The voyage of Nearchus from the Indus to the Euphrates, collected from the original journal preserved by Arrian, and illustrated by authorities ancient and modern ... / By William Vincent, D.D. To which are added three dissertations: two, on the acronychal rising of the Pleiades, by Dr. Samuel Horsley and by Mr. William Wales and one by Mr. de la Rochette, on the first meridian of Ptolemy.

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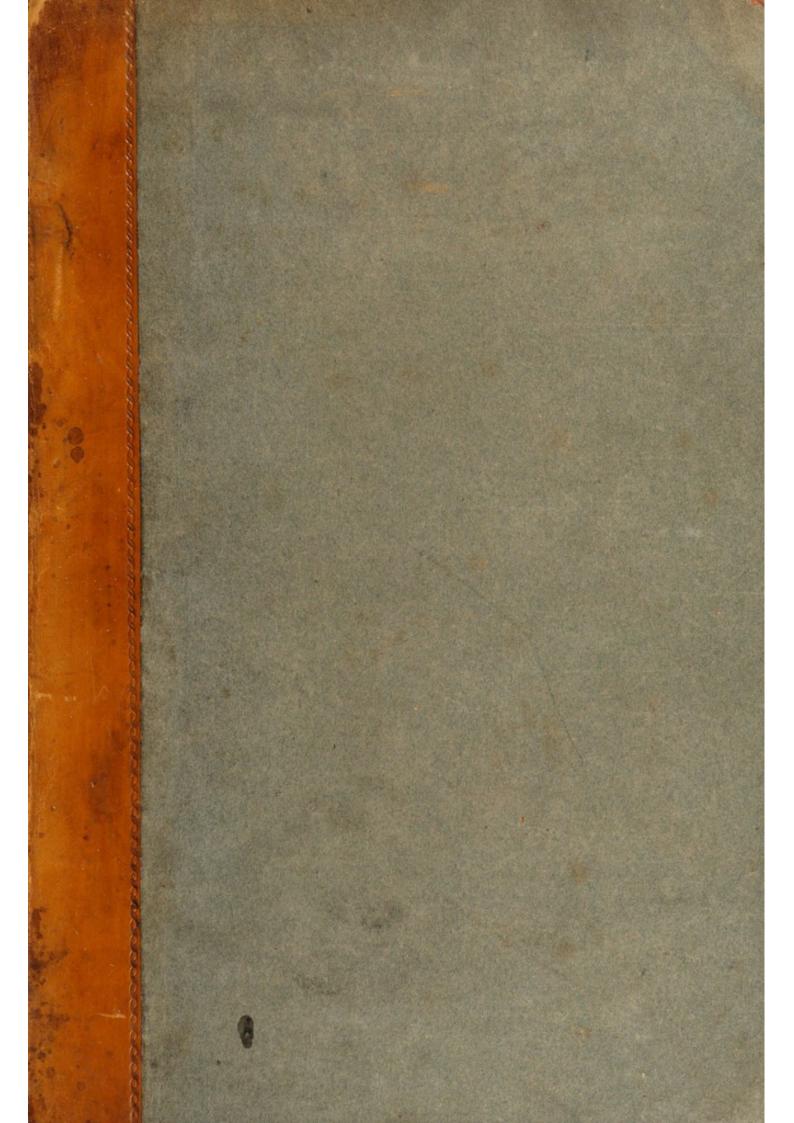
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Dear Jir

Speet my self under the greatest ob. ligations to you for gent very dose attention Fing work, & the comment you have so like. rally given it. & of all the Etymology you so critically be suftly condemn, Speet my self accountable for one error only - [ab-China] all The others I can refer, & have referred to their Authors. zour general testimony in your Letter to the fidelity of my geographical de Auctions is flattering in the highest degree, Swift za had noted it in particular in stancy in the other if it had struck you, or the intrary. - but one testimony which you have

fortunately familhed is of higher value the any other which conti have occurred, that we where you say you had already persuaded zonrelf that the Karron was the Pasitign this is a ground upon which Jespect a severe charge by a defeipte of mes an ville's. Speel strong myself, but your knim of opinion with confirm me more than any other evidence in existence. Any papers you will honour me with of your own with be accepted most than be fully. & pernoed with pleasure. They shall be returned to gour order, permit me to mention a few particus. for your fature attention on the opposite page & when ever you are quite at leisure. believe me with a thon sand than his zourfaithful & obliged

Mincent

J.

Moosa Khan - Moo- Sihan - us . 2. whether Khan which has a Tartar origin could have found it's way in to nation so see the second India socarty. Whan not Han. - Be Halde is very positive that Han is the Tartar root. & the mantcheoux Sartar. 2. whether this may not be true so far to horth East? James & Belootches, Sharnot translated hot bers. but characterized. Thanks for your term, acom Hermesir or germesir. Salways comprehend the whole couft in this term from the Sea to the in. land Kange, which is the tarrier of Koile Persis Hazeron is in this tract. Hatta el Haffar. is certainly an Error, readered it cahal. but Sfelt some don bt Sre about Haka et Jefid. Hanks for your memorand: along Al. at that fort. Thufter. Thave not met with any mention of Topsar or Shafter in any Ruthor oriental or European since the age of Timour but perpetual accounts of the wary in every writer. It I are therefore committed an error, it is saying that it is not the Espital . - thanks for your account of it & whatever you can add to that set will be highly acceptable. Inab. Joweit . Thewb. the two former Shave read frequently, the latter I may collect from your orthograph if Inal. 2. whether Ab or And is ever final?.

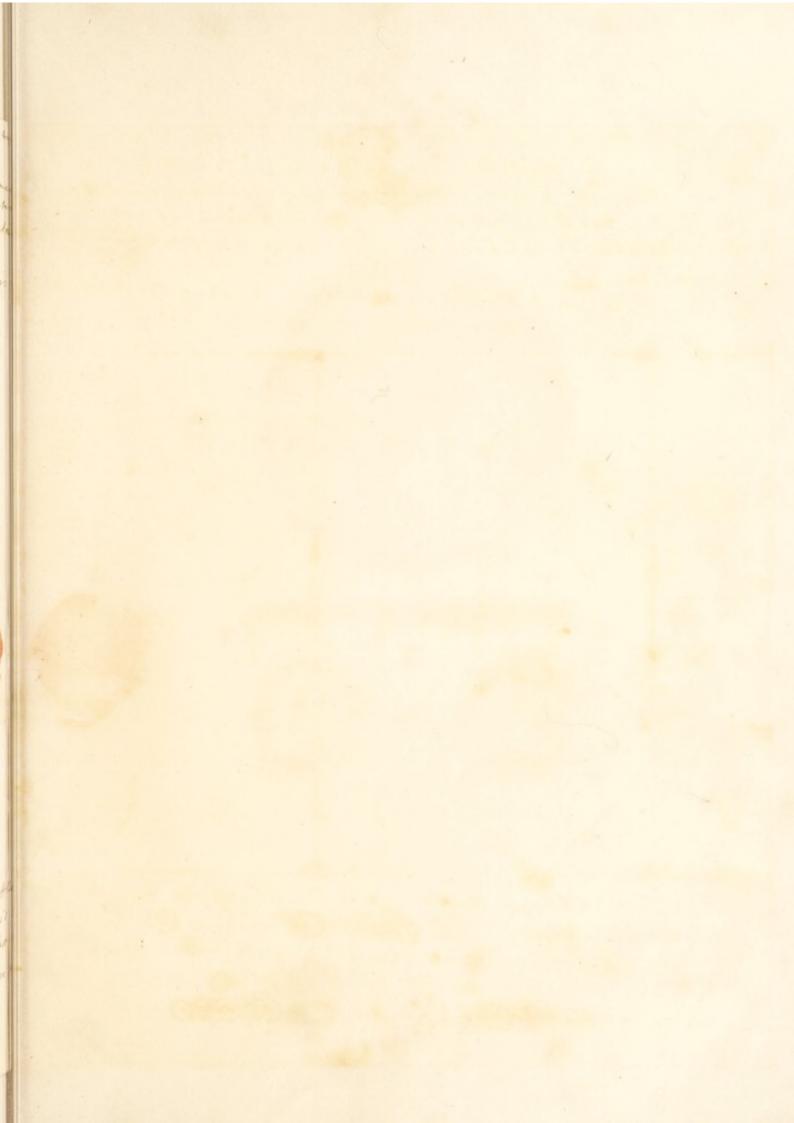
Jim. Br. marphen doubts whether this letter ever become hard. but 2. _ for by Puropean Sam save if not oriental corruption it is hard as in Biamuna for Jonanes. Bialow Jeasta.

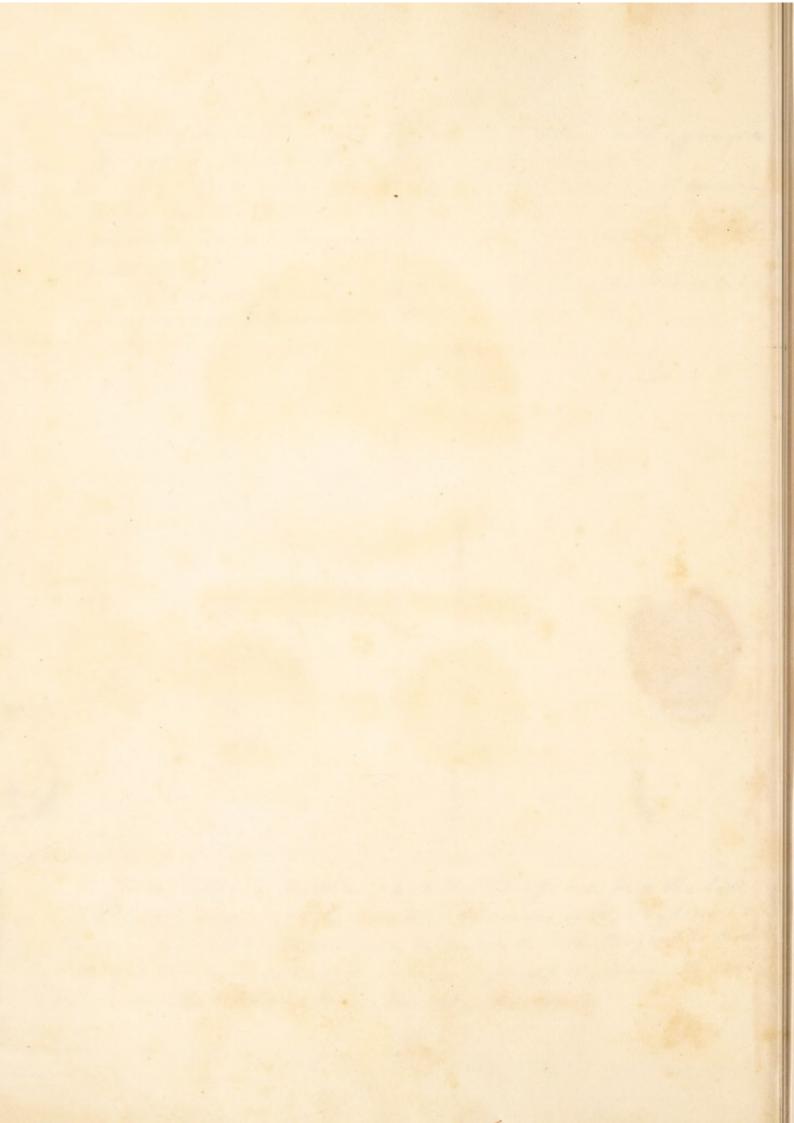
Jeasta.

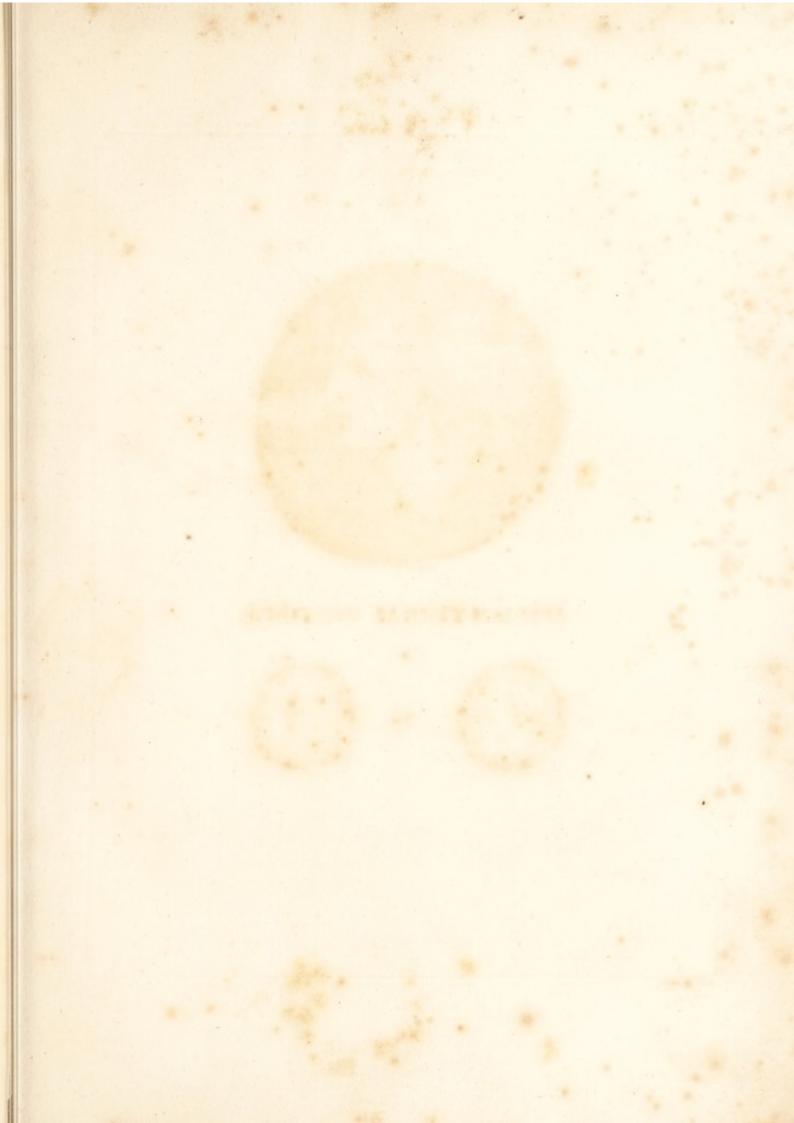
N. H. Sues & Howel's route from Bajact to moval is hearly the same. & that part only Jam concerned in.



