next Day back to Madeira, and arrived 8 O'clock Friday Morning in *Funchal*.

Their Boats are sharply built, simple, with Knees that rise up from the Keel on both Sides, scarcely a Foot separating the one from the next, and on which the Planks are fastened just as in the largest Vessels; the larger ones are also equipped with a high Water Board painted with zigzag Lines. Stem and Stern rise 3 or 4 Feet above the Gunwale, and the Stern has an Arrangement for a Flagpole. In the Flag the Seafarer's Patron Saint, Saint Anthony is always printed on the Linen Cloth. The Wood is mostly Bay Tree, the Mast being a barked Tree Trunk with a Hole drilled through the End, through which a Rope, the Drag Line, goes and fasten it; this is furnished with a Block and through this the Drag, normally a Hemp Rope,

passes; the Sail is a Kind of Square Sail and the Yard Arm is a barked Batten; it is often more than twice as long as it is broad, and broader at the one End than the other, without a Reef Line and bound to the Yard Arm, around which the Drag is fastened; with the broad End nearer and longer, as one have the Wind from the Side.

In this Boat that had 10 Men and in Size looks like our Eight Oar Boat; the Sail was of 15 Canvas Withs⁴¹, about 18 Feet, but only 12 Feet high; the second Mast was similar, only smaller, and the Sail smaller, only 9 Canvas Withs. The Oars are in Relation long, equipped on both Sides with a Piece of Wood with a Hole, through which the Oarlocks are stuck, and serve to hold the Oars steadier, at each sit 2 Men. Under the Bottom there are 2 Wood Folds to protect them when they are dragged up on the stony Beach. In the Back of the Boat there is a covered Room to sleep in and also a small square Hole for the Steersman to stick his Feet into; the Rudder is turned by a Cross Stick attached in a Hole at the Top of the Rudder.

Small Cruises by Boat are undertaken at Night when the Sea generally is most calm, and one is sung to sleep by the Rowers with their *ladainha* in Latin, or at least in something resembling this Tongue. Those in the Back of the Boat begin and those forward made up the Chorus and answer. The Melody is not unpleasant, but the Names of all the Saints are so distorted except of Mary, Anne and Joseph, that the others would be unable to recognize their Names, if they got to hear them; at last the Crew lay down to rest and make the Boat fast with a Stone instead of a Grapnel.

The Crew divided themselves into 2 Parts and struck up their *ladainha* to St. Mary, or rather only the Melody with 3 or 4 almost unintelligible Latin Words - *Sante Trini St. Maria alhe pro nobis*.

At Sunrise we saw *Santa Cruz*, which lies in a fairly big, pleasant Valley down towards a Bay; here the old Custom House, the first on the Island, was still to be seen. This Town seems hardly to have 50 Houses and 200 Inhabitants; before the Church there is a nice Plain or Market Place and beside this a little Grove for Walks.

The Stream comes down through the Town. The Hill North of the Town flattens out towards the Southwest and ascends again on the opposite Side, very steep towards the East. It consists of slender Layers of Basalt and the red Lava Ash; right outside the Town and to the North, a Franciscan Monastery⁴² lies particularly pleasant. The Prior from this Monastery, a young Man, accompanied us to the *Desertas*.

⁴¹ A Canvas With was 58 cm,

⁴² Convento de Nossa Senhora da Piedade founded in 1518 by the will of Urbano Lomelino.

The *Desertas* yield almost nothing apart from an insignificant Hunt for Partridges and Rabbits. They belonged for a long Time to a Portuguese Family who lives in *Lisboa*. From Lack of Water and Rain they are uninhabited, although after old Information, Grain had formerly been grown there, and as it seems without Luck. Perhaps, before the Woods had been so destroyed, the Atmosphere was more saturated with Humidity so that now and then, it has also rained on the *Desertas*.

In Part we sailed, and in Part we rowed from here 8 O'clock, but did not reach there before 4 O'clock. A Ship had been thrown in on the Middle *Deserta*, and its Bottom was completely destroyed. The Ship's Dog stood there, tied up, and was the only Living. The 11 Men of the Crew were not to be seen and had probably wanted to save themselves in the Boat.

The *Desertas* have a very steep and naked Appearance; they are supposed to be 7 Miles from the outermost Point of *Ponta de São Lourenço*, and all 3 together are more than 3 Leagues. They stretch from the Northwest towards the Southeast and have the perfect Appearance of Rock Types of volcanic Origins; the northernmost or flat *Deserta* is the smallest; it consists of regular Layers of Basalt with Layers of Lava.

It is somewhat difficult and only a single Place, where one can come ashore. This Place is in a little Bay with a Cave to the South; the Cliff here has the common Basalt and Trap Appearance, very burned on the Surface, and the Cave itself, particularly the Ceiling, is a Collection of more or less burned volcanic Products. The Way up is steep and consists of many loose Stones thrown together; in between them grow *Cucubalus calycs infundibuliform*, *Senerico elegans*, *Arthemisia humilis*, *Calendula seminibus alatis muricatis*, *Illecebrum foliis subtertragoris*. It is for the most Part flat, and though towards the North there is a little cone-shaped Height; the loose Stones bear all the Marks of Earth Fire; upon it there is a Limestone with Petrification of the Spikes of Sea Urchins, so it seems to have been under Water when it was formed; its external Height must be estimated at about 600 Feet above Sea.

The Night was spent in the mentioned Cave, where some Stones served as Bed. The Sea, which broke under the Island's deep Vaults, often with Bangs like Cannon Shots, the perpetual Crying of the Seagulls (*cagarros* and *gaviot*), which were in particular Abundance here, and the Wind, which roared down from the Vault of the Cave, allowed not much Tranquillity.

At Sunrise we left for the Middle *Deserta*. The Way down the so called *Castaneto*, which was the only Approach, seemed due to some Sort of Landslide to be almost impassable, and since I did not have any Boots here, I was forced to follow the Boat and let myself be

satisfied by examining the Shore; this was very steep, almost the whole western Side being more than 600 Feet above the Sea.

The mentioned sole Landing Place was a deep Cleft towards the northern End. There shall have been a little House on it and some Goats, and also such a Quantity of Rabbits that one can slay them with a Stick. The Rock Types are various immense Layers of mixed Earth like Lava Ash, with various Bands of Basalt from the Northeast towards the Southwest; there are many Caves in it, which indicate Earth Fire, also the free standing Basalt Columns in the Sea. In the Afternoon we left the Island and arrived in *Funchal* the next Morning.

Property

In Regard to the Farming the Island is divided into *morgados*⁴³, Estates that remains in a Family and goes by Inheritance to the eldest Son; but if there is no Son, to Daughters and to the nearest Relatives, or else it reverts to the Crown.

It is said that the Government gave to some Families so much Land which the same Family bound itself to cultivate within 10 Years. What was not cultivated within that Time, the *morgado* could not acquire; this Law is hardly lived up to, but still has had good Consequences.

A *morgado* was in this manner obliged to look for People to till the Land; these got Half of the Crop, sometimes also separate Payment; moreover, in recent Times there have been Examples of People offering themselves to cultivate Parts of a *morgado* to derive the Benefit of these, and that shall have been denied.

These Farmers are called *caseiro*; when often a Family occupies 4 to 5 or more *morgados* and do not live on any of them, but live in the Town, it is common to have a Manager to administer the Property; this is called a *fectore*. Freeholders, generally called *arradoras* are few and found, since the *morgados* occupy the best Ground, only in remote and less habited Places.

⁴³ Morgado is a family estate. It can not be sold, only inherited by primogeniture, that means by the first-born son, and if there are no sons, the first-born girl. This prevented parting of the estate and the family from losing its status.

Portuguese noblemen and a few rich foreigners got free land from the crown, but it had to be cultivated over a period of 10 years (*sesmaria*). Only men belonging to the highest class could have land free and live on the yield.

The farmer had no right to own land and were forced to become tenant. The *contrato de colonia*, established that the tenant should do the farming and the landowner should have half of the yield. The landowner, *senhorio*, owned the land and the tenant, *colono*, owed the amendments as houses, terraces, walls and water conduits.

Farming

The Soil is ploughed and sown in October. Their Plough resembles what we call an *Ahl*⁴⁴, namely a long and thin curved Piece of Wood, which in the Top is attached to the Yoke, and under it is a Board projecting straight down, and which in Front has a long spear-shaped Iron that tears up the Soil; back it has a small curved Grip; 2 Oxen are harnessed and they are led by a Lad and a Man steers, then it is pressed into the Soil from its own Weight; the Man has a long Pole with which he pushes the Soil off the Ploughshare. As it only breaks open the Furrow, but not turns it, it seems not to be rather useful and scarcely has enough Effect, so they have only the Fields half worked.

Agriculture is so inefficient that a competent Man assured that around *Funchal* one frequently did not even get back the Seed. They do not manure and seldom allow the Fields to lie fallow. They do not harrow, and the Ploughing is simple and very mediocre. They do not winnow the Seed, the Fields stand yellow in December from a Sort of Wild Mustard and *Calendula*.

Next to Wine *Igname* or *Arum esculentum* is important. This Plant has become almost indispensable to the lower Middle Class. They are planted by Pieces of the Root everywhere where the Land is swampy, and the moister the better. One even complains that the Farmers in the higher Regions use up Water to cultivate *Igname* and thereby reduce it for the lower. Their Swine need the Leaves for Food and the Root is eaten by the common People instead of Bread; normally they have Flesh or Pork with it. It is said that the *morgado Lombada*, in addition to 200 Pipes of Wine and many other Things, brought in over 6,000 Rix Dollars for this Plant, but this is also one of the most important Estates, and also one of the oldest, and the Family is said to be of Dutch Origin.

Maize, Wheat and Rye are cultivated in some but not significant Quantity, although the Wheat, particularly from *Porto Santo*, is perhaps even better than the European which here is very expensive. However, they prefer *Igname* since it does not require more Work than just to dig the Soil and put down a Piece of the Root. This is normally of the Thickness of a clenched Fist, reddish externally, with a sweet Taste most like that of *Batatas*. They clean off the Soil by throwing them in a little Wash Tub and trample them with the Foot. They often sow Flax among the *Igname*, and cut the Leaves for their Swine and the Flax at the same Time.

⁴⁴ Danish for an iron plough on a bowed bough.

Pulses, particularly what are called Broad Beans, are still cultivated most for Household, likewise Pumpkin, and now in many Places, f. Ex. by *Quinta do Pargo*, the common Species of Cabbage, likewise Turnips and Onions, and in some Places, Lettuce and Potatoes in fairly large Quantities. The remaining Kitchen Herbs are less well known, but they thrive here very well. By Cultivation of Potatoes and *Batatas* they are cut and placed in the Furrows of the Soil. The Potato is still regularly imported from England.

Most Fruit Trees do particularly well here, almost without Cultivation. The Pomegranate, the Peach and Apricots and ordinary Plums are everywhere growing wild, almost likewise the Fig and Banana, together with Apple, Pear, Cherries, Quinces, Papayas and Mulberry, and particularly a Quantity of Lemon and Orange Trees; in the Woods there are Walnut, Chestnut and Olive Trees, although the latter has now become rather rare.

The Coffee Tree grows in *Funchal* to a considerable Height, over 12 Feet and bears a Quantity of good Fruit as the Kapok Tree, though less in the surrounding Region.

The Date Palm grows particularly well, even on the North Side, and from those in *Funchal* I recall having eaten Fruits that were more than 2 Inches long. There is also the Coconut Palm, f. Ex. in the Garden of the Franciscan Monastery, but which I have not seen with its Fruit. Among the various Species of Laurel is what they call Avocado or *Laurus persea*, and formerly there had also been various Channee Trees (*Laurus Cinnamomum*), but as I know, none of them are left. In some Gardens Pineapples are grown and they grow here with great Willingness and some though few Species of Melons and Strawberries.

Their Garden consists normally of a Fig Tree, some Vine and Yams, or *Arum esculentum*, whose Root is used as Food for Humans, and whose Leaves are cut off for the Swine; likewise of Potatoes. The Soil is hoed, crumbled and formed into Beds, almost of an Appearance like the great Furrows in a Field; probably to let Rain and Sun have better Effect; thus they are laid out so that one Side defends against the Sun. The Peasants are lazy and could not understand how it might be possible to cultivate the Land better than their Forefathers had done before them, why also much Land is lying waste which just as well could be cultivated.

