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A Voyage To The Pacific Ocean

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

King, James Cook, James

London, 1784

Chap. IV. Fruitless attempts to penetrate through the Ice to the North West. - Dangerous Situation of the Discovery. - Seahorses killed. - Fresh Obstructions from the Ice. - Report of Damages ...

urn:nbn:de:gbv:45:1-2282

CHAP. IV.

Fruitless Attempts to penetrate through the Ice to the North West.—Dangerous Situation of the Discovery.—Seaborses killed .- Fresh Obstructions from the Ice. - Report of Damages received by the Discovery.—Captain Clerke's Determination to proceed to the Southward .- Foy of the Ship's Crews on that Occasion.—Pass Serdze Kamen.— Return through Beering's Straits.—Inquiry into the Extent of the North East Coast of Asia .- Reasons for rejesting Muller's Map of the Promontory of the Tschutski. -Reasons for believing the Coast does not reach a higher Latitude than 70: North.—General Observations on the Impracticability of a North East, or North West Passage from the Atlantic into the Pacific Ocean. - Comparative View of the Progress made in the Years 1778 and 1779. -Remarks on the Sea, and Sea-coasts, North of Beering's Straits. - History of the Voyage resumed .- Pass the Island of St. Laurence.—The Island of Mednoi. -Death of Captain Clerke. - Short Account of his Services.

CAPTAIN CLERKE having determined, for the reasons affigned at the conclusion of the last Chapter, to give up all farther attempts on the coast of America, and to make his last efforts, in search of a passage on the coast of the opposite

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polite continent, we continued, during the afternoon of the 21ft of July, to fleer to the West North West, through much loose Wednes, 21. ice. At ten at night, discovering the main body of it through the fog, right ahead, and almost close to us, and being unwilling to take a Southerly courfe, fo long as we could possibly avoid it, we hauled our wind, which was Eafterly, and flood to the Northward; but, in an hour after, the weather clearing up, and finding ourselves surrounded by a compact field of ice, on every fide, except to the South South West, we tacked, and flood on in that direction, in order to get clear of it.

Thursday 22. At noon of the 22d, our latitude, by observation, was 69° 30', and longitude 187° 30'. In the afternoon, we again came up with the ice, which extended to the North West and South West, and obliged us to continue our course to the Southward, in order to weather it.

> It may be remarked, that fince the 8th of this month, we had twice traverfed this fea, in lines nearly parallel with the run we had just now made; that in the first of those traverses, we were not able to penetrate so far North, by eight or ten leagues, as in the fecond; and that in the last we had again found an united body of ice, generally about five leagues to the Southward of its polition in the preceding run. As this proves that the large, compact fields of ice, which we faw were moveable, or diminishing; at the fame time, it does not leave any well-founded expectation of advancing much farther in the most favourable feafons.

> At feven in the evening, the weather being hazy, and no ice in fight, we bore away to the Westward; but, at half past eight, the fog dispersing, we found ourselves in the midit

midst of loose ice, and close in with the main body; we therefore flood upon a wind, which was ftill Eafterly, and kept beating to windward during the night, in hopes of weathering the loofe pieces, which the freshness of the wind kept driving down upon us in fuch quantities, that we were in manifest danger of being blocked up by them.

In the morning of the 23d, the clear water, in which we Friday 23. continued to fland to and fro, did not exceed a mile and a half, and was every inftant leffening. At length, after using our utmost endeavours to clear the loose ice, we were driven to the necessity of forcing a passage to the Southward, which, at half past feven, we accomplished, but not without fubjecting the ship to some very severe shocks. The Difcovery was lefs fuccefsful. For, at eleven, when they had nigh got clear out, she became so entangled by several large pieces, that her way was stopped, and immediately dropping bodily to leeward, the fell, broadfide foremost, on the edge of a confiderable body of ice; and having, at the fame time, an open fea to windward, the furf caufed her to strike violently upon it. This mass at length either so far broke, or moved, as to fet them at liberty to make another trial to escape; but, unfortunately, before the ship gathered way enough to be under command, she again fell to leeward on another fragment; and the fwell making it unfafe to lie to windward, and finding no chance of getting clear, they pushed into a small opening, furled their fails, and made fast with ice-hooks.

In this dangerous fituation we faw them at noon, about three miles from us, bearing North West, a fresh gale from the South East driving more ice to the North West, and increasing the body that lay between us. Our latitude, by VOL. III. account,

account, was 69° 8', the longitude 187°, and the depth of water twenty-eight fathoms. To add to the gloomy apprehensions which began to force themselves on us, at half past four in the afternoon, the weather becoming thick and hazy, we loft fight of the Difcovery; but, that we might be in a fituation to afford her every affiftance in our power, we kept standing on close by the edge of the ice. At fix, the wind happily coming round to the North, gave us fomehopes, that the ice might drift away and release her; and in. that case, as it was uncertain in what condition she might come out, we kept firing a gun every half hour, in order to prevent a feparation. Our apprehensions for her fafety did not cease till nine, when we heard her guns in answer to ours; and foon after, being hailed by her, were informed, that upon the change of wind, the ice began to separate; and that, fetting all their fails, they forced a paffage through it. We learned farther, that whilft they were encompaffed by it, they found the ship drift, with the main body, to the North East, at the rate of half a mile an hour. We were forry to find, that the Discovery had rubbed off a great deal of the sheathing from the bows, and was become very leaky, from the strokes she had received when she fell upon the edge: of the ice.

