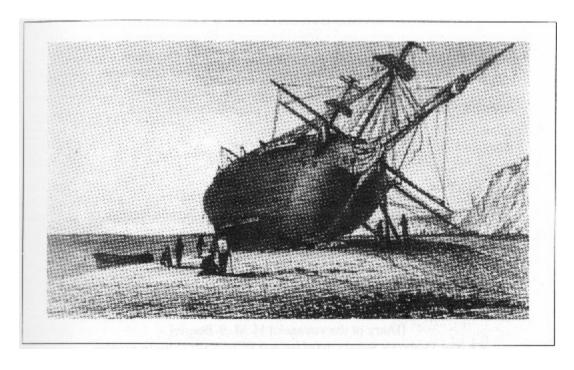
CHARLES DARWIN'S

BEAGLE

DIARY



Edited by Richard Darwin Keynes, CBE, ScD, FRS Emeritus Professor of Physiology in the University of Cambridge, and Fellow of Churchill College



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September 7th, 1835 The Beagle sailed for the Galapagos:

15th on the 15th she was employed in surveying the outer coast of Chatham Isd¹ the S. Eastern one of the Archipelago. |604|

16th The next day we ran near Hoods Is^{d1} & there left a Whale boat. — In the evening the Yawl was also sent away on a surveying cruize of some length. — The weather, now & during the passage, has continued as on the coast of Peru, a steady, gentle breeze of wind & gloomy sky. — We landed for an hour on the NW end of Chatham Is^d. — These islands at a distance have a sloping uniform outline, excepting where broken by sundry paps & hillocks. — The whole is black Lava, completelycovered by small leafless brushwood & low trees. — The fragments of Lava where most porous are reddish & like cinders; the stunted trees show

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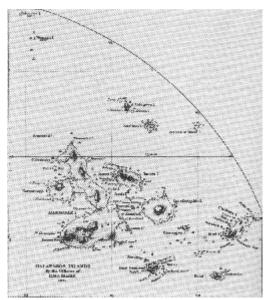


Chart of the Galapagos Islands (from part of a map in *Narrative* 1).

¹ The Spanish name of Chatham Island now used is Isla San Cristobal.

little signs of life. — The black rocks heated by the rays of the Vertical sun like a stove, give to the air a close & sultry feeling. The plants also smell unpleasantly. The country was compared to what we might imagine the cultivated parts of the Infernal regions to be. $-^2$

This day, we now being only 40 miles from the Equator, has been the first warm one; up to this time all on board have worn cloth clothese; & although no one would complain of cold, still less would they of too much warmth. — The case would be very different if we were cruizing on the Atlantic side of the Continent.

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Galapagos Islands, — I think both the Geology & Zoology cannot fail to be very interesting.—' And also from Lima he wrote to W. D. Fox: 'I look forward to the Galapagos, with more interest than any other part of the voyage. — They abound with active Volcanoes & I should hope contain Tertiary strata. —' See <u>Correspondence</u> 1: 458 and 460. In the event, he saw few examples of currently active volcanoes in the Galapagos, and it was the zoology of the islands that proved to be of greatest interest.

17th The Beagle was moved into St Stephens harbor. We found there an American Whaler & we previously had seen two at Hoods Island. — |605| The Bay swarmed with animals; Fish, Shark & Turtles were popping their heads up in all parts. Fishing lines were soon put overboard & great numbers of fine fish 2 & even 3 ft long were caught. This sport makes all hands very merry; loud laughter & the heavy flapping of the fish are heard on every side. — After dinner a party went on shore to try to catch Tortoises, but were unsuccessful. — These islands appear paradises for the whole family of Reptiles. Besides three kinds of Turtles, the Tortoise is so abundant; that [a] single Ship's company here caught from 500–800 in a short time. — The black Lava rocks on the beach are frequented by large (2-3 ft) most disgusting, clumsy Lizards. They are as black as the porous rocks over which they crawl & seek their prey from the Sea. — Somebody calls them "imps of darkness". — They assuredly well become the land they inhabit. — When on shore I proceeded to botanize & obtained 10 different flowers; but such insignificant, ugly little flowers, as would better become an Arctic, than a Tropical country. — The birds are Strangers to Man & think him as innocent as their countrymen the huge Tortoises. Little birds within 3 & four feet, quietly hopped about the Bushes & were not frightened by stones being

¹ Now Isla Española.