The Sugar Cane was as known formerly the Island's foremost Product and was transplanted here from Candia⁴⁵; when America was discovered this Plant was brought to Brazil, where it did so well that it was no longer worth the Effort to cultivate it here on this Island, where now there are only a few Plantations; f. Ex. in the Parish *São Martinho*, where

⁴⁵ Crete.

down by *Praia*, there is a Sugar Horse Mill and by the Outlet of the *Soccoridos River* there is a Sugar Water Mill. To replace Sugar, Vine were transplanted from Cypress and cultivated here, and it did so well that it has even become the Island's foremost and almost sole Article of Trade, of which 30,000 Pipes are shipped out annually.

It is really only those who live in the Neighbourhood of *Serra* who could send out their Swine there to live on Roots, particularly of Bracken, which they are able to uproot. However this Fodder is very mediocre and the Meat and the Flesh very poor such that it is always necessary to feed them up in the House before they are butchered; they drive them home with the Help of the Dog who, with a certain Hunting Cry understands very well how to tackle them. One often sees the Land in a considerable Region all torn up by the Pigs that it looks as if it was ploughed. In good Years, when Grain is cheap, Swine are so very common that nearly every Household has some, that is when they can buy Maize for 2 1/2 for an *Alceire*⁴⁶; when on the other Hand it increases to 8⁰⁰⁰, those who are already kept, are fed miserably up to around Christmas, and then slaughtered, and only a few kept for next Year. This has also significant Influence on the Consumption of this Article.

Their Beef is generally exquisite and can be had at all Times, and so too their *Bedkiød*⁴⁷. But in order to get it every Day, the Catholic Inhabitants must have a Permission that because of their Health they are unable to eat Fish. A little Dish of Fish is paid by 36 S. A Pumpkin, when it is big, with 40 to 48 S. In short, no Victuals can be said to be cheap, except perhaps Fruit, which also is more expensive than one should expect. The War shall have caused the high Prices.

Coffee does very well in Madeira. A Man with a Family assured me that a single Tree produced enough Coffee for his Household through the Year; and here it must be noted that Coffee is picked 2 Times, or that here they have a double Harvest. In Taste, the Coffee is not easy to distinguish from the foreign, though it does not seem to have the same Strength and was somewhat sourly; which perhaps was a Consequence of it being taken from the Trees somewhat early.

A Coffee Tree should, according to the Assertion of a competent West Indies Planter, produce 3 Pounds of Coffee; but according to those here on the Island, particular in *Saveiro's* Garden, I would rather believe that they bore three Times as much; it is a beautiful Sight to

⁴⁶ An old Portuguese measure of capacity which varied between 13 and 22 l. It was generally used for grain.

⁴⁷ Danish; meat from castrated animals.

see them in Flower and Fruit, especially in March and April, when the Fruit, bright red like Cherries, is contrasting against the dark green Leaves.

A very good Way to feed partly Horses, partly Cattle and Sheep, is to mix dry Grass and Straw with the fresh Grass and cut it into Chaff by a Machine with 2 Knives and a great Weight that pulls the Knife down; and in the same let a small square Board fall upon the Straw, as it is pushed a Man. In this Manner nothing is wasted when the dry Grass and Straw are mixed with the fresh. By this Form of Feeding the Livestock has been kept healthy in 12 Years as *Banger* has experienced.

Places for the Cultivation of Vine are sought out in Shelter from the Wind and also have Water and suitable Soil; what is most loved is the loose Lava full of Holes which is called *pedra mole*. This is smashed, covered with Soil and the Vines are set down into it; they quickly take Root and attach themselves and seem to thrive best here; perhaps because this Ground keeps the Heat and Water in an appropriate Way. Normally the Soil is hoed up annually and occasionally fresh Soil is brought, f. Ex. Mud from the Bottom of Streams is a Sort of Fertilizer; well cared for, they will bear to an Age of 80 to 100 Years.

In February the Vines are tied up to their Trellises which are here called *Latadas* and are composed of Stakes rammed into the Ground, 6 to 8 Feet apart, upon which Canes are laid in Squares tied by Willow, on which the Vines rest. This Trellis is either made only of Trees; Trees are erected about 3 to 4 Feet between them, and 6 Feet or more high, although sometimes in the Middle of the Garden hardly 4 Feet high. Over these are laid thin Sticks, most often Canes, on which the Vines rest and under which the Grapes hang down; whereby the Sun works more powerfully by the Rays which are thrown from the Earth and the Space can thereby be better used: sometimes this Scaffolding is removed in Winter Time.

Instead of lager Trees making the Foundation, often smaller are constructed, f. Ex. Stone Fences along the Road and on Top the Sticks are laid; they form rather beautiful Archways, under which one can walk in Shelter from the Sun. Cane or *Canes arundi gigantes* are much grown and are very useful by Vine Growing because of the Scaffolding upon which the Vines rest.

On the North Side of the Island, Vines are planted against Chestnut and occasionally Bay and other Sorts of Tree, around those Trunks and Branches they wind themselves; it is claimed to be impossible to have the mentioned *Latadas* in hard Weather. In any case though, *Latadas* are used in *Porto Muniz* where the Weather and the Wind often are most difficult; to

protect the Vines, the Vineyards are crisscrossed with a Sort of Fence made from Stalks of *Vaccinium ligustrinum*, between which *Spartium scoparium* is braided and tied to stand against the Wind; and it is noteworthy that the Wine from this Place is noticeably better than all the Rest grown on the North Side of the Country.

In September and especially in October, the Grapes are picked and brought in Baskets to the Wine Press, which is usually on the lowest Floor of the House; occasionally only a hollowed out Tree Trunk and a Roof of Planks, or a hollowed out Tree Trunk placed so that the wooden Beam used for pressing, is attached to another still living Tree. This occurs 2 or 3 Weeks later on the North Side than on the South, and October is really the fixed Time when several are occupied cutting off the Grapes, gather them in Baskets and thereafter carry them in to the Press.

This consists of a Sort of square Crate commonly over 30 Square Feet in Size, but scarcely 2 Feet deep; which rests on a slightly larger raised Platform made of Stone about 2 Feet high. On one Side there is a Drain for the out pressed Wine; and on the other Side, outside it, there are 2 vertical standing Posts, between which a long Beam was attached at the one End, and through the other End runs a strong Screw, which is attached in a Beam under the Roof, and at the lower End has a large round Stone, almost like a Mill Stone, with a Hole through it and a Bolt for the Screw. When the Crate is half full of Grapes, 4 to 6 Men with bare Feet get into it and tread them down as long as Juice runs out of them. They trample and tread the Grapes and press them with Song and Joke.

This Must is considered to be the best. They then get down and after all the Must is drained off, the half pressed Grapes are collected in a round, cylindrical Heap, around and across which is laced a Rope with about a Finger's Breadth between the Windings; strong Boards are placed on Top, whereupon the Screw is turned down with a Cross Stick that is put through it, until no more Juice flows out. The pressed Skins are thrown out; they are very good for nourishing their Swine and Creatures.

This Must has a very sweet Taste and good Smell; and is set aside to Fermentation, it is stirred with pulverised Gypsum, partly burned, partly unburned; this is brought here from Cadiz. I heard an Englishman believe this Method to impregnate the Wine with fresh Air, by which it got some of the peculiar Taste that distinguishes it. This Clarification occurs either in the Countryside or in the Town.



Sarah Bowdich 1825.⁴⁸

When the Clarification occurs in the Countryside the Wine is brought to Town in Leather Sacks made from Goat Skin; namely, the whole Skin is stretched out and inflated such that it still retains much of its Form; the Opening is where the Neck has been. The Legs are bound together to make it easier to carry; it is very well sewn together, along the Abdomen right up to the Hind Part.

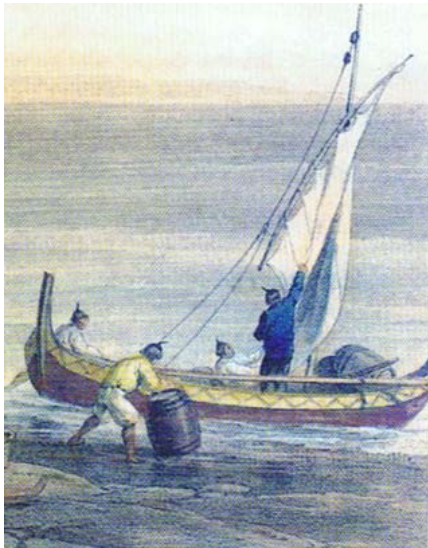
In such Sack they usually carry more than one Anker Wine each Time, and when the Sack is empty it is inflated so that the Sides do not shrivel. The Wine is borne to the Town under Song; which, like almost all the Songs of the People here, is like a Sort of Recitative, with long Pauses between each individual Voice, and ends with 2 different Tones; a half Tone lower than the other.

When the Clarification occurs in the Town, the Must is thrown in a Vessel and then carried to the Town in their so called *borracho* or Leather Sacks, where it is filled in Pipes and generally stirred with Gypsum, both burned and unburned, until it is clarified and separated from the Slime. It is set aside to ferment, and if it begins to go over to a sour Fermentation or to Wine Vinegar, then so much Alcohol is added as is required to prevent the sour Fermentation.

Similarly, it is a Mixing of bad Wine with good in order to get rid of it all, and also light is coloured with the dark, or the Tinta and Malvasi Grapes are sweetened with Syrup boiled from Sugar. This is the best Wine, as the most can not get the Malvasi Wine sweet enough, though when it has lain long enough, pure and unmixed, always gets some of that tart and dry Taste that is so much loved in the Madeira Wine. The fully finished Wine is brought

⁴⁸ In T. Edward Bowdich, *Excursions in Madeira and Porto Santo*. London 1825.

to *Funchal* during the Winter Months; partly over Land in small Casks loaded onto Donkeys or Mules; by Sea when filled on Pipes rolled into the Sea, and then taken in large Boats or Barques.



Frank Dillon 1850.

People assert that Madeira Wine improves by Warmth, and therefore many lay the Wine Casks in Dung. A Merchant, *Lorreiro*, is said to have made the mentioned Experiment and laid his Wine in Dung; by which it after some Months had reached the same Strength and Agreeableness as if it had lain in the usual six Years and had made the Journey to the West Indies. It was also maintained that this Method did not exert the least Influence on it when later it was kept as usual. When it is being laid aside and is closely observed, there is a significant empty Space beneath the Bung, without which the Wine Cask would blow to Pieces.

Banger has arranged for a large Copper Kettle in which he can place the whole Pipe in Water and warm it by a Fire beneath until the Heat of boiling Water. The heaviest Work for Madeira Farmers is undoubtedly to carry Wine to the Town; a *borracho* or Leather Sack filled with Wine is about Half the Weight of a Barrel of Wheat, in other Words, over 100 Pounds; he carries this about 2 English Miles for about 1 1/2 Reals or about one Rix Dollar. A Worker normally receives 3 Reals a Day, and approximately half that for every Journey he makes into the Town.

The different Types of Vine, besides *vino maglio*, *Bastardo*, *Malvasio*, are a Species called *Alicante*, it is better for eating and for drying to Confectionery Raisins than for making Wine. By *Campanário* down towards the Sea there is a small cultivated Land where a very good *Malvasi* is produced, about 10 Pipes; this belongs to *Quinta Grande* and dates from the Time of the Jesuits. Water is directed down there from a fine but steep Cascade, and the

Mountain rises perpendicularly behind it. The Road from here is especially steep and nearly a Flight of Steps.

The Superiority of Madeira Wine seems to stem more from the Blending of different Grapes than from any in particular. The first Wine from the Pressing is watery, the Last is stronger. There seems to be a greater Amount of Oil, Spirits, and especially Sugar in Madeira Wine than there is in most of the others.

A Pot of Madeira Wine is calculated and costs at the English Tavern up to 4 Shillings and over; but as everything here is excessive expensive, it can not serve as a Measure; still a trustworthy Man asserted that nor the Merchants which had it from First Hand could have a Pot of good Wine at less than 2 S 6 P. The young Wine, which is drunk and offered everywhere in the Public Houses, is sold from 6 to 8 Pence.

It is said that a Pipe of Madeira Wine as it comes from the Press is sold for 8⁰⁰⁰. A Portuguese *Verando*, who found that the Prices of some English Goods were expensive, bought to revenge himself, all the Wine he could get and now the English had to give him 11⁰⁰⁰ a Pipe; after it has steadily increased until now when it shall be about 80 or 90⁰⁰⁰ for the Best.