Saturday 24.

On the 24th, we had fresh breezes from South West, with hazy weather, and kept running to the South East till eleven in the forenoon, when a large body of loose ice, extending from North North East, round by the East, to South South East, and to which (though the weather was tolerably clear) we could see no end, again obstructed our course. We therefore kept working to windward, and at noon, our latitude, by observation, was 68° 53', longitude 188°; the variation of the compass 22° 30' East. At four in the afternoon, it became

came calm, and we hoisted out the boats in pursuit of the fea-horfes, which were in prodigious herds on every fide of us. We killed ten of them, which were as many as we could make use of for eating, or for converting into lamp oil. We kept on with the wind, from the South West, along the edge of the ice, which extended in a direction almost due East and West, till four in the morning of the 25th, Sunday 25. when observing a clear sea beyond it, to the South East, we made fail that way, with a view of forcing through it. By fix, we had cleared it, and continued the remainder of the day running to the South East, without any ice in fight. At noon, our latitude, by observation, was 68° 38', longitude 189° 9', and the depth of water thirty fathoms. At midnight, we tacked, and flood to the Westward, with a fresh gale from the South; and at ten in the forenoon of the 26th, Monday 26. the ice again shewed itself, extending from North West to South. It appeared loofe, and drifting, by the force of the wind, to the Northward. At noon, our latitude, by observation, was 68° North, longitude 188° 10' East; and we had foundings with twenty-eight fathoms. For the remaining part of the day, and till noon of the 27th, we kept flanding Tuefday 27. backward and forward, in order to clear ourselves of different bodies of ice. At noon, we were in latitude, by observation, 67° 47', longitude 188°. At two in the afternoon, we faw the continent to the South by East; and at four, having run, fince noon, with a South South East wind to the South West, we were furrounded by loose masses of ice, with the firm body of it in fight, stretching in a North by West, and a South by East direction, as far as the eye could reach; beyond which we faw the coast of Asia, bearing South, and South by East.

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As it was now necessary to come to some determination with respect to the course we were next to steer, Captain Clerke sent a boat, with the carpenters, on board the Discovery, to inquire into the particulars of the damage she had sustained. They returned, in the evening, with the report of Captain Gore, and of the carpenters of both ships, that the damages they had received were of a kind that would require three weeks to repair; and that it would be necessary, for that purpose, to go into some port.

Thus, finding a farther advance to the Northward, as well as a nearer approach to either continent, obstructed by a sea blocked up with ice, we judged it both injurious to the service, by endangering the safety of the ships, as well as fruitless, with respect to the design of our voyage, to make any farther attempts toward a passage. This, therefore, added to the representations of Captain Gore, determined Captain Clerke not to lose more time in what he concluded to be an unattainable object, but to sail for Awatska Bay, to repair our damages there; and, before the winter should set in, and render all other efforts toward discovery impracticable, to explore the coast of Japan.

I will not endeavour to conceal the joy that brightened the countenance of every individual, as foon as Captain Clerke's refolutions were made known. We were all heartily fick of a navigation full of danger, and in which the utmost perseverance had not been repaid with the smallest probability of success. We therefore turned our faces toward home, after an absence of three years, with a delight and satisfaction, which, notwithstanding the tedious voyage we had still to make, and the immense distance we had to run, were as freely entertained, and perhaps as

fully enjoyed, as if we had been already in fight of the Land's-end.

On the 28th, we kept working to windward with a fresh Wednes. 28. breeze from the South East, having the coast of Asia still in fight. At four in the morning, the Cape, which on the authority of Muller, we have called Serdze Kamen, bore South South West, distant fix or seven leagues. We saw, in different places, upon the tops of the hills, which rife inland on both fides of the Cape, protuberances of a confiderable height, which had the appearance of huge rocks, or pillars of stone.

On the 29th, the wind still continuing contrary, we made Thursday 29but flow progress to the Southward. At midnight we had thick, foggy weather, accompanied with a breeze from the North North West, with which we directed our course to the South South East, through the straits, and had no land in fight till feven in the evening of the 30th; when the fog Friday 30clearing away, we faw Cape Prince of Wales bearing South by Eaft, distant about fix leagues; and the island St. Diomede South West by West. We now altered our course to the West, and at eight made the East Cape, which, at midnight, bore West by North, distant four leagues. In the night we steered to the South South West, with a fresh West North Westerly breeze; and, at four in the morning of the 31st, the East Saturday 31. Cape bore North North East, and the North East part of the bay of St. Laurence (where we anchored the last year) West by South, its distance being four leagues. As we could not have worked up to windward without a greater wafte of time, than the object appeared to deferve, we ran across the bay, regretting much, as we passed along, the loss of this opportunity of paying a fecond visit to the Tschutski. At

noon

noon our latitude, by observation, was 65° 6′, and longitude 189°. The South point of the Bay of St. Laurence bore North by West one quarter West, and was distant seven or eight leagues. In the afternoon the variation was found to be 22° 50′ East.

