A Voyage Round The World, In His Britannic Majesty's Sloop, Resolution, commanded by Capt. James Cook, during the Years 1772, 3, 4, and 5. By George Forster, ... In Two Volumes

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London, 1777

Chap. IV. Run from the Cape to the Antarctic Circle; first season spent in high Southern Latitudes. - Arrival on the Coast of New Zeeland.

urn:nbn:de:gbv:45:1-1277

1772. NOVEMBER.

CHAP. IV.

Run from the Cape to the Antarctic Circle; firſt ſeaſon ſpent in high Southern Latitudes.—Arrival on the Coaſt of New Zeeland.

Sunday 22. WE ſailed from Table bay, about four in the afternoon, on the 22d of November, after having ſaluted the fort. The wind blew in hard ſqualls, which continued all night, and gave us once more a rough reception on the boiſterous element; while the ſame luminous appearance, which we had obſerved before our coming into this bay, was perceived again, though in a much ſlighter degree.

Monday 23. The next day towards eight in the morning, we loſt ſight of the Cape, and directed our courſe to the ſouthward. As we were now entering on an unexampled navigation, not knowing when we might meet with a new place of refreſhment, the captain gave the ſtricteſt orders to prevent the waſte of freſh water; to this end a centry was placed at the ſcuttled-caſk *, and a regular allowance of water was daily ſerved out to the crew, beſides which they were permitted to drink at the caſk, but not to carry any water away. The captain himſelf waſhed with ſalt-water, and

* An open butt placed on the quarter-deck, and daily filled with freſh water out of the hold, for the uſe of the ſhip's company.

all

all our company were obliged to conform to this neceſſary reſtriction. The diſtilling machine improved by Mr. Irving, was likewiſe conſtantly employed, to ſupply at leaſt *ſome* part of the quantity daily conſumed.

On the 24th in the afternoon, the weather being fair and moderate, after a hard gale we caught nine albatroſſes with a line and hook, baited with a bit of ſheep's ſkin. Several of them meaſured above ten feet from tip to tip, between the expanded wings. The younger ones ſeemed to have a great mixture of browniſh feathers, whereas the full-grown were almoſt entirely white except their wings, which were blackiſh, and their ſcapulars which were barred and ſprinkled with dotted lines of black. Tueſday 24.

A large brown fiſh reſembling the ſun fiſh *(tetrodon mola)*, was likewiſe ſeen cloſe to the ſhip for a ſhort ſpace of time.

On the the 29th the wind, which had for three or four days paſt blown a very ſtrong gale, now encreaſed ſo much, that we ran during the laſt twenty-four hours, almoſt under the bare fore-ſail. The ſea at the ſame time ran very high, and frequently broke over the ſloop, in which none of the cabins were prepared for ſuch bad weather, our courſe from England to the Cape having been remarkably free of ſtorms. The people, and eſpecially perſons not brought up to ſea-affairs, were ignorant how to behave in this new ſituation; the prodigious rolling of the veſſel Sunday 29.

therefore:

1772. NOVEMBER. therefore daily made great havock among cups, ſaucers, glaſſes, bottles, diſhes, plates, and every thing that was moveable; whilſt the humorous circumſtances ſometimes attending the general confuſion, made us bear theſe irreparable loſſes with greater compoſure than might have been expected. The decks, and the floors of every cabin were however continually wet; and the howl of the ſtorm in the rigging, the roar of the waves, added to the violent agitation of the veſſel, which precluded almoſt every occupation, were new and awful ſcenes, but at the ſame time ſeverely felt, and highly diſagreeable. The air was likewiſe unpleaſantly ſharp and cold about this time, our latitude being now about 42° ſouth; and frequent rains contributed to make the ſervice of the ſeamen hard and comfortleſs. To ſecure them in ſome meaſure againſt the inclemencies of the weather, the captain ordered a general diſtribution of clothes to be made, which had been expreſsly provided at the expence of the Admiralty to ſerve this purpoſe. Every perſon whoſe duty expoſed him to the ſeverity of ſouthern climates, from the lieutenant to the ſailor, was provided with a jacket and a pair of trowſers of the thickeſt woollen ſtuff called *fearnought* *, or ſtrong flannel, which kept out the wet for a long time, and had this only fault, in common with every thing the navy pro-

* A diſtribution of the ſame nature was made to Captain Cook's crew in his firſt voyage round the world. See Hawkeſworth's Compilation, vol. II. p. 40.

vides,

vides, viz. that they were ſupplied by contract, and there- 1772. NOVEMBER.
fore generally too ſhort for our people. If we conſider the diſtreſſes to which M. de Bougainville's crew were reduced for want of cloathing, we cannot help reflecting on the better fortune of Engliſh ſeamen, who, under an equitable government, may expect to be treated with peculiar care; and who, on perilous expeditions, are humanely and attentively ſupplied with neceſſaries to face the dangers of the ſea, and ſupport their ſpirits in adverſity. A trying moment frequently occurs, where the deſpondence cauſed by ill-treatment and heavy ſufferings, muſt have the moſt fatal conſequences, ſince its direct oppoſite, an undaunted reſolution is then moſt neceſſary; ſuch a moment we experienced in this night. A petty officer in the forepart of the veſſel, awaking ſuddenly, heard a noiſe of water ſtreaming through his birth, and breaking itſelf againſt his own and his meſs-mates cheſts; he leaped out of his bed, and found himſelf to the middle of the leg in water. He inſtantly acquainted the officer of the quarter-deck with this dreadful circumſtance, and in a few moments almoſt every perſon in the ſhip was in motion; the pumps were employed, and the officers encouraged the ſeamen with an alarming gentleneſs, to perſevere in their work; notwithſtanding which the water ſeemed to gain upon us; every ſoul was filled with terror, encreaſed by the darkneſs of the night.

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Ponto nox incubat atra,
Præſentemque viris intentant omnia mortem. VIRGIL.

For what obſcured light the heav'ns did grant,
Did but convey unto *their* fearful minds
A doubtful warrant of immediate death. SHAKESPEARE.