Pride and Indolence have been the Ruin of the Craftsmen, and in particular when they have engaged themselves in the Wine Trade without understanding anything about it. Products such as Wine, Coffee and Sugar do not really have stable Prices which can be built upon. This Year was Loss and Ruin for many of this Type who tired of Craftwork ventured into the Wine Trade, and then from the Lack of Shipping, had to sell their Wine at Prices lower than they had given for it.

Some believe that a general Prohibition to import foreign readymade Articles of Clothing would correct this, f. Ex. that no readymade Footwear, Hats or Linen should be imported. But since they lack Patriotism, this would be difficult; they have more Faith in an English Merchant than in their own. Theirs Wine Trade has not always a Moral Quality that can be trusted; they take up Money, and still they sell the Wine to someone else or they carry of the good and here honestly produced Wine, to purchase inferior Substitutes, without either Prosecution or Punishment for it.

By Lack of Sale of their Wine there can be a Difference in what is consumed of Food; particularly Grain, of more than one third less than normal.

The Export of Madeira is scarcely 18,000 Pipes⁴⁹ according to the most trustworthy Opinions, although others declare it to be 30,000. For twenty Years ago, it was said to have hardly been more than 10,000, but it has increased since then. Fifty Years ago it was said to have hardly been one Thousand, and the Habit and the Dress were so simple that the Dresses of the most distinguished Ladies were much like those of the Peasant Women today. In those Days it was rare to see any Lady wearing Stockings, and Simplicity predominated in their Houses that now is only found among the Peasants. The Preponderance of their Export Goods has provided them with the Luxury that now prevails in many Families.

If Work might be considered as the true and unchanging Measure for the Welfare of the People, this People's Welfare will long remain behind, and the proper Allocation of Work is the first Step. Improvement is here an almost unknown Idea, and seldom or never is calculated what can be achieved both of Time and Work by utilizing the Region's natural Conditions. Often will the Inhabitants of the Island's northern Side come to *Funchal*, or to the South Side, to buy Grain, which high Price is significantly increased by the long and considerable Transport, while they allow their own fertile Soil to lie uncultivated. Moreover, whilst many Places are only a short Way from the Shore, and here by a simple Rope stretched from the high Land, the Wine and the Like easily could be brought into the Boats, they most often prefer to load it onto Mules, which the Peasant then follows, and thus are several Days away from Work.

Population

Apart from a Number of English⁵⁰ Families in *Funchal*, together with some Mulattos and Negros⁵¹, the Population of Madeira is of Portuguese Descent, and the Resemblance between them and the Motherland is in many Respects conspicuous. It is not difficult to find

⁴⁹ There is no reliable information about Madeira's production and export of wine in the 18th century. Reports from travellers show that the wine production varied greatly. Georg Forster reported in 1772 that the average wine production was about 30,000 pipes a year and the export about 13,000. Calculation shows that in 1787 the production was 15,031 pipes and the export 10,819.

⁵⁰ The Navigation Acts (1660 and 1664) gave the British monopoly for the export to England and its colonies. The British colonies in North America were an important market for the Madeira wine and the British merchants nearly got monopoly of all the wine export from the island. Therefore they could fix the price to the producers. In 1680 there were 10 British merchants in the island, hundred years later between 1786 and 1790, there were 35 British firms and 21 skippers. A British Factory was established and on the first known meeting 12 merchants was present.

⁵¹ These were descendants from the slaves imported to the island in the 15th and 16th century to till the land and work in the sugar production. In the end of the 16th century there were 1200 slaves in Madeira, 6 % of the population. The slave trade was abolished in 1761, and from 1773 nobody could be born as slave, and a slave could be free if wanted. The slavery disappeared in the 18th and 19th century.

that a Nation is better than its general Reputation, but common Judgement is too often based upon individual Examples, and I on various Occasions have been convinced that the Natural Character among the Inhabitants of this Island wholly deserves the Name of good. The Number of Inhabitants is generally estimated to be more than 100,000 and *Funchal* alone has approximately 16,000.

Government Authorities, the Civil and Military and the rich Merchants and Landowners are the People of Rank⁵² with the so called Feudal Estates; and the Craftsmen and Peasants constitute the lower Class. The deceased Governor's Post⁵³ was still for a Time left unfilled and the Administration was delegated to three Men; namely to a young Man of a rich and aristocratic Portuguese Family, Luís Vicente⁵⁴, the Commander-in-Chief and the Uppermost of the Council. These receive no Income with the Post. The annual Income for the Governor shall hardly be over 4 to 5,000rd.

The Clergy are somewhat numerous; their Number is normally estimated to be 500, and with all the minor Church Servants, to be 1,000. They have no Living. A great Part of them live from reading Mass; that is, when a prosperous Man dies, the Number of Masses to be read for him is laid down in his last Will, f. Ex. 1,000, for his Soul. For each is paid about 2 *Bites* or 24 Shillings⁵⁵. Clergyman without Employment can be asked to read those Masses or it is handed over to the Bishop to select. All these Masses are hardly read, for even the whole Clergy would scarcely suffice for all the ordered Masses, and moreover one cannot perform more than one a Day, except on the high Holidays when they can perform 3. In the same Way Money is sent for performing Masses in unusual Events, f. Ex. either Illness, Fright, Danger and so on.

It is damaging to this Class, where one undoubtedly finds the greatest Number of enlightened Men; whenever a prominent Family has one or another Sheep Head among their Sons whom they can scarcely otherwise employ and whom they enrol in this Position, these most rapidly ascend the the Church's comfortable Staircases.

⁵² There were no old nobility, but four families could use the title *don*, Henriques des Adcaçovas, Bettencourt Sá, Henriques de Noronha and Heredia. Georg Forster visited Madeira in 1772 and noticed that “many of the better people, are a sort of *petite noblesse*, which we would call *gentry* whose genealogical pride makes them unsociable and ignorant, and causes a ridiculous affectation and gravity”.

⁵³ The governorship established in 1582, had placed all the power in Madeira in the hands of one man. He was the highest authority over the military, the court of justice and the custom chamber. His title was *Governador e Capião-Geral*. From Governor Diego Forjaz Countinhos death (30.3.1798) and until José Manuel da Câmara took over in 1800, the governorship was managed by Luís Vicente together with the clergyman (*deão*) António Correia de Bettencourt Vasconcelos and the highest judge (*o corregedor*) Joaquim José de Morais.

⁵⁴ Luís Vicente de Carvalhal (ca.1777-1798) was head of *Campo do Terço de Infantaria Auxiliar do Funchal*, colonel in *Milícia e fidalgo da Casa Real*. Luís Vicente was the wealthiest nobleman in Portugal. He died 11. September 1798 and was buried in the church in the Franciscan monastery in Funchal.

⁵⁵The last will of Dona Guimar laid down that 4400 masses should be held.

The Franciscans and the Carmelites are the Monastic Orders here; of the Carmelites there is only one left, whose Excesses were of such a Nature despite his Age, that he would scarcely have avoided Punishment if he had stood under the Authorities of the Island, but the Monks cannot be accused outside their Order's General Statutes.

There are 2 Convents⁵⁶, namely St. Clara and Encarnação Maria, of which the first is the richest. They sell Finery to the Ladies, preserved Fruits and Flowers, etc. At Christmas Time there are Feast for the Monks, and then one sees the Streets and Entrances strewn with Myrtle. In St. Clara it is rumoured a Monk was caught in Fornication and thrown down the Convent Wall, which seems to have been about 20 Feet high; this is still talked about, principally to deprive the Lusts from other Sons of Adam.

The Number of consuming Inhabitants is this; about 1,000 belong to the Church and just as many to the regular Military, also an Abundance of *fidalgos*, all with great Families, who consider it a Disgrace to work. The Craftsmen are not encouraged, but rather restrained.

Among the richer Class of Portuguese in *Funchal* one soon notices that a considerable Number have a surprising Resemblance to the Jews, one sees this especially among the Women. It is known that with the Persecution of Jews in Portugal, a great Number were baptized, and of these many went to Madeira.

The Luxury that gave the Nobility the greatest Blow in all Countries, has also given it to Madeira *fidalgo*; however, the Necessities grew but the Incomes did not increase in the same Relation, it thus became impossible to maintain the same old Splendour, and to obtain it one have to get Money. One might sometimes hear that *fidalgo* and *fidalgoria* are Chimeras, that Mister Conto or Mammon is the only *fidalgo*.

The Peasant Class

⁵⁶ Convento de Santa Clara, founded by João Gonçalves da Câmara in 1497 in the purpose to have his unmarried daughters placed as nuns in the convent. One of the daughters, Isabel de Noronha, became the convent's first abbess and three others became nuns. In the middle of the 18th century there were about 130 nuns in the convent.

Convento de Nossa Senhora da Encarnação was founded by the idealistic canon Henrique Calaça de Viveiros in 1650. In 1764 there were 130 nuns in the convent.

Rathke do not mention the third convent. Mosteiro das Mercês was founded in 1654 by Gaspar Berenguer de Andrada and his wife Isabel de Franca. There were no church and the convent had quite another character than the other. The nuns had to submit to a strong discipline with frugality and constant penances.

The common Experience that People in the Colonies are always more depraved than in the Motherland, seems not to hold true as far as Madeira is concerned. A mild Climate and fertile Land will everywhere invite People to Idleness and leads to Softness in the National Character which rapidly degenerates to Indolence and Idleness. The Farmer has with little Struggle what is needed for Provision. *Igname* or *Arum esculentum* are set down in a moist Soil, the Leaves are cut off for his Swine, and the Root is dug up for his Family. His daily Wage for Vine Planting usually brings in approximately 46 Sk. and occasionally 60 Sk.; with which he has more than he needs for his Family of Salt, Meat, Fish, Beans, Maize and Potatoes, all of which most often must be purchased in the Town, although the latter are cultivated at several Places in the Country.

Their Meals are abundant and one would be astonished by the Quantity of *Igname* they can consume; there are Examples that a Man in one Meal consumed 8 Pounds of Maize, ground and boiled into Porridge; commonly it is also mixed with Fat. Similarly, by their Meals a Type of Soup is seen that is called Portuguese and consists of Beans, Potato, *Batatas*, Pumpkin, Bread, Meat and Fish stirred together, and this is a strong, nutritional and not disagreeable Food.

Milk is more unusual, although it is to be had, particularly in the Neighbourhood of the Capital; Butter is particularly rare, it is almost always bought in the Town; I do not recall ever to have seen a Butter Churn by any Farmer, and they absolutely do not know how to make Cheese. Those who have Cattle cut Grass for them with a Sort of curved Knife that is used to cut the Vine, or they also cut off the common *Cactus opuntia* which is everywhere on the South Side of the Island, and after they have the Thorns scraped off, is given to the Cattle to eat. Or they go into the *Serra* and take the Leafs from the Trees, among which particularly *Sideroxylon lacida* and *Clethra arborea*. Their Cow House bears no Sign of Cleanliness; they constantly toss in new Straw without taking out the old and the Manure; so it gets so high that they have Trouble getting their Cattle out. They keep some Sheep, mostly of the Moroccan Race, but they love Goats more, and to the Damage of the young Forest, they keep them in Abundance; which besides the Milk and the Meat, it was a great Advantage to sell the Skins for Leather Sacks or *borracho* for Wine.

As Pomegranate, Peach, Apricot, Plum and Cherry grow wild, and almost in the same Way, Oranges, Banana and the Fig Tree, or these latter at least so willingly that they do not demand Care, one encounters them, especially the Fig Tree, outside the Farmer's Cottage, as in the Parish of *São Martinho* and *Campanário*, the Sugar Cane. In the Vicinity of the House,

and further off, the Fields have particularly *Batatas*, the so called Broad Beans, Wheat, Rye and occasionally Barley and Oats.

They plough and sow in November, but do not harrow nor manure, and seldom allow it to fallow. Their Plough is bad and resembles more an *Ahl*⁵⁷; according to the Understanding of some, this is the only possible to use here where the Ground is too stony to permit the common Plough; the Soil seems more rummaged than really worked. At the End of March the Fields start to put forth Ears, and are cut in May and threshed by Oxen on a broad Lawn outside the House.