Having now passed Beering's Straits, and taken our final leave of the North East coast of Asia, it may not be improper, on this occasion, to state the grounds on which we have ventured to adopt two general conclusions respecting its extent, in opposition to the opinions of Mr. Muller. The first, that the promontory named East Cape is actually the Easternmost point of that quarter of the globe; or, in other words, that no part of the continent extends in longitude beyond 190° 22′ East: the second, that the latitude of the North Easternmost extremity falls to the Southward of 70° North. With respect to the former, if such land exist, it must necessarily be to the North of latitude 69°, where the discoveries made in the present voyage terminate; and, therefore, the probable direction of the coast, beyond this point, is the question I shall endeavour, in the first place, to investigate.

As the Russian is the only nation that has hitherto navigated these seas, all our information respecting the situation of the coast to the Northward of Cape North, must necessarily be derived from the charts and journals of the persons who have been employed, at various times, in ascertaining the limits of that empire; and these are, for the most part, so imperfect, so confused, and contradictory, that it is not easy to form any distinct idea of their pretended, much less to collect the amount of their real discoveries. It is on this account, that the extent and form of the peninsula, inhabited by the Tschutski, still remains a point, on which

which the Ruffian geographers are much divided. Mr. Muller, in his map, published in the year 1754, supposes this country to extend toward the North East, to the 75° of latitude, and in longitude 190° East of Greenwich, and to terminate in a round Cape, which he calls Tschukotskoi Noss. To the Southward of this Cape he conceives the coast to form a bay to the Westward, bounded in latitude 67° 18', by Serdze Kamen, the Northernmost point seen by Beering in his expedition in the year 1728. The map, published by the academy of St. Petersburg, in the year 1776, gives the whole peninfula intirely a new form, placing its North Easternmost extremity in the latitude 73°, longitude 178° 30'. The Easternmost point in latitude 65° 30', longitude 189° 30'. All the other maps we faw, both printed and in manuscript, vary between thefe two, apparently more according to the fancy of the compiler, than on any grounds of more accurate information. The only point in which there is a general coincidence, without any confiderable variation, is in the polition of the East Cape in latitude 66°. The form of the coast, both to the South and North of this Cape, inthe map of the academy, is exceedingly erroneous, and may be totally difregarded. In that of Mr. Muller, the coast to the Northward bears a confiderable refemblance to our furvey, as far as the latter extends, except that it does not trend fufficiently to the Westward; receding only about 5° of longitude, between the latitude of 66° and 69°; whereas, in reality, it recedes near ten. Between the latitude of 69° and 74°, he makes the coast bend round to the North and North East, and to form a considerable promontory. On what authority, now remains to be examined.

Mr. Coxe, whose accurate researches into this subject, give his opinion great weight, is persuaded that the extremity of

the Nofs in question, was never passed but by Deshness and his party, who failed from the river Kovyma in the year 1648, and are supposed to have got round it into the Anadyr. As the account of this expedition, the fubflance of which the Reader will find in Mr. Coxe's Account of Ruffian Difcoveries, contains no geographical delineation of the coaft along which they failed, its polition must be conjectured from incidental circumstances; and from these it appears very manifest, that the Tschukotskoi Noss of Deshness is no other than the promontory called, by Captain Cook, the East Cape. Speaking of the Noss, he fays, "One might " fail from the ishmus to the river Anadyr, with a " fair wind, in three days and three nights." This exactly coincides with the fituation of the East Cape, which is about one hundred and twenty leagues from the mouth of the Anadyr; and as there is no other ishmus to the Northward between that and the latitude of 69°, it is obvious, that, by this description, he must intend either the Cape in question, or fome other to the Southward of it. In another place he fays, " Over against the isthmus there are two islands in " the fea, upon which were feen people of the Tschutski " nation, through whose lips were run pieces of the teeth " of the fea-horfe." This again perfectly agrees with the two islands situated to the South East of the East Cape. We faw indeed no inhabitants on them; but it is not at all improbable, that a party of the Americans, from the opposite continent, whom this description accurately fuits, might, at that time, have been accidentally there; and whom it was natural enough for him to mistake for a tribe of the Tíchutíki *.