² In a letter to Caroline Darwin from Lima, CD had written: 'I am very anxious for the

thrown at them. M^r King |606 |killed one with his hat & I pushed off a branch with the end of my gun a large Hawk. —

¹In Down House Notebook 1.17, CD wrote soon after arriving at the Galapagos: 'The Thelma very tame & curious in these Islands. I certainly recognise S. America in Ornithology. Would a botanist? ¾ of plants in flower.' See *CD* and the *Voyage* p. 247.

18th Again we moved our Anchorage & again after dinner took a long walk. — We ascended the broken remains of a low but broard crater. The Volcano had been sub-marine — the strata which dipped away on all sides were composed of hard Sandstones composed of Volcanic dust. A few leagues to the North a broken country was studded with small black cones; the ancient chimneys for the subterranean melted fluids. — The hunting party brought back 15 Tortoises: most of them very heavy & large. One weighed lbs. — ¹

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19th & 20th During these two days surveyed the seaward coast of the Is^d & returned to an anchor where we had found the Whaler. — At one point there were little rills of water, & one small cascade. — The valleys in the neighbourhead were coloured a somewhat brighter green. — Upon first arriving I described the land as covered with leafless brushwood; & such certainly is the appearance. I believe however almost every plant or tree is now both in flower & its leaf. — But the most prevalent kinds are ornamented with but very few & these of a brown color.

21st My servant & self were landed a few miles to the NE in order that I might examine the district mentioned above as resembling |607| chimney. The comparison would have been more exact if I had said the Iron furnaces near Wolverhampton. — From one point of view I counted 60 of these truncated hillocks, which are only from 50 to 100 ft above the plain of Lava. — The age of the various streams is distinctly marked by the presence & absence of Vegetation; in the latter & more modem nothing can be imagined more rough & horrid. — Such a surface has been aptly compared to a sea petrified in its most boisterous moments. No sea however presents such irregular undulations, — nor such deep & long chasms. The craters are all entirely inert; consisting indeed of nothing more than a ring of cinders. — There are large circular pits, from 30 to 80 ft deep; which might be mistaken for Craters, but are in reality formed by the subsidence of the roofs of great caverns, which probably were produced by a volume of gaz at the time when the Lava was liquid. — The scene was to me novel & full of interest; it is always delightful to behold anything which has been long familiar, but only by description. — In my walk I met two very large Tortoises (circumference

¹The space left for filling in the weight of the tortoise remains blank.

of shell about 7 ft). One was eating a Cactus & then quietly walked away. — The other gave a deep & loud hiss & then drew back his head. — They were so heavy, I could scarcely lift |608| them off the ground. — Surrounded by the black Lava, the leafless shrubs & large Cacti, they appeared most old-fashioned antediluvian animals; or rather inhabitants of some other planet.

22nd We slept on the sand-beach, & in the morning after having collected many new plants, birds, shells & insects, we returned in the evening on board. — This day was glowing hot, & was the first when our closeness to the Equator was very sensible. —

23rd & 24th Crossed over & came to an anchor at Charles Island. — Here there is a settlement of only five to 6 years standing. An Englishman Mr

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Lawson² is now acting as Governor. — By chance he came down to visit a Whaling Vessel & in the morning accompanied us to the Settlement. —