There are few Nations that are more kind and polite towards the other Sex and the Idea that the Men send the Women into the Hills to fetch Firewood while they themselves are lazy is undoubtedly false. One sees just as many, if not more Men than Women carrying Firewood and Broom to the Town; partly these are young, and could not earn anything in other Ways; the Work itself is scarcely hard and is made easier by the Habit. The Men do all the Cultivation; the Women hand spin and weave and go out to fetch Fern, needed in Heaps to heat the Baking Oven.

The Domestic Industry is only quite mediocre, and their Clothing is for the most only a very bad rough Linen; and although all taken together [the Clothing] is more costly than the finest foreign, [the Domestic Industry] is maintained by several to give them Work. The Yarn is spun on a Kind of Spindle, which consists of a Cane cut in 4 Parts and spread, around which the Flax is wound.

The Loom has great Likeness to the common one, but is simpler and more poorly constructed, and for the most put together from Cane. A Woman can by hard Work make 3 or 4 Yards in a Day, and sells the Yard for 2 or 3 *tostãos*; they often use the blue for Weft, but when they do not dye themselves, they are forced to pull Threads from old used Clothing for this Use, and in this Way manufacture new Clothing from old.

Their Clothing is the most costly Article, for they have to purchase almost everything in *Funchal*, and they generally love Finery. Although they grow some Flax and the Women spin on Spindle and weave; but only Linen Cloth and a Kind of half Linen and half Woollen Fabrics, all very mediocre, so most of the Clothing has to be purchased.

The Costume for Females of the Peasant Class is blue, a blue full length Skirt and sometimes a Sort of Bodice without Sleeves, a blue Coat that reaches to the Feet and whose right End they throw over the Left Shoulder to hide the Bosom; the Head is covered with a

⁵⁷ Danish for a very simple plough.

white Kerchief whose Ends hang down the Back and sometimes are wrapped around the Hips and the Mouth; upon which is placed a blue Cloth Cap, which rises to a Point, and it has in front and back a little bright red Cloth Patch in the End of the Seam. They normally go barefoot or with Shoes without Stockings. Among them are some particularly beautiful, when one is coming some Miles away from *Funchal*. Only the Costume deforms them by transforming them into a Sort of Pyramid of 3 Ledges, the pointed Cap, the Coat and the Skirt.



Sarah Bowdich 1825.

Another even more ugly Costume, wore by the little more distinguished is long Capes of woollen Cloth Coat with Ribbons that reaches to their Feet, on their Head they have a white Kerchief and upon it a large broad brimmed Felt Hat.

The Men's Costume is besides the Shirt, a Pair of wide bleached Trousers of Linen Cloth; they hang loose around the Knees, and no Stockings, but usually Boots of only tanned not so tight Leather, usually well made; on the Head they use a blue Cloth Cap pointing upwards. On special Occasions they usually wear Velvet Trousers and blue Cloth Cloak with a round Hat. The Woman use the same Sort of Cloth Cap, Shirts of Cloth or fine Material, mostly blue, a short, partly blue, partly red Cloth or Wool Coat over their Shoulders, on the Head they have, in addition to the Cap, a white Kerchief usually tied around the Neck so that one sees nothing else than the Nose and Eyes.

In addition to the Tithe, which, as far as the Farmer is concerned, is accurately paid, there is a Duty of 10^{psto} imposed on all Types of Goods which are imported, and on the Wine that is exported. Naturally the Farmer must pay this as he takes the most of what he needs of Clothing and Food from the Town; as well he must pay for the Maintenance of the Roads and Bridges, similarly about 28 Shillings for every Pipe of Wine he produces for the Schools, even though in most if not in all Parishes, one finds no Sign of a School.

On all Holy Days he is forbidden to work, in short all taken together, must be estimated to about 165 Days. When the 200 Days that remain are divided between him and the Owner of the Estate, he has only the Work of 100 Days to earn his Living, from which however Expenses for Weddings, Christenings and Funerals, which are not insignificant, has to be taken; from the Tithe again a Tithe is drawn for several Portuguese Families.

Administration

The Governor has in Fact almost alone the Administration, but consults the first and the second Judge, the Mayor of the Town and the Secretary. Formerly there shall have been a Sort of Parliament until the Government found it necessary to annul this and take over the Administration. All the Income goes to the Customs Office here.

There are about 200 Infantry Soldiers, but no Cavalry; each has in Addition to Bread 6 S daily. They fear to become Soldiers, and particularly Conscription, which sometimes has been so strict that they have taken 1,000 Men from this Island for *Lisboa*. The best Means of avoiding this is to be married and have Children.

Madeira has no actual Police, but on the other Hand, the Tribunal of the Inquisition in *Lisboa* has its Emissaries here. The Government takes Care to see that there should be no Tramps, and if there are any such, these are to be rapidly seized and made into Soldiers or Mariners. This Arrangement and that it is not easy for any Criminal to escape from the Island, as an Officer shall look after that no one can leave without a Passport, easily prevents Disorder.

One Example I have to mention. Unfortunately I had to engage a Portuguese Servant, and after some Time this Man was called up to be a Soldier, but by my Intercession he was freed. Shortly thereafter he was arrested for a serious Theft, later again released without anyone thinking upon how he maintained himself. By Housebreaking he later stole from me; and one of the Country's Natives assured me that the Laws were of such a Character that it would be so difficult for me to get Justice with regard to him, that I better should give up the whole Thing. It did not appear that he lost any of his Esteem by this Behaviour.

Jardien, the Lawyer, a corpulent Man with a ceremonious Pope Cap, at the Middle of a large Table, that seemed to be of the same Type as sketched in the Apocalypse, with a frightful Quantity of Papers and Books behind him from Floor to Ceiling, and surrounded by all Sorts of Prelates, said with adequate Sufficiency that my Argument that this Man which

had these Clothes on and whom several Witnesses had seen running away from me in the Street and whom I publicly pronounced to be a Thief and under Oath would confirm what I had said, that this Argument was perhaps adequate according to the Laws of other Countries, but could not be fully applicable under the Portuguese, due to their greater Justice and Subtleties. My Witness was a Servant of the State responsible for the Supervision of Pavement with a Multitude of People working in the Street. They said that they had correctly understood that I said this was a Thief, and that I wanted them to help me bring him in Security, but that they had however not understood the Matter properly.

One obtains a Kind of Letter of Freedom from the Authorities, after which it is impossible to be held under Arrest. This same Freedom Letter is valid for one Year, but after this Time must be renewed. After the Summon he must be present and defend himself. A Thief who had already been arrested once, was convincing, had given back the stolen Goods and was released without Punishment, got such one when he was still under Arrest for a new Theft.

When 2 meet in a Fight they are both brought in by the Guard. When someone attacks another so that he is bleeding, he makes a Law Suite against him, which easily can ruin the Victim. They prefer hidden Revenge and hire some or another to cripple, but very seldom or almost never to murder whom they desire Revenge upon.

There is a Law in Portugal so when a Man seize another in Adultery with his Wife, he has the Right to kill them both; but the same Law makes an Exception when the Criminal is of the Noble Class (*fidalgo*); then he must not be killed, but can buy his Freedom with a Sum of Money. An educated Man presented this as an Example of how distant they are from the reasonable Equality which is the Foundation for all Legislation.



Religion

The Pictures that are carried from the Franciscan Monastery in the great Procession at the Beginning of Lent, are many and in that Taste tolerably pretty. First, a Christ Picture clothed in full Size kneeling under the Burden of the Cross. St. Francis, St. Francis and the Pope and with a Cardinal at his Side, Saint Francis has the Rules of his Order in his Hand. Some Nuns, Emperor Charles V, and a King of France, Queen Isabella in Portugal with the Disciplinaria or the *santa senhora* where they beat themselves during the Penitence.

In the Provinces go, besides a great Number of People to take a look, also the penitent Sinners barefoot in the Penitence Dress and with Masks before the Face, not to be recognized. In former Times at the Lenten Procession, their Disciplina or Contrition were often particularly frightening; namely People dragged heavy Iron Chains through the Streets in the Night, wrapped thorny Branches of Brambleberries around their Body and placed small Bits of Glass in the Strings or Disciplina, such that the Blood flowed down their Backs and they frequently became dangerously ill; thanks to the Enlightenment this has completely disappeared. Among the Penitents I noticed a Pair without Noses who did little or nothing to demonstrate their Contrition. To consume Meat during Lent nearly 6 S is paid for a printed Note. From Time to Time one hears of the Clergy themselves joke with *verbum iuro*.

The first Friday in Easter is also a high Penitence and Fasting Day, and in the Evening at 6 O'clock or by *ave Maria* the Mass that is called the *Miserere* begins; a Crucifix in life-size is taken down and laid on the Altar; most of those present go there, kneel and kiss the Feet of the Crucifix; then all the Candles are put out and the contrite Penitents begin to beat themselves with Strings that are called *Disciplina*; actually it seems that these were hired and they beat themselves only with the Hand against their Clothing.

In a Speech a Monk announced to the Assembly the most important by the Crucifix; gradually, as his Voice grew more weeping, the Blows became more normal and finally ended in an almost ordinary Hand Clap. The Candles were lit and the Crucifix was carried out by the Franciscan Brotherhood under a Baldachin. Indeed, there are many Brotherhood Guilds that distinguish themselves on such Occasions by their Dresses and are helpful to the Monks by several Occasions. Beside the Crucifix also the Tomb of Christ was showed in the Church. The whole ended with a Mass.

On Maundy Thursday the Sacrament is set up to be viewed on a Sort of Throne, with a Multitude of Candles; after the Foot Washing of the Bishop in the Cathedral a Kind of Vocal

Music not unlike our Oratory, is performed by the Priests, and during this a great Number move to and from the one Church to the other, then they are all illuminated on this Occasion.

On Good Friday the Crucifixion is performed at the Franciscan Monastery. There a Mass is read and a Sermon preached. The Floor of the Church resembles a Pit and is only for the Ladies. The Entrance to the Gallery, completely like Theatre Boxes, is for the Men. In his Sermon the Monk with Outcry calls forth those who should be present by the Crucifixion, and one even sees these well enough to let them pass through the whole Crowd; one sees 2 dressed as Jews, one as the Roman Officer who was keeping Watch by the Cross, others as Soldiers, but all in a Way that is offending and not in accord with History. There also came 4 Men from the most distinguished Families with a Coffin and Bier to carry the Saviour away. Some bring Ladders, the Curtain opens and one sees the Crucifix with the Maria Picture in life size and both of the Robbers; the Ladders are placed and the Picture that represents the dead Saviour is taken down and lowered, after the Nails with distinct Blows are removed, and placed in the Coffin; this is later brought through the Streets in the Procession.

The Procession from the Jesuit Church was simple, without more Pictures than the Saviour's and Mary's, but peculiar that they alternated with Music from Trumpets, Drums and Pipes, and the Mass and the Hymns of the Priests and the Monks. The Crucifix was carried from the Jesuit Collegium to the Franciscan Monastery where the Maria Picture in life-size, well done, in a weeping and broken Position, was placed right in front of the Saviour; a Monk mounted a little Pulpit under the open Sky and held a Sermon in which he described Mary's Sorrow and the Saviour's Patient and human Character with such touching Expressions that almost the whole Assembly burst into Tears. I must confess that this was the first and only Time I had the Opportunity to witness a religious Feeling like this.

From here the Procession, followed by Hundreds of People with bared Head, went to *São Tiago* where a Priest gave a Sermon more or less in the Style of *Vieira*; with some Exclamations of Misericordia the whole Assembly fell to its Knees and all of them slapped themselves with their Hands on the Cheeks. This made a peculiar almost laughable Sound; later the Procession returned.

António Vieira, the Portuguese Jesuit, is generally considered to be the Pattern of Eloquence and good Language; one will frequently hear Expressions in their Sermons, and occasionally even some in every day Speech, that have a certain Similarity with this Man's Eloquence, of which Abbé Arnaud in his *Histoire des deux Indes*, Vol. V, has given a good Example.

It is strange that *Necker* can seem to believe that Catholics very much love their Masses because of the nice Music; there scarcely exists anything more unmusical, and if it were not for the strong Fear of the Church Punishments there would scarcely be very many attending; though despite this, one sees the Churches almost empty, except in the Villages. They love to much their Morning Sleep, and to yield to this, one has arranged more Masses, f. Ex. 5 O'clock, 7 or 8, 11 O'clock and 1 O'clock, and though there is a Punishment for staying away from the Mass, they often excuse themselves. It is known that the French were complaining and beating their Priests, when they did not read the Mass fast enough, and the same happens here; one hears many of them rattle it off as if they were afraid of being heard, and in very hard and unpleasant, though measured Tones.