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^{*} From the circumstance, related in the last Volume, that gave name to Sledge Island, it appears, that the inhabitants of the adjacent continents visit occasionally the

These two circumstances are of so striking and unequivocal a nature, that they appear to me conclusive on the point of the Tschukotskoi Noss, notwithstanding there are others of a more doubtful kind, which we have from the fame authority, and which now remain to be confidered. " To " go," fays Deshneff in another account, " from the Ko-" vyma, to the Anadyr, a great promontory must be doubled, " which firetches very far into the fea;" and afterward, " this promontory stretches between North and North East." It was probably from the expressions contained in these passages, that Mr. Muller was induced to give the country of the Tschutski the form we find in his map; but had he been acquainted with the fituation of the East Cape, as ascertained by Captain Cook, and the remarkable coincidence between it and their promontory or isthmus (for it must be observed, that Deshness appears to be all along fpeaking of the fame thing), in the circumstances already mentioned, I am confident, he would not have thought those expressions, merely by themselves, of sufficient weight to warrant him in extending the North Eastern extremity of Asia, either so far to the North or to the Eastward. For, after

fmall islands lying between them, probably for the conveniency of fishing, or in purfuit of furs.

It appears also from Popost's deposition, which I shall have occasion to speak of more particularly hereafter, that the general resemblance between the people, who are seen in these islands, and the Tschutski, was sufficient to lead Deschneff into the error of imagining them to be the same. "Opposite to the Nos," he says, " is an island of moderate size, without trees, whose inhabitants resemble, in their exterior, the Tschutski, although they are quite another nation; not numerous indeed, yet speaking their own particular language." Again, "One may go in a baidare from the Nos to the island in half a day: beyond is a great continent, which can be discovered from the island in serene weather. When the weather is good, one may go from the island to the continent in a day. The inhabitants of the continent are similar to the Tchutski, excepting that they speak another language."

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all, these expressions are not irreconcileable with the opinion we have adopted, if we suppose Deshness to have taken these bearings from the small bight which lies to the Westward of the Cape.

The deposition of the Cossac Poposs, taken at the Anadirfkoi ostrog, in the year 1711, seems to have been the next authority on which Mr. Muller has proceeded; and befide these two, I am not acquainted with any other. This Cossac, together with feveral others, was fent by land to demand tribute from the independent Tschutski tribes, who lived about the Nofs. The first circumstance, in the account of this journey, that can lead to the fituation of Tschukotskoi Noss, is its distance from Anadirsk; and this is stated to be ten weeks journey, with loaded rein-deer; on which account it is added, their day's journey was but very fmall. It is impossible to conclude much from so vague an account; but, as the distance between the East Cape and the oftrog is upward of two hundred leagues in a straight line, and therefore may be supposed to allow twelve or fifteen miles a day; its fituation cannot be reckoned incompatible with Popoff's calculation. The next circumstance mentioned in this deposition is, that their route lay by the foot of a rock called Matkol, fituated at the bottom of a great gulf. This gulf Muller fuppofes to be the bay he had laid down between latitude 66° and 72°; and accordingly places the rock Matkol in the center of it; but it appears equally probable, even if we had not fo many reasons to doubt the existence of that bay, that it might be some part of the gulf of Anadir, which they would undoubtedly touch upon in their road from the offrog to the East Cape.

But what feems to put this matter beyond all dispute, and to prove that the Cape visited by Poposs cannot be to the North-

Northward of 69° latitude, is that part of his depolition, which I have already quoted, relative to the island lying off the Noss, from whence the opposite continent might be seen. For as the two continents, in latitude 69°, have diverged so far as to be more than three hundred miles distant, it is highly improbable, that the Asiatic coast should again trend in such a manner to the Eastward, as to come nearly within sight of the Coast of America.

If these arguments should be deemed conclusive against the existence of the peninfula of the Tschutski, as laid down by Muller, it will follow, that the East Cape is the Tschukotíkoi Noís of the * more early Russian navigators; and, confequently, that the undescribed coast, from the latitude of 69° to the mouth of the river Kovyma, must uniformly trend more or less to the Westward. As an additional proof of this, it may be remarked, that the Tschukotskoi Noss is always reprefented as dividing the fea of Kovyma from that of Anadir, which could not be the cafe, if any confiderable cape had projected to the North East in the higher latitudes. Thus, in the depositions taken at Anadirsk, it is related, " that opposite the Noss, on both sides, as well " in the fea of Kovyma, as in that of Anadir, an island is faid " to be seen at a great distance, which the Tschutski call a " large country; and fay, that people dwell there who have " large teeth put in their mouths, that project through their " cheeks." Then follows a description of these people and their country, exactly corresponding with our accounts of the opposite continent.

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^{*} I mention the more early Ruffian navigators, because Beering, whom we have also followed, and after him all the late Ruffian geographers, have given this name to the South East Cape of the peninsula of the Tschutski, which was formerly called the Anadirskoi Noss.