A. B. Altown Kupir is not the Phyfins. but the little Late, cakes cappeas by the freeths. The course of the Phyfins is to short Supprehend to be seen in the route from to again to home by the month can only be seen by coming down the river. It aire don't but that Odoine & Thy fine are the same.









APERIAM TERRAS GENTIBUS.



Hurford Jor

THE

VOYAGE OF NEARCHUS

FROM THE INDUS TO THE EUPHRATES,

COLLECTED FROM THE

ORIGINAL JOURNAL PRESERVED BY ARRIAN,

AND ILLUSTRATED BY

AUTHORITIES ANCIENT AND MODERN;

CONTAINING

AN ACCOUNT OF THE FIRST NAVIGATION ATTEMPTED BY EUROPEANS IN THE INDIAN OCEAN.

By WILLIAM VINCENT, D.D.

TO WHICH ARE ADDED

THREE DISSERTATIONS:

Two, on the ACRONYCHAL RISING of the PLEIADES,
By the Right Reverend Dr. SAMUEL HORSLEY, Lord Bishop of Rochester;
And by Mr. WILLIAM WALES, Master of the Royal Mathematical School in Christ's Hospital:

And ONE by Mr. DE LA ROCHETTE, On the First Meridian of Ptolemy.

Posteris an aliqua cura nostri, nescio, nos certè meremur ut sit aliqua, non dico ingenio (id enim superbum) sed studio, sed labore, et reverentia posterorum.

PLINIUS, TACITO. Lib. ix. Ep. 14.

LONDON:

Printed for T. CADELL jun. and W. DAVIES (Successors to Mr. CADELL) in the Strand.

MDCC XCVII.



PREFACE.

IT is the privilege of an Author to avail himself of a Preface, in order to announce his design, to acknowledge obligations, and to anticipate objections.

I. On the first head, however, I shall be silent, the Work must speak for itself; and in the expression of my gratitude I shall confine myself, except in one instance, to personal communications; for all that is published is free ground, and to use it fairly is the best acknowledgment.

II. To Dr. Horsley, Bishop of Rochester, and to Mr. Wales, the companion of Cook, I am indebted for two Dissertations (which would do honour to any work) upon one of the most intricate questions of Chronology; and to Mr. de la Rochette for the solution of a geographical difficulty of no small importance. Dr. Russell, the historian of Aleppo, was my adviser in the sew at-

A 2

tempts

tempts I have made upon Arabic etymology, and conferred a still greater favour by introducing me to a correspondence with Mr. Niebuhr, the best of modern travellers surviving. The information I received from him, indeed, related more immediately to another object than the one before us; but as a future opportunity may not offer, I seize the present with avidity to own my obligations. By Mr. Bryant I was savoured with a map which I could not otherwise have procured; and to Mr. Marsden, the historian of Sumatra, I am indebted for an introduction to Mr. Dalrymple.

Such are the favours I have received from literary friends, but to the Gentlemen in the service of the East India Company I have obligations of a different kind.

Major Rennell's Memoirs I have confulted upon all occasions, and if I have not profited by personal intercourse, the fault is mine. His civilities will not be erased from my mind; but I sound that he was engaged in some geographical researches that interfered with a part of my own, and I held it neither just or honourable to ask for information upon a subject that he had already occupied. I have now only to hope that the result of our separate inquiries may essentially correspond, as, in case

case of disagreement, his reputation as a geographer is established, and mine is only an expectancy.

From Mr. Jones, Resident for the Company at Busheer and Basra, I obtained much information in the space of a short interview; but he lest London before I could prosecute my inquiries, and much to my regret; as I had promised myself great advantage from his intimate knowledge of the country and the language, and his intercourse with the people in power; circumstances which qualify him to give a better account of the present state of Persia than almost any other visitor of the East.

But Mr. Dalrymple demands the utmost tribute of my gratitude. I have had access to his whole collection published and unpublished, and his advice upon every question of doubt or difficulty. Two charts, composed under his direction, accompany the Voyage of Nearchus; and as one of them comprehends a part of the coast which, without his assistance, was inexplicable, a short account of the survey on which it is founded cannot be unacceptable.

In the year 1774, a little squadron was equipped at Bombay for the purpose of exploring the coast between the the Indus and the Gulph of Persia. It consisted of the following vessels:

Fox, Lieutenant Robinson, Commodore.

Dolphin, Lieutenant Porter.

A Patamar boat, in which Mr. Blair and Mr. Mascall, volunteers, were occasionally employed.

From the materials collected by these officers, Mr. Dalrymple constructed a chart, containing the Survey of Lieutenant Robinson, and accompanied it with a Memoir drawn up by Lieutenant Porter, which he presaces with the following observation:

"The coasts here described are so little known, that every particular must be acceptable, as we have "scarcely any account of them since the time of Alex-" ander the Great."

So perfectly true have I found this, that there is no one Author I have confulted whose relation is intelligible without the assistance of this Memoir; and if the Journal of Nearchus can now be presented to the Public with any degree of perspicuity, or any hope of affording pleasure, it is due to the liberal spirit of the East India Company, to the Presidency at Bombay, to the ability

ability of the officers employed upon the service, and to the use Mr. Dalrymple has made of their information.

Commodore Robinson is still living, and has favoured me with an interview, in which many of my difficulties were removed.

Captain Blair has in some measure assisted me in tracing the whole coast of Mekran which I describe, and, with a liberality congenial to his profession, has favoured me with a sketch of the coast at Cape Jask, which solves a geographical question left in obscurity by the ancient writers; and, previously to this attempt, undecided by the moderns.

The fecond chart, containing the Gulph of Persia, was of less difficult construction, from the ample supply of modern information in the possession of Mr. Dalrymple; but his chief reliance is fixed upon Lieutenant M'Cluer², another officer in the service of the East India

Much will be faid in the following Work upon the authenticity of the Journal; but the highest testimony in its favour I received from this Gentleman. He questioned me how the fleet found a supply of water; and never shall I forget his surprise when I answered, "in the same manner, Sir, as you "did, by opening pits upon the beach."

² The chart of the Gulph of Persia, by Lieutenant M'Cluer, was not a public survey, but the meritorious operation of an indivi-

dual during the moments he could allot without neglect of the common duties of an
officer in the different veffels in which he
ferved. It shews how much may be done
in common voyages where diligence and
ability are not wanting. Lieutenant M'Cluer
had adopted a wild scheme of passing his
days at the Pelew Islands, but has now
abandoned it, and the Public may still hope
for much nautical service from him.—Note
by Mr. Dalrymple.

Company,

Company, and whom he regards as a navigator of extraordinary merit and abilities. The lower part of the gulph and the islands in it, as to their general position and bearings, have long been arranged, though perhaps with an inferior degree of accuracy; but the mouths of the Euphrates and the Tigris have never been fo perfeetly delineated, as by the hand of Mr. Dalrymple. Mr. d'Anville has laboured this point in an express Memoir upon the subject, to the full extent of that geographical learning of which he was fo eminently poffessed; but he had not the means of information, nor access to those sources which enabled Mr. Dalrymple to construct his chart. At the head of the gulph, and in the disposition of the channels of the Euphrates, Tigris, and Eulæus, Mr. d'Anville has been misled, from want of materials which have fince been supplied by the publications of Niebuhr, and the investigation of our English navigators. To their labours Mr. Dalrymple is indebted for his fingular accuracy, and I have had the fatisfaction to find that Arrian is more confiftent in proportion to every new light that has been obtained upon the fubject.

III. With fuch affiftance from others, more perhaps will be expected in the following Work than will be found. To this I have only to plead, that the utmost diligence

diligence has been exerted, and the greatest attention has been paid to every fource of information I could difcover; nor am I sensible of neglecting any, unless something should lie concealed in the early accounts of the Portuguese' upon their first arrival in India, but their language I do not understand, and the manuscript of Ressende in the British Museum is hardly legible, except to a native. I collected fome positions from the charts and drawings in that Work, in which the coast of Mekran is better laid down than in any I have feen previous to Commodore Robinson's Survey. 'The Portuguese had a settlement at Guadel, and one or two others on the coast. Some of their accounts in Latin I have fearched in vain; and Oforius, whom Dr. Robertfon quotes with respect, I examined, but found his period was too early to avail me.

Some apology is requifite for the other Maps I have introduced. They are compiled from d'Anville, Rennell,

3 A few names occur in de Barros Ra- by the Portuguese, p. 373. It appears from another part of his work also, vol. iii. p. 416, likewise examined the English translations of that the coast of Guadel and Sinde were a part of the Portuguese settlements. Texeinan Lopes de Castaneda (1582), with little ra I have not met with in English, fuccess. Soula mentions Ressende, vol. ii. though I am told there is a translation of his

musio's Collection, tom. i. p. 388; and I have Manuel de Faria y Soufa (1695), and of Herp. 294, and the plundering of Guadel travels.

and Dalrymple; but they are the effort of one who never composed a Map before. The use of them is to connect the motions of the army with those of the sleet, and to explain the geography of Arrian; but the introduction of them might have been spared, if I could have procured a small sheet Map of Mr. de la Rochette's, comprising all the conquests of Alexander. That, however, I was forced to decline, as the price exceeded my abilities.

I foresee likewise, that exception may be taken to the quantity of introductory matter, and to a variety of digressions and interruptions which will occur; but for these I offer no apology. My purpose was not to translate Arrian, but to make him intelligible to an English reader, and to investigate a variety of subjects, historical, geographical, and commercial. The narrative has never yet been exhibited in a perspicuous form; and even Dr. Campbell, in his account of this Voyage, though he is the only writer who has comprehended the views and designs of Alexander, has, almost equally with his predecessors, neglected the reduction of ancient geography to the standard of modern inform-

ation. I may perhaps have descended too much into minuteness on this subject, but I cannot repent it; my duty was to explain my author, and I wished to have the site of Kalama sixed as decidedly as that of Alexandria.

To a modern navigator I may appear to have disfigured my charts with ancient names, but I have not omitted the modern ones, nor neglected to mark the longitude and latitude of any cape or island of importance, from the latest observations; and much disappointment should I feel, if the critical inquiries which occur, should render the Work unacceptable to any intelligent officer who may hereafter vifit these coasts. Every deduction made in the closet from a comparative view of former writers, ought to be subject to inquiries upon the spot. These I court, rather than decline; and if any navigator should make this Work the companion of his voyage, I shall be ready to retract any opinion, or correct any mistake, upon better information. Geography, of all sciences, profits most by the correction of errors.

The orthography I have adopted will be liable to the objections both of literary and nautical readers: I have only to request that it may not be imputed to a love of a 2 fingularity

fingularity or affectation, but to principle; for I have discovered several relations by contemplating the native founds of Greek orthography, and many more I am perfuaded will occur to those who pursue their inquiries in the country. I write, for instance, Killoota, not Cilluta, because the latter comes to our ear, Silleuta; and the former is the true found to the ear of a Greek. In modern names also I write Phoregh, and not Fohregh; because the Ph preserves the relation of Phooreh with Poora, which Arrian makes the capital of Gadrofia. In comparing Oriental names with European orthography, I wish every inquirer to notice, that P. B. T. and several others, are the same letter with the aspirate or without it; the distinction is made by a mark in many Eastern languages, as by a point in the Hebrew. A minute attention to this has led me to more discoveries than one.

In writing names familiar in our English charts, I prefer the most popular, but generally notice the variation either on the first mention of it, or occasionally as the usage occurs. Thus I adopt Busheer and Bombareek, as known to every English navigator, rather than Abu-

י ה Ph. ה P. ב Bh. ה B. ה Th. ה T. and B in Perfic V. All the letters ה בנד ח ב ב are liable to this fluctuation.

fchæhr and Cohum-barick, which Niebuhr pronounces to be the Oriental orthography. I agree, however, most cordially with Mr. Dalrymple, in allowing that every variation should be preserved till some established mode shall be fixed; and in no one instance can this sluctuation be more fully exemplified, than in the expression of the Persian. Kas. This letter our English navigators enounce as the soft G, writing Gidda or Jidda; but Michaelis asserts, that in the neighbourhood of the Gulph of Persia it is uttered like Tsch, and Niebuhr writes Dsj, as Dsjesira for Gesira. Even in Oriental sluctuation this sound becomes hard like our G, before A, O, Or U; for Gesira passes into Ghesira, Gafira, and Gusera; and still farther into K and Ch, as

buhr. Voyage, tom. i. p. 57. Amsterd. edit.

And p. 74. Or si un écrivain Arabe a écrit différemment les mêmes noms, d'après la prononciation de plusieurs de ses compatriotes, le vrai Savant ne me saura pas mauvais gré, que je n'ai pas voulu écrire moi-même les noms en charactères Arabes.

After these confessions, who can affect precision in writing Oriental names?

9 Michaelis writes Díchidda; Niebuhr, Dsjidda, for our English Jidda.

Ni les Grecs ni les Latins connoîssent le son de sch en Allemand. Extrait, p. 31.

Dsjenk

⁶ Mr. Niebuhr's orthography of this word is liable to objection, for Bundereek he writes Bunder-regh, and regh is fand.

⁷ Michaelis Extrait de Niebuhr, p. 19. Aux Environs du Golfe Persique on prononce

Kaf comme tsch.