It prevents however the Traveller, his Post Man will not seldom have Mass to delay the Journey. In the Towns where the Churches are spacious, it is not as unpleasant and unhealthy as in the Villages, where one often sees People so packed that they scarcely have Room to kneel, and one notices the Joy with which they seek the Way out.

However it gives Occasion to Bigotry. One of the worst Scandalmonger and evil Females shouted continually at her Husband gallantly *ah vida scandalada* and told far and wide of her own Fear of God and her Husband's Godlessness who rather wanted to sleep than *vida la messa*.

In some Parties all the Guests stand up at the Stroke of the Clock which proclaims *Ave Maria* and when this is over, they wish one another Good Evening; some times a distinct *Ave Maria* is heard from one or another old Woman; Reading as one goes to or from the Table I noticed nowhere. Their Interjections or Outcries are commonly Jesus, Jesus Maria, Jesus St. Anna, and many Names of the Saints. The lower Class commonly shout *Diabo* or *Diabo do inferno* when they want to express their Wrath or Frustration. There is perhaps no Catholic Country where Superstition is less, and if it were not bound up with Punishment, then many of the Ceremonies would quickly sink into Oblivion; but at each Confession, it is closely examined that everyone has purchased his Bull; likewise they are punished if they neglect the Church, and even more those that do not communicate at the right Time.

It is well known that before the Revolution in France one talked to the Benefit of the Priests and considered them to be necessary; on the other Hand, one despised the Monks, and one shall have noticed something similar here. Nevertheless, considerable Numbers are still dedicated to the Franciscan Order here, particularly by Parents who do not otherwise know how to place their Children. One Year, the Trial Period, they are hold very severely; no one must speak to them apart from an old Monk who brings them the Food; after this they make

the Monk Vow and must for some Time make even the inferior Services in the Monastery. Their Duties are generally to sing their *Horas* and beg for their Food.



Sarah Bowdich 1825.

By the Table, it is taken care of that the old ones eat first and later their Servants. Their Wine Cellar is well stocked and they have also a nice Garden, but only mediocre cultivated; there is a Coconut Tree, the only one I saw on the Island. There was also a Number of the here common *Canna*, whose Seeds here perhaps formerly have served for Rosaries. A peculiar Contrivance and Division, to clean them of Vermin, they have in the Entrance by the Monk Cells.

Among their Clergy there are some few found so depraved in Mind and Morals that they even in Conversation have admitted that they considered Women only created to serve their animal Needs; one single I once met claimed that since canonical Law did not allow him with Women, he seeks to satisfy his Needs and really sought it, with the other Sex.

In the local Collegium or Gymnasium there shall be about 200 Disciples. The Teachers, *Pereira* in the Languages and *d'Oliveira* in Philosophy and Mathematics, each receive about 600 Rix Dollar per Annum. The Class Hours are 7, *Pereira* in 5 and *d'Oliveira* in 2. The Students here are unable to achieve any Dignity and have to go to *Lisboa*. They could nevertheless become Priests, as this alone depended on the Bishop. To be ordained as Priests the Candidates must submit an Examine here on the Island. This is carried out by the Bishop, a *Canonicus* (the Revered *Loupes*) and both of the Teachers at the Collegium, *João Pereira* and *Francisco Manuel*, and the Candidate is tested in Theology, Rhetoric, Philosophy and Grammar. It once happened that one of the Teachers asked the Candidate to recite a Sentence that ended with *ante cella Thesaurus*. The other corrected the Candidate and said that it should be *Thesaura*, whereupon the first Teacher said that the Boy had answered

correctly. The Bishop shouted for the *Callup*⁵⁸, which is the commonly used Dictionary; but first *Litris* said that he believed it was unnecessary since His Eminence read daily from the Bible *Thesaurus vester*, whereupon the 4th Man who hitherto had been neutral shouted that this he had said already, though he had not opened his Mouth. This Quarrel ended as usual with Hostility between the Disputants.

On another Occasion 2 of them met at a Party, a Priest and a *commisário*; the latter said, on seeing the Priest, here the Noah's Ark is now complete; but the Priest answered, it lacked a Horse before your Arrival.

Schools

The School System for ordinary People is in a bad Condition and in most Parishes there are no Schools. In the Town it is handed over to Persons who have no other Prospects, and it is commonly paid 10⁰⁰⁰ per Month; their Textbook is a little *deodox* of something over 200 Pages and is called *laterna Christi*; it begins with the Alphabet, with a Picture for every Letter with Syllable Exercises and with a Promise of Indulgence for those who teach the Young one. The Rest is divided into 14 Chapters which include a Description and Significance of the Cross, Our Father, Ave Maria, The Queen, Articles of Faith, the 10 Commandments, the Church's 5 Commandments; about the Mass, Confession, Holy Communion, the Paying of Tithes and the First Fruits, the seven Deadly Sins, Pride, Covetousness, Gluttony; Sins against the Holy Spirit, Despair, Envy, and Consternation of the 4 crying Sins; the Church's 7 Sacraments, the Duties of Compassion, 7 corporeal and 7 spiritual; the different Orders' Mass Rituals in Latin and several other Prayers, f. Ex. *Pater Noster, Ave Maria, Credo in Deum, Salve Regina*. Finally, some Rules about how a Christian ought to employ his Day, how to hear the Mass, prepare oneself for Confession, go to Communion. A long Litany or *ladainha* to all the Saints and Mary. The Use of the Rosary, the Mysteries, the 3 joyful and 5 sad from the History of Suffering and 5 glorious, whereupon there follow some spiritual Songs, and finally a Prayer to the Almighty that concludes the Book.

⁵⁸ Ambrosii Calepinii Dictionarium septem linguarum, nova maximque vocum accession ...: In quo respondent Latinis vocabulis Graeca, Italica, Gallica, Hispanica, Germanica, Belgica; tres praeterea indicesBasiliae; ex officina Henricpetrina, 1570. 22 bl., 1676 s., 1 bl., 364 s., 2 bl. Several editions.

Some would argue that this Prejudice about the Intercession of the Saint, is an important Hindrance for the Morality, and there are few that seem to have a distinct Conception of future Punishment and Reward.

Social Life

It is a common Prejudice that to know the World one shall seek the Society of the richest and best brought up. In every Country, the Persons in these Classes are cut after one and the same Pattern. Shortly after my Arrival on Madeira I went to a Party of more than 200 of the Town *Funchal's* best Families, and looked forward beforehand to the Information I by this Occasion would obtain regarding the Manners, Etiquette and Taste of the Place where I would be living for some Months. I was astonished when I saw the Rooms full of Playing Parties, few were speaking and no one was interested in the Foreigner, who could not possibly start a Conversation upon a Place where he was as fallen from the Sky.

But the Ladies were no Doubt in a Room of their own until the Mealtime. I was looking forward to this when I presumed that then the Conversation would get more Life, but this Hope was wrong and I looked for the End of the Meal after about an Hour's Time. Now the Way led to a Sort of exceedingly pleasant and tasteful Pergola where a very large Table with a little Fountain and a Pool with Goldfish were seen; on the Table were all Sorts of sweet Preserves and the loveliest of Madeira's Fruits, as also the most exquisite Wines; here nothing offended me other than the English Idea to offer his Guests to drink in a Room without Chairs, so that they would not be able to drink longer than they could stand on their Feet.

One went from here to a delightful large Hall where the Ladies had taken Seats around the Room and the Gentlemen stood all together in a Cluster by the Door. Someone requested one or other of the Ladies to play on a little Organ that stood in the Room; they did this with praiseworthy Willingness and sang in Addition; there were among them several who had a tolerable Perfection; the Music was for the most Part Italian, and one clapped especially for a *bravura* Aria more artistic than beautiful, and later People again began to play, and some who remained into the Night finally had a little Ball.

Their Masquerade begins around the End of April and goes on almost the whole Summer; the Costumes are sometimes exceedingly costly and seem to be the main Point. Sometimes the Procession is whimsical enough, and frequently their Wit is fairly similar to the old Salic Jest. The Mask often shows a Lawyer with Spectacles on the Nose and

accompanied by an Ass downloaded with Books, and the Mob shouting that it is the Doctor who is carrying the Books. A miserable Wretch was persuaded to let himself be hitched to a Wagon and to pull a Mask [a person with a mask] and which continuously and in a too explicit Manner manoeuvred with an Enema Syringe. Some are dressed as Devils and some as Monkeys, while the Night is spent with the Dance of Men dressed as Women.

A Liberty Preacher was constantly talking about Human Right, but when there was Talk about an Englishman that from Fear the French should take the Island began to move his Wine from it, then this Liberty Preacher claimed that the Governor should certainly not permit this. Later one naturally with Tanks declined his Ideas of Liberty.

During a Conversation at Table the Reason for Crop Failure was discussed; many found the Reason in something else, some in the Lack of the Fear of God, in the Morals, etc. But one Person in the Company said, quite aloud, "Please, Gentlemen, to let me give my Opinion; it is due to the Lack of Justice (*falta de justiça*)"; but this same came very close to being taken by the Head.

As a Proof of how inflammable the Imagination of even a peaceful People can be when they are subdued by Superstition and Ignorance, the Following can serve. Some Fanatics spread it about that the French wanted to take the Island, pointed out those that were commissioned to inform them and even told that they had seen Money brought ashore, and also that the Pillar that brought the Goods ashore should serve them as Lighthouse. Some even maintained to have seen Light on it. The Matter became so serious that the Rabble had already chosen its Victims, when the Issue eventually was taken seriously, and those who had spread the Rumours were examined before the Populace of the Church, in order to convince them of the Absurdity.

Lack of universal Morale and common Welfare has incalculably damaging Consequences. The most suitable Allegory is without Doubt to imagine their Administration as different Solar Systems within the same State; each chooses his own and seeks to prejudice the other, and is by this constantly engaged.

Here, Civility is a Stream of Words, and one frequently waits merely until the pretended Friend shall turn his Back to stick the Dagger in him, or at least unseating him from a Place where one desires someone more trustworthy. This creates a Dissimulation and Sophistication that quickly catches a Foreigner's Eye.

They commonly give People one or another Nickname, f. Ex. *Videriela, Cadrele, Caldeiro, Pesci, Pao, Cavalo, Puterlana teija de aranha*; this is often necessary to know in order to distinguish one from another.

Excessive Drinking particularly Spirits frequently brings about a Sort of Madness, which commonly reveals itself in a tense and overwrought Imagination, rarely melancholic and most frequently proud; one also has the curious Example that this Form of Madness is completely cured only by a Journey to more northerly Climates.

The Women

It is strange that beauty is seldom among the Women. The unfavourable Costume, an often unreasonable Bashfulness and that the Women of the lowest Class make themselves seen, is however probably the greatest Reason.

Those of the more distinguished Class allow themselves to be borne in Hammock when they pay Visits and when they go to Church their whole Figure is so covered in a Sort of Penitential Costume and most often the Face is hidden by a black Veil which hardly allows for any Glimpse of the Beauty.

To get an Idea of the Opulence that already prevails on Madeira, one has to look at their Gala Days, particularly Maundy Thursday, when almost all the Women are dressed in white and most Men with Sword and *Chapeau-bas*; one will by this Occasion also notice the National Faces and find that the fairer Sex, particularly what concerns the so called embonpoint and Decency, scarcely stand behind those of any other Nation, but also a Sort of coarse Sensuality which, particularly among the lower Class is often disclosed without Bashfulness.

But those of the richer Class commonly dress themselves in English, and since their *Taille* often is exceedingly plump, Dresses with the Bodices only to the Breasts suit them very well.

The Costume when they go to Church somewhat resembles what one finds in the Paintings that depict the Assembly of the first Christians; namely a black Flannel Cape that is tied around the Hips as a Skirt and the upper Part is thrown over the Head such that it hides the whole upper Body, including the Arms; the Young make a Difference by having the Arms free, and one not infrequently sees that they peep out under it with not very penitent Faces.

In *Funchal*, and even in the small Towns, one will find Pomp in Costume and one will find more Men than Women of exaggerated Finery, but seldom anything characteristic except the Sword, which is to be seen in all Classes, though now less frequently than earlier.