25th This is situated nearly in the centre of the Island, about 4 &½ miles inland, & elevated perhaps 1000 ft above the sea. — The first part of the road passed through a thicket of nearly leafless underwood as in Chatham Is^d — The dry Volcanic soil affording a congenial habitation only to the Lizard tribe. — The wood gradually becomes greener during the ascent. — Passing round the side of the highest hill; the body is cooled by the fine Southerly trade wind & the eye refreshed by a plain green as England in the Spring time. — Out of the wood extensive patches |609| have been cleared, in which sweet Potatoes (convolvulus Batata) & Plantains grow with luxuriance. — The houses are scattered over the cultivated ground & form what in Chili would be called a "Pueblo". — Since leaving Brazil we have not seen so Tropical a Landscape, but there is a great deficiency in the absence of the lofty, various & all-beautiful trees of that country. — It will not easily be imagined, how pleasant the change was from Peru & Northern Chili, in walking in the pathways to find black mud & on the trees to see mosses, ferns & Lichens & Parasitical plants adhæring. — Owing to an unusual quantity of rain at this time of year, I suspect we have seen the Island at its full advantage. — I suspect this the more from meeting with singularly few insects of any of the orders. — If such luxuriance is constant this scarcity of its universal concomitants is very remarkable — The inhabitants are in number 200-300: nearly all are people of color & banished for Political

¹Now Isla Florena.

²Mr Nicholas O. Lawson was an Englishman serving the Republic of the Equator, or Ecuador.

crimes from the State of the Equator (Quito & Guyaquil &c) to which this Archipelago belongs. — It appears the people are far from contented; they complain, here as in Chiloe, of the deficiency of money: I presume there is some more essential want than that of mere Currency, namely want of sale of their produce. — This of course will gradually be ameliorated. — already on an average, |610| in the year 60–70 Whaling vessels call for provisions & refreshment. — The main evil under which these islands suffer is the scarcity of water. — In very few places streams reach the beach so as to afford facilities for the watering of Shipping. Every where the porous nature of the Volcanic rocks has a tendency to absorb without again throwing up the little water which falls in the course of the year. — At the Settlement there are several springs & small pools, three or four of which are said never to

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fail. — Generally the islands in the Pacifick are subject to years of drought & subsequent scarcity; I should be afraid this group will not afford an exception. — The inhabitants here lead a sort of Robinson Crusoe life; the houses are very simple, built of poles & thatched with grass. — Part of their time is employed in hunting the wild pigs & goats with which the woods abound; from the climate, agriculture requires but a small portion. — The main article however of animal food is the Terrapin or Tortoise: such numbers yet remain that it is calculated two days hunting will find food for the other five in the week. — Of course the numbers have been much reduced; not many years since the Ship's company of a Frigate brought down to the Beach in one day more than 200,— where |611| the settlement now is, around the Springs, they formerly swarmed. — M^rLawson thinks there is yet left sufficient for 20 years: he has however sent a party to Jame's Island to salt (there is a Salt mine there) the meat. — Some of the animals are there so very large, that upwards of 200 £bs of meat have been procured from one. — Mr Lawson reccollect having seen a Terrapin which 6 men could scarcely lift & two could not turn over on its back. These immense creatures must be very old, in the year 1830 one was caught (which required 6 men to lift it into the boat) which had various dates carved on its shells; one was 1786. — The only reason why it was not at that time carried away must have been, that it was too big for two men to manage. — The Whalers always send away their men in pairs to hunt. —

26th& 27th I industriously collected all the animals, plants, insects & reptiles from this Island. — It will be very interesting to find from future comparison to what district or "centre of creation" the organized beings of this archipelago must be attached. — 1

¹ James is the name still in use, the Spanish alternatives being Santiago or San Salvador.

I ascended the highest hill on the Is^d, 2000 ft. — it was covered in its upper part with coarse grass & Shrubs. — The remains of an old Crater were very evident; small as the whole island is, I counted 39 conical hills, in the summit of all of which there was a more or less perfect circular depression. |612| It is long since the Lava streams which form the lower parts of the Island flowed from any of these Craters: Hence we have a smoother surface, a more abundant soil, & more fertile vegetation. — It is probable that much of the Lava is of subaqueous origin. —

¹In a letter to Henslow from Sydney written four months later, CD said: 'I last wrote to you from Lima, since which time I have done disgracefully little in Nat: History; or rather

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I should say since the Galapagos Islands, where I worked hard. — Amongst other things, I collected every plant, which I could see in flower, & as it was the flowering season I hope my collection may be of some interest to you. — I shall be very curious to know whether the Flora belongs to America, oris peculiar. I paid also much attention to theBirds, which I suspect are very curious. —' See *Correspondence* 1: 485.