The chain-pumps were now cleared, and our failors laboured at them with great alacrity; at laſt one of them luckily diſcovered that the water came in through a ſcuttle (or window) in the boatſwain's ſtore-room, which not having been ſecured againſt the tempeſtuous ſouthern ocean, had been ſtaved in by the force of the waves. It was immediately repaired, and cloſely ſhut up, and we eſcaped for this time with the greateſt part of the clothes and effects of the ſailors and officers thoroughly ſoaked in ſalt water. We ſhould have found it difficult, if not utterly impoſſible, to clear the ſhip of the water, if the midſhipman had not providentially awaked before it had gained too much upon us: the preſence of mind of our officers, and the ſpirit of our ſeamen would have been exerted in vain, and we muſt perhaps have gone down to the bottom, in the midſt of a very dark night and turbulent ocean, which would have effectually prevented our conſort from giving us aſſiſtance. A diſtribution of fiſhing-hooks and lines was made about this time to every perſon on board, as it was uncertain how ſoon we might meet with land, and conſequently with an opportunity of making uſe of them.

The

The ſtormy weather continued, intermixed with frequent rains and fogs, till the fifth of December *, when we ſet the top-gallant ſails for the firſt time, after leaving the Cape of Good Hope, and obſerved the latitude at noon, in 47° 10′ ſouth. In the afternoon, however, the ſhowers returned, and a weſtern ſwell announced a wind from that quarter, which actually came on during night, blowing at about S. W. and chilled the air ſo conſiderably, that the thermometer ſunk from 44° to 38° during the night, and ſome ſnow began to fall the next morning. The wind ſoon encreaſed to a ſtorm again; ſo that on the 7th in the afternoon, we had only a ſingle ſail ſet. A variety of birds of the petrel and tern genus, had attended us in greater or leſſer numbers ever ſince we had left the Cape, and the high ſea and winds ſeemed to have no other influence on them, than that of bringing more of them about us. The principal ſorts were the Cape-petrel, or pintada *(procellaria capenſis)*, and the blue petrel, ſo called from its having a blueiſh-grey colour, and a band of blackiſh feathers acroſs the whole wing. We likewiſe ſaw the two before mentioned ſpecies of albatroſſes † from time to time, together with a third, leſs than the others, which we named the *ſooty*, and our ſailors called the

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Monday 7.

* We had loſt ſix large hogs of our live ſtock, and ſome ſheep, during this uncomfortable weather.

† See p. 51.

1773. DECEMBER. quaker bird, from its having a greyiſh-brown colour. Many birds of all theſe different ſpecies ſurrounded us on the 8th of December, the wind ſtill continuing very high,

Tueſday 8. and the ſea very turbulent. We now likewiſe ſaw pinguins * for the firſt time, and ſome bunches of ſea-weed, of the ſpecies called the ſea-bamboo *(fucus buccinalis* Lin.) Theſe appearances greatly favoured the hope of meeting with land, as it had hitherto been held uncontroverted that weeds, eſpecially rockweeds, (ſuch as theſe were) and pinguins were never to be met with at a great diſtance from ſhores; but experience has ſhewn that theſe prognoſtics are not to be relied upon, and probably derive all their credit from ſingle accidental proofs in their favour, ſupported by the name of ſome celebrated mariner. Future obſervations on the nature of floating rock-weeds, and drift-wood, might perhaps lead to ſome more determinate concluſions; for as theſe weeds muſt have been at firſt detached from the rocks on which they grew, it is probable that from the degree of freſhneſs or of putridity which

* Theſe birds, which ſince the time of Sir John Narborough, have been repeatedly mentioned by almoſt every navigator that has viſited the Southern extremities of America, are ſo well known to the Engliſh reader, from the accounts of Anſon, Byron, Bougainville, Pernetty, &c. that it is ſcarce neceſſary to deſcribe them. They are in a manner amphibious creatures, and their wings are unfit for flying, but ſhaped like ſtrong fleſhy membranes, which perform all the functions of fins. There are upwards of ten different ſpecies known to the naturaliſts at preſent.

they

they have when found, the time they have been adrift, and in ſome rare inſtances, the diſtances from land, may be conjectured; but the direction and force of the winds and waves, and other accidental circumſtances, muſt in that caſe be carefully taken into conſideration. 1772. DECEMBER.

The wind abated during night, ſo that we ſet our courſes on the 9th in the morning. The thermometer at eight o'clock was however fallen to 35°, and only roſe one degree at noon, being then in 49° 45′ of ſouth latitude. Towards night it grew colder again, and at half an hour paſt ten, we found the thermometer on deck very near 32°, and the edges of the ſcuttled-caſk, filled with freſh water, were freezing. This great cold preceded the ſight of ice floating in the ſea, which we fell in with on the next morning. The firſt we ſaw, was a lump of conſiderable ſize, ſo cloſe to us, that we were obliged to bear away from it; another of the ſame magnitude a little more a-head, and a large maſs about two leagues on the weather-bow, which had the appearance of a white head-land, or a chalk-cliff. Wedneſday 9. Thurſday 10.

In the afternoon we paſſed another large cubical maſs about 2000 feet long, 400 feet broad, and at leaſt as high again as our main-top-gallant-maſt head, or 200 feet high. According to the experiments of Boyle and Mairan *, the

* See Mairan's Diſſertation ſur la Glace. Paris, 1749, p. 261.

volume

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volume of ice is to that of ſea-water, nearly as ten to nine: conſequently, by the known rules of hydroſtatics, the volume of ice which riſes above the ſurface of the water, is to that which ſinks below it, as one to nine. Suppoſing the piece which we now ſaw to be entirely of a regular figure, its depth under water muſt have been one thouſand eight hundred feet, and its whole height two thouſand feet, allowing its length as abovementioned two thouſand feet, and its breadth four hundred feet, the whole maſs muſt have contained one thouſand ſix hundred millions cubic feet of ice.

Theſe prodigious pieces of ice, in all probability, drift but very ſlowly and imperceptibly, ſince the greateſt part of them being under water, the power of winds and waves can have but little effect; currents perhaps are the principal agents which give them motion, though I much queſtion, whether their velocity is ever conſiderable enough to carry them two miles in four-and-twenty hours. At the time we met with this firſt ice, all our conjectures about its formation could not amount to more than bare probabilities, and had not ſufficient experience to ſupport them: but after we have made the tour of the globe, without finding the Southern Continent, the exiſtence of which has been ſo univerſally believed in Europe; it ſeems in the higheſt degree reaſonable to ſuppoſe this floating ice to have

have been formed in the ſea *; an idea the more probable, as repeated and deciſive experiments have evinced, that ſalt-water may be frozen. 1773. DECEMBER.