The finer traits of feminine Modesty and Softness are rare, and they are perhaps happier and healthier for not being acquainted with the exaggerated Feelings that create so many Illusions, happy and unhappy, among both Sexes in the Capitals of Europe.

The commonest and most beloved Beauty here is a round Face, small, rarely sparkling clear Eyes, a low Forehead, a short Nose, prominent Eye Bones, and the lower Face almost of the same Size as the Nose and Brow together; pale, and almost greyish Face Colour is almost a national Feature, plumb often fat Limbs, normally 5 Feet tall, and occasionally, though rarely, over.

They are normally of a pale somewhat sallow Colour without a noticeable Fire in the Eyes, sooner somewhat serious and reserved, than lively; and their Glance seems to say something, though most often really nothing; however there are many Exceptions, as many of them have been raised in England and know the World, although one does not notice Pretension in them.

Women mature earlier on Madeira than one would expect according to the Climate; there are Examples of young Women becoming man-able and have had Association with the other Sex before 12th Year; similarly of Children 7 Years old who have disclosed the most eager Desire for Intercourse. Examples of Marriage in the 14th Year are far from rare.

A trustworthy Man assured me that he had heard a Priest tell a Story of Possession; that a Woman who was possessed by the Devil and when questioned by the Bishop in Latin, she answered that she did not understand and asked him instead to question the Devil inside her; the Latter then answered in Latin and was subsequently and with great Distress driven out.

Freemasonry

Freemasonry was very widespread on Madeira. There was a Lodge with its own House outside *Funchal*; they succeeded in gathering the best People of all Classes and many of the so called *fidalgos*, or high Nobility, several Priests, even the Governor shall have been in the Society.

Everything went well until a Frenchman arrived, calling himself Dorkenin [d'Orquigny]⁵⁹, and passed himself off as Doctor. He asserted that he had been sent to bring the World's Lodges into Conformity and showed a multitude of Diplomas. He argued that to bring the Lodge in order and pay the necessary Expenditures, it had to be a Subscription, and everyone had to pay either 8 Pipes Madeira Wine or the Value. Many became aware of this and proposed to write to the English Lodges to enquire about his Authority; one Member of the Society said he believed one would know this Man before the Information arrived, and the Outcome justified this Supposition.

One soon found out that Dorkenin was a Swindler and some Information also were that he had never been a Doctor, but only Assistant to a Doctor of this Name, and had stolen a Part of his Papers. A Misunderstanding arose between him and the Governor, which made Several sceptical, and Dorkenin went to *Lisboa*. Here he gave a List over those being Freemasons, and the Case became so important that an Investigation was ordered. The Result of this was that a young Person from Fear of the Inquisition took Poison, 4 or 5 Families fled to America likewise some Officers; in Short, the Case became so serious that to prevent further Consequences, it was proposed that they should define themselves and swear to close the Society and not have Gatherings like that to avoid the so called Holy Office or the Inquisition. This happened and in this Manner the Issue was settled, but it dealt a mortal Blow to the Society, then now one was afraid of any Meeting.

The Bishop *Don José (da Costa Tôrres)*⁶⁰ had a Doctor Oliveira; when the Bishop heard that Oliveira was a Freemason, he wanted to give him over to the Inquisition; but

⁵⁹ João José d'Orquigny (1744- ?) came from Chatillon-sur-Marne in France. He had studied anatomy, botany, natural history, experimental physics and mechanics, and had travelled in India and America. About 1788 he went to Portugal and called himself doctor and natural historian. Supported by the secretary in *Marinho e Ultramar*, Martinho de Melo e Castro, which wanted Madeira to develop, d'Orquigny went to Madeira in the spring 1789, where he was well received by the Governor. D'Orquigny lived in *palácio de São Lourenço* and planed to found a patriotic society, *Sociedade Patriótica e Económica do Comércio, Agricultura, Ciências e Artes* there. In that connection he worked out a description of the conditions in Madeira where he specially regarded the commerce which almost totally was in the hands of the foreigners. This immediately brought him in conflict with the British merchants. After having been involved in these problems and also accused of being a freemason, he left Madeira. He was arrested in Lisboa 13th August 1791, and after having been examined by the *Santo Ofício*, he was expelled from Portugal.

⁶⁰ There were many freemasons in Madeira, and a lodge in Funchal comprised a judge (*o juiz de fora*), several clergymen, men of letters and sons from noble families. In 1792 the bishop in Funchal, José da Costa Tôrres, started a large-scale pursuit of the freemasons in Madeira, and asserted that he was defending the interests of the crone and the state. This action brought panic and many freemasons, among them several officers and state officials, left Madeira with their families. The Governor meant that the freemason lodge was apolitical, addressed the government in Lisboa, and the 23 June 1792 all accused for membership in the secret societies, were pardoned and acquit of the accusation of heresy. When the bishop denied the clergymen that had been freemasons to come back in position, the government again had to intervene. Some years later the bishop was moved to *Elvas*, and the night before the 6 October 1796 he left Madeira without saying good-by to anyone.

Oliveira went to Lisboa and became Doctor for the King; here he made that the Bishop, what had up to now been unheard of, was recalled from Madeira; when it otherwise was usual that the Bishops remained here until their Deaths. Madeira's inhabitants were happy to get rid of this Person who shall have been a very evil Man.

The Roads

The general Highways are only mediocre, they are narrow and ascend and descend very steeply; often without Bridges over fairly great Streams and frequently overflowed in rainy Season. Some Stretches are very beautiful, f. Ex. the one in the Parish of *Santana* on the North Side, the Road from *Santa Cruz* to *Funchal* towards the East, the one in *Canhas* to the South and the Road in *Madalena de Serra* towards the West.

Around *Funchal* and near the other, smaller Towns, the Roads are paved, but have not been planted with Trees. *Veloso* had such a Plan but does not seem to have succeeded with its Execution. Myrtle Trees overhang the Roads, as do Fig, Pomegranate, Orange and Banana Trees. Alongside an *Aguado* or Water Conduits often, which does not commonly flow with crystal clear, but its muddy Water invokes the Idea of the Fertility which it is spreading, then they are conducted to water every *Fazenda* which has a Share in it.

The Houses

The Building Method on Madeira deserves Attention. In a Country that has had so much Wood, it is indeed strange to encounter so few wooden Houses. Almost all the Houses in *Funchal*, even the very oldest, are of Stone, it is also asserted that they have been built by the first Moorish Families who had come to the Country. This not only gives the Town a fine Appearance, but also makes Fire very rare.

The Houses are normally 2 Storeys high and frequently have a Sort of square Tower in the Middle, sometimes twice as high as the House. They are constructed of a Trap or Basalt Type of Stone, which in Appearance looks like our Greystone. These are cut into Pieces which roughly fit together, and are placed so that they make a Wall of a little over a Foot in Thickness, which is then whitewashed and often even plastered. The oldest Houses have no such Cover, and one sees only the bare Stone

Stone of Lava is cut for the Cornices of Windows and Doors, and also for the Balconies which has the Advantage to be easily worked, nor is it heavy, and it is remarkably

durable. Its Colour is commonly reddish brown, and it is commonly cut out in the Form of a foursided Prism about 8 Inches thick. This is also used for Stairs. The Walls are commonly 1 1/2 to 2 Feet in Thickness; the Ground Floor is low and arranged partly as a Sort of Office or Servant's Room, partly Storage Rooms and Shops, partly also as Workshops which all are open to the Street, and from which they receive their Light.

The second and topmost Floor is high and designed for the Family. Namely a large square Room with 2 or 4 great Windows 1 1/3 to 2 *Alen* wide and 2 to 2 1/2 *Alen* high, and constructed so that the Lower can be pushed up behind the Upper in the English Style. Below them there are frequently 2 Doors out to the Balcony. Sometimes instead of this Window, though only among the Poor, is a Sort of wooden Trellis, frequently like what we call Jealousy, and constructed to be pushed out and hang, firmly in Hinges at the Top.

Between the Windows hangs a Mirror of old-fashioned Taste, and sometimes Etchings. The Walls are plastered and have a single Border of simple wooden Panelling to the Height where the Window begins and which continues around the Windows and to the Floor; similarly there is a Border like a Cornice under the Ceiling and the Ceiling itself is raised in a Sort of Vault, often plastered with a single Decoration in the Middle f. Ex. green, and the Cornice green with white Flowers. In addition there is a Sitting Room, Sleeping Chamber and Kitchen.

The Roof is low and flat with Roof Tiles of the old-fashioned Style, but laid in Lime not to rattle, apart from a few of the more modest Houses where they have laid big Stones upon not to blow away in Storms. The Chimneys are very broad, closed on the Top, and with Openings on the Sides; the Baking Oven is frequently a simple Extension.

The Farmer's House is simple; a Stone House seldom more than 8 *Alen* long and 3 wide, with a Lattice that inclines to a Point and is covered with Straw and Cane, makes up the Dwelling House. There is a little Niche facing the Door and in this one or another Picture of a Saint; a small Bunk with a Mattress, one or 2 Cases, a Table and often no Chairs. A Pole under the Roof from one Wall to the other serves as Wardrobe and one is seldom wrong if one judge the Prosperity of the House according to this, since all the Finery Clothes are hung here and a Silk Skirt often spread out to Sight; the Kitchen is often only a Pantry.

Next to the Dwelling House there is a little Straw Hut that serves as Kitchen, and further off another for the Creature. In the high Hills, f. Ex. *Curral das Freiras*, the Fireplace in the Dwelling House is on the Floor, and it is curious that one is not bothered by Smoke even though the Door is very low and the Wood fresh from the Bay Tree.

One recognizes the richer Farmers from the Fact that they have their Houses plastered with Lime and covered with Tiles.

Stonework

The two Rock Types used for Buildings here on the Island are both Types of Lava. The one red and of looser and more open Consistency is called *pedra mole* (the soft), the other blue-grey and sometimes of significantly tighter and denser Consistency, is called *pedra ridge* [*rigido*](the hard).

The Sand which is used to mix with Lime for Mortar, is actually nothing other than these small Lava Pieces that have been crushed and rounded by the Waves; they are sometimes washed in fresh Water not to attract Moisture by the Salt that they could have brought with them from the Sea. Furthermore, the black is ground very fine, mixed with Lime to make Stucco that, when well worked, resembles black Marble.

A Summation of the Wages for cutting the so called *pedra mole* and *ridge* [*rigido*] out of the Mountain to transport them to the Town, cut them properly and place them in the their Positions, show that a Stone of *pedra ridge* [*rigido*] of approximately 3 Feet in Length 2 Feet Wide and 1/2 Foot in Thickness, costs over 20 Rix Dollar.

If this Sort of Stone could be glazed it could undoubtedly be utilized for more Things than at Present.

They burn very few Roof Tiles on Madeira, and those they do burn are bad; it splits and suck up Water; otherwise, they burn no Bricks at all, some believe this is because the red Clay is not suitable for this; others that the Facility with which one can saw and cut the Lava Stone, or *pedra mole* as it is called, means that this can be used for Ornamentation, and Walls are built with Stone that is cut a little and laid in Lime. Here they mix the Lime with what is called Sand, which really is nothing else than small, rounded Stones of the Rock Types found here, but no Quartz. *Banger* washed it out with fresh Water so that it would not attract Moisture from the Air. It is extremely strong and the Walls stand very well.

Pottery

The Clay that is used here for Pottery Work is greyish yellow and is dug up in various Locations, though it is as far as I was able to ask, only the one Potter in *Funchal*. This is mixed with what they here call Sand, which really is nothing other than small Bits of Lava, and is formed in the normal Manner into Vessels of various Shapes, including those for carrying Water. Those for roasting Chestnuts, the so-called *assadeira*, have a Kind of Oven, a little Box of Clay for the Fire, and a sort of Kettle with Holes where they throw the Chestnuts for Roasting.

The Vessels are not really glazed, but instead they are smeared with a Kind of fine red Soil composed of greasy Clay very carefully mixed with an especially fine Lava Ash. When they have been smeared with this, they are polished with a round Silica Stone, and are glazed with a Cloth dipped in Oil; later they are set in the Oven, which was very simple and small, and when they have been burnt they get a rather shiny Surface resembling a Form of Glaze, but it is so soft that it is easily scraped with a Knife. They can be used for Cooking but for cold Things they are well useful. An old Woman did the Polishing and received a half *Castoin* (about 7 Shillings) for each, and could undoubtedly earn approximately 80 Shillings daily, when there was enough Work.