The last question that arises is, to what degree of Northern latitude this coast extends, before it trends more directly to the Westward. If the situation of the mouth of the Kovyma, both with respect to its latitude and longitude, were accurately determined, it would perhaps not be very difficult to form a probable conjecture upon this point. Captain Cook was always strongly of opinion, that the Northern coast of Asia, from the Indigirka eastward, has hitherto been generally laid down more than two degrees to the Northward of its true polition; and he has, therefore, on the authority of a map that was in his possession, and on the information he received at Oonalashka, placed the mouth of the river Kovyma, in his chart of the North West coast of America, and the North East coast of Asia, in the latitude of 68°. Should he be right in this conjecture, it is probable, for the reasons that have been already stated, that the Asiatic coast does not any where exceed 70° before it trends to the Westward; and consequently, that we were within 1° of its North Eastern extremity. For, if the continent be supposed to stretch any where to the Northward of Shelatskoi Noss, it is scarcely possible, that so extraordinary a circumstance should not have been mentioned by the Russian navigators; and we have already shewn, that they make mention of no remarkable promontory between the Kovyma and the Anadir, except the East Cape. Another circumflance, related by Deshneff, may, perhaps, be thought a further confirmation of this opinion, namely, that he met with no impediment from ice in navigating round the North East extremity of Asia; though he adds, that this sea is not always so free from it; as indeed is manifest from the failure of his first expedition, and, fince that, from the unfuccessful fuccessful attempts of Shalauroff, and the obstacles we met with, in two different years, in our present voyage.

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The continent, left undetermined in our chart, between Cape North, and the mouth of the Kovyma, is, in longitudinal extent, one hundred and twenty-five leagues. One third, or about forty leagues, of this distance, from the the Kovyma Eastward, was explored in the year 1723, by a Sinbojarskoi of Jakutz, whose name was Fedor Amosfoss; by whom Mr. Muller was informed, that its direction was to the Eastward. It is faid to have been since accurately surveyed by Shalauross, whose chart makes it trend to the North East by East, as far as the Shelatskoi Noss, which he places about forty-three leagues to the Eastward of the Kovyma. The space between this Noss and Cape North, about eighty-two leagues, is therefore the only part of the Russian empire that now remains unascertained.

But if the river Kovyma be erroneously situated with refpect to its longitude, as well as in its latitude, a supposition for which probable grounds are not wanting, the extent of the unexplored coast will become proportionably diminished. The reasons which incline me to believe, that the mouth of this river is placed in the Russian charts much too far to the Westward, are as follow: First, because the accounts that are given of the navigation of the Frozen Sea from that river, round the North East point of Asia, to the gulf of Anadir, do not accord with the supposed distance between those places. Secondly, because the distance over land, from the Kovyma to the Anadir, is represented by the early Russian travellers as a journey easily performed, and of no very extraordinary length. Thirdly, because the coast from the Shelatskoi Noss of Shalauross**

* See Chart in Coxe's Account of Ruffian Discoveries,.

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East to the East Cape. If this be so, it will follow, that, as we were probably not more than 1° to the Southward of Shelatskoi Noss, only sixty miles of the Asiatic coast remain unascertained.

Had Captain Cook lived to this period of our voyage, and experienced, in a fecond attempt, the impracticability of a North East or North West passage from the Pacific to the Atlantic Ocean, he would doubtless have laid before the Public, in one connected view, an account of the obstacles which defeated this, the primary object of our expedition, together with his observations on a subject of such magnitude, and which had engaged the attention, and divided the opinions of philosophers and navigators, for upward of two hundred years. I am very sensible how unequal I am to the task of supplying this deficiency; but that the expectations of the reader may not be wholly disappointed, I must beg his candid acceptance of the following observations, as well as of those I have already ventured to offer him, relative to the extent of the North East coast of Asia.

The evidence that has been fo fully and judiciously stated in the introduction, amounts to the highest degree of probability, that a North West passage, from the Atlantic into the Pacific Ocean, cannot exist to the Southward of 65° of latitude. If then there exists a passage, it must be either through Bassin's Bay, or round by the North of Greenland, in the Western hemisphere; or else through the Frozen Ocean, to the Northward of Siberia, in the Eastern; and on whichever side it lies, the navigator must necessarily pass through Beering's Straits. The impracticability of penetrating into the Atlantic on either side, through this strait, is therefore all that remains to be submitted to the consideration of the Public.

As far as our experience went, it appears, that the sea to the North of Beering's strait, is clearer of ice in August than in July, and perhaps in a part of September it may be still more free. But after the equinox, the days shorten so fast, that no farther thaw can be expected; and we cannot rationally allow so great an effect to the warm weather in the first half of September, as to imagine it capable of dispersing the ice from the most Northern parts of the American coast. But admitting this to be possible, it must at least be granted, that it would be madness to attempt to run from the Icy Cape to the known parts of Bassin's Bay (a distance of four hundred and twenty leagues), in so short a time as that passage can be supposed to continue open.

Upon the Afiatic fide, there appears still less probability of fuccess, both from what came to our own knowledge, with respect to the state of the sea to the Southward of Cape North, and also from what we learn from the experience of the * Lieutenants under Beering's direction, and the journal of Shalauross, in regard to that on the North of Siberia.