⁸ J'ai déjà remarqué . . . qu'il est difficile de bien ortographier dans sa propre langue, mais plus difficile encore dans une langue étrangère, . . . c'est ce que est cause que j'avois quelquesois ortographié tout disséremment les noms des mêmes villages, suivant la prononciation de dissérens personnes. Nie-

Dsjenk into Kienk, Kenk, and Chienk; under another form, by adhering to the D, it drops the sj, and becomes Denk and Tenk. It is thus that Pliny writes Jomanes, and Ptolemy, Diamuna, for Jumna, the river of Dehli, which falls into the Ganges. With this copious fource of variation, (and numerous others that are attendant upon other letters,) furely Michaelis confines etymology within bounds far too narrow, when he infifts upon the appearance of individual letters to establish a conformity. In my opinion, the ear is a better guide than the eye. What European, upon the first view of the Oriental Bukhetunnusre", would discover that the found is familiar? It is by the ear only we find that, with the addition of a fyllable, it is Nabuchodonozer, the Nebuchadnezzar of the Scriptures. I wish not, however, to display the parade of research on this fubject, for I have ventured little on etymology; if I escape from reprehension on the score of orthography", it is fufficient.

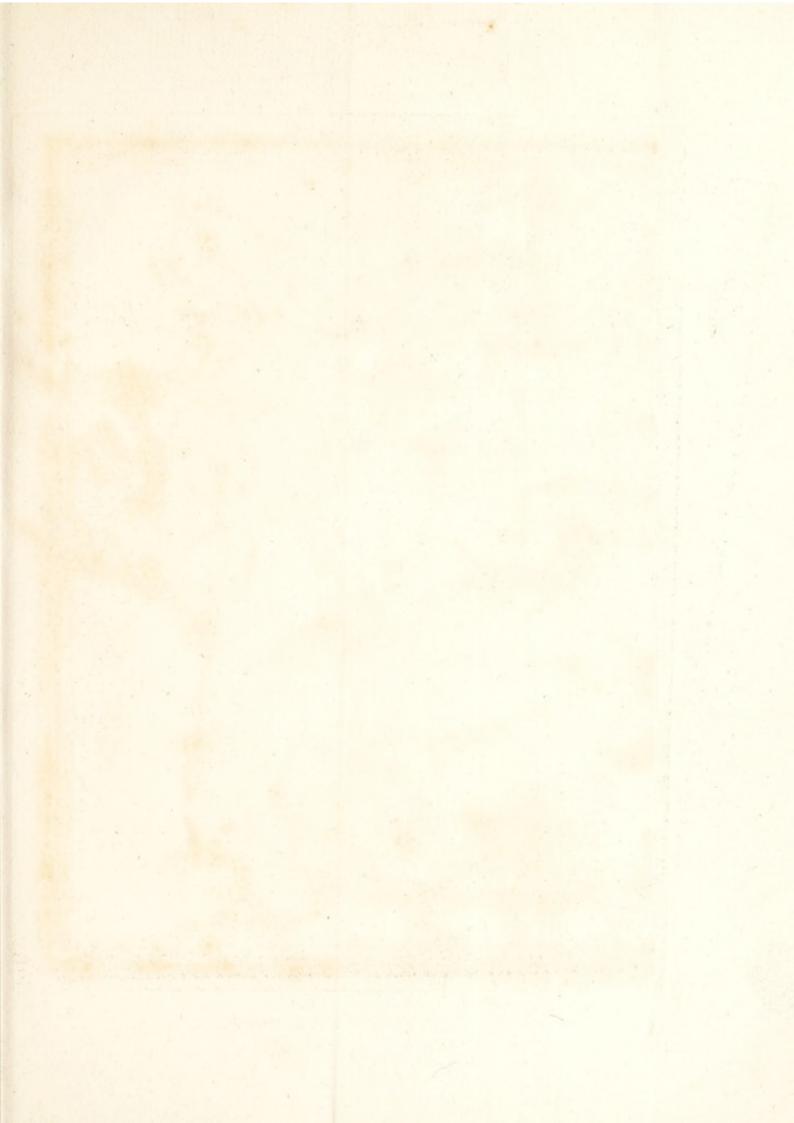
To accomplish the whole Work agreeably to my own satisfaction, a greater stock of geometrical knowledge and Oriental learning was necessary than has fallen to

¹⁰ Otter, tom. i. p. 182. So the English write Ser-po-jeé for the Mahratta name nia, book iv. c. 1.
Surra-botschi.

my lot, and I now submit it to the Public, not without apprehension that it is as likely to offend by minuteness, as to please by arrangement and variety of investigation. It is, however, a Work compiled by the labour of many years, and perfected to the best of my abilities, and it now stands for judgment before a tribunal from which there is no appeal.

the Right Reverend and judicious Editor of Cook's last Voyage will justify me by his example; for I have never spent the time upon an obscure place that he has upon Kerguelen's land; and never been so anxious to clear a difficulty about a name, as he has

about Cape Louis and Cape François in that island; though the coast of Mekran is at least as interesting, and as likely to be visited again, as that southern Thule. Neither his Lordship nor myself, I trust, deserve centure; but it is the taste of the reader which must decide.





VOYAGE

OF

NEARCHUS.

BOOK I.

PRELIMINARY DISQUISITIONS.

- I. Introduction.—II. Character and Designs of Alexander.—III. Alexandria.—IV. Country at the Sources of the Indus.—V. Survey of the Empire.—VI. Geographers; Pliny, Ptolemy, d'Anville, Rennell.—VII. Dates.—VIII. Monsoons. Hippalus; Ptolemy; Marcian; Arrian, Author of the Periplus.—IX. Itinerary Measures.—X. Desence of the Authenticity of the Journal.
- I. THE voyage of Nearchus from the Indus to the Euphrates is the first event of general importance to mankind, in the history of navigation; and if we discover the comprehensive genius of Alexander in the conception of the design, the abilities of Nearchus in the execution of it are equally conspicuous.

Historical facts demand our attention in proportion to the interest we feel, or the consequences we derive from them; and the consequences of this voyage were such, that as, in the first instance,

it

it opened a communication between Europe and the most distant countries of Asia, so, at a later period, was it the source and origin of the Portuguese discoveries, the soundation of the greatest commercial system ever introduced into the world; and consequently the primary cause, however remote, of the British establishments in India.

The narrative of this voyage has been preserved to us by Arrian, who professes to give an extract from the journal of Nearchus; and notwithstanding its authenticity has been disputed (which is a question that will be fully discussed hereafter), we may venture to affert, that it presents to an unprejudiced mind every internal evidence of fidelity and truth.

It has been the peculiar felicity of Arrian to rife in estimation, in proportion to the degree of attention paid to the transactions he records. As our knowledge of India has increased, the accuracy of his historical researches has been established; and as the limits of geography have been extended, the exactness of his information has become daily more conspicuous, and the purity of the sources from whence he drew, more fully acknowledged.

In regard to the voyage of Nearchus, a mere translation of the work of Arrian would have given but a barren detail of names, with little satisfaction to the curious spirit of modern investigation, and would in fact have been supersluous: for translations of this narrative are to be found in Ramusio, Ablancourt, Rook, and Harris! But it is the design of the following work, to consider the views of Alexander in the direction of this undertaking, to elucidate the course of Nearchus, and to identify the points in which ancient and modern geography coincide.

^{*} The voyage of Nearchus is not in the original collection of Harris, but inferted in Dr. Campbell's edition of that work.

So far as concerns the passage down the Indus, and the navigation of the Gulph of Persia, this has been already performed by Major Rennell and Mr. d'Anville; but Major Rennell leaves Nearchus at the mouth of the Indus, and Mr. d'Anville takes him up at the entrance of the Persian Gulph; the intermediate space they have both abandoned, as too obscure, or too uninteresting for investigation, though the merit of the commander depends upon the difficulties he surmounted in this part of his voyage more especially; and the clearing up of the geographical obscurity was an object worthy of the talents of two such masters in the science.

The lights they have afforded, in the parts they have executed, the positions they have established, and the difficulties they have removed, will be adopted in the following pages, without referve; if at any time I dissent from either, or both of them, I shall do it with proper deference to their authority; and if I assume an opinion of my own, it is a privilege they have exercised successfully, and a privilege I have an equal right to claim, not originating in caprice, but in a long and studious contemplation of my subject. To Mr. Dalrymple I have already expressed my acknowledgments; but besides his assistance to this immediate work, I derive from his communication a variety of the most correct charts, plans and designs respecting both the coast of Mekran and the Gulph of Persia; and, above all, a collection of Memoirs and Extracts accompanied with his own observations, on which I rely with considence for the solution of every difficulty.

Mr. d'Anville, in a Discourse contained

² Major Rennell, in his Memoir accom- in the 30th volume of the Memoirs of the panying his Map of Hindostan. Academy of Belles Lettres.

Such are the fources from whence I derive my information, and thefe, with the affiftance of Tavernier, Otter, Pietro della Vallé, Thevenot, Sainte Croix, Cheref-eddin, Niebuhr, and the Ayeen Akbari, are the principal modern authorities upon which the following compilation is founded; the more ancient ones will be feen as they occur; and if the refult upon the whole shall be, that the policy of Alexander in the design is as conspicuous as his felicity in the execution, the object of the work is completed.

ALEXANDER.

II. THE refearches of modern historians and geographers have taught us to consider Alexander neither as an hero of chivalry on the one hand, nor as a destroying ravager on the other. We are no longer misled by the invectives of Seneca, or dazzled with the instated declamation of Q. Curtius. As the writings of Arrian have become better known, the just standard of this illustrious character has been fixed: the rapidity of his success has appeared the result of prudence as well as valour, while his system of government and plans of empire have been found consistent with the soundest policy.

Previous to the expedition of the Macedonians, the empire of Persia had been invaded by Cimon the Athenian, and in a more recent period by the Lacedæmonians, under the command of Thymbron, Dercyllidas, and Agesilaus. The utmost extent of these several invasions was to waste the provinces, to support a Grecian army with the spoils of Asia, and to insult the great King in return for the calamities brought upon Greece by the expeditions of his predecessors.

But

But Alexander, from the moment he croffed the Hellespont, confidered every country he subdued as a portion of his suture empire. He never plundered a single province that submitted, he raised no contributions by extortion. From the battle of the Granicus, to the sinal defeat of Darius at Arbela, although he had overrun Asia Minor, Syria, and Egypt, the richest countries of the empire, his conquests were attended with no oppression of the people, no violation of the temples, no insult to religion. Order and regulation engaged his attention equally with the conduct of the war; his measures were taken with such prudence, that during eight years absence at the extremity of the East, no revolt of consequence occurred, and his settlement of Egypt was so judicious as to serve for a model to the Romans in their administration of that province at the distance of three centuries.

After the defeat of Darius at Arbela, the flight of that unfortunate monarch, and the pursuit of the usurper Bessus, led Alexander to Sogdiana, Bactria, and the northern provinces of the empire. The consequence naturally was, that when he determined to enter India, he found himself at the sources of the Indus.

The detail of his victories in the countries bordering on that river, is foreign to the present work, and will be no farther noticed than as it contributes to illustrate the progress of the sleet; we shall embark with Nearchus at Nicæa on the Hydaspes, and accompany him, assisted by the light of modern geography, till he delivered up his charge on the Pasitigris, within a few miles of Susa.

The completion of this voyage with the most perfect success, was intended only as a prelude to another, in which the circumnavigation

navigation of Arabia was to be attempted; already had Archias, Androsthenes, and Hiero been dispatched to explore the western side of the Gulph of Persia, and returned with an account of the progress they had made. Already had Nearchus actually embarked, and Alexander had anticipated the commercial intercourse between India and Alexandria, when a fever snatched him from the contemplation of still greater designs, in the thirty-third year of his life, and the thirteenth of his reign.

ALEXANDRIA.

III. It is perhaps imputing too much to the forefight of this extraordinary man, to affert that he had preconceived this comprehensive scheme of commerce from the first foundation of Alexandria; but certain it is, that as his mind expanded with his success, and his information increased in proportion to the progress of his arms, the whole plan was matured in his mind before his death, and the execution of it nearly ascertained.

Whatever vanity is attached to the foundation of cities, and however this passion might operate upon Alexander, utility was still the prevailing motive in his mind. Harris has judiciously observed, that most of the cities founded by the Syrian kings existed little longer than their founders; and perhaps, if we except Antioch on

⁴ A voyage by the Cape of Good Hope round Africa was also in his contemplation. See Ar. lib. v. p. 230. where he tells his army that his fleet shall fail round that continent to the Pillars of Hercules. It is a boast, however, rather than a plan.

⁵ See Ar. lib. vii. p. 301.

⁶ Montesquiev, speaking of the design of Alexander in founding Alexandria, says,

[&]quot; Il ne fongeoit point à un commerce dont la découverte de la mer des Indes pouvoit feule lui faire nâitre la penfée." Esp. des Loix, liv. xxi. c. 8.

⁷ Harris, vol. i. chap. 11. fect. 8.

the Orontes, and Seleucia on the Tigris, there was not one capable of existing: but the Paropamisan Alexandria s, and that on the Iaxartes s, continue to this day cities of importance; and the Alexandria of Egypt, after surviving the revolution of empires for eighteen centuries, perished at last only in consequence of a discovery which changed the whole system of commerce throughout the world. As this city was by the sounder intended to be, and afterwards became, the center of communication between India and Europe, it will not be foreign to our purpose to introduce some particulars concerning it, as the voyage of Nearchus was the primary cause of its aggrandizement.