Near *Cabo Girão* is the most noteworthy Quarry of *pedra mole* where it is mined and then brought by Boat to the Town.

The Millstones are brought to Madeira from *Lisboa*. They consist of the Limestone rather common in Spain; it is so hard that it will make small Scratches on Glass, and it gives single Sparks with Steel. There is now a fairly similar at *Porto Santo*. Of the Fragments and of old Millstones there are burnt a very good Lime.

Curculia

For Grain Drying to prevent the damaging Effects of *Curculia*, a Steam Engine can with advantage be employed. *Banger* has f. Ex. used this with Success. The Machine itself was of Copper, about 3 Feet high and 2 in Diameter, round, equipped underneath with Fireplace and a Grate from which the Fire played against the Bottom of the Kettle and brought the Water to boil. The hot Steam went up through a thick Copper Pipe, and from there, through a thinner one which went approximately 30 Feet in the Height and then was bent and ran down to the Kettle, where there was a Cooling Barrel to turn the Steam back again to Water. Up where the Pipe is bent is a Kind of short hollow Cylinder of Copper around which the Steam plays; above this there is a Funnel shaped Opening that can be

attached to the Cylinder; from here a Pipe runs between the 2 others, the First from the Kettle and which thereby is warmed to an very high Temperature, and ends up down by the End of the thick Copper Pipe. Now, when the Grain was thrown into the Funnel shaped Opening it immediately received the Heat of the Steam, and even more when it comes into the Pipe, such that when it falls out underneath it can be thrown into Sacks and afterwards thrown out in Heaps. Thus treated, this Grain is not attacked by *Curculia* and can be kept for a particularly long Time. To prevent the Unpleasantness with Copper, can the so called tinned Copper which does not oxidise be used; the whole Machine costs approximately £20 Sterling.

The *Curculia* causes an awful Amount of Damage here, and the warmer the Climate is, from where the Grain comes, the more full it commonly is from this Vermin, that consume the Kernel in the Grain. The Wheat and Maize from the Barbary Coast and Brazil is often found completely consumed by this, and also that which is grown and developed on Madeira. *Banger* has sent an Application to the Government in Portugal for Privilege to have it alone and has got a Promise.

His House he had built with very high, light, airy Cross Lofts, which were no Doubt the most important Factor in keeping his Grain free from *Curculia*. They develop from Egg to Insect in a Period of 6 Weeks.

By his high Tower, he has the Advantage both to haul small Craft or Barques up upon Land and to convey heavy Things from Ships up in the Height and down into his Loft (the Tower is said to have cost him 30,000).

Climate

The Winter Time is undoubtedly somewhat more pleasant in the Region around *Funchal*, than the Summer Time, when like this Year (1798) they are not stormy. Even at Christmas Time I saw Infants lying in the Grass almost naked. Even at Night the Thermometer seldom was below 60° F.; then during the Daytime it rose towards 70° F. Various Plants began to bloom, f.Ex. *Geranium*, *Calendula*, many *Didynamistere* and *Diadelphiere*; in short, for most Plants it seems that the End of December is a Form of Summer, so that one here as in the whole Region nearly can have Crop twice. The Trees in and around *Funchal* still in December had not lost many of their Leaves, and some were perfectly pretty. The Orange Trees had Flowers and Fruit at the same Time. The Coffee and the Kapok Trees had fully ripe Fruit. The thin-leafed Banksia was in Bloom and had ripe Seeds, as did *Mentha cedera*. *Ceratonia siliqua* had Blossoms, and the Dragon Tree had new

Shoots, but I saw no Flowers; one claims that it does not bloom here, but by Incision it gave Rubber. *Anona* blossomed. *Juniperus oxycedrus* was flourishing. *Taxus* had begun to put forth. *Viburnum tinus* was flourishing, as was *Clethra arborea*. *Cedera helja* had Flowers and Fruit. The *Aloe* was in Flower, they had a red Root Stem which was over 15 Feet high. The *Magnolia* began to bud.

Curiously enough, at the End and Beginning of the Months from September to March (1798-1799) there were always some Days of rough Weather with powerful Gusts of Wind and Lightning from the same Direction that the Wind comes. This normally began in the West, sprang over to the South, and then cleared up with an easterly Wind. The Night of 26th of February was the most violent Storm with Rain, Hail and Thunder, and some Time in particular there was a Thunder especially vehement, and seemed to come down the Mountainside and into the Valley, and where it ended with 8 or 10 Bangs as if the most powerful Cannons had been fired off in the Distance of some Paces. Ordinarily came an intense Hail Shower first, after this a violent Gust of Wind with Lightning and Thunder. It seems reasonable that a Change in the extreme Cold that has dominated Europe this Year has given Cause to this Storm, whose Like the Elders here on the Island could however remember; it is almost unheard that Lightning had struck the Island.

Geological Observations

The common Picture of Madeira as a single Mountain rising out of the Sea seems, in a certain Way, to be correct, particularly by seeing it from its eastern Side; but by travelling over one becomes less satisfied with this, and it seems rather to be a connected Mountain Ridge; the Half Part of the Island to the West and which is known by the Names of *Paúl da Serra*, *Campo Grande*, *Serra de Estreito da Calhéta*, and *Ponta do Pargo*; the remaining Half towards the East, is divided by deep narrow Valleys from North to South.

Pico Ruivo, which is the highest, is towards the Island's north eastern Side surrounded by separate high Mountains, f. Ex. towards the East *Pico das Torres* with many sharp, columnar Peaks, and *Pico Canario* to the West whose Top is round and resembles a Sugar-Loaf. Towards the Northwest is an awful Precipice, and here without Doubt has been one of the strongest Outbreaks of Earth Fires, which must have raged at various Times on this Island, but whose Craters by the Length of Time is more difficult to recognise. That this, like all the other Mountains known to me here on the Island, has suffered from Earth Fire is evident

enough from their Appearance, and particularly it is evident concerning the mentioned *Pico Ruivo*; which Top, with a Circumference of some Thousand Paces, consists purely, more or less, of small Lava and Basalt Pieces, all with a red coloured Surface; and the most common, fine clayish Type of Earth or volcanic Ash, which is met everywhere, though mostly towards the western Part, and which also has given this Mountain its Name *ruivo*, or the brown red. Everywhere one can see the clearest and the most Signs of Earth Fire on the Island's eastern, north eastern and south eastern Side, and on the other Hand, fewer towards the south westerly and western Sides.

Porto Moniz is the most northerly; when seen from the Top of the surrounding Mountains, it appears as a small Town, or a Port, half of it a Plain surrounded by steep Mountains, but open towards the North and Northeast; coming down one sees that the Ground is a very burned Basalt Cliff, which is highest and most burned towards the Northeast where the Fort, also serving as a Prison, is built, and where the actual Port and Landing Place are located towards the East. The Cliff has the same orderly Dykes and broad Crevices from North to South as by the Fort *Gorgulho* in the Neighbourhood of *Funchal*, and similarly remarkably rich in Lead⁶¹, also here and there the same Crystallization of Lead Chromate.

Right outside the Land to the North, a Cliff rises from the Sea; its Basis is burned Lava and over this the common yellow clayish Mixture of Earth of different less burned Stones, all falling from Northeast to Southwest. Since the Sea breaks here from this Cliff everywhere towards the Northwest and West, it is difficult to approach it except from the north easterly Side.

To the Southwest and the South from *Porto Moniz* the Rock ascends very steeply, and the Stream that runs down, forms several rather nice Waterfalls. It consists of Trap Basalt, and its Top, on the other Hand, of 2 considerable Hills of Pieces of red Lava in the common red Earth Type; it falls constantly away towards the West and rises only to a less significant Hill of the same Character, which is called *Achada de Capitão*, continues later, always falling towards the Southwest, and where there also is one of the most pleasant and best Roads towards the Church *Santa Madalena* and from there towards the Village *Pombais*, which lies by a Point of the Land which is more westerly than *Ponta do Pargo* and is separated from this Rock by the Stream *Ribeira do Tristão*.

This same Part ascends towards the Northeast and goes all at once steeply down towards *Ribeira da Janela*; over this the Road towards the South goes, and on this several

⁶¹ A mistake.

Farm Houses lie in a *morgado*. Beside 2 small Villages, after this Plain that is one of the most considerable on the Island, the Road always ascends towards the South and Southeast over the next Part which, likewise is limited to the Northeast by *Ribeira da Janela*, and largely makes up the westerly Part of the continuous westerly Mountain Ridge or *serra*.

This consists largely of the common red Earth cut through by Basalt Walls, and with a lot of loose Stones, in Form and Composition like Trap. It has except on the Top and some few Places, a thin Layer, often scarcely 2 Finger thick, of Soil and is overgrown with Grass especially from the Poa Family, *Evphorbia esula*, *Vaccinium ligustrinum*, *Erica arborea*, *Spartium scorpius*, and particularly with the common Laurel, *Laurus*; which do not grow here to common Height as in the Neighbourhood of *Funchal*, where it is one of the tallest Trees, but are generally crooked and deformed, seldom over 12 to 16 Feet. Highest on the Mountain Ridge they are scarred by the Northwest Wind and all lean towards the South with their dead Branches towards the North.

In the Height one sees this Part spreading towards the Southwest and ending there by the Mountain *Ponta do Pargo*, which goes steeply, almost perpendicular, down to the Sea and shows different Layers of regular Basalt. To the South it broadens out towards *Fajã da Ovelha* and *Prazeres*, a pleasant Region with a Grove around the Church, *Serra do Estreito da Calhéta*, where the Road divides, the one towards the South to *Estreito da Calhéta* and the other to the East to *Campo Grande* and *Paúl da Serra*.

Now a new Part is seen starting with a very high Mountain above *Seixal*, it is stretching down towards the Southwest, towards the Stream in *Estreito da Calhéta* and *Calhéta* where it is sloping down with a few steep Ledges towards the Beach at *Calhéta*; this is likewise the red Earth with bare Hills of *pedra mole*, and here and there it is cut through from Northwest to Southeast by Basalt Walls.

The following Part is an even higher Mountain that ends abruptly and high towards the Sea, and form the bow-shaped Basalt Cliff called *Arco da Calhéta*. The following ascends likewise still higher above *Ponta Delgada* (the narrow), and here seems to be the high Mountain that several mention by the Name *Monte Alto* and which really only shall be a Mound of Earth with the same red Appearance as *Pico Ruivo* and is known to Seafarers who comes south westerly around the Island.

This Mountain Part, which ascends from *São Vicente* is somewhat lower and spreads towards the South in the particularly beautiful Parish *Canhas* whose Plains and Heights are more wave-shaped towards the Sea, and is also very well cultivated. The Part from *São Jorge* ascends very high and stretches with steep Ledges down towards *Lombada* and *Ponta do Sol*.

This whole Part bears clear Marks of the former Earth Fire; one sees several Caves and Ditches, especially where one descends to the Port itself.

The Parish *Tábua* is lower but ascends just before one comes over to *Ribeira Brava*. This Part is very high, the Stream itself is one of the largest and seems formerly at various Times to have overflowed and formed the Beach Plain where this Port has been built. The steep western Side of the Stream has several frightening Parts composed of Basalt Columns which at any Moment seem to threaten to tumble.

After having ascended the steep eastern Side of the Mountain one sees that the next Mountain Part is very high and ends very steeply in a little Half Circle towards the Sea. This Parish is called *Serra de Água* and seems to be one of the smallest Parishes; here the Land begins to resemble that around *Funchal*, in particular as one comes over towards *Campanário*; there is the common red Earth where a Plantation of Pine Trees has been started, and which is doing well.

After having passed the so called *Quinta Grande*, which was first cultivated by the Jesuits, one looks down into the beautiful Half Circle where the Church *Campanário* lies; after one has climbed over some Hills, the View opens towards the Port, *Câmara de Lobos*. Here one sees a Hill formed like a Sugar Loaf, like that which lies to the Northeast of *Funchal*; here Basalt is seen in more real Walls. A considerable Basalt Cliff is lying to the Southwest of the Town, and almost in it a little Fort; from this a Row of Columns stretches out like a Wall into the Sea towards the Southeast, and make a good Harbour for Boats and Small Crafts.