Later, when CD was completing his ornithological notes some time between mid-June and August 1836, he wrote: 'Thenca (Mimus Thenca). These birds are closely allied in appearance to the Thenca of Chile. They are lively, inquisitive, active, run fast, frequent houses to pick the meat of the tortoise which is hung up, — sing tolerably well, — are said to build a simple open nest, — are very tame, a character in common with other birds. I imagined, however, its note or cry was rather different from the Thenca of Chile —? Are very abundant over the whole Island; are chiefly tempted up into the high & damp parts by the houses & cleared ground.'

'I have specimens from four of the larger Islands; the specimens from Chatham & Albemarle Isd. appear to be the same, but the other two are different. In each Isd. each kind is exclusively found; habits of all are indistinguishable.'

'When I recollect the fact, that from the form of the body, shape of scales & general size, the Spaniards can at once pronounce from which Isd. any tortoise may have been brought: — when I see these Islands in sight of each other and possessed of but a scanty stock of animals, tenanted by these birds but slightly differing in structure & filling the same place in Nature, I must suspect they are only varieties. The only fact of a similar kind of which I am aware is the constant asserted difference between the wolf-like Fox of East & West Falkland Isds. — If there is the slightest foundation for these remarks, the Zoology of Archipelagoes will be well worth examining; for such facts would undermine the stability of species.' See Nora Barlow, 'Darwin's Ornithological Notes', *Bulletin of the British Museum (Natural History), Historical Series, 2:* 201–78, 1963; and F. J. Sulloway, 'Darwin's Conversion: The *Beagle* Voyage and Its Aftermath', *Journal of the History of Biology,* 15: 325–96,1982.

The first stirrings of doubt about the immutability of species had evidently struck him by now.

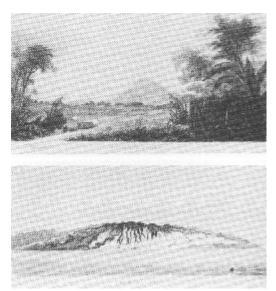
28th Steered towards the Southern end of Albermale Is^d, which was surveyed.

¹ The correct spelling is Albemarle, and the island is now known as Isabela.

29th Anchored at Noon in a small cove beneath the highest & boldest land which we have yet seen. — The Volcanic origin of all is but too plainly evident: Passed a point studded over with little truncated cones or Spiracles as some Author calls them; the Craters were very perfect & generally red-coloured within. — The whole had even a more work-shop appearance than that described at Chatham Is^d. — A calm prevented us anchoring for the night. —

30th The next day, a light breeze carried us over the calm sea, which lies between Narborough¹ & Albermale Is^d. In the latter, high up, we saw a small jet of steam issuing from a Crater. — Narborough Isld presents a more rough & horrid aspect than any other; the Lavas are generally naked as when first poured forth. — When H.M.S. Blonde was here there was an active Volcano in that Island. — After sun-set, came to an

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Albemarle and Charles Islands, by S. Bull after P. G. King (Narrative 2: 498).

anchor in Banks cove in Albermale Is^d & which cove subsequently turned out to |613| be the Crater of an old Volcano.

October 1st Albermale Is is as it were the mainland of the Archipelago, it is about 75 miles long & several broad. — is composed of 6 or 7 great Volcanic Mounds from 2 to 3000 ft high, joined by low land formed of Lava & other Volcanic substances. — Since leaving the last Island, owing to the small quantity of water on board, only half allowance of water has been served out (ie ½ a Gallon for cooking & all purposes). — This under the line with a

¹ Now Isla Fernandina.