This ice likewiſe ſerved to ſhew us the great difference between the temperature of the northern and ſouthern hemiſphere. We were now in the midſt of December, which anſwers to our June, and the latitude obſerved at noon gave only 51° 5′ ſouth, notwithſtanding which we had already paſſed ſeveral pieces of ice, and the thermometer ſtood at 36°. The want of land in the ſouthern hemiſphere ſeems to account for this circumſtance, ſince the ſea, as a tranſparent fluid, abſorbs the beams of the ſun, inſtead of reflecting them.

On the 11th of December, about three o' clock in the afternoon, we paſſed to leeward of a large piece, or iſland of ice, at leaſt half a mile in length. The thermometer on deck, which had been at 36° about two o'clock, was riſen to 41°, on account of the fair ſunſhine, which continued all the afternoon: when we came abreaſt of the ice, the wind directly blowing from thence, it gradually ſunk Friday 11.

* Mr. Adanſon, on returning from Senegal, brought ſeveral bottles filled with ſea-water with him, taken up in different latitudes, which being brought to Paris from Breſt in the midſt of winter, the water in them froze ſo as to break them; the ice was perfectly freſh, and the reſiduum of brine was run out. See his Voyage au Senegal, p. 190. Mr. Edward Nairne, F. R. S. has made experiments on ſea-water during the hard froſt in 1776, inſerted in the LXVI. volume of the Philoſophical Tranſactions, which put it beyond a doubt, that ſolid and freſh ice may be formed from ſea-water.

to

1772. DECEMBER. to 37½; however we had no ſooner paſſed it, than the mercury regained its former ſtation of 41°. We alſo found that this difference of four degrees, very perceptibly affected our bodies, and concluded that the large maſſes of ice greatly contributed to refrigerate the general temperature of the air in theſe inhoſpitable ſeas. The waves daſhed with great violence againſt the iſland of ice, as againſt a fixed body; ſometimes they broke entirely over it, notwithſtanding its height, which was not much inferior to that of the beforementioned piece, and we frequently ſaw the ſpray riſe very high above it, a phænomenon, which, on account of the fair weather, had a remarkable fine effect. The ſea-water by this means waſhed upon the ice, is probably congealed there, and ſerves to encreaſe the maſs; a circumſtance very materially conducive to aſcertain the hiſtory of its formation.

Notwithſtanding the coldneſs of this climate, our ſloops were ſtill ſurrounded by birds of the petrel genus, albatroſſes and pinguins. We particularly obſerved a petrel, about the ſize of a pigeon, entirely white, with a black bill and blueiſh feet; it conſtantly appeared about the icy maſſes, and may be looked upon as a ſure fore-runner of ice. Its colour induced us to call it the ſnowy-petrel. A grampus and ſeveral whales likewiſe made their appearance among the ice, and in theſe chilling regions ſerved to vary the diſmal

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dismal scene, and gave us some idea of a southern Greenland.

Sunday 13.

The number of icy masses encreased around us every day, so that we numbered upwards of twenty of a vast size on the 13th in the afternoon. One of them was full of black spots, which were taken for seals by some, and for aquatic birds by others, though we could not find that they even shifted their places. However seals being hitherto looked upon as certain signs of land, we sounded in the evening with a line of one hundred and fifty fathoms, but found no bottom. The latitude we were now in, was that in which Captain Lozier Bouvet had placed his pretended discovery of Cape Circumcision, and our longitude was only a few degrees to the eastward of it: the general expectation of seeing land, was therefore very great, and every little circumstance like the preceding roused all our attention; the clouds a-head were curiously examined at every moment, since every one was eager to be the first to announce the land. We had already had several false alarms from the fallacious conformation of fog-banks, or that of islands of ice half hid in snow storms, and our consort the Adventure had repeatedly made the signals for seeing land, deceived by such appearances: but now, the imagination warmed with the idea of M. Bouvet's discovery, one of our lieutenants, after having repeatedly been up to the mast-head, (about six o'clock in the morning on

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the 14th) acquainted the captain that he plainly ſaw the land. This news ſoon brought us all upon deck: We ſaw an immenſe field of flat ice before us, broken into many ſmall pieces on the edges, a vaſt number of iſlands of ice of all ſhapes and ſizes roſe beyond it as far as the eye could reach, and ſome of the moſt diſtant conſiderably raiſed by the hazy vapours which lay on the horizon, had indeed ſome appearance of mountains. Several of our officers perſiſted in the opinion that they had ſeen land here, till Captain Cook, about two years and two months afterwards (in February 1775) on his courſe from Cape Horn towards the Cape of Good Hope, ſailed over the ſame ſpot, where they had ſuppoſed it to lie, and found neither land nor even ice there at that time. Numbers of pinguins, pintadas, fulmars, ſnowy and blue petrels * attended this vaſt extent of ice, and different ſpecies of cetaceous animals ſpouted up the water around us: two of them, ſhorter than other whales, were particularly noticed, in reſpect of their bulk and of a white or rather fleſhy colour. A great degree of cold in theſe icy regions entirely precluded the idea of a ſummer, which we had expected at this time of the year; our thermometer ſtood at 31° in the morning, and did not riſe beyond 33° at noon, though the latitude we obſerved this day was only 54° 55′ ſouth. We paſſed through quantities of broken ice in the

* Aptenodytes antarctica; Procellaria capenſis, glacialis, nivea, & vittata.

afternoon,

afternoon, and ſaw another extenſive ice-field, beyond which ſeveral of our people ſtill perſiſted in, taking fog-banks for land. It ſnowed a good deal during night, and in the morning it was almoſt calm, but very foggy. A boat was hoiſted out to try the direction of the current. Mr. Wales the aſtronomer, and my father, took this opportunity to repeat the experiments on the temperature of the ſea at a certain depth. The fog encreaſed ſo much while they were thus engaged, that they entirely loſt ſight of both the ſhips. Their ſituation in a ſmall four-oared boat, on an immenſe ocean, far from any inhabitable ſhore, ſurrounded with ice, and utterly deſtitute of proviſions, was truly terrifying and horrible in its conſequences. They rowed about for ſome time, making vain efforts to be heard, but all was ſilent about them, and they could not ſee the length of their boat. They were the more unfortunate, as they had neither maſt nor ſail, and only two oars. In this dreadful ſuſpence they determined to lie ſtill, hoping that, provided they preſerved their place, the ſloops would not drive out of ſight, as it was calm. At laſt they heard the jingling of a bell at a diſtance; this ſound was heavenly muſic to their ears; they immediately rowed towards it, and by continual hailing, were at laſt anſwered from the Adventure, and hurried on board, overjoyed to have eſcaped the danger