On the eastern Band of the Stream that flows down here lie the Ruins of a Country House which is said to be one of the oldest, and whose Plaster of Oil and Lime has stood well. Here one climbs over a steep, small Basalt Cliff that stretches from the Northwest towards the Southeast and is also steep on the other Side; here the Stream *Seccoridos* flows out in the Sea and like *Ribeira Brava* has formed a significant Plain which consists only of round Ball Stones of Trap and Basalt. A Bridge is built over it with strong Stone Arches, but which is rather damaged by the Stream that formerly has been terrible by its Floods.

This Stream comes down from *Pico Ruivo* and one can follow it almost to the Top of the mentioned Mountain, where it first starts with a tiny Vein of Water; this has made small Ledges where Water Plants grow; and in these Ledges many small Veins of Water and the Moisture from the Mountainside Drops gather; so that even in the higher Mountains these are rather considerable and has one of the cleanest and best tasting Waters that I remember.

The Part ascending north easterly from *Fajal* and *Santana*, is high in *Fajal* on the north Side, but has a very fine Plain on that Ledge which makes up the Parish *Santana* and ascends from here first with some steep Ledges towards the Northwest, and then to *Pico Ruivo* itself, which is easiest to climb from this Side. This whole Part is the highest and reveals the most frightful Upheavals. It includes several Mountains among which *Pico das Torres* to the East, *Pico Ruivo* in the Middle, and *Pico Canario* to the West are the most significant and greatest.

Pico das Torres has upstanding, sharply cut Pillars and Peak, a Sort of connected Row or Wall from North to South, falling towards the Southwest; *Pico Ruivo* has an outstanding Point of Basalt but is for the Rest composed of Lava Strings of burnt Basalt and *pedra mole*. *Pico Canario* in South West, is a Sugar Loaf made from and consisting of loose Accumulation of the mentioned red Lava. The Stream *Ribeiro Frio* which runs towards the North, and the Streams that run out into the Sea through *Funchal* towards the South, is limiting this considerable Part.

The next Part begins with a high, almost isolated Basalt Cliff Northwest of *Porto da Cruz*. *Porto da Cruz* itself has a Hill whose Basis is a very much burned Basalt Cliff, highest towards the Northeast, and on this is an Accumulation of rounded Pieces of Trap and Basalt, as kneaded into an old ochry Type of Earth strongly mixed with Lava, but burnt to Glass in the Fire. All over its sloping Sides, the Houses lie in a Semi Circle that rises very steeply upwards. Her was a porphyry Mixture which was so decomposed that from Time to Time it caused considerable Landslides. After saying, there shall be Crystals there which I to this Time could not discover.

This Part has in Northwest, the significant Crater *António da Serra*, called so by common Mouths, and which is the only real one but not very big, scarcely 2000 Feet in Circumference, filled with Pieces of Basalt, and in the Bottom, covered with a thin Layer of Soil and everywhere surrounded by Thicket. It goes East towards *Machico* where from the Land a considerable Land Tongue sticks out towards the Northeast; *Machico* itself in a little Bay, and from there the Land bends towards the East, and the Land rises high towards the South and Southwest where one can see, along the eastern Coast, past *Santa Cruz* and right up to *Funchal*, Traces of several small volcanic Eruptions.

The major Type of Earth over the whole Island is *Puzzolan*, or *Paterlana gennina*; different Types of what Blumenbach⁶² recons to be *Topfvakke*; generally of all Nuances from light yellow-red to Rust Colour to dark red Ochre. This is often so fine that it dissolved by the Water penetrates through the finest Cracks and covers the Stone with a Glaze; but often mixed and hardened with black Fragments of Turmalin, Olivine, Lava Fragments of various Colours, especially from violet to black, and brown Pumices, from the white to the darker yellow.

When this Mass is hard enough to be quarried and worked it is given the Name of *pedra mole*; and has a reddish-brown granular Appearance of more or less dense Lava, and withstands the Air and the Water rather well; though it seems that the Latter have washed away the fine Earth so that the Lava Fragments fall out from one another, although this demands long Time. Sometimes this Earth is hardened into very coarse Particles like coarse Sand, and in this Condition is washed away as well as the fine, then it colours the Streams partly yellow and partly reddish brown, and is deposited as Sediment that resembles a Bole. This Earth burns mediocre in Fire, to black Glass; it dissolves in Water and sucks in the same; it smells strongly of Clay, and is used in the Pottery Work, which gets no Glaze other than the Pot being polished and it is later hardened in the Fire in the Potter Oven; so much that it no longer is dissolvable in Water.

There is frequently no Layer of Mould, only a little mixed with the one on the Surface Layer; seldom with a Layer of Mould, namely often Mud and rotten Pieces of Plants. Some Places, f. Ex. some of the uppermost Strata of *Bello Monte*, a Type of Blue Clay is found, but then always in such a Condition that it resembles a soft Stone and in the Shape of large Kidneys, which has a larger or a smaller, then round, then oblong Core, and the Rest in Form of concentric Shells around this Core which part in more or les displaced Cubes, and they often have Marcasites mixed in; the Core is full of Holes and this blister-made Holes have a Colour like a Dove Neck. This Type of half hardened Clay seems to be the Transition to the main Type of Stone here on the Island, namely Basalt.

Limestone is rare but is always in thin Layers, sometimes as out towards the Sea by *Porto da Gorgulho* in Form of Tufa, and sometimes hard and dense as in the Neighbourhood of *Praia*. Limestone with Petrifications is also rare, and almost not to be found here, but on the other Hand, common on *Porto Santo*. On Madeira, there is a Limestone Quarry at *São*

⁶² Blumenbach, Johann Friedrich, *Haandbog i Naturhistorien oversatt efter den fjerde tydske Udgave af O.J. Mynster*, Kbh. 1793.

Vicente; what is used is brought from *Porto Santo*. I have not been able to find Limestone and Quartz.

The Rock Type is generally in the Form of Dykes or Walls, but also often with Layer Rock over or under it; the mentioned looser *Puzzolan* and Cement are Basalt, commonly of a black-greyish Colour and column-shaped; rarely with 3 Sides, f. Ex. *Curral das Freiras*, sometimes with 4, as f. Ex. below *Pico Ruivo*; and commonly with 6, of which there are specifically some in the Vicinity of *Praia*, which are over 12 Feet on Average and 30 in Height. The greatest Main Dykes are generally from Northwest towards the Southeast, often falling towards the Southwest, f. Ex. the one that encloses *Bello Monte* and runs down past *Funchal* along the 2 Streams, which join where they run out into the Sea at *Nossa Senhora da Calhau*. Similarly the nice Part around *Ribeira Brava*, that divides the Streams *Seccoridos* and *Câmara de Lobos*. Very seldom individual Pieces running from the East towards the West are seen, and then it seems rather to make the End and not a Main Dyke. The Sides of the Columns, especially those towards the Southwest, are often somewhat bowed and reddish-yellow coloured from the down washed Soil.

The Surface and the Sides, and sometimes in significant Quantities, have been transformed by Earth Fire to a Mass with Holes, f. Ex. the Cliff Part at *Pontinho* where the Landing Flight of Steps are cut; around the Lime Kiln in the Neighbourhood of the Stream *Gonçalo*. In the Cave on the Table *Deserta*, and similarly in the Cave on the Way down towards *Ponta do Sol* where the Cross has been raised, and a Multitude of other Places, even on the highest Peaks of the Island, f. Ex. *Pico Ruivo* and *Pico das Torres*, it is these burned remaining Basalts, which reveal themselves with many and remarkable Features on all Sides of the Island, however most towards the North, East and South.

At *Ribeira da Janela* where the Basalt Cliff has an Opening like a Window, which has given the Name *Monte Furado*, where one can row through the Hole in calm Weather; a similarly near below *Pico Ruivo*; the remarkable Grotto in the Neighbourhood of Fort *Gorgulho* where the Sea goes some 100 Feet in under the Ground, and one hears and sees, by going down into a Hole in the Middle of a cultivated Field, it rushes out and in with frightening Rumbles; similarly the Basalt Cliff between Fort *Gorgulho* and *Funchal* with a narrow Opening, where when strong Breakers the Sea is thrown out over 100 Feet in the Air, in a 6 to 7 Inch thick Column, and at one Place form a particularly nice Fountain.

On the Sides and down around the Cone shaped, irregular high Collections of Basalt Columns that constitute the highest Peak of the Island, the minor Species of Lichens at first collect the perpetual surrounding Water Vapour; below the fine Dust Soil is washed down in

the small Ledges, where the *Erica* or Species of Heather begin; these attract still greater Quantity of Water Vapour, let them fall and be collected in greater Ledges; on the Way down along the steep Sides, Species of Moss and Water Plants grow, and the Water is not seen, but a perpetual Movement and Activity in the finer *Confervæ* of the down pouring Water; at the Foot of the next main Ledge an insignificant Stream first begins, until later the increasing Size of Trees, specially the Species of Bayberry that are called *Vinhático*, gather the Water Vapour in such a Quantity that they make larger Streams; where several meet they become of such a Size that some of them in Winter Time could be called small Rivers, of some 100 Feet in Breadth by the Outlet; and with such powerful Speed they could be dangerous to the small Towns, which are built on their the Banks by the Outlet; though this was more formerly, when the Trees in the higher Regions were numerous and the Streams as a Result of this, had more than double Size.

The mentioned Mountaintops and Peaks, together with the Mass with the Holes, are either covered with the fine red Soil or *Puzzolan*, or with Lichens or with Gypsum Spar in mammillated Form almost perfectly like Calcedon? from Iceland and the Farøe Islands, f. Ex. between the overhanging, almost loose Cliffs at Praia or with Limestone Spar, partly Ball shaped, and partly in other Forms, as at *Campanário*; and several Places, not infrequently with a white, blistered, bubbly, glassy Film which resists Fire and sometimes is snow-white, sometimes sparkling in green and red, which seems largely due to its Transparency; frequently there are single small Blisters, not as large as a Pinhead, and frequently bigger, and together form the mentioned bubbly Mass; this is common in the Area around *Funchal* in a Circumference of some Miles, and especially in the mentioned Cave where the Sea goes in under the Ground, between *Praia* and *Gorgulho*.

There is frequently a peculiar mammillated Film, which at first Glance resembles a Lichen, where each single *Mamelone* [Rathke's word for nipple] is protruding and flat, often hollowed in all possible Forms, and always jagged at the Edge; they are of a dark brown Colour; this disappears when they are calcinated and become light yellow and at last in strong Heat, white. There are considerable *Fungi* and in between them, as also in the Neighbour Cliff there are pure Lead in irregular Form, in Pieces of some *Lod*⁶³ in Weight; of this Character is specially the Basalt Cliff which goes down to the Sea at Fort *Gorgulho*, like several other Places around the Island, though without Lead in that Quantity, and particularly the more westerly Point, or *Porto Moniz*.

⁶³ 1 Lod = 15,625g.



Funchal. Frank Dillon 1850.

Around *Funchal* there are about half a Dozen Hills in a Half Circle; the 3 to the West are particularly regular cone-shaped and grass-covered; to the North it is more hilly and here, at a Height of about 600 Feet above Sea one encounters a Sort of Clay kneaded together and which always has a cone-shaped Core and seems to have been formed by the Water thrown out from the Volcanoes.

The Shore against the Southeast exhibits a good Portion of Remnants from Eruptions and among them various remarkable, f. Ex. the Cliff facing *Ilhéu*, where the Flight of Steps have been cut out. This is almost completely of Lava and has a Height of more than 100 Feet above Sea with frightfully jagged Points and also a considerable Grotto formed by a smaller volcanic Eruption and which opens out towards the East; here there is only a little Basalt, the one that is, has a burnt Surface. There is also Glass with a beautiful white Colour. This Cliff is joined to the Mainland by a beautiful Stone Bridge. The Mainland itself resembles on this Place an impassable Wall; then the Basalt Columns here are approximately 100 Feet high and stand on a Layer of volcanic Ash and Pumice Stone. By the *Gorgulho* Fort there is a similarly isolated Basalt Cliff, and another one of this Type further to the West at *Praia*, where the Fortifications are, and also very regular Basalt Columns with 6 Sides. The one of these has cut Sides.

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Duè me, Parens, ielqz Dominator pod.
Quotanu, polatash; nulla parord, mora sh.
Ud sand impiger. Tal polle, comitatorge, mero.
Maludq, paltiar, goro sono licitsh, pati.
concia