The voyage of Deshness, if its truth be admitted, proves undoubtedly the possibility of passing round the North East point of Asia; but when the reader reslects, that near a century and a half has elapsed since the time of that navigator, during which, in an age of great curiosity and enterprize, no man has yet been able to follow him, he will not entertain very fanguine expectations of the public advantages that can be derived from it. But let us even suppose, that in some singularly favourable season a ship has found a clear passage round the coast of Siberia, and is safely arrived at the mouth of the Lena, still there remains the Cape of Tai-

* See Gmelin, pages 369. 374

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mura, firetching to the 78° of latitude, which the good fortune of no fingle voyager has hitherto doubled.

It is, however, contended, that there are strong reasons for believing, that the fea is more free from ice, the nearer we approach to the pole; and that all the ice we faw in the lower latitudes, was formed in the great rivers of Siberia and America, the breaking up of which had filled the intermediate fea. But even if that supposition be true, it is equally fo, that there can be no access to those open seas, unless this great mass of ice is so far dissolved in the summer, as to admit of a ship's getting through it. If this be the fact, we have taken a wrong time of the year for attempting to find this paffage, which should have been explored in April and May, before the rivers were broken up. But how many reasons may be given against such a suppofition. Our experience at Saint Peter and Saint Paul enabled us to judge what might be expected farther North; and upon that ground, we had reason to doubt, whether the continents might not in winter be even joined by the ice; and this agreed with the flories we heard in Kamtfchatka, that on the Siberian coast, they go out from the fhore in winter, upon the ice, to greater distances than the breadth of the fea is, in fome parts, from one continent to the other.

In the depolitions referred to above, the following remarkable circumstance is related. Speaking of the land seen from the Tschukotskoi Noss, it is faid, "that in summer time they fail in one day to the land in baidares, a fort of vessel constructed of whale-bone, and covered with seal-skins; and in winter time, going swift with rein deer, the journey may likewise be made in a day." A sufficient proof,

proof, that the two countries were usually joined together by the ice.

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The account given by Mr. Muller, of one of the expeditions undertaken to discover a supposed island in the Frozen Sea, is still more remarkable. "In the year 1714, a new expedition was prepared from Jakutzk, for the same place, under the command of Alexei Markoff, who was to sail from the mouth of the Jana; and if the Schitiki were not sit for sea voyages, he was to construct, at a proper place, vessels sit for prosecuting the discoveries without danger.

" On his arrival at Uft-janskoe Simovie, the port at which " he was to embark, he fent an account, dated February 2, " 1715, to the Chancery of Jakutzk, mentioning, that it " was impossible to navigate the sea, as it was continually " frozen, both in fummer and winter; and that, confe-" quently, the intended expedition, was no otherwise to be " carried on, but with fledges drawn by dogs. In this " manner, he accordingly fet out, with nine persons, on " the 10th of March the fame year, and returned on the " 3d of April, to Ust-janskoe Simovie. The account of " his journey is as follows: that he went feven days, " as fast as his dogs could draw him (which, in good " ways and weather, is eighty or a hundred werfts in a " day) directly toward the North, upon the ice, without " discovering any island: that it had not been possible for " him to proceed any farther, the ice rifing there in the fea " like mountains: that he had climbed to the top of fome " of them, whence he was able to fee to a great distance " round about him, but could discern no appearance of " land: Nn VOL. III.

" land: and that, at last, wanting food for his dogs, many " of them died, which obliged him to return."

Besides these arguments, which proceed upon an admisfion of the hypothesis, that the ice in those seas comes from the rivers, there are others which give great room to fuspect the truth of the hypothesis itself. Captain Cook, whose opinion respecting the formation of ice had formerly coincided with that of the theorifts we are now controverting, found abundant reason, in the present voyage, for changing his fentiments. We found the coast of each continent to be low, the foundings gradually decreafing toward them, and a striking resemblance between the two; which, together with the description Mr. Hearne gives of the coppermine river, afford reason to conjecture, that whatever rivers may empty themselves into the Frozen Sea, from the American continent, are of the same nature with those on the Afiatic fide; which are represented to be so shallow at the entrance, as to admit only fmall veffels; whereas the ice we have feen, rifes above the level of the fea to a height equal to the depth of those rivers; so that its entire height must be at least ten times greater.

The curious reader will also, in this place, be led naturally to reflect on another circumstance, which appears very incompatible with the opinion of those who imagine land to be necessary for the formation of ice; I mean the different state of the sea about Spitsbergen, and to the North of Beering's Straits. It is incumbent on them to explain how it comes to pass, that in the former quarter, and in the vicinity of much known land, the navigator annually penetrates to near 80° North latitude; whereas, on the other side, his utmost

most efforts have not been able to carry him beyond 71°; where, moreover, the continents diverge nearly East and West, and where there is no land yet known to exist near the pole. For the farther satisfaction of the reader on this point, I shall beg leave to refer him to Observations made, during a voyage round the world, by Dr. Forster, where he will find the question of the formation of ice, fully and satisfactorily discussed, and the probability of open polar seas disproved by a variety of powerful arguments.

I shall conclude these remarks with a short comparative view of the progress we made to the Northward, at the two different seasons we were engaged in that pursuit, together with a few general observations relative to the sea, and the coast of the two continents, which lie to the North of Beering's Straits.

It may be observed, that in the year 1778, we did not meet with the ice, till we advanced to the latitude of 70°, on August 17th; and that then we found it in compact bodies, extending as far as the eye could reach, and of which a part or the whole was moveable, fince, by its drifting down upon us, we narrowly escaped being hemmed in between it and the land. After experiencing both how fruitless and dangerous it would be to attempt to penetrate farther North, between the ice and the land, we flood over toward the Afiatic fide, between the latitude 69° and 70°, frequently encountering, in this tract, large and extensive fields of ice; and though, by reason of the fogs, and thickness of the weather, we were not able absolutely and entirely to trace a connected line of it across, yet we were fure to meet with it before we reached the latitude of 70°, whenever we attempted to fland to the Northward. On the 26th of Au-Nn2 guit,

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gust, in latitude 69\frac{1}{4}\cdot\, and longitude 18\frac{1}{4}\cdot\, we were obstructed by it in such quantities, as made it impossible for us to pass either to the North or West, and obliged us to run along the edge of it to the South South West, till we saw land, which we afterward found to be the coast of Asia. With the season thus far advanced, the weather setting in with snow and sleet, and other signs of approaching winter, we abandoned our enterprize for that time.

In this fecond attempt, we could do little more than confirm the observations we had made in the first; for we were never able to approach the continent of Afia higher than the latitude of 67°, nor that of America in any parts, excepting a few leagues between the latitude of 68° and 68° 20', that were not feen the last year. We were now obstructed by ice 3° lower, and our endeavours to push farther to the Northward, were principally confined to the mid-space between the two coasts. We penetrated near 3° farther on the American fide than on the Afiatic, meeting with the ice both years fooner, and in greater quantities, on the latter coast. As we advanced North, we still found the ice more compact and folid; yet as, in our different traverses from fide to fide, we paffed over fpaces which had before been covered with it, we conjectured, that most of what we faw was moveable. Its height, on a medium, we took to be from eight to ten feet, and that of the highest to have been fixteen or eighteen. We again tried the currents twice, and found them unequal, but never to exceed one mile an hour. By comparing the reckoning with the observations, we also found the current to fet different ways, yet more from the South West than any other quarter; but whatever their direction might be, their effect was so trifling, that no conclusions, re-

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fpecting the existence of any passage to the Northward, could be drawn from them. We found the month of July to be infinitely colder than that of August. The thermometer in July was once at 28°, and very commonly at 30°; whereas the last year, in August, it was very rare to have it so low as the freezing point. In both seasons, we had some high winds, all of which came from the South West. We were subject to sogs, whenever the wind was moderate, from whatever quarter, but they attended Southerly winds more constantly than contrary ones.

The firaits, between the two continents, at their nearest approach, in latitude 66°, were afcertained to be thirteen leagues, beyond which they diverge to North East by East and West North West; and in latitude 69°, they become 14° of longitude, or about one hundred leagues, afunder. A great fimilarity is observable in the appearance of the two countries, to the Northward of the straits. Both are destitute of wood. The shores are low, with mountains rising to a great height farther up the country. The depth of water, in the mid-way between them, was twenty-nine and thirty fathoms, decreasing gradually as we approached either continent, with the difference of being fomewhat shoaler on the American than on the Asiatic coast, at the fame distance from land. The bottom, in the middle, was a foft flimy mud; and on drawing near to either shore, a brown fand, intermixed with fmall fragments of bones, and a few shells. We observed but little tide or current; what there was, came from the Westward.

But it is now time to refume the narrative of our voyage, which was broken off on the 31st of July, on which day at noon we had advanced eighteen leagues to the Southward of the East Cape.

We

Sunday 1.

We had light airs from the South West, till noon of the ist of August, at which time our latitude, by observation, was 64° 23', longitude 189° 15', the coast of Asia extended from North West by West to West half South, distant about twelve leagues; and the land to the Eastward of Saint Laurence bore South half West. On the 2d, the weather becoming clear, we faw the fame land at noon, bearing from West South West half West to South East, making in a number of high hummocks, which had the appearance of feparate islands; the latitude, by observation, was 64° 3', longitude 189° 28', and depth of water feventeen fathoms. We did not approach this land fufficiently near to determine, whether it was one island, or composed of a cluster together. Its Westernmost part we passed July 3d, in the evening, and then supposed to be the island of Saint Laurence; the Easternmost we ran close by in September last year, and this we named Clerke's Island, and found it to confift of a number of high cliffs, joined together by very low land. Though we mistook, the last year, those cliffs for separate islands, till we approached very near the shore, I should still conjecture, that the island Saint Laurence was diffinct from Clerke's Island, fince there appeared a confiderable fpace between them, where we could not perceive the smallest rising of ground. In the afternoon, we also faw what bore the appearance of a fmall island, to the North East of the land, which was feen at noon, and which, from the haziness of the weather, we had only fight of once. We estimated its distance to be nineteen leagues from the island of Saint Laurence, in a North East by East half East direction. On the 3d, we had light variable winds, and directed our course round the North West point of the island

Tuefday 3.