Vertical sun is a sad drawback to the few comforts which a Ship possesses. — From different accounts, we had

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hoped to have found water here. — To our disappointment the little pits in the Sandstone contained scarcely a Gallon & that not good. — it was however sufficient to draw together all the little birds in the country. — Doves & Finches¹ swarmed round its margin. — I was reminded of the manner in which I saw at Charles Isd a boy procuring dinner for his family. Sitting by the side of the Well with a long stick in his hand, as the doves came to drink he killed as many as he wanted & in half an hour collected them together & carried them to the house. —

To the South of the Cove I found a most beautiful Crater, elliptic in form, less than a mile in its longer axis & about 500 ft deep. — Its bottom was occupied by a lake, out of which a tiny Crater formed an Island. — The day |614| was overpowringly hot; & the lake looked blue & clear. — I hurried down the cindery side, choked with dust, to my disgust on tasting the water found it Salt as brine. — This crater & some other neighbouring ones have only poured forth mud or Sandstone containing fragments of Volcanic rocks; but from the mountain behind, great bare streams have flowed, sometimes from the summit, or from small Craters on the side, expanding in their descent have at the base formed plains of Lava. — The little of the country I have yet seen in this vicinity is more arid & sterile than in the other Islands. — We here have another large Reptile in great numbers. — it is a great Lizard, from 10-15 lb in weight & 2-4 ft in length, is in structure closely allied to those imps of darkness which frequent the sea-shore. — This one inhabits burrows to which it hurrys when frightened with quick & clumsy gait. — They have a ridge & spines along the back; are colored an orange yellow, with the hinder part of back brick red. — They are hideous animals; but are considered good food: This day forty were collected. —

¹This appears to be the only mention made by CD, either in the *Diary* or in his pocketbooks, of the family of finches that came to bear his name and to he most closely associated with the development of his ideas about speciation. However, the relative lack of interest in the Geospizidae displayed by CD when he was actually collecting birds in the Galapagos is consistent with the conclusion of Sulloway ('Darwin and his Finches: The Evolution of a Legend', *Journal of the History of Biology* **15**: 1–53, 1982) that it was not until the Bragle's specimens were classified by John Gould early in 1837 that the true significance of their variability between the individual islands first became apparent to him.

By the time the *Journal of Researches* was published in 1839, CD no longer believed in the fixity of species, but the most radical of his ideas were still kept strictly to himself. He did not give a great deal away when he wrote: 'It has been mentioned, that the inhabitants an distinguish the tortoises, according to the islands whence they are brought I was also informed that many of the islands possess trees and plants which do not occur on the others. For instance the berry-bearing

tree, called Guyavita, which is common on James Island, certainly is not found on Charles Island, though appearing equally well fitted for it. Unfortunately, I was not aware of these facts till my collection was nearly completed:

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it never occured to me, that the productions of islands only a few miles apart, and placed under the same physical conditions, would be dissimilar. I therefore did not attempt to make a series of specimens from the separate islands. It is the fate of every voyager, when he has just discovered what object in any place is more particularly worthy of his attention, to be hurried from it. In the case of the mocking-bird, I ascertained (and have brought home the specimens) that one species (Orpheus trifasciatus, Gould) is exclusively found in Charles Island; a second (O. parvulus) on Albemarle Island; and a third (O. melanotus) common to james and Chatham Islands. The last two species are closely allied, but the first would be considered by every naturalist as quite distinct. I examined many specimens in the different islands, and in each the respective kind was alone present. These birds agree in general plumage, structure, and habits; so that the different species replace each other in the economy of the different islands. These species are not characterized by the markings on the plumage alone, but likewise by the size and form of the bill, and other differences. I have stated, that in the thirteen species of groundfinches, a nearly perfect gradation may be traced, from a beak extraordinarily thick, to one so fine, that it may be compared to that of a warbler. I very much suspect, that certain members of the series are confined to different islands; therefore, if the collection had been made on any oneisland, it would not have presented so perfect a gradation. It is clear, that if several islands have each their peculiar species of the same genera, when these are placed together, they will have a wide range of character. But there is not space in this work, to enter on this curious subject.' See Journal of Researches pp. 474-5.

FitzRoy's ideas had also changed between the return of the *Beagle* and publication of the *Narrative*, since following his marriage he had become a firm believer in the absolute truth of the Bible. His view of the significance of the beaks of the finches differed somewhat from CD's, for he wrote: 'All the small birds that live on these lava-covered islands have short beaks, very thick at the base, like that of a bull-finch. This appears to be one of those admirable provisions of Infinite Wisdom by which each created thing is adapted to the place for which it was intended' See *Narrative* **2**: 503.