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1773. DECEMBER. of periſhing by ſlow degrees, through the inclemencies of weather and through famine. Having been on board ſome time, they fired a gun, and being within hail of the Reſolution, returned on board of that ſloop, to their own damp beds and mouldering cabins, upon which they now ſet a double value, after ſo perilous an expedition. The riſks to which the voyager is expoſed at ſea are very numerous, and danger often ariſes where it is leaſt expected. Neither can we trace the care of Providence more evidently in ſtorms among hidden rocks and ſhoals, and where water or fire threaten deſtruction, than in theſe little circumſtances, which the traveller and the reader are both too apt to forget or paſs lightly over, if they come to a favourable iſſue.

Friday 18. The quantity of impenetrable ice to the ſouth did not permit us to advance towards that quarter; therefore, after ſeveral fruitleſs attempts, we ſtood on to the eaſtward, along it, frequently making way through great ſpots covered with broken ice, which anſwered the deſcription of what the northern navigators call packed ice. Heavy hail ſhowers and frequent falls of ſnow continually obſcured the air, and only gave us the reviving ſight of the ſun during ſhort intervals. Large iſlands of ice were hourly ſeen in all directions around the ſloops, ſo that they were now become as familiar to us as the clouds and the ſea; their

their frequency however ſtill led to new obſervations, which our long acquaintance with them ſerved to confirm. We were certain of meeting with ice in any quarter where we perceived a ſtrong reflexion of white on the ſkirts of the ſky near the horizon. However the ice is not always entirely white, but often tinged, eſpecially near the ſurface of the ſea, with a moſt beautiful ſapphirine or rather berylline blue, evidently reflected from the water; this blue colour ſometimes appeared twenty or thirty feet above the ſurface, and was there probably owing to ſome particles of ſea-water which had been daſhed againſt the maſs in tempeſtuous weather, and had penetrated into its interſtices. We could likewiſe frequently obſerve in great iſlands of ice, different ſhades or caſts of white, lying above each other in ſtrata of ſix inches or one foot high. This appearance ſeems to confirm the opinion concerning the farther encreaſe and accumulation of ſuch huge maſſes by heavy falls of ſnow at different intervals. For ſnow being of various kinds, ſmall grained, large grained, in light feathery locks, &c. the various degrees of its compactneſs account for the different colours of the ſtrata. 1773. DECEMBER.

We did not loſe ſight of our deſtination to explore the ſouthern frigid zone, and no ſooner perceived the ſea more open than before, than we ſtood once more to the ſouthward. We made but ſmall advances at firſt, the wind being very faint, and almoſt falling calm in the morning Tueſday 22.

on

1772. DECEMBER. Wedneſd. 23. on the 23d. We ſeized this opportunity to hoiſt out a boat, and continue the experiments on the current, and on the temperature of the ſea. The ſpecies of petrels which were numerous about us, were likewiſe examined, deſcribed, and drawn this day, having been ſhot as they hovered with ſeeming curioſity over our little boat.

Thurſday 24. We continued ſtanding ſoutherly, and even made a good deal of weſting, the wind being S. S. E. The next

Friday 25. morning the wind blew pretty freſh, and carried us paſt ſeveral iſlands of ice; ſome whales, and a number of birds appearing about us. Our firſt Chriſtmas day during this voyage, was ſpent with the uſual chearfulneſs among officers and paſſengers; but among the ſailors, notwithſtanding the ſurrounding rocks of ice, with ſavage noiſe and drunkenneſs, to which they ſeem to have particularly

Saturday 26. devoted the day. The next morning we ſailed through a great quantity of packed or broken ice, ſome of which looked dirty or decaying. Iſlands of ice ſtill ſurrounded us, and in the evening, the ſun ſetting juſt behind one of them, tinged its edges with gold, and brought upon the whole maſs a beautiful ſuffuſion of purple. A dead calm which ſucceeded on the 27th, gave us an opportunity of hoiſting the boat out, and going to ſhoot pinguins and petrels. The chace of pinguins proved very unſucceſsful, though it afforded great ſport; the birds dived ſo frequently, continued ſo long under water, and at times

ſkipped

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ſkipped continually into and out of the water, making way with ſuch amazing velocity in a ſtrait line, that we were obliged to give over the purſuit. At laſt we came near enough to one, to wound it; but though we followed it cloſely, and fired above ten times with ſmall ſhot, which we could obſerve to hit, yet we were at laſt obliged to kill it with ball. When we took it up, we perceived that its hard, gloſſy plumage, had continually turned the ſhot aſide. This plumage is extremely thick, and conſiſts of long narrow feathers, which lie above each other as cloſely as ſcales, and ſecure theſe amphibious birds againſt the wet, in which they almoſt conſtantly live. Their very thick ſkin and their fat ſeem wiſely appropriated to them by nature, to reſiſt the perpetual winter of theſe unhoſpitable climates; their broad belly, the ſituation of their feet far behind, and their fins, which ſupply the place of wings, are conſtructed with equal wiſdom to facilitate the progreſs of their otherwiſe lumpiſh bodies through the water. The one that we had now ſhot weighed eleven pounds and a half. The blue petrels which are ſeen throughout this immenſe ocean, and which now ſettled in flocks of ſeveral hundreds on the ſmooth ſurface of the water, were not worſe fitted out againſt the cold than the pinguins. Their plumage was amazingly abundant, and increaſed their bulk in a great proportion; and two feathers inſtead of one, proceeded out