Surrounded on three fides by the fea, or the lake Mareotis, communicating with the Delta and Upper Egypt, by means of that lake and channels, either natural or artificial; protected on the north by the Pharos, between which and the main, Alexander had projected on the Ptolemies completed, a double harbour; the fituation of Alexandria prefented every inducement to the view of the founder, comprehending the means of defence, and facility of accefs united in a fingle fpot. These considerations, doubtless, determined the choice of Alexander; for the whole sea-coast from Pelusium to Canopus is low land, and not visible from a distance; the

^{*} Candahar is supposed, both by d'Anville and Rennell, to be the Alexandria of Paropamisus, and the tradition of the natives refers it to Scander. It is still the principal city of the country of the Abdalli, a kingdom which has risen out of the ruins of the Persian and Mogul empires. But see d'Anville's Eclaircissemens, p. 19.

Cogend is determined to be the Alexandria on the Iaxartes by its position. See d'Anville Geographie Ancienne, tom. ii. p. 305.

⁹ See d'Anville on the Topography of Alexandria. Mem. de l'Acad. & Geog. Anc. tom. iii.

This defign of Alexander is not hypothetical, for Hephæstion was to have had an Heroum in the Pharos, and hisname was to have been inserted in all contracts between merchants. See Ar. lib. vii. p. 206.

Salmafius fays, "three ports." Plin. Ex. 479.

navigation along this coast, or approach to it, is always hazardous; the mouths, or Bogas ' (as they are called), of the Nile are at some seasons dangerous, even to a proverb; but the light-house on the Pharos, and the two harbours within it, obviated both these dangers; and Alexander, who knew the difficulty of approaching Egypt either by land or sea, eagerly seized on a situation which presented him with a post of the highest importance in a military view, and a harbour constantly accessible, at the same time.

These were sufficient motives for the foundation of the city; but as the views of the founder dilated with his better information, so the testimony of Arrian assures us, that from the time he had formed his sleet on the Indus, he meditated a passage by sea from that river to the Gulph of Arabia. He completed what he had conceived in the most dangerous part, and lest little more to the Ptolemies than to fill up the outline he had drawn. Had he lived one year longer, he might have seen the barrier removed which obstructed the communication between Europe and the eastern world, and the commerce of both continents beginning to slow in the channel he had opened. He might have contemplated the dawn of that splendour which was to rise on Alexandria, and the source of that wealth which was to render her the first commercial city in the world.

The advantages derived to every country which has participated in the commerce of the East Indies, have been so fully displayed by Dr. Robertson, that there is no pretence for encroaching on his province; but that Alexander knew the value of this commerce, foresaw the consequences of it, and gave a direction to the course

From Bocca, Italian, and probably introduced on the coast by the Lingua Franca. See Wood's Essay on Homer, p. 110, et seq.

in which it flowed for eighteen centuries, is a glory which even the more important discoveries of modern Europe cannot obliterate.

Of his knowledge, no greater proof can be required than what Major Rennell has produced, in that admirable Memoir which accompanies his Map of India; where, from the journal of Mr. Forfter. he shews, that Alexander in his route from the Paropamifus to Taxila", or Attock, actually trod the road '4 which continues to this day to be the northern line of communication between Perfia and Hindostan. This route he extended afterwards across all those ffreams which the Acefines or Chen-ab carries into the Indus, and terminated finally at the Hyphafis, or Biah.

COUNTRY at the SOURCES of the INDUS.

IV. THE province watered by these rivers, now denominated the Panje-ab, or five waters, is esteemed one of the richest provinces of the Mogul empire. When at the boundary of it, Alexander was not distant three hundred miles from the modern Dehly; and wherever we shall please to fix Palibothra, its distance cannot be fo great as to preclude the knowledge of its name, its wealth, and importance, from the Macedonians.

In all ages, whenever the state of the country was fufficiently peaceable to admit of commerce, there appears to have been a great intercourse by means of the Indus, descending from Multan, Attock, Cabul, Cashmeer, to the coast of Malabar. Whether the

but Arrian does not countenance this opinion. tance. " Hydaspes." And in another passage, tribes he subdued.

¹³ Taxila is usually considered by geogra- " Alexander marched from the Indus to phers as occupying the fame fcite with Attock, " Taxila;" an expression which implies dif-

He fays, lib. v. p. 199, "That it was the some allowance must be made for dereprincipal city between the Indus and the viations, in consequence of the situation of the

veffels navigated on the river were capable of undertaking the voyage to the coast, or transferred their cargoes at Pattala into larger vessels, may be questioned; but the communication itself is evident. The trade which came down the river naturally took its course, rather to the rich provinces of the peninsula than to the desert beaches of the Mekran; it extended possibly before the invasion of the Macedonians, as it certainly did in the following ages, round Cape Comorin into the Bay of Bengal and the mouths of the Ganges; thus uniting in commercial intercourse the two great streams which inclose Hindostan.

In the Peucaliotis's, in the territory of the Malli's, in the kingdom of Taxiles' and Porus's, Alexander traversed a country abounding in riches, and furnishing commodities from the thirty-second degree of northern latitude, which are sure of finding a market between the tropics. The population of these countries, as stated by Strabo, Pliny, Plutarch, and even Arrian himself, is doubtless exaggerated, but as they all draw from original sources, and quote authors who had personally visited these countries, whatever abatements may be made, we must still suppose that the apparent view of the whole suggested an idea of population, and prefented an aggregate of cities, towns, and villages, of which, from the circumstances of their own country, the Macedonians had no previous conception.

These Authors '9 affert, that Alexander subdued five thousand cities in India as large as Cos. Mention is likewise made of a thou-sand cities in the single province of Bactria; and Arrian, who seems

¹⁵ Pukely Ayeen Akbari, always. 16 Moultan. 17 Attock. 18 Panje-ab.

¹⁵ Robertson, Rennell, Strabo, 693. 686. Pliny, 6. 17. 19. Plutarch, 699.

to be always on his guard, informs us, that the country of the Glaufæ, or Glaucanifæ, contained thirty-feven cities, the smallest of which had five thousand, and the largest ten thousand inhabitants, and that the villages contained an equal number; the whole, amounting to near half a million, Alexander added to the kingdom of Porus 20.

Whatever degree of credit may be given to these accounts, they will at least evince an extraordinary population; and, either from the fertility of the country, or its fituation among fo great a number of navigable streams, the slourishing state of this tract appears manifest in every age, unless when desolated by invasion. The historian of Timour expresses the same admiration as the Greek writers; the Ayeen Akbari reckons the Panje-ab as the third province of the Mogul empire, and mentions forty" thousand vessels employed in the commerce of the Indus 22.

It was this commerce that furnished Alexander with the means of feizing, building, hiring, or purchasing the fleet with which he fell down the stream; and when we reflect that his army consisted of an hundred and twenty-four thousand men, with the whole country at his command, and that a confiderable portion of these had been left at the Hydaspes during the interval that the main body advanced to the Hyphafis, and returned to the Hydaspes again, we shall have no reason to accuse Arrian of exaggeration, when he

leagues from mountain to mountain. The ca- cap, 3. pital is Nagaz, or Syrin Nagar.

²⁰ We ought not to be furprifed at these exaggerations. Cheref-eddin fays, Cashmeer re- Ayeen Akbari. ally contains 10,000 flourishing villages, but is estimated at 100,000. Vol. iii. p. 161.

²³ Maurice, p. 138, vol. i. from the

Porum et Taxilem reliquit in regnis fuis, fummo in ædificanda claffe The level country is not more than twenty amborum studio usus. Q. Curtius, lib. ix,

afferts, that the fleet confifted of eight hundred veffels, of which thirty only were ships 23 of war, and the rest such as were usually employed in the navigation of the river.

Strabo 4 mentions the proximity of Emodus, which afforded plenty of fir, pine, cedar, and other timber; and Arrian informs us, that Alexander, in the country of the Affacani, and before he reached the Indus, had already built veffels which he fent down the Kophénes to Taxila. All these circumstances contribute to prove the reality of a fact highly controverted; and even though we were to extend the whole number of the fleet, comprehending tenders and boats, with fome authors to two thousand, there is no improbability fufficient to excite aftonishment.

By the fame means that Alexander obtained a fleet, he acquired information in regard to the commerce of the country, and the different coasts with which the natives traded. Taxiles and Porus were both in his interest; many of their subjects doubtless embarked

Toraxortogo, implies, that they were not even gallies of war, such as the Greeks used in the Mediterranean, and which were called Triremes, gallies with three banks of oars; but these feem to have only one deck, and to be rowed with thirty oars on a line, that is, fifteen on each fide; the nathras, according to Gronovius, were half-decked, with the waift of the veffel left open for the rowers. But fee Cafaubon ad Athenaum. Not. 737.

Major Rennell mentions, that veffels of an hundred and eighty tons are used on the Ganges; and Captain Hamilton, p. 122, vol. i. fays, that those employed on the Indus were, in his time, frequently of two hundred tons,

13 Тражботоры пр прибла. Arrian, lib. vi. divided into separate apartments which merchants hired for the voyage, and adapted most commodiously to the navigation. They carried a mast and fail, but were more usually towed by men. The passage from Tatta to Lahore is fix or feven weeks, but the return is made in eighteen days, or even twelve; the navigation is open, clear up to Cashmeer, by means of the Chelum; and Mr. Forster entered Cashmeer by that stream, which he calls the Jalum. The course of this river is eight hundred miles from Tatta to Multan only, allowing for the finuofities of the river. See Major Rennell's Memoir.

24 Strabo, 691. Arrian, lib. iv. in fine. Rennell fays, Emodus is not near.

with him, either for the purpose of conducting the sleet, or with a view to their own advantage; many possibly who had frequently made the same voyage, and knew the commerce of the coast, from whom the inquisitive spirit of Alexander could not fail to extract the information 26 necessary for the accomplishment of designs he had contemplated so long, and with such anxious solicitude.

The evidence of this does not rest upon deduction or conjecture; the report of Nearchus the admiral, and Onesicritus the pilot of the sleet, is still extant in the writings of Strabo, Arrian, Diodorus, and Pliny; and though the credit of Onesicritus is impeached by Strabo, on account of his inclination to exaggerate, he does not hesitate to appeal to his authority in a variety of instances, which evince his general knowledge, and sometimes his intimate acquaintance with the country; but from Nearchus he proves, that all the native commodities which to this day form the staple of the East Indian commerce were fully known to the Macedonians. Rice 27, cotton 28, and the sine muslins made of that material, the sugar-

25 'Ουδί τῶτο δι ἀπίθαιοι τῶ Πατροκλίως, ὅτι Φησὶ τὰς 'Αλιξάνδρω συτρατίυσαντας ἐπιδρομάδην Ιτορήσαι ἔκατα, ἀυτὸν δὶ 'Αλίξανδροι ακριδώσαι, ἀναγραφάντων την όλην χώραν τῶν ἰμπειροτάτων ἀυτῷ. την δὶ ἀναγραφήν ἀυτῷ δοθήναί, Φησιι, ὕτιρον ὑπὸ Εποκλίως τῷ γαζοφύλακος. Strab. lib. ii. p. 69. Sainte Croix, 20.

Nor is there any reason to doubt what Patrocles says, that those who accompanied Alexander wrote at random; but that Alexander's own knowledge was accurate, as he obtained his information from those who knew the country best, and made them commit their intelligence to paper. These papers were communicated to Patrocles by Xenocles the Treasurer.—This passage possibly alludes to the survey of Beton and Diognetus. Sainte Croix extends it to more general information.

27 Rice. Ojv &z. The cultivation of it by

flooding the lands is noticed by Aristobulus. Strabo, 692.

28 Cotton feems to derive its name from the fruit in Crete, called by Pliny Mala Cotonea, or Cydonia, lib. xv. cap. 11. It is diffinguished by other names; Bombax, Bambax, Gossipium, Xylon; the cloth made of it, Byffus. Ferunt cotonei mali amplitudine cucurbitas, quæ maturitate ruptæ oftendunt lanuginis pilas, ex quibus vestes pretioso linteo faciunt. Pliny, lib. xii. c. 10. Byffus, referred by Parkhurst, Lex. in voce, to 2 Chronicles, iii. 14. YIJ. Booog meta wominiag. Herod. lib. vii. Ezekiel, xxvii. 7. Beloe, p. 287. possibly printed cotton, and worn by the priests in Egypt. The Editor of Chambers's Dictionary fays, it grew originally only in Egypt; but certainly he is mistaken. See Salmaf. Plin. Ex. 296.

cane 29, and filk 30, are all expressly mentioned in a passage which he adduces from Nearchus; and however the Greeks or Romans became afterwards acquainted with these commodities, the first knowledge, or at least the first historical account of them, is certainly to be attributed to the Macedonians. None of these articles had ever been brought into Greece, or any part of Europe, by fea, and few of them had ever been feen unless by accident; on these, however it is evident, Alexander depended for the foundation of the commerce he meditated, and for the introduction of these he was now planning the communication which was to perpetuate the intercourse between Europe and the East Indies.

At this day, when we view the effects, without adverting to the cause, we may deem lightly of a voyage which required so much

μέλι, μελισσών με δυσώ. This affertion, Straho (69+) quotes expressly from Nearchus. He fpeaks also of canes from which honey is made, though without bees. I do not know that Saccharum is used by any author prior to Pliny and Dioscorides, lib. xxii. 8. Saccharum et Arabia fert, sed laudatius India. See Salmafius Plin. Ex. vol. ii. et feq. who has a long differtation upon the subject, and imagines Pliny's Saccharum, as well as that of Diofcorides, to be manna; yet feems to diffinguish the καλαμος of Nearchus as the true fugarcane. Sacar appears to be a word of Arabick extraction.

30 Silk. The passage in Strabo is not exprefs; but having mentioned cotton before, he adds, τοιαύτα δι κ' τα Σημικά ίκ τίναν Φλόιων ξαινομίνης βύσσυ.

Velleraque ut foliis depectant tenuia Seres.

Virg.

The Critical Reviewers, October 1791, massus, p. 298. and p. 998; they call the Seres, inhabitants of Bocharia, and Sir-hend, Serinda on the Indus, the flaple for filk.

3) Sugar. Eigene di ng might weren di par ori musor When in Sogdiana, Alexander was in the neighbourhood of Bocharia; but the mention of Engrea by Strabo is incidental to India; and if it were not for a passage in Arrian, which feems to relate to the fame quotation from Nearchus, I thould not hefitate to refer this expression of Strabo's to filk. Arrian fays, EDATE de histor ledor Xemitas nabante hiyes Niagxoc him TH and Tan duditor, &c. &c. Indic. I have fince learnt, that the Reviewers follow the authority of d'Anville Eclairciss; but that great geographer's error is, confulting fimilarity of found in names too much. When the locality is established, resemblance of found is a strong confirmation, but to fix locality by found is beginning at the wrong end. I cannot help thinking, however, that the mention of Seres and Serica in allufion to cotton is always error or confusion; for we must observe, that filk, when it came to be known and characterifed, was always Serica; while the knowledge of cotton or vegetable wool is as p. 126, interpret this of cotton, as does Sal- old as Herodotus at leaft, in Greece. The filk-worm is first described by Pausanias Eliac. fub fine. Gibbon, vol. iv. p. 72, from d'Anville Eclair. Chambers's Dictionary, &c. &c.

preparation

thefe

preparation to accomplish, and which a single sloop would now perform in a twentieth part of the time; but the merit of the attempt is to be estimated by the originality of the conception; and we must allow much to the penetration of that mind, which could fix upon the productions of any country as a basis for commerce, that should continue in request for two thousand years, and create a demand perpetually on the increase.

The knowledge of India obtained by the Macedonians will perhaps be as fully exemplified by adverting to objects of curiofity as utility 21. Of this, Strabo furnishes abundant testimony, who from

from Arrian and Strabo, in order to shew that the Macedonians were not only soldiers, but diligent observers. The account given is wholly Macedonian, and nothing inferted later than Megasthenes, who was Ambassador from Seleucus to Sandrocotta; and Sandrocotta, if my etymology is right, signifies a town on the Shantrou or Chen-ab, from whence the Prince took his title. The inquisitive spirit of Alexander is as strong a mark of his character as his passion for conquest. "You," said the Bramin Mandanis to the King, "are the only man whom I ever found curious in the in"vestigation of philosophy, at the head of an

The principal casts of India are four:

" army." Strab. p. 715.

1. Bramins. 2. Husbandmen. 3. Soldiers.
4. Artisans. There have been always various subdivisions of these; both Strabo and Arrian from Nearchus reckon seven.

1. Philosophers or Bramins. 2. Husbandmen. 3. Herdsmen, Shepherds, and Hunters.
4. Artisans. 5. Soldiers. 6. Inspectors of Manners and Police. 7. Counsellors of the Chief Magistrate. Ar. p. 324. Strab. lib. xv. p. 700. Of these the fixth and seventh classes

were properly never diffined caffs, or at least only subdivisions of the others, and the third was possibly comprehended in the second.

Other Particulars mentioned by both.

- 1. Manner of hunting and taming the elephant. Ar. 328. Strab. 711.
- 2. Women not deemed dishonoured who received an elephant as the price of their favours. Ar. 331. Strab. 712.
- 3. No flaves in India. Ar. 330. Strab. 710. Oneficritus confines this custom to the country of Musicanus.
 - 4. Gold collected in the rivers. Strab. 718.
 - 5. Chintz. andirac loastell. Strab. 709.
- 6. Cotton tree, called Tala by Arrian, and the pod described. Ar. 320.

Cotton raiment, Strab. paff. Arrian, 330. reaching to the middle of the leg.

- 7. Parrots. Ar. 329. Monkies, ibid.
- 8. Use of Strigils and Shampooing. Strab.
- 9. No intermarriages between the casts, Ar. 320. Strab. 704.
- 10. Knowledge of letters denied by Megasthenes, Strab. 709, but afferted by Nearchus; who says, they write on linen or cotton

these fources drew all the information he has left us concerning the tribes or casts of the Indian nations. Under whatever variety these appear in ancient or modern authors, the four orders of priests, soldiers, husbandmen, and artisans still predominate. Of these

cloth, and that their character is beautiful. Ar. 717.

11. Rice planted in water.

12. Wine from rice. Arrack. Strab. 709.

13. Food of the natives. Oryza Sorbilis. Pillau. None cat flesh but the hunters. Ar. 331. Strab.

14. The men wear ear-rings. Ar. 330.

15. Dye the beard, ibid.

Use umbrellas, ibid.
 Do not exercise two trades, 326.

18. Wrap cotton round the head, 330.

19. Two forts of philosophers; Brachmanes and Germanæ. The first more properly Priests and Diviners; the second Hylobii or Hermits, that is, Fackeers and Jogees. These latter enter every house, and even the women's apartments. Many are attended by women devoted to them, but without fuspicion of intercourse; penances and mortifications; refidence under the Banian trees. Arrian, Strab. Their discourse usually on death; their philosophy, that the earth is frherical, and the Deity, anima mundi. Strab. 713. Burn themselves, not to avoid evil, but to enter on a new life. Strabo mentions Zarmanochegas, one of the Ambaffadors from a Porus, King of fix hundred Kings, to Augustus, who burnt himself at Athens, on his return towards India.

EPITAPH.

ΖΑΡΜΑΝΟΧΗΓΑΣ ΙΝΔΟΣ ΑΠΌ ΒΑΡΓΟΣΗΣ ΚΑΤΑ ΤΑ ΠΑΤΡΙΑ ΙΝΔΩΝ ΕΘΗ ΕΑΥΤΌΝ ΑΠΑΘΑΝΑΤΙΣΑΣ ΚΕΙΤΑΙ.

But it is remarkable the MSS. read Ζαρμανος Χηγαν, which is the Caganus or Cagan, as used by the Huns and Avars. See Ducange in voce; Gibbon, ii. 572. iii. 161. and is in reality the Ham of the Tartars, written Can, Chan, Chan, Khan, and Cawn. This feems the first instance of using the word; and if so, this is Zarmanus Khan. Perhaps also Zarmanus is related to the Germanæ of Strabo, p. 720.

20. Another fort of philosophers called Pramnæ, Strab. 718. who dispute with the Bramins, and attack their doctrine. This sect still exists, and in allusion to them, one of the Mogul Emperors (I think Shah Jehan) said, "The philosopher and the priest can "never agree."

21. Perforation of the nose and lips. Ar. 717.

22. Women hunt with the King. Ground marked out. No man must approach. Ar. 710.

23. Women attend the King in war. Ar. 710.

These particulars (and the catalogue might be much enlarged) all agree with our modern accounts of India. They all contribute to prove, that the spirit of research was very active in the camp of Alexander, and that the observations were in general true. There are many likewise which have been deemed false, and which, as our knowledge of India increases, are found to be deduced from popular errors of the natives, or to have some reference to missaken sacts; and what country is not subject to missrepresentation by those who visit it first?

distinctions.

diffinctions, Ariftobulus, Nearchus, Oneficritus, and Megasthenes were fully apprifed. It would be thought mere matter of oftentation, to produce the testimonies of this knowledge as they lie fcattered in a variety of authors; but the accounts of Indian policy and government, the principles of the Bramins, the devotion of widows to the flames, the description of the wild 32 fig or banian tree, the variety of grain 13, the hair, colour, frame and constitution of the natives, with an abundance of other minute particulars, fufficiently intimate a spirit of observation pervading the Macedonians, as well as that of conquest; and their original materials furnish the ground-work of that accurate investigation pursued at this day with fo happy an effect by our countrymen on the banks of the Ganges,

SURVEY of the EMPIRE.

V. THE object of introducing these observations is to shew that the defign of Alexander in planning the voyage of Nearchus was not merely the vanity of executing what had never yet been attempted, but that it was a fystem founded on a presumption of the advantages to be derived from it, a defire of knowing the coast as

32 See Strabo, lib. xv. Pliny, and espe- in Guzerat. Maurice's Indostan, vol. i. p. 124. But from the value fet upon this, it was posli-33 Strabo mentions a grain called Bosmo- bly some species of rice; of which the In-

Mr. Dalrymple conjectures, that the un-

cially Salmafius Plin, Ex. vol ii. p. 10. 16.

rus, fmaller than wheat, held fo choice by the dians are faid to reckon forty forts, and fome Indians that they fuffer it not to be planted, of which they purchase at any price. unless under the obligation of an oath to pass it through the fire, in order to preclude vege. husking of Paddy to obtain the rice by means tation. Some of our countrymen who have of hot water thrown upon it, as is faid to be been in India might possibly form a conjecture practifed in some parts of India, and possibly what this grain is. There is a species called with some particular species of this grain, Gram, found in Myfore. Major Dirom. may have given rife to this opinion of But this is for horses. Another called Bajero, Strabo's.

well as the interior of his empire, and a reasonable hope of uniting the whole by mutual communication and reciprocal interests.

By tracing the correspondent parts of this system, we shall be able to evince its reality; for though the opening of the world to the knowledge of mankind, as Curtius expresses it, proved in the event a concern of far greater magnitude; the furvey of the empire was of more immediate importance to the conqueror. The line of conquest from the Hellespont to the Indus was complete, but the intermediate country was by no means fufficiently explored. The route of the army, after the death of Darius, had been mostly 34 to the North of the Paropamifus, or that range of mountains, by whatfoever name distinguished, which in Oriental geography separates Iran from Touran. India had been entered on its northern boundary; and when Alexander had completed his campaign at the fources of the Indus, his march and voyage down the course of that river defined the eaftern limit of the empire: commencing again from this limit, he refolved to explore the fouthern provinces, which though they had fubmitted to the reputation of his arms, were in a political fenfe still unknown.

To obtain the information necessary for the objects he had in view, he ordered Craterus, with the elephants and heavy baggage, to penetrate through the centre of the empire, while he personally undertook the more arduous task of passing the deserts of Gadrosia, and providing for the preservation of the sleet. A glance over the map will shew, that the route of the army eastward, and the double route by which it returned, intersect the whole empire by three lines almost from the Tigris to the Indus. Craterus joined the

³⁴ Notwithstanding particular expeditions to Propthasia, Arachosia, &c.

division under Alexander in Karmania; and when Nearchus, after the completion of his voyage, came up the Pasitigris to Susa, the three routes through the different provinces, and the navigation along the coast, might be said to complete the survey of the empire.

If the work of Beton and Diognetus had come down to us, or had been as carefully extracted, as the voyage of Nearchus, we should have had better geographical data for establishing the interior divisions of the Persian empire, than any we can now obtain, either from the reports of travellers, or the historians of Timour and Nadir Shah. They are faid to have reduced, not only the marches of the army, but the provinces themselves, to actual measurement; and though the rapidity of the movements and the shortness of the time would not admit of an actual furvey 35, diftances accurately fet down, and journals faithfully kept, are, next to astronomical obfervation, the first principles of geography. These officers undoubtedly attended one or other of the armies upon their return, or they might have been allotted one to each; in either cafe, the attention of Alexander is evident, for the furvey itself is attested by almost every contemporary historian 36, and was extant in the time of Strabo and Pliny.

Arrian himself has given some countenance to the report concerning the motives which induced Alexander to traverse the deferts of Gadrofia. He tells us, that even Nearchus imputed this attempt to vanity and the defire of imitating or furpaffing Bacchus and

35 Much more may be done with precision Mahomedans of India measure every road they in a fhort time than is generally supposed; a march; at least, I know this is sometimes the

chain of triangles may be carried on in most custom, I believe always. Dalrymple. countries quicker than an army could march, 36 Sainte Croix mentions Ptolemy and I might fay in any country, except flat and Ariflobulus, p. 20. but I have not yet found woody, or the defiles of mountains. The his authority.

Semiramis; the Bacchanalian triumph of the army in its passage through Karmania, recorded by other historians, gives some degree of authority to the testimony of Nearchus; but Arrian, though he relates the circumstance, professes his disbelief of the fact; and an attentive consideration of the designs already displayed, supported by the internal evidence which the journal itself will suggest, ought, in an unprejudiced mind, to exculpate Alexander from the charge of any unworthy motives. To perform what has never yet been performed is doubtless an object of ambition, but the utility of the performance determines the merit of the performer.

That Alexander had a thirst after knowledge ³⁷ as well as conquest is a fact sufficiently established; and the testimony of Patrocles, which has been already adduced, goes to prove, that the geography of his empire, and an accurate information concerning the several provinces, formed one of the principal objects of his inquiries. The attention of his officers to these points naturally took its direction from the example of their master; and whatever complaints Strabo has to prefer against such writers as Callisthenes and Onesicritus, the journals of Ptolemy ³⁸, Aristobulus, and Nearchus form the basis of Oriental geography, not only as it rose by the labours of Strabo and Arrian, but in the superstructure erected by the masterly hands of d'Anville and Rennell. Aristobulus composed his work at eighty years of age; Ptolemy ³⁹, after he was King of Egypt: fear, slattery, and every other inducement to falsification had subsided; they sometimes contradicted each other in

Aristotle, complaining of his publication. The eight hundred talents allowed to that philoso. Arrian, p. 2. pher for refearches in natural history.

²⁸ Afterwards King of Egypt.

³⁹ Sainte Croix, p. 19, from Macrobius. Arrian, p. 2.

regard to historical facts; but as they both drew most probably from commentaries *° they had framed, during the course of their campaigns, the marches of the army, the position of cities, rivers, mountains, and the general face of the countries they traversed, come out with extraordinary perspicuity, when traced by a master in the science; and every increase of geographical knowledge tends to confirm the accuracy of their reports.

GEOGRAPHERS.

VI. MAJOR RENNEIL has borne the most honourable testimony both to their information and fidelity, by confessing that, as his own researches advanced, he was continually led to consider the details of these officers as more important, and their accuracy as more fully ascertained. The map which he has himself given, corrected by the journal of Mr. Forster, and explained in his Memoir, corresponds not only with the route of Alexander, but with those of Timour 41 and Nadir Shah, and with the journal of Tavernier, Goez the jesuit, and Bernier.

40 And from the works of Beton and Diognetus. Sainte Croix, p. 20.

41 In the route of Timour given by Cherefeddin, there is a regular mistake of the Ravee (Hydraotes) for the Biah (Hyphasis); and this mistake arises from Timour's being drawn southward to Ayjodin, near which city he crossed the Biah, where it takes the name of Dena or Donde; but as Cheref-eddin upon Timur's return calls the Biah the river of Lahore, vol. iii. p. 154. and as we know Lahore stands on the Ravee, or Hydraotes, the mistake is easily adjusted.

Tavernier, vol. ii. p. 61. mentions two routes from Candahar; one to the North by Cabul, which he details; the other direct by Moultan, which he omits. The account is bar-

ren, and makes us doubt whether Tavernier travelled it himfelf; but he speaks as if he had.

Goez, according to Kircher, China Illustrata, p. 62, went from Lahore to Attock and Cabul, and thence through Tartary to China. These three points are all we have, but they accord with Renuell.

Bernier came from Dehly to Lahore; his object is to give the pomp of the camp, and the description of Cashmeer; his geographical materials are very scanty.

Hanway's account of Nadir Shah's route is fo totally erroneous, that though we can trace the conqueror we cannot follow the historian. Jones's Nadir Shah is transported from Candahar to Carnal in a moment. Frazer, in geographical materials, is very deficient.

Major Rennell professes to have laid down the western fources of the Indus and the rivers of the Panje-ab from the map of a native; and fays, that as his own ideas grew correct from this communication, he was confequently better enabled to follow the campaign of Alexander in that country, and trace his movements as they arose; he speaks with confidence as to all the transactions in the Panje-ab, and hefitates only upon fome points of less importance before the croffing of the Indus. But in a work appropriated to the military transactions of the Macedonians, and which shall be laid before the Public if this specimen meets with encouragement, I shall be enabled to prove, that the accuracy of his Persian information is as conspicuous to the westward of the Indus as to the eastward; and that through the diligence of his inquiries we are now possessed of data which, there is reason to believe, every future refearch that may be made, will contribute to establish. Rennell likewife informs us, that his Persian map exhibited a series of the rivers with names correspondent to those which occur in the Greek historians; but he has favoured us only with that of the Beypasha, sufficiently agreeing with the Hyphasis of Arrian: this referve is the more to be regretted, as the communication would have contributed greatly to correct the errors and elucidate the obfcurity of his predeceffors.

The Antiquité Geographique de l'Inde of Mr. d'Anville is far from standing upon a level with the merits of his other works; and Major Rennell ⁴² has observed, with great justice, that having mistaken the Chelum or Hydaspes for the Indus of Alexander, he has consequently misplaced and misnamed all the subsequent rivers of the Panje-ab. This is far from being the only error of that able

⁴² Rennell's fecond Memoir, p. 82.

geographer; he has confounded the rivers to the west, as well as those to the east of the Indus, and by adopting the Shantrou for one of the Panje-ab streams, (a name which he has obtained from Bernier, and in which he does not discover that Chen-ab lies concealed,) he has confounded the Dindana, Chelum, or Hydaspes, with the Genave or Acesines, and placed Lahore on that river, which, by the testimony of all the authors he usually follows (Cheref-eddin 43, Tavernier, and Thevenot), is undoubtedly on the Ravee. The principal fource of these mistakes, which Major Rennell has not fufficiently noticed, is a determination of Mr. d'Anville's to find Aornus in Renas; unfortunately for his hypothesis, the Aornus of Alexander was to the west of the Indus, and Renas is between the Indus and the Chelum. The neceffary confequence is, that d'Anville is obliged to call the Chelum, or Hydaspes, the Indus of Alexander, and afterwards to perpetuate a chain of error, the refult of his original mistake.

There would have been no difficulty to find a Petra answerable to Aornus in any situation to the westward of the Indus. The whole country is mountainous, and insested with mountaineer tribes of banditti, as was experienced by Timour and Nadir Shah, no less than by Alexander. Even an error in this respect would carry no consequences with it; but the misplacing of a river vitiates the remainder of the series. This consusting is not noticed to detract from the merits of Mr. d'Anville, whose geographical reputation stands too high to be impaired by a failure in a single instance, but to evince the danger of indulging a spirit of

fystem,

⁴³ Cheref-eddin in fact places it on the ville to assume a river for the position of La-Biah, but his error has already been adjusted, hore rather to the eastward than the westward p. 21; and that error should have led d'An- of the Rawee.

fystem, a system founded upon a resemblance of ancient and modern names, never exemplified more fancifully than by a supposition that Renas 44 and Aornus are the same word, and never to be admitted unless it is justified by local circumstances rather than similarity of sounds.

Having laboured in the investigation of these points several years before the appearance of Major Rennell's Maps and Memoirs, and having no greater authority to apply to than Mr. d'Anville, I had determined to abandon the work itself, for want of sufficient materials to clear the difficulties which attended it: but upon the first view of the last Map and Memoir, finding all the sources of Indus elucidated in the most consistent manner, I resumed my labours; and if this country can now be detailed with perspicuity, let the merit be referred to that author from whom it originates.

The mistakes of d'Anville prevent the application of those materials which modern discoveries have supplied. The errors of the ancient geographers are of less consequence, as both Pliny and Ptolemy give us generally the same series of rivers as the historians of Alexander present, and, however erroneous they may be in particulars, still preserve the general seatures of the whole. Pliny senumerates the Kophes, the Indus, the Hydaspes, the Hyphasis, the Hesudrus, in the order they occur, and though he omits the Acesines and Hydrastes, the picture, however incomplete, is not dissigured; but when he adds that Alexander sailed down the Indus at the rate of six hundred stadia a-day, and yet it required more than sive months to reach the mouth of the river, he is mistaken in his premises; for it will be proved from Strabo and

44 Antiq. Geog de l'Inde, p. 17.

45 Lib. vi. c. 17.

Arrian, that the passage took up nine months, and that various expeditions delayed the fleet as it arrived fuccessively at the feveral tribes bordering on its banks. Perhaps we ought to read the paffage hypothetically; but the affertion itself is extravagant. Six hundred stadia repeated for an hundred and fifty days produce ninety thoufand; this fum, reduced by the flandard of eight stadia to the Roman mile, amounts to eleven thousand two hundred and fifty miles, and it gives no less than fix thousand by the proportion of Mr. d'Anville's stadium of fifty-one toises, while the real space upon Rennell's map occupies only eight hundred. These exaggerations 46 doubtless originate from the authorities which Pliny followed, and even Arrian himfelf is not free from charges of a fimilar nature, though in a lower degree; but if Pliny had confulted his own reason instead of copying his authorities with fervility, he could never have affigned fix thousand miles to the course of the Indus between Nicæa and the fea, when he gives less than five 47 thousand to the whole extent of Asia, from the Caspian defiles to the mouth of the Ganges.

The errors of Ptolemy 48 are of another nature, confifting generally in a mistaken calculation of longitudes and latitudes; but whatever cause we may have to lament his deviation in particulars, geography is more indebted to him for having introduced, or at least for having established, this method of determining local fituation, than it can ever fuffer by a failure in the application of

+ Proditur Alexandrum nullo die minus these errors, and the means of correcting them, may refer to Mr. Gosselin's Treatise, Geographie des Grecs analysée; where, if they do not find themselves satisfied with his principles 47 This will be proved when the fladium it- of correction, they will at least obtain the clearest view of ancient geography which has

⁽quam) stadia sexcenta navigâsse in Indo, nec potuisse ante menses quinque enavigare, adjectis paucis diebus. Lib. vi. c. 17.

felf is taken into confideration.

⁴⁸ Those who wish to analyse the source of yet been presented to the Public.

his principles. The fources from which Ptolemy drew do not fufficiently appear; but as he was a native of Egypt, and lived at the fame period with Arrian, a period in which the trade between the Gulph of Arabia and India was in full vigour, we may imagine that he had better means of information 49 at Alexandria, the centre of this commerce, than Arrian himfelf had, or any other hiftorian or geographer who lived in the interior provinces of the Roman empire.

This being the case, it is a satisfaction to find, that however misplaced the sources or the mouths of the Indus appear in the maps adapted to Ptolemy by Mercator or Gosselin, there is still, in a geographical view, nothing in Ptolemy inconsistent with Arrian.

The five rivers of the Panje-ab are given in their order, and though the junction of these rivers is necessarily laid down by those who formed the maps correspondent to the author's text, and according to their own knowledge or conjecture, the general similitude is preserved, and the order uninterrupted.

The Hydaspes, Sandabalis, Rhuadis or Adaris, Hypasis, and Zaradrus of Ptolemy, are the Hydaspes, Acesines, Hydraotes, Hyphasis, and Zaranga of Arrian. The Adaris is only a variation in writing the Hydraotes of Arrian, the Hyarotis of Strabo, all derived from the Indian Ivarati; and the Sandabalis, if conjecture deceives me not, is merely a variation of writing Sand-ab, for San-ab, still appearing under the form of Tchen-ab, and depending, as I am informed, upon the enunciation of a Persian is letter

⁴⁹ See this confirmed by Ptolemy himself, Geogr. lib. i. c. 17. Dodwell Dis. in Perip, Mar. Erythræi, p. 90.

⁵⁰ Rhuadis is the Greek text in Ptolemy; Adaris, the Latin.

⁵¹ See Tieffenthaller.

pore, Visiapoor, Vizapoor. So is this river written Chen-ab, Jen-ab, Gen-ave. See infra.

which we express with difficulty; but of these I shall presently speak more at large.

The mouths of the Indus are as much disordered in the maps adapted to Ptolemy as the fources; and the origin of this diforder is the fmall difference of longitude which Ptolemy gives between Lonibare, the eastern mouth of that river, and Syastra, a town in the bay of Canthus or Cutch. The difference fet down is only thirty minutes, and the refult necessarily is, that Lonibare is advanced so much to the East as to fall into the head of the bay, and occupy the place which modern geographers affign to the river Paddar.

Ptolemy furnishes us with seven mouths, and enumerates their names; and it is a just cause of complaint that modern geography neither supplies us with the means of confirming his affertion, or correcting his errors. It is probable that all great rivers which pass through level ground to the fea, as the Nile, the Danube, the Ganges, and the Indus, in process of time vary the channel of their respective mouths, either by inundation, obstructions, accumulation of foil, and other causes, or are diverted for the purposes of agriculture and communication. This has been fo remarkably the cafe in regard to the Nile, that hardly any two geographers, ancient or modern, correspond in their account. The mouths of the Indus labour under the fame obfcurity. Major Rennell's fecond map differs effentially from his first; three charts of Mr. Dalrymple differ from both Major Rennell's, and from each other; and Captain Hamilton 53, the only navigator I know who went up to Tatta, has

53 Capt. Hamilton, though a very pleasant, does not appear clearly from his narrative, is not an accurate writer; he did not go by whether he went up on the eastern or western water up to Tatta, but conducted a caravan side of the Lari-bundar river; but this will

by land from Lari-bundar to that city. It be farther noticed.

not given any account fatisfactory to a geographer; though he has preferved one circumstance which coincides with Ptolemy, assuring us that the natives still call the mouths of the Indus, Divellee, or feven, though they are far more numerous.

These particulars may be of importance to direct the inquiries of future travellers and navigators; and if they afford but little additional light in regard to the object before us, will plead in excuse of the present attempt to collect all that is known upon the subject. The point necessary to elucidate is the course of the two main branches, East and West, navigated by Alexander; and to answer this purpose we might assume the Sagapa and Lonibare of Ptolemy, as the Lari-bundar and Bundar Lari of the moderns. There is something peculiar in this modern appellation, that the same word reversed should be applied to the eastern and western mouth of the same river; for Bundar is only a Persian term for the mouth of a river, a port, or harbour; and Lari, or Laheri, is common to both. Not daring, for want of Oriental learning, to ascertain the antiquity of this appellation, I ought to be silent on the subject; but I cannot help expressing a conjecture that the modern

Mohammed Shah and Nadir Shah, given in Fraser, p. 226, the Mogul Emperor cedes all the country to the West of the Attock, Seind and Nala Sunkra, to the Persians, but the town of Lohry-bundar and all to the East of those streams are still to continue subject to Hindostan. Attock means the higher part of the stream; Scind and Mehran, the lower; and as Lohry or Lahri-bundar certainly means the town on the eastern branch, I conclude Nala Sunkra, the canal of Sunkra, to be the

proper name for that branch; for Tatta and its dependencies are ceded to Persia, i.e. the whole Patalene.

55 Or on land, a gate or pass; Derbend, iron-gate on the Caspian.

I imagine, that in Perfick it is properly Bend or Bender; and that Bundar is a corruption; but Fraser writes Bundar. The vowels vary so much, that Tchan, Tchen, Tchin, and Tchan, are equally the first syllable of Chin-ab. Lari-bundar bears some analogy to the Lonibare ⁵⁶ of Ptolemy, and if any literal error could be supposed, I should read it Laré-boni.

These two points to the East and West, modern navigation has nearly ascertained "; and one intermediate mouth known by the name of Scindy Bar, and characterised by the Sheik's tomb, is also clearly distinguishable; the others appear like openings that have been viewed by vessels as they passed, rather than examined; and which, from the nature of the coast, probably never approach near enough to determine any point with accuracy; but if the two extremes are sufficiently defined, we shall have data to illustrate the account of Nearchus, and resemblance enough to make Arrian and Ptolemy consistent.

As the works of these several geographers, ancient and modern, will be perpetually referred to, it will not be thought supersuous that their respective merits have been traced. The notice of their general coincidence and particular deviations, at the same time that it conduces to the investigation of truth, will, if I am not mistaken, afford much satisfaction to all who are admirers of geography as a science.

DATES.

VII. NEXT to geographical accuracy, it is an object of importance to fix the dates of the transaction with precision, as the year is mistaken by Petavius, who follows Diodorus, and the season by Montesquieu, who supposes the difficulties experienced by the fleet

⁵⁶ The same fort of transposition takes place in a variety of names, Samydaké, Samykadé; Warrell, and some others, appear better Barada, Badara. Hudson's Geog. Min. vol. i. known.

Marcian. Heracleot. p. 23.

to have arisen from the circumstance of performing the voyage during the prevalence of the South-west monfoon.

As there are two departures of the fleet, one from Nicæa, and another from the mouth of the Indus, it will be expedient to afcertain them both; but as the latter is most important, we shall commence the investigation by stating in the words of Arrian 58, that the fleet took its departure from its station in the Indus on the twentieth of Boedromion, in the archonship of Cephisodorus, corresponding with the eleventh year of Alexander's reign. This precision is of consequence, because the list of archons is by no means accurate, and without the addition of the year of Alexander there would still be room for doubt. Dodwell and Usher give a triple feries of archons from Diodorus Siculus, Dionyfius of Halicarnaffus, and Arrian; and the deduction of Dodwell does not perfeetly correspond with Usher. Usher's table stands thus:

OLYMPIAD CXIII.

Diodorus Sic.	Dionyfius Halic.			Arrian.
1. Euthycritus.	torifood as	Euthycritus.	Willis of Ro	Hegemon.
2. Chremes.		Hegemon.		Chremes 59.
3. Anticles.		Chremes.		Cephifodorus.
4. Socieles.		Anticles.		Anticles.

φισιδάρυ εικάδι το Βουδρημιώνος μυνός, καθότι 'Αθκναίοι άγεσα, ως δὶ Μακιδίας το κὰ Ασικνίλ. άγω, το Ινδίκατο βασιλισώντος Αλεξαίδ, ε. Ar. Indic.

18 Tors do apunto int Aportos Abhinos Kn- of Munychion, in the archonship of Hegemon. Munychion answers to April; and therefore as Hegemon had entered into office the preceding July, April was the tenth month of his year, Ol. cxiii. 1. inflead of Ol. cxiii. 2. 59 Dodwell differs from Usher, in assigning The year by our estimation is 327 A.C. Arrian's Hegemon to the year which Usher which answers to Ol. cxiii. but by the different affixes to Chremes. Arrian, p. 219, fays, commencement of the Attic year is in reality

The battle with Porus was fought in the month Ol. cxiii. 1.

The discordance of these authors is so glaring, that after the laborious refearches of Dodwell, all attempts to reconcile them may well be deemed superfluous. Let us therefore have recourse to the year of Alexander, which, from a variety of concurrent testimonics, is eafily established.

According to Plutarch, Alexander was born 60 in the first year of the hundred and fixth Olympiad, on the fixth day of Hecatombæon, answering to the Macedonian month Lous ". This date corresponds, according to Dodwell 62, with the twenty-fixth day of July, in the year three hundred and fifty-fix before Christ. Concerning the actual day, Scaliger 63, Petavius, and Dodwell are. at variance; in regard to the year, they are all agreed; and the additional testimony of Usher is a confirmation. Alexander fucceeded to the throne, Olympiad exi. 1. or in the year three hun-

60 According to Petavius, Alexander

- 356 A. C. Archon Elpines. Philip died, — 336 A.C. Archon Pythodorus.
11th year of Alexander, 326 A.C. Archon Anticles. Alexander died July 19, 324 A.C. Archon Hegelias.

According to Usher, Alexander

356 A.C. See Usher, p. 185, with his remark on Lous and was born Sept. 24, 336 A. C. Boedromion. See also Dodwell de Vet. Philip died, 11th year of Alexander, 326 A.C. Cycl. Dif. iv. fect. 14.

Alexander died, - 323 A. C. N. B. The year of Christ is not marked in the margin of Usher, from the year 328 to 323.

If this should excite a cariosity to examine this subject, there is a Differtation on the Birth of Alexander in Baron de Sainte Croix, p. 325.

nifm of Lous and Heccatombæon. The difcordance is reconciled by others, who suppose that the alteration in the commencement of the Attic year led Plutarch into an error. Dodwell observes with great propriety, that after

61 Scaliger does not accede to the fynchro- Greece became a Roman province, the possible adoption of the Roman calendar rendered the Greeks negligent of their own. fect. 15.

62 Dodwell de Vet. Cyclis, p. 721.

63 Scaliger Em. Temp. 416. August 7.

dred and thirty-fix before Christ; and according to Usher on the twenty-fourth of September. If Usher is right, Alexander was a few months more than twenty at this period, and this is consonant to the testimony of other historians, and the epoch of his death. But if he began to reign in three hundred and thirty-fix 64 before Christ, the year three hundred and twenty-fix is consequently the eleventh year of his reign. This is the date Arrian means to establish; and whether or not he has given the right name of the archon is not very material.

This discussion might have been spared if Diodorus and Petavius had not flood in the way; for though Ælian labours under a fimilar mistake, little attention is due to his errors in a matter of chronology. It is furprifing that Diodorus should have anticipated a year, and placed this transaction in the year three hundred and twenty-feven before Christ. It is still more extraordinary that Petavius should adopt his error. It appears at first fight as if Diodorus had confounded the departure from Nicæa with that from the Indus, but his narrative does not allow this; and he not only commences, but finishes, the voyage in the year three hundred and twenty-feven at Salmus 65 in the Gulph of Persia. This was impossible, for Alexander died in three hundred and twenty-four before Christ, and the intermediate transactions from the time he received the fleet near Sufa, to the hour of his death, are as clearly afcertained as those of any monarch in Europe who has reigned within a century.

throne on the 24th of September 336 A.C. the eleventh year of his reign commences on the 24th of September 326; and as the fleet Ed. West, p. 243.

The performance of the voyage, it is true, does not derive its importance from the year in which it was accomplished, however necessary it may be to support the order of chronology; but it never could have been accomplished with such vessels as the Macedonians used, if the supposition of Montesquieu were founded, that they failed against the Monsoon. Fortunately the Monsoons blow in the fame feafon now that they did in the time of Alexander; and we have the date of the month given us so positively by Strabo and Arrian, that we cannot be mistaken in fixing the departure either from Nicæa or the Indus. Both these authors followed the journals of Aristobulus and Ptolemy, and the information collected by both is fo nearly coincident, that we cannot doubt their veracity; in fact, there is but one intermediate report between the author of the Journal and ourfelves.

Strabo 66 fixes the departure from Nicæa in the year three hundred and twenty-seven 67 before Christ, a few days before the setting of the Pleiades; an expression obscure indeed, though precise. The ancients had two fettings of their constellations, morning and evening, and accordingly Columella 68 fays, on the thirteenth or twelfth of the calends of November, (that is, on the twentieth or twenty-first of October,) the Pleiades begin to set at sun-rise; and a few lines after, on the fifth of the calends of November, (the twenty-eighth of October,) the Pleiades fet. The phrase of Strabo is fimple, without the addition of morning or evening, which he adopts upon other occasions; we must therefore apply it to the latter expression of Columella, which is simple likewise; reckoning,

⁶⁶ Strabo, p. 691. 67 Blair's Chronology does not mention the Nicma is in the autumn of the fame year. Voyage of Nearchus, but fixes the war with 68 Col. lib, xi. cap. 2.

Porus for 327 A. C. and the departure from

consequently, the setting for the twenty-eighth of October, and fixing a given number for a few days, we settle the departure of the fleet from Nicæa for the twenty-third of October, in the year three hundred and twenty-seven before Christ.

In regard to the fecond departure the year following from the Indus, we have the united testimony of Strabo and Arrian with a shade of difference, which, though it might be well to reconcile, is not an object of importance. The date of Arrian is the twentieth of Boedromion; the date of Strabo is the evening rising ⁶⁹ of the Pleiades ⁷⁰, and both profess the authority of Nearchus. Strabo's date may be elucidated by observing, as Salmasius informs us, that the rising is the appearance of a star after having been concealed by the sun, and the evening rising is, when it appears in the evening on the setting of the sun. The evening rising of the Pleiades is sixed by Columella for the sixth of the Ides, (that is, the tenth of October,) we have therefore the intended sense of our author exhibited in the clearest light.

Arrian has given us a fixed day with more apparent precision, but with less real information; for it is well known, to the great vexation of every one who has had to calculate the date of any fact connected with Grecian history, that the commencement of the Athenian year is moveable, like our Easter, and may wander through as many days from the same cause, the appearance of a full moon. The full moon next after the summer solftice was the day appointed for the Olympick "games, a day probably fixed upon to give the best season of the year, and the brightest nights for the celebration

^{69 &#}x27;Ανατολή in' ήλίω, ἐπιτολή δὲ ἢ φανέρωσις τῶν ἄςρον, &c. Sal. p. 720.
ἄςρον μετὰ τὸν κρύψω τὸν ήλιακή. Sal. p. 748.
⁷¹ See Scaliger Emend. Temp. p. 29. who
⁷⁰ Εσπερία ἐπιτολή ὅταν δυώτρες ήλίω δραθή τι quotes Pindar and his Scholiaft.

of those games, which were the boast and passion of the people. The day on which this full moon was new, was the commencement both of the Olympian and Athenian year, and a year formed on this principle requires perpetual calculations of the moon's changes, whenever a date is to be reduced to the precision of modern chronology. Fortunately for those who are engaged in researches of this kind, the indefatigable Dodwell 72 has given us a feries of years which comprehends this epoch; according to his calculation, the third year of exiiith Olympiad, which answers to three hundred and twenty-fix before Christ, commenced on the fixteenth of July, and Boedromion, the third month of the year, on the thirteenth of September; the eighteenth of that month he discards, and consequently the twentieth of Boedromion coincides with the fecond of October. We have already shewn that Strabo's evening rising of the Pleiades answers to the tenth of October, and if we now prove that Arrian's date is the fecond of the fame month, we have an approximation too exact to fuffer Montesquieu's error to mislead us, and perhaps as near as, at the distance of two thousand years, can be expected.

It was in contemplation at one time to have purfued this refearch farther, and examine the minute causes which might have produced this variation, small as it is, between two authors of such high repute as Strabo and Arrian; but upon referring the question to Mr. Wales 3, one of the most accurate astronomers of the age, he was of opinion that the precession of the Equinoxes (which had been suspected) was insufficient to account for the error, and likewise expressed his doubts whether the ancients were ever accurate in fixing the rising and setting of their constellations. His doubts were

⁷² Dodwell de Vet. Cyclis, p. 721.

²³ See Mr. Wales's Answer in the Appendix, No. 1.

afterwards found to be well grounded; for Salmasius has demonstrated, that in some instances of this kind hardly any two of the ancient astronomers are agreed. It is possible, however, that Strabo's expression may be laxly interpreted to mean about the evening rising of the Pleiades; for, in a fimilar inftance, the morning fetting of the Pleiades (November the 8th) is effected the commencement of winter; after which it is dangerous to fail; but it is not till the eleventh that the kalendar fays, Maria clauduntur; we should therefore efteem the rifing or fetting of the constellations as marking rather the feafon than the day. If fo, there is latitude given to bring him nearer to Arrian: but let the question be resolved as it may, the deviation is fo fmall, that in neither case will it compel Nearchus to perform his voyage in opposition to the Monsoon. As a positive day is given by Arrian, I shall assume this in preference, and on the authority of Dodwell, fix the departure of the fleet from the Indus for the fecond 74 of October, in the year three hundred and twentyfix before Christ; notwithstanding, the advance of eight days, according to Strabo, would be a more advantageous point to assume.

MONSOON. THE

VIII. THE Monfoon is a term fo familiar at prefent, that it is hardly necessary to observe, it fignifies, in India, a wind that blows fix months from the north-east, and fix months from the south-This wind, unknown in the Great Atlantic and Pacific

74 Ufter fixes on the first of October, which, might have been spared. But see Usher on allowing for Dodwell's exclusion of the eigh- the Solar Year, cap. 1. and consult the auteenth of September, brings his date to cor- thors concerning the time expended after

respond with ours. Had Usher favoured us Alexander's return. with his mode of calculation, this deduction

Oceans, extends, with a variety of inclinations, through all the seas of India from Japan to Madagascar; its general course only is northeast and south-west; its particular deviations depend on the position of mountains, capes, and bays, which sometimes obstruct or direct its course; and near the coast it almost universally gives way to the land and sea breezes, which blow alternately every twenty-sour hours. We shall have occasion to notice all these circumstances during the passage of Nearchus from the Indus to Cape Jask, and shall find authorities to support them.

In a collection of papers furnished by Mr. Dalrymple, I have a Journal of Lieutenant McCluer, which will enable me to give a better account of the Monsoon in this track, than could have been procured by any other means of information.

"The vessels bound from Malabar to the Gulph of Persia usually make Muscat, on the coast of Arabia; and the best time for making this passage is during the months of November, December, January, and February "." This proves that the north-east Monfoon, which commences with some sluctuation in October, sixes steadily in November, and continues in force for four months, when it begins to sluctuate again in March, and does not fix steadily to the south-west till April or May. John Thornton says "," In November, "December, January, while the wind is northerly within the "tropic, it is easterly along the coast of Mekran, with a current fetting to the westward." And another navigator " of this track says, "Between the latter end of October and the middle of No-

⁷⁵ McCluer, p. 1; and Tavernier, p. 2. 75 P. 71.
vol. ii. 77 C. Rannie, in Mr. Dalrymple's Collection.

[&]quot; vember,

"vember, the land and sea breezes 18 begin along the coast of Guadel, (Mekran,) and continue four months." He adds, "If a land wind blows either morning or evening, a ship may depend on a sea breeze, or at least a wind along the coast from the northwest, to bring her in shore again 19; neither is the land or sea breeze ever attended with squalls of thunder or rain." Tavernier 10, who made this voyage himself from Ormus to Surat, mentions, that the passage is made during November, December, January, and February, from Surat to the Gulph of Persia, in sisteen or twenty days.

It has been thought necessary to detail these circumstances, in order to shew that if Nearchus sailed, as he did, the beginning of October, why it was necessary for him to wait twenty-sour days in port, near Cape Monze, (Eirus, or Irus,) till the Monsoon was settled in November; he had then every circumstance in his favour, an easterly wind setting along the coast, a land breeze to give him an offing, without danger of being carried out to sea, no fear of squalls or storms, and a current conspiring with all these advantages to ensure his success.

Whether Nearchus was apprifed of all these co-operating circumstances may be doubted; but there is great reason to believe, that the navigation was practised by the natives, at least in detached portions of the voyage, if not along the whole coast; and we may be sure, if he found at Patala any pilot st capable of conducting him,

Fo Tavernier, vol. ii. p. 2.

⁷⁸ The sea breeze blows from noon to midnight; the land breeze from midnight till noon. The weather is generally pleasant and ferene in the N. E. Monsoon.

Journal of the Houghton Indiaman, 1756. Mr. Dalrymple.

⁷⁹ Rannie, p. 88.

⁸¹ He did find a pilot at Mosarna, which, at the same time it proves a navigation carried on by the Persians, Karmanians, or more probably the Arabians, along the coast, evinces the attention of Nearchus.

neither his own forefight nor the prudence of Alexander would have been wanting to procure affiftance. The general effect of the Monfoon he certainly knew; he was a native of Crete, and a refident at Amphipolis, both which lie within the track of the annual or Etefian winds, which, commencing from the Hellespont, and probably from the Euxine, fweep the Ægean fea, and stretching quite across the Mediterranean to the coast of Africa 52, extend through Egypt to Nubia or Ethiopia.

Arrian has accordingly mentioned the Monfoon by the name of Etefian winds; his expression is remarkable, and attended with a precision that does credit to his own accuracy, and the authorities from which he drew his information. These Etesian winds, says he, do not blow 33 from the north in the fummer months, as with us in the Mediterranean, but from the fouth 84. On the commencement of winter, or at latest on the setting of the Pleiades, the sea is said to be navigable till the winter folftice. This fetting of the Pleiades must again cause some confusion, for though Gronovius, in his Commentary on Arrian, fixes this for the eleventh of November, because the kalendar fays, navigation ceases on that day; yet Columella places the fetting on the twenty-eighth of October, and the morning fetting on the eighth of November. We shall prefer, on

⁸² A veffel going up the Nile has always in these months a fair wind against the stream. She comes down like a log upon the water. See Bruce, Pocock, Norden, &c.

west.

⁸⁺ This passage of Arrian is accompanied, in the edition of Gronovius, by a long and angry note, as too many of his are. He interprets his author, however, as intending to 83 And in another place; the Etefian winds, fay, that as the Etefian winds in the Mediterwhich prevail the whole fummer feafon, ranean blow from the north in fummer, and blowing from the fea upon the coaft, ren- are generally fucceeded by an opposite wind der navigation impracticable, p. 335. The in winter, the reverse takes place in the Indian mouths of the Indus front exactly fouth- ocean; the fummer Etefian is fouth, the winter north.

this occasion again, the fetting as expressed simply by both authors, and fix the change of the Monfoon as intended by Arrian for the twenty-eighth of October; a day which coincides fo nearly with modern observation, and so identically with the circumstances of the voyage, as to give it a fixed preference to all others. Arrian is not fo happy in limiting the termination of the Monfoon to the winter folftice, for it has been already shewn, that it continues to blow during January 85 and February, and does not fluctuate till March; fo far is this, however, from impeaching Arrian of ignorance, that it is a proof of his attention and veracity. The fleet reached Karpella before the end of December; Nearchus had confequently no opportunity of observing the prevalence of the Monsoon after the winter folftice; he delivered, therefore, what he knew to be true from his own experience, without confidering or knowing what the winds were in January and February; and Arrian copied as faithfully as Nearchus related.

We know from later writers 35, that the ancients were perfectly acquainted with the nature and feafons of the Monfoon, and that from the time of Claudius, the fleets which failed from Egypt traverfed the Indian ocean to the coast of Malabar, and returned from that coast again, by means of the Monfoons, without confining themselves any longer to the winding of the shore. It is not, however, our object to difplay the advances made in later ages, but to fpecify the discoveries of the Macedonians, and the fidelity of the historian; yet we cannot avoid mentioning fome particulars that occur in the navigation 87

^{*} See B. de Sainte Croix, Note Ixii p. 310, who fays, va; roomas is xing an means the ver- Erythr. nal equinox. I should be glad to give this 27 Periplus Maris Erythræi, in Hudson's confiruction, if the Greek language allowed it.

⁵⁶ Dodwell's Dif. on the Periplus Mar.

of the Indian ocean, which bears the name of Arrian, and which, as Dr. Robertson says, very justly deserves more attention than has hitherto been paid to it by geographers. That it is not the work of our Arrian is evident, for the author is as ignorant of the countries inland, as he is accurate on the coaft; he is equally ignorant of the extent of Alexander's conquests, whom he supposes to have erected altars and chapels in Guzerat, (Barigaza,) though he paffed little beyond the eaftern mouth of the Indus. His errors, however, are pardonable, if we confider him, as what his work declares him, a merchant, or navigator in the feas he describes; as one who had personally visited both coasts of the Red Sea, the coasts of Africa and Arabia, and the coast of Malabar from the bay of Cutch. possibly to the kingdom of Calecut ": that we are authorised to assume this, is evident from a passage not very intelligible, where he fays, "In failing into the Gulph of Arabia we keep our course in " the middle; we fail nearer the coast of Arabia." The adoption of the first person seems conclusive, and as his description includes Cape Gardafui, (Aromatum Promontorium,) Cana 39, and Ras-al-gate, (Syagros,) in Arabia; the departure of the veffels from those points with the Monsoon, the cargoes they carried, the part of the coast they reached; the particulars of the bay of Cutch, (Baraces,) of Cambai, of Guzerat, (Barigaza,) of the Ghauts, and the

follows, I cannot help observing, that as the boundary I fix for this Arrian's knowledge is dred and eighty miles to the north of Calecut, Cottonora, fo it is remarkable that Salmafius's and which is as convenient a point for Arrian's readings of Pliny or Solinus vary on this Cottonora, as Calecut which Dr. Robertson word; for he fays he found Cottahonore, affumes. Quodtaonare, and Cottaonore. Now it happens that Cotta is a native term for a fort, as taque, Robertson. Baraces. Baroach?

⁸⁸ Without building any proof upon what Devi-cotta, Palam-cotta; and Cotta Onore gives exactly Onore, a place about one hun-

so Cava-Canim, d'Anville; Cape Far-

Deckanoo, with the return from the coast of Malabar by means of the north-east Monfoon; all these indicate a knowledge rather proceeding from observation than intelligence; all prove that he was not a man of letters, but a curious navigator, and a faithful reporter. To purfue this inquiry may be thought an intrusion upon the province of Dr. Robertfon, but there is much curious matter in this tract that he has left untouched, and fome circumftances have escaped his notice which are matter of furprife. Dr. Robertson has not demonstrated that the Ptolemies had an immediate intercourse with India; he supposes, on the authority of this Periplus, that veffels did pass from the Red Sea by coafting along Arabia and the Mekran to India. I am willing to accede to this supposition upon the same authority, but I have fearched for farther evidence" in vain; and as Dr. Robertson has produced no other, it is reasonable to conclude that proof is wanting 92. It is worthy of remark that Pliny 3 fays, the knowledge of this navi-

known that Deckan fignifies the fouth, and the modern Deckan, in the peninfula, is fo called because it lies fouth of the feat of government. It is curious to find this name as old as the time of the author. Deckan fignifying fouth, and Abad, a city; Dachanabades fignifies the capital of the fouth. Where to place this is indifferent; as, if we were speaking of modern times, we might doubt whether we should call Poonah, Aurungabad, or Seringareigning prince took the name of his city or province. The modern Deckan is the country of the Nizam, his capital Aurung-

98 Huet (Histoire du Commerce) drops the profecution of this question at the very point he ought to introduce it, p. 38, and p. 99, tia patescente.

90 His term is Dachanabades. It is well and countenances the opinion I have adopted, p. 313. See also p. 302. 246. Ed. Paris,

92 From a passage in Pliny, lib. vi. c. 23, Dr. Robertson lays down a passage from Rasal-gate (Syagros) to Zizerus, a place fomewhere in India; but as neither Montesquieu, Major Rennell, nor Dr. Robertson, can find out where this Zizerus lies, it is a great proof of Pliny's indistinct description of India, which appears upon all occasions. After patam, the principal city of the fouth. The Dr. Robertson has laboured the point as much as it will bear, he concludes thus : It is probable that their voyages were circumfcribed within very narrow limits, and that under the Ptolemies no confiderable progress was made in the discovery of India. Sect. i. p. 37.

93 Lib. vi. 23. Nunc primum certa noti-

gation was in his own days only beginning to be known, and afterwards that the names of the cities and nations enumerated are found in no author of prior date 94. It is equally extraordinary that the difcovery made of a paffage across the Indian ocean by means of the Monfoon, corresponds, in point of time, with this information of Pliny; for Hippalus the author of that discovery lived in the reign of Claudius, and with that discovery it is easy to connect the account of a city called Arabia 95 Felix 96 in the Periplus 97. For the author fays, it is near the mouth of the Red Sea on the Arabian fide, and had formerly been the point of rendezvous between India and Egypt, till it was destroyed by the Romans 98 not long before his time. What then are we to conclude? but that the fuccess of Hippalus opened a new channel for this commerce; and that the Romans, like all other trading nations, wished to establish a monopoly for themselves by destroying the prior means of intercourse? Have we not, therefore, great reason to fuspect that the fleets of the Ptolemies went no farther than to these marts in Arabia, where they purchased the commodities of India, and whence they dispersed them over Europe? It is not by this meant to infer, that no veffels from Egypt ever circumnavigated Arabia into the Gulph of Persia, or penetrated into India; for there is great reason to suppose they visited both, and explored likewise the coast of Africa; but the slence of authors, and the little " faid

⁹⁴ Strabo, however, is of prior date, but a Greek, and perhaps Pliny means to specify Roman authors. Plin. lib, vi. 23.

⁹⁵ Thus in the original; but probably a cor-

⁹⁶ Huet, Histoire du Commerce, p. 302, fupposes this Arabia Felix to be Aden; and Aden, he says, fignises delices, p. 54; in which sense it is applicable to Arabia Felix.

⁹⁷ Dodwell's Differt, in Peripl. M, Eryth. p. 102.

⁹⁸ By Cæfar. Which Cæfar?

The expression in the Periplus is remarkable, p. 32, τῶτος δὶ ὅλος τὸς ὑρομώςος Περίπλως ἀπὸ Καιῦς κὰ Εὐδαίμοςος Αραδίας ὁι μὰς μικροτίροις πλοίοις ΠΕΡΙΚΟΛΠΙΖΟΝΤΕΣ ἔπλοςο. The whole voyage was indeed performed from Cana and Arabia Felix, but in vessels of an inferior fize, and by a navigation along the coast. This, while it proves that the voyage was performed, demonstrates at the same time the little effect produced from it.

upon the subject by the writer of the Periplus, afford strong prefumptions to conclude that these voyages were not frequent '00; that Indian commodities were chiefly purchased in Arabia; and that the Romans had the good fortune to reap all the advantages from the discovery of Hippalus, to destroy the old channels of commerce, and appropriate the new one wholly to themselves. Two passages of Strabo afford strong evidence of the fact; for in the fecond book '" he fays, that the knowledge of the Romans commenced with the expedition of his friend Ælius Gallus into Arabia Felix; in whose time an hundred and twenty ships sailed from Myos Hormus; and in the feventeenth book 102 he adds, that formerly fcarcely twenty ships dared to navigate the Red Sea so far as to shew 103 their heads beyond the Straits. Ælius Gallus undertook his expedition under Augustus, and if he opened this navigation, the discovery of Hippalus under Claudius established it. The whole of this, indeed, is contrary to Mr. Bruce's fystem 104; he has however, upon this occasion, so much hypothesis, and so little of historical fact, that I am not bound to follow his conjectures, in order either to confirm or refute them. What use the Ishmaelites made of the Monsoon, or how the Ptolemies profited by it, is problematical; but the difcovery of Hippalus is a fact; and though he is barely mentioned by Pliny, we have a diffinct account of him from the author of

500 There is a paffage in Pliny, lib. vi. 22. which mentions, that in the reign of Claudius, Annius Plocamus, who was farmer of the revenues in the Red Sea, while he was going round the coast of Arabia to collect them, was carried out to fea, and beyond Karmania to Hippurus, a port in India; and that the prince reigning there, induced by his account of the Romans, fent an embaffy to the emperor. If if any at all, had the courage to fail. a voyage to India had been a common occur-

rence in the time of Claudius, would this narrative assume fo much of the marvellous? Pling adds, that this embaffy gave the Romans the first certain intelligence of Taprobane,

¹⁰¹ P. 118.

¹⁰² P. 798.

¹⁰³ de te igu tur geran omeganaten, p. 798, and p. 118, όλίγων παντώπασι θαξξώντων πλίιν. Few,

Book it chap. 5.

the Periplus. He informs us, that finall veffels had formerly made a coasting passage from Cana, (Cape Fartaque,) in Arabia, to the Indus, but Hippalus observing the scite of the emporia, and the appearance 'os of the fea, ventured upon a navigation across the ocean at the feafon of the fouth-west Monfoon 106. Since his time, all vessels follow the same track; they sail for India in the month of July, and return, according