In the 1845 edition of the *Journal of Researches*, the theme of the gradation of the beaks of the ground finches was further expanded, and CD unwrapped his ideas just a little further: 'Seeing this gradation and diversity of structure in one small, intimately related group of birds, one might really fancy that from an original paucity of birds in this archipelago, one species had been taken and modified for different ends.' See *Journal of Researches*, 2nd edn, p. 380.

October 2nd Sailed from this Crater Harbor: but were becalmed during the greater part of the day in the Straits which separates the two Islands:

3rd We then stood round the North end of Albermale Island. — The whole of this has the same sterile dry appearance; is studded with the small Craters which are appendages to the great Volcanic mounds, — & from which in very many places the black Lava has flowed, the configuration of the streams being like that of so much mud. — I should think it would be difficult to find in the intertropical latitudes a piece of land 75 miles long, so entirely useless to man or the larger animals. — From the evening of this day to the 8th was

most unpleasant passed in struggling to get about 50 miles to Windward against a strong current.

8th At last we reached Jame's Island, the rendezvous of M^r Sulivan. — Myself, M^r Bynoe & three men were landed with provisions, there to

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wait till the ship returned from watering at Chatham Is^d. — We found on the Isl^d a party of men sent by M^r Lawson from Charles Is^d to salt fish & Tortoise meat (& procure oil from the latter). — Near to our Bivouacing place, there was a miserable little Spring of Water. — We employed these men to bring us sufficient for our daily consumption. — We pitched our tents in a small valley a little way from the Beach. — The little Bay was formed by two old Craters: in this island as in all the others the mouths from which the Lavas have flowed are thickly studded over the country.¹

9th Taking with us a guide we proceeded |616| into the interior & higher parts of the Island, where there was a small party employed in hunting the Tortoise. — Our walk was a long one. — At about six miles distance & an elevation of perhaps 2000 ft the country begins to show a green color. — Here there are a couple of hovels where the men reside. — Lower down, the land is like that of Chatham Is^d, — very dry & the trees nearly leafless. I noticed however that those of the same species attained a much greater size here than in any other part. — The Vegetation here deserved the title of a Wood: the trees were however far from tall & their branches low & crooked. About 2 miles from the Hovels & probably at an additional 1000 ft elevation, the Springs are situated. They are very trifling ones, but the water good & deliciously cold. — They afford the only watering places as yet discovered in the interior. — During the greater part of each day clouds hang over the highest land: the vapor condensed by the trees drips down like rain. Hence we have a brightly green & damp Vegetation & muddy soil. — The contrast to the sight & sensation of the body is very doubtful after the glaring dry country beneath. — The case is exactly similar to that described in Charles Isd. — So great a change with |617| so small a one of elevation cannot fail to be striking. — On the 12th I paid a second visit to the houses, bringing with me a blanket bag to sleep in. — I thus enjoyed two days collecting in the fertile region. — Here were many plants, especially Ferns; the tree Fern however is not present. The tropical character of the Vegetation is stamped by the commonest tree being covered with compound flowers of the order of Syngynesia. — The tortoise when it can procure it, drinks great quantities of water: Hence these animals swarm in the

¹Note in margin: 'Freshwater Cove of the Buccaniers'.

neighbourhead of the Springs. — The average size of the full-grown ones is nearly a yard long in its back shell: they are so strong as easily to carry me, & too heavy to lift from the

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ground. — In the pathway many are travelling to the water & others returning, having drunk their fill. — The effect is very comical in seeing these huge creatures with outstreched neck so deliberately pacing onwards. — I think they march at the rate 360 yards in an hour; perhaps four miles in the 24. — When they arrive at the Spring, they bury their heads *above* the eyes in the muddy water & greedily suck in great mouthfulls, *quite regardless* of lookers on. —

Wherever there is water, broard & well beaten roads lead from all sides to it, |618| these extend for distances of miles. — It is by this means that these watering places have been discovered by the fishermen. — In the low dry region there are but few Tortoises: they are replaced by infinite numbers of the large yellow herbivorous Lizard mentioned at Albermale Is^d. — The burrows of this animal are so very numerous; that we had difficulty in finding a spot to pitch the tents. — These lizards live entirely on vegetable productions; berrys, leaves, for which latter they frequently crawl up the trees, especially a Mimosa; never drinking water, they like much the succulent Cactus, & for a piece of it they will, like dogs, struggle [to] seize it from another. Their congeners the "imps of darkness" in like manner live entirely on sea weed.— I suspect such habits are nearly unique in the Saurian race.