1773. DECEMBER. out of every root, lying within each other, and formed a very warm covering. As they are almoſt continually in the air, their wings are very ſtrong, and of a great length to ſupport them. On the ocean, between New Zeeland and America, we have found them above ſeven hundred leagues from any land; a diſtance which it would have been impoſſible for them to have paſſed, without an amazing ſtrength in their bones and muſcles, and the aſſiſtance of long wings. Poſſibly theſe birds ſpreading over the whole ocean far from any land, may live a conſiderable time without freſh ſupplies of food; that being the caſe with many animals of prey, both in the claſs of quadrupeds and that of birds. Our experience ſhould ſeem in ſome meaſure to contradict, and in ſome degree to confirm, this ſuppoſition. For whenever we lamed any of them, they diſgorged a quantity of viſcid food, to all appearance recently digeſted, which the reſt immediately ſwallowed up with ſuch avidity as ſeemed to indicate a long faſt. Therefore it may be probable, that ſeveral ſorts of blubbers *(molluſca)* inhabit theſe icy ſeas, which may come to the ſurface in fair weather, and ſupply the weary birds with food. We were glad to meet with ſubjects from whence theſe little reflections could be drawn. They afforded us a momentary relief from that gloomy uniformity with which we ſlowly paſſed dull hours, days, and months in this deſolate part of the world.

world. We were almoſt perpetually wrapt in thick fogs, beaten with ſhowers of rain, ſleet, hail, and ſnow, the temperature of the air being conſtantly about the point of congelation in the height of ſummer; ſurrounded by innumerable iſlands of ice againſt which we daily ran the riſk of being ſhipwrecked, and forced to live upon ſalt proviſions, which concurred with the cold and wet to infect the maſs of our blood. Theſe ſeverities naturally inſpired a general wiſh for a happier change of ſituation and climate, though our ſeamen coming freſh and ſtrong from England, were not yet diſpirited amidſt the numberleſs fatigues and inclemencies to which they were expoſed. The prophylactics, with which we had been ſupplied, and which were regularly ſerved to the crew, namely portable broth, and ſour krout, had a wonderful effect in keeping them free from the ſea-ſcurvy. Two or three men however, of a bad habit of body, could not reſiſt this dreadful diſeaſe; one of them in particular, George Jackſon, a carpenter, fell ill ten days after leaving the Cape; his gums were ulcerous, and his teeth ſo looſe, as to lie ſideways. A marmalade of carrots, which had been much recommended was tried, but without ſucceſs, it having no other effect than that of keeping him open. Our ſurgeon, Mr. Patton, then began the cure with freſh wort, i. e. the infuſion of malt, by which he gradually recovered, and in the ſpace of a few weeks was perfectly cured, his teeth

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1772. DECEMBER. faſt, and his gums entirely renewed. As the efficient cauſe of his complaint ſtill exiſted, he was obliged to continue the uſe of wort even after his cure, and by that means was kept free from all ſcorbutic ſymptoms. The encomiums on the efficacy of malt cannot be exaggerated, and this uſeful remedy ought never to be forgotten on board of ſhips bound on long voyages; nor can we beſtow too much care to prevent its becoming damp and mouldy, by which means its ſalutary qualities are impaired, as we experienced during the latter part of our voyage.

1773. JANUARY. Friday 1. The new year began with ſnow-ſhowers and freſh cold gales, which carried us to the weſtward, under the meridian, where M. Bouvet placed the diſcovery, which he called Cape Circumciſion. The ſight of ſeals and pinguins once more revived the hopes of ſome of our fellow-voyagers, who bid us look out for land, which by their account could not be far off. Our courſe however ſoon diſappointed their expectations, and only ſerved to invalidate their teſtimonies of the proximity of land.

Sunday 3. The wind ſhifted to the north-weſtward in the night, and we ſtood back again to the eaſt, having firſt proceeded beyond the meridian of M. Bouvet's diſcovery. We paſſed the ſpot where we had met with much ice on the 31ſt of December, and found it drifted away from thence; after which we continued our courſe to the S. E.

On

1773. JANUARY. Saturday 9.

On the 9th, in the morning, we ſaw a large iſland of ice, ſurrounded with many ſmall broken pieces, and the weather being moderate we brought to, hoiſted out the boats, and ſent them to take up as much of the ſmall ice as they could. We piled up the lumps on the quarter-deck, packed them into caſks, and after dinner melted them in the coppers, and obtained about thirty days water, in the courſe of this day, and in the latitude of 61° 36′ ſouth. Two days afterwards we had another opportunity of ſupplying our ſloops with ice, which our people performed with great alacrity, notwithſtanding the excoriation of their hands, which the cold and the ſharpneſs of the ſea produced. A pictureſque view of ſome large maſſes of ice, and of our ſhips and boats employed in watering from ſmall ice, is inſerted in Captain Cook's account of this voyage. Some white whales of a huge ſize, ſeemingly ſixty feet long, were obſerved here, and many pinguins floated paſt us, ſtanding upright on ſmall bits of ice. The water we melted out of this ice was perfectly freſh, and had a purer taſte than any which we had on board. If any fault could be found with it, it was that the fixed air was expelled from it, by which means almoſt every one who uſed it was affected with ſwellings in the glands of the throat. Water melted from ſnow or ice is known always to have this effect, and the conſtant uſe of it in mountainous countries produces thoſe enormous wens

1773. JANUARY. *(goitres)* which are common among Alpine nations, and are become ſo habitual that they are looked upon as ornamental. Several perſons on board, unacquainted with natural philoſophy, were very ſeriouſly afraid that the ice, when it began to melt, would burſt the caſks in which it was packed, not conſidering that its volume muſt be greater in its frozen than in its melted ſtate, ſince it floated on the ſurface. The Captain, to undeceive them, placed a little pot filled with ſtamped ice in a temperate cabin, where it gradually diſſolved, and in that ſtate took up conſiderably leſs ſpace than before. Ocular demonſtration always goes farther than the cleareſt arguments; but reaſoning never has leſs weight than with ſailors.

Sunday 17. On the 17th, in the forenoon, we croſſed the antarctic circle, and advanced into the ſouthern frigid zone, which had hitherto remained impenetrable to all navigators. Some days before this period we had ſeen a new ſpecies of petrel, of a brown colour, with a white belly and rump, and a large white ſpot on the wings, which we now named the antarctic petrel, as we ſaw great flights of twenty or thirty of them hereabouts, of which we ſhot many that unfortunately never fell into the ſhip. About five o'clock in the afternoon, we had ſight of more than thirty large iſlands of ice a-head, and perceived a ſtrong white reflexion from the ſky over the horizon. Soon after we paſſed through vaſt quantities of broken ice, which looked honey-

honey-combed and ſpungy, and of a dirty colour. This continually thickened about us, ſo that the ſea became very ſmooth, though the wind was freſh as before. An immenſe field of ſolid ice extended beyond it to the ſouth, as far as the eye could reach from the maſt-head. Seeing it was impoſſible to advance farther that way, Captain Cook ordered the ſhips to put about, and ſtood north-eaſt by north, after having reached 67° 15′ ſouth latitude, where many whales, ſnowy, grey, and antarctic petrels, appeared in every quarter. 1772. JANUARY.

On the 19th and 20th we ſaw a bird, which a gentleman, who had been at Falkland's iſlands, called a Port-Egmont hen *, and which proved to be the ſkua or great northern gull *(larus catarractes)*, common in the high latitudes of both hemiſpheres. The appearance of this bird, was likewiſe conſtrued into a prognoſtick of land; but our diſappointments had already been ſo frequent in this reſpect, that we were not eaſily led to give credit to bare aſſertions. We ſaw a bird of this ſpecies again on the 27th, when we had a great variety of all kinds of petrels and albatroſſes around us. It always ſoared up to a great height, perpendicularly over our heads, and looked down upon us, as it ſhould ſeem with great attention, turning its head now on one ſide, and now on the other. This Wedneſd. 20.

* This bird is mentioned in Lieutenant Cook's voyage in the Endeavour. See Hawkeſworth, vol. II. p. 283.

was

1773. JANUARY. was a novelty to us, who were uſed to ſee all the other aquatic birds of this climate keep near the ſurface of the ſea. The next evening, and on the 29th, we had ſeveral porpeſſes paſſing by us with amazing ſwiftneſs in all directions. They were pied, and had a large blotch of white on the ſides, which came almoſt up to the back behind the dorſal fin. Their velocity was at leaſt triple that of our veſſels, though we now went at the rate of ſeven knots and a half. In the afternoon we ſaw a ſmall black and white bird, which ſome called an ice-bird, and others a murr, and which ſeldom or never go out of ſight of land; but as we could not come near enough to examine it more accurately, we rather believed that it might be a ſpecies of petrel. We ſtood however off and on this night and the next, finding the ſea very moderate, though the wind blew very freſh. We were the more induced to take this precaution as we had received intelligence at the Cape of Good Hope of a diſcovery of land hereabouts, by the French captains M. de Kerguelen and M. de St. Allouarn, in January 1772.

As the journal of that voyage has been ſuppreſſed in France, I ſhall here inſert ſuch particulars as were communicated to us by ſeveral French officers at the Cape of Good Hope. M. de Kerguelen, a lieutenant in the French navy, commanding the veſſel *(flute)* la Fortune, and having with him a ſmaller veſſel *(gabarre)* le Gros Ventre, commanded

manded by M. de St. Allouarn, ſailed from the Iſle of France or Mauritius, the latter end of 1771. On the 13th of January 1772, he ſaw two iſles, which he called the Iſles of Fortune; and the next morning one more, which from its ſhape they called Iſle Ronde. Almoſt about the ſame time, M. de Kerguelen ſaw land, of a conſiderable extent and height, upon which he ſent one of the officers of his ſhip a-head in the cutter to ſound. But the wind blowing freſh, M. de St. Allouarn in the Gros Ventre ſhot ahead of the boat, and finding a bay, which he called the Gros Ventre's bay, ſent his own yawl to take poſſeſſion of the land which was performed with the utmoſt difficulty. Both the boats then returned aboard the Gros Ventre, and the cutter was cut adrift on account of the bad weather. M. de St. Allouarn then ſpent three days in queſt of M. de Kerguelen, who had been driven ſixty leagues to leeward, on account of his weak maſts, and was returned towards the Iſle of France. M. de St. Allouarn continued to take the bearings of this land, and doubled its northern extremity beyond which it tended to the ſouth-eaſtward. In this direction he coaſted it for the ſpace of twenty leagues, and ſeeing it was very high, inacceſſible, and deſtitute of trees, he left it, ſtanding over to the coaſt of New Holland, from thence to Timor and Batavia, and at laſt back to the Iſle of France, where he died ſoon after his arrival. On M. de Kerguelen's return to Europe, he was immediately

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1773. JANUARY. ſent out again with a 64 gun ſhip called the Roland, and the frigate l'Oiſeau, captain Roſnevet; but after having juſt ſeen the land, which he had diſcovered in his former voyage, he returned without making farther diſcoveries. The northern coaſt of the land which he diſcovered, is ſituated in about 48 degrees ſouth latitude, and about 82 degrees eaſt longitude from Ferro, or 6 degrees eaſt of the Iſle of France, (i. e. in about 64° 20′ eaſt from Greenwich.)

M. de Marion in his expedition of 1772, in January, fell in with ſmall iſlands in three different places, about the latitude of $46\frac{1}{2}°$ and $47\frac{1}{2}°$, and about the longitudes of 37°, $46\frac{1}{2}°$, and $48\frac{1}{2}°$ eaſt from Greenwich. Theſe iſlands were all of inconſiderable extent, high, rocky, deſtitute of trees, and almoſt entirely barren. M. de Marion had two ſhips under his command, one the Maſcarin, captain Crozet, the other the Caſtrie, captain Du Cleſmure. They proceeded to the ſouthern extremity of New Holland, or Diemen's land, firſt ſeen by Taſman; and from thence to the bay of iſlands in New Zeeland, where M. de Marion was killed with 28 of his men by the natives, of which more ſhall be ſaid in the ſequel. After this loſs M. de Crozet, on whom the command devolved, paſſed through the weſtern part of the South Sea to the Philippinas, from whence he returned to the Iſle de France. Agreeably to theſe accounts, the diſcoveries of the French voyagers have been laid down in an excel-

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lent chart of the ſouthern hemiſphere, by M. de Vaugondy, under the direction of the duke de Croy, and publiſhed in March 1773. 1773. FEBRUARY.

On the 31ſt in the evening, our latitude being nearly that of 50° ſouth, we paſſed by a large iſland of ice, which at that inſtant crumbled to pieces with a tremendous exploſion. The next morning a bundle of ſea weeds was ſeen floating paſt the ſloop; and in the afternoon, captain Furneaux in the Adventure having hailed us, acquainted captain Cook that he had ſeen a number of divers, reſembling thoſe in the Engliſh ſeas, and had paſt a great bed of floating rock-weeds. In conſequence of theſe obſervations we ſtood off and on during night, and continued an eaſterly courſe the next morning. We ſaw many petrels and black ſhear-waters, ſome rock-weed, and a ſingle tern *(ſterna)* or as the ſeamen call it an egg-bird, which had a forked tail. At noon we obſerved in 48° 36′ ſouth latitude, which was nearly the ſame in which the French diſcoveries are ſaid to be ſituated. After noon we ſtood ſouth-weſtward, but the next day the gale encreaſed to ſuch a degree, as obliged us to hand our topſails, and ſtand on under the courſes all night: however, at eight o'clock on the 4th, we found a ſmooth ſea again, and ſet more ſail, changing our courſe to the north-weſtward at noon. On the 6th our latitude at noon was nearly 48 degrees ſouth, about 60 degrees eaſt from Greenwich, when not ſeeing

Monday 1.

Tueſday 2.

February. any land, we gave over the attempt to ſtand in ſearch of it, and directed our courſe once more to the ſouh-eaſtward, to the main object of our voyage. The ſmoothneſs of the ſea, whilſt we had ſtrong eaſterly gales, however perſuaded us, that there was probably ſome land near us to the eaſtward, and the ſituation given to the French diſcoveries, in M. Vaugondy's late chart, has confirmed our ſuppoſition; for, according to it, we muſt have been at leaſt 2 degrees of longitude to the weſt of it, on the ſecond of February, when we were fartheſt to the eaſt in the given latitude. Though we did not fall in with the land itſelf, yet we have done ſo much ſervice to geography by our track, as to put it beyond a doubt, that the French diſcovery is a ſmall iſland, and not, what it was ſuppoſed at firſt to be, the north cape of a great ſouthern continent.

Monday 8. On the 8th in the morning, we had an exceeding thick fog, during which we loſt ſight of the Adventure, our conſort. We fired guns all that day and the next, at firſt every half hour, and afterwards every hour, without receiving any anſwer; and at night we burnt falſe fires, which likewiſe proved ineffectual.

Wedneſd. 10. On the 10th in the morning, notwithſtanding all our endeavours to recover our conſort, we were obliged to proceed alone on a diſmal courſe to the ſouthward, and to expoſe ourſelves once more to the dangers of that frozen climate, without the hope of being ſaved by our fellow-

voyagers,

voyagers, in caſe of loſing our own veſſel. Our parting with the Adventure, was almoſt univerſally regretted among our crew, and none of them ever looked around the ocean without expreſſing ſome concern on ſeeing our ſhip alone on this vaſt and unexplored expanſe, where the appearance of a companion ſeemed to alleviate our toils, and inſpired cheerfulneſs and comfort. We were likewiſe not entirely without apprehenſions, that the Adventure might have fallen in with land, as the ſight of pinguins, of little diving petrels, and eſpecially of a kind of grebe, ſeemed to vindicate its vicinity. Indeed, according to the chart of M. Vaugondy we muſt have been but very little to the ſouth of it at that time. 1773. FEBRUARY.

On the 17th we were near 58 degrees ſouth, and took up a great quantity of ſmall ice, with which we filled our water-caſks. A variety of petrels and albatroſſes, had attended us continually; and from time to time the ſkua, or great northern gull *(larus catarractes)*, which our people called a Port Egmont hen, many pinguins, ſome ſeals, and ſome whales had made their appearance near us. A beautiful phænomenon was obſerved during the preceding night, which appeared again this and ſeveral following nights. It conſiſted of long columns of a clear white light, ſhooting up from the horizon to the eaſtward, almoſt to the zenith, and gradually ſpreading on the whole ſouthern part of the ſky. Theſe columns ſometimes were Wedneſd. 17th

1773. FEBRUARY. bent ſideways at their upper extremity, and though in moſt reſpects ſimilar to the northern lights (*aurora borealis*) of our hemiſphere, yet differed from them, in being always of a whitiſh colour, whereas ours aſſume various tints, eſpecially thoſe of a fiery, and purple hue. The ſtars were ſometimes hid by, and ſometimes faintly to be ſeen through the ſubſtance of theſe ſouthern lights, (*aurora auſtralis*), which have hitherto, as far as I can find, eſcaped the notice of voyagers. The ſky was generally clear when they appeared, and the air ſharp and cold, the thermometer ſtanding at the freezing point.

Wedneſd. 24. On the 24th, being in about 62 degrees ſouth latitude, we fell in once more with a ſolid field of ice, which confined our progreſs to the ſouth, very much to the ſatisfaction of every body on board. We had now been long at ſea, without receiving any refreſhment; the favorable ſeaſon for making diſcoveries towards the frozen zone, drew to an end; the weather daily became more ſharp, and uncomfortable, and preſaged a dreadful winter in theſe ſeas; and, laſtly, the nights lengthened apace, and made our navigation more dangerous than it had hitherto been. It was therefore very natural, that our people, exhauſted by fatigues and the want of wholeſome food, ſhould wiſh for a place of refreſhment, and rejoice to leave a part of the world, where they could not expect to meet with it.

MARCH. Wedneſd. 17. We continued however from this day till the 17th of March to

to run to the eaſtward, between 61° and 58° of ſouth latitude, during which time we had a great ſhare of eaſterly winds, which commonly brought fogs, and rains with them, and repeatedly expoſed us to the moſt imminent danger of being wrecked againſt huge iſlands of ice. The ſhapes of theſe large frozen maſſes, were frequently ſingularly ruinous, and ſo far pictureſque enough; among them we paſſed one of a great ſize, with a hollow in the middle, reſembling a grotto or cavern, which was pierced through, and admitted the light from the other ſide. Some had the appearance of a ſpire or ſteeple; and many others gave full ſcope to our imagination, which compared them to ſeveral known objects, by that means attempting to overcome the tedioufneſs of our cruize, which the ſight of birds, porpeſſes, ſeals, and whales, now too familiar to our eyes, could not prevent from falling heavily upon us. Notwithſtanding our excellent preſervatives, eſpecially the ſour-krout, ſeveral of our people had now ſtrong ſymptoms of ſea-ſcurvy, ſuch as bad gums, difficult breathing, livid blotches, eruptions, contracted limbs, and greeniſh greaſy filaments in the urine. Wort was therefore preſcribed to them, and thoſe who were the moſt affected drank five pints of it per day; the contracted limbs were bathed in it, and the warm grains applied to them. By this means we ſucceeded to mitigate, and in ſome individuals entirely to remove the ſymptoms of this horrid diſeaſe. The ri-

1773. MARCH.

gours

1773. MARCH. gours of the climate likewiſe violently affected the live ſheep, which we had embarked at the Cape of Good Hope. They were covered with eruptions, dwindled to mere ſkeletons, and would hardly take any nouriſhment. Our goats and ſows too, miſcarried in the tempeſtuous weather, or their off-ſpring were killed by the cold. In ſhort, we felt, from the numerous concurrent circumſtances, that it was time to abandon the high ſouthern latitudes, and retire to ſome port, where our crew might obtain refreſhments, and where we might ſave the few ſheep, which were intended as preſents to the natives of the South-ſea iſlands.

On the 16th, being in about 58 degrees of ſouth latitude, we ſaw the ſea luminous at night, though not to ſuch a degree as we had obſerved it near the Cape, but only by means of ſome ſcattered ſparks. This phænomenon was however remarkable, on account of the high latitude we were in, and the cold weather, our thermometer being at $33\frac{1}{4}^{\circ}$ at noon. We ſaw the ſouthern lights again during the nights of the 16th and 19th; and this laſt time, the columns formed an arch acroſs the ſky, rather brighter than any we had hitherto ſeen. We now ſtood to the north-eaſtward, in order to reach the ſouth end of New-Zeeland; and on this courſe we had ſtrong gales, and frequently ſaw weeds, eſpecially rock-weeds, together with numbers of petrels, and other birds. We were much amuſed by a ſingular chace of ſeveral ſkuas or great grey gulls, after

after a large white albatroſs. The ſkuas ſeemed to get the better of this bird, notwithſtanding its length of wings, and whenever they overtook it, they endeavoured to attack it under the belly, probably knowing that to be the moſt defenceleſs part; the albatroſs on theſe occaſions had no other method of eſcaping, than by ſettling on the water, where its formidable beak ſeemed to keep them at bay. The ſkuas are in general very ſtrong and rapacious birds, and in the Faroe Iſlands frequently tear lambs to pieces, and carry them away to their neſts. The albatroſſes do not ſeem to be ſo rapacious, but live upon ſmall marine animals, eſpecially of the *molluſca*, or blubber claſs. They appeared in great numbers around us, as we came to the northward of 50 degrees ſouth, only few ſolitary birds having gone ſo far to the ſouth as we had penetrated; from whence it may be inferred, that they are properly inhabitants of the temperate zone. 1773. MARCH.

As we ſtood to the northward, we alſo obſerved more ſeals every day, which came from the coaſt of New Zeeland. A large trunk of a tree, and ſeveral bunches of weeds were ſeen on the 25th, and greatly exhilarated the ſpirits of our ſailors. Soon after, the land was deſcried, bearing N. E. by E. at a vaſt diſtance. About five o'clock in the afternoon we were within a few miles of it, and ſaw ſome high mountains inland, and a broken rocky coaſt before us, where ſeveral inlets ſeemed to indicate an extenſive bay or ſound. Thurſday 25.

We

1773. MARCH. We tried ſoundings in 30 fathoms, but found none; however, at the maſt-head they obſerved ſunken rocks cloſe to us, on which we immediately tacked, and ſtood off ſhore, as the weather was growing dark and miſty. The next morning we found this part of New Zeeland lay to the ſouthward of Cape Weſt, and had not been explored by captain Cook, in the Endeavour.

Thus ended our firſt cruize in the high ſouthern latitudes, after a ſpace of four months and two days, out of ſight of land, during which we had experienced no untoward accident, and had been ſafely led through numerous dangers by the guiding hand of Providence, which preſerved our crew in good health during the whole time, a few individuals excepted. Our whole courſe, from the Cape of Good Hope to New Zeeland, was a ſeries of hardſhips, which had never been experienced before: all the diſagreeable circumſtances of the ſails and rigging ſhattered to pieces, the veſſel rolling gunwale to, and her upper works torn by the violence of the ſtrain; the concomitant effects of ſtorms, which have been painted with ſuch ſtrong expreſſion, and blackneſs of *Colorit*, by the able writer of Anſon's Voyage, were perhaps the leaſt diſtreſſing occurrences of ours. We had the perpetual ſeverities of a rigorous climate to cope with; our ſeamen and officers were expoſed to rain, ſleet, hail, and ſnow; our rigging was conſtantly encruſted with ice, which cut the hands of thoſe who were obliged to touch it; our

proviſion

1773. MARCH.

proviſion of freſh water was to be collected in lumps of ice floating on the ſea, where the cold, and the ſharp ſaline element alternately numbed, and ſcarified the ſailors' limbs; we were perpetually expoſed to the danger of running againſt huge maſſes of ice, which filled the immenſe Southern ocean: the frequent and ſudden appearance of theſe perils, required an almoſt continual exertion of the whole crew, to manage the ſhip with the greateſt degree of preciſion and diſpatch. The length of time which we remained out of ſight of land, and the long abſtinence from any ſort of refreſhment were equally diſtreſsful; for our hooks and lines diſtributed in November (See pag. 90.) had hitherto been of no ſervice, on account of our navigation in high ſouthern latitudes, and acroſs an unfathomable ocean, where we ſaw no fiſh except whales, and where it is well known no others can be expected; the torrid zone being the only one where they may be caught out of ſoundings.

——Atrum
Defendens piſces hiemat mare. HORAT.

We may add to theſe the diſmal gloomineſs which always prevailed in the ſouthern latitudes, where we had impenetrable fogs laſting for weeks together, and where we rarely ſaw the cheering face of the ſun; a circumſtance which alone is ſufficient to deject the moſt un-

1773. MARCH. daunted, and to four the ſpirits of the moſt cheerful. It is therefore juſtly to be wondered at, and ought to be conſidered as a diſtinguiſhing mark of divine protection, that we had not felt thoſe ill effects which might have been expected, and juſtly dreaded as the reſult of ſuch accumulated diſtreſſes.

CHAP.