Wednes. 4. of Saint Laurence. On the 4th, at noon, our latitude, by account,

account, was 64° 8', longitude 188°; the Island St. Laurence bearing South one quarter East, distant seven leagues. In the afternoon, a fresh breeze springing up from the East, we steered to the South South West, and soon lost fight of St. Laurence. On the 7th, at noon, the latitude, Saturday 7. by observation, was 59° 38', longitude 183°. In the afternoon, it fell calm, and we got a great number of cod in feventy-eight fathoms of water. The variation was found to be 19° East. From this time, to the 17th, we were making the best of our way to the South, without any occurrence worth remarking, except that the wind coming from the Western quarter, forced us farther to the Eastward than we wished, as it was our intention to make Beering's island.

On the 17th, at half past four in the morning, we faw Tuesday 17. land to the North West, which we could not approach, the wind blowing from that quarter. At noon, the latitude, by observation, was 53° 49', longitude 168° 5', and variation 10° East. The land in fight bore North by West, twelve or fourteen leagues distant. This land we take to be the island Mednoi, laid down, in the Ruslian charts, to the South East of Beering's Island. It is high land, and appeared clear of fnow. We place it in the latitude 54° 28', longitude 167° 52'. We got no foundings with one hundred and fifty fathoms of line.

Captain Clerke was now no longer able to get out of his bed; he therefore defired, that the officers would receive their orders from me, and directed that we should proceed, with all fpeed, to Awatska Bay. The wind continuing Westerly, we flood on to the South, till early on the morning of

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1779. August. Thursday 19.

Friday 20.

the 19th, when, after a few hours rain, it blew from the Eastward, and freshened to a strong gale. We accordingly made the most of it whilst it lasted, by standing to the Westward, under all the fail we could carry. On the 20th, the wind shifting to the South West, our course was to the West North West. At noon, the latitude, by observation, was Saturday 21. 53° 7', longitude 162° 49'. On the 21st, at half past five in the morning, we faw a very high peaked mountain on the coast of Kamtschatka, called Cheepoonskoi Mountain, from its lying behind the Nofs, bearing North West by North, twenty-five or thirty leagues diffant. At noon, the coaft extended from North by East to West, with a very great hazinefs upon it, and diffant about twelve leagues. We had light airs the remaining part of this and the following day, and got no foundings with one hundred and forty fathoms of line.

Sunday 22.

On the 22d of August, 1779, at nine o'clock in the morning, departed this life Captain Charles Clerke, in the thirtyeighth year of his age. He died of a confumption, which had evidently commenced before he left England, and of which he had lingered during the whole voyage. His very gradual decay had long made him a melancholy object to his friends; yet the equanimity with which he bore it, the constant flow of good spirits, which continued to the last hour, and a cheerful refignation to his fate, afforded them fome confolation. It was impossible not to feel a more than common degree of compassion for a person, whose life had been a continued fcene of those difficulties and hardships, to which a feaman's occupation is fubject, and under which he at last funk. He was brought up to the Navy from his earliest

August.

earliest youth, and had been in feveral actions during the war which began in 1756, particularly in that between the Bellona and Courageux, where being flationed in the mizentop, he was carried overboard with the maft, but was taken up without having received any hurt. He was Midshipman in the Dolphin, commanded by Commodore Byron, on her first Voyage round the world, and afterward served on the American flation. In 1768, he made his fecond voyage round the world, in the Endeavour, as Mafter's Mate, and by the promotion, which took place during the expedition, he returned a Lieutenant. His third voyage round the world was in the Refolution, of which he was appointed the Second Lieutenant: and foon after his return, in 1775, he was promoted to the rank of Master and Commander. When the prefent expedition was ordered to be fitted out, he was appointed to the Discovery, to accompany Captain Cook; and, by the death of the latter, fucceeded, as has been already mentioned, to the chief command.

It would be doing his memory extreme injuffice not to fay, that during the short time the expedition was under his direction, he was most zealous and anxious for its success. His health, about the time the principal command devolved upon him, began to decline very rapidly, and was every way unequal to encounter the rigours of a high Northern climate. But the vigour and activity of his mind had, in no shape, suffered by the decay of his body: and though he knew, that by delaying his return to a warmer climate, he was giving up the only chance that remained for his recovery, yet, careful and jealous to the last degree, that a regard Vol. III.

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to his own fituation should never bias his judgment to the prejudice of the service, he persevered in the search of a passage, till it was the opinion of every officer in both ships, that it was impracticable, and that any farther attempts would not only be fruitless, but dangerous.

CHAP.