In all these Isl^{ds} the dry parts reminded me of Fernando Noronha; perhaps the affinity is only in the similar circumstance of an arid Volcanic soil, a flowering leafless Vegetation in an Intertropical region, but without the beauty which generally accompanies such a position. —

During our residence of two days at the Hovels, we lived on the meat of the Tortoise fried in the transparent Oil which is procured from the fat. - |619| The Breast-plate with the meat attached to it is roasted as the Gauchos do the "Carne con cuero". It is then very good. — Young Tortoises make capital soup — otherwise the meat is but, to my taste, indifferent food. — 3

¹Note in margin: 'Saw some having circumference of 8 ft & several of 6 ft'.

²Note in margin: 'Not any Palm'.

³According to FitzRoy, several tortoises were eventually brought alive to England. He recorded that a hunting party brought 18 on board from Chatham Island on 18 September, and a further

30 on 12 October. 'The largest we killed was three feet in length from one end of the shell to the other: but the large ones are not so good to eat as those of about fifty pounds weight — which are excellent, and extremely wholesome food.' See *Narrative* **2:** 504.

11th The Mayór-domo took us in his boat to the Salina which is situated about 6 miles down the coast. — We crossed a bare & apparently recent stream of Lava which had flowed round an ancient but very perfect

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Crater. — At the bottom of this Crater is a Lake, which is only 3 or 4 inches deep & lies on layers of pure & beautifully Crystallized Salt. The Lake is quite circular & fringed with bright breen succulent plants; the sides of Crater are steep & wooded; so that the whole has rather a pretty appearance. — A few years since in this quiet spot the crew of a Sealing vessel murdered their Captain. We saw the skull lying in the bushes. —

In rocky parts there were great numbers of a peculiar Cactus whose large oval leaves connected together formed branches rising from a cylindrical trunk. —¹ In places also a Mimosa was common; the shade from its foliage was very refreshing, after being exposed in the open wood to the burning Sun.

¹Sketch in the margin:



12th —16th We all were busily employed during these days in collecting all sorts of Specimens. |620| The little well from which our water was procured was very close to the Beach: a long Swell from the Northward having set in, the surf broke over & spoiled the fresh water. — We should have been distressed if an American Whaler had not very kindly given us three casks of water (& made us a present of a bucket of Onions). Several times during the Voyage Americans have showed themselves at least as obliging, if not more so, than any of our Countrymen would have been. Their liberality moreover has always been offered in the most hearty manner. If their prejudices against the English are as strong as our's against the Americans, they forget & smother them in an admirable manner. —

16th The weather during nearly all the time has been cloudless & the sun very powerful; if by chance the trade wind fails for an hour the heat is very oppressive. During the two last days, the Thermometer within the Tents has stood for some hours at 93°. — In the open air, in the wind & sun, only 85°. — The sand was intensely hot, the Thermometer placed in a *brown*kind

immediately rose to 137, & how much higher it would have done I do not know: for it was not graduated above this:— The *black* Sand felt far hotter, so that in *thick* boots it was very disagreeable to pass over it.— |621|

17th In the afternoon the Beagle sent in her boats to take us on board. —

18th Finished the survey of Albermale Isd; this East side of the Island is nearly black with recent uncovered Lavas. — The main hills must have immense Cauldron like Craters, — their height is considerable, above

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4000 ft: yet from the outline being one uniform curve, the breadth of the mountain great, they do not appear lofty. —

19th During the night proceeded to Abingdon Is^d , picked up M^r Chaffers in the Yawl in the morning & then steered for two small Is^{ds} which lie 100 miles to the North of the rest of the Group. -2

20th After having surveyed these the Ships head was put towards Otaheite & we commenced our long passage of 3200 miles. —

¹Now Isla Pinta.

²Culpepper and Wenman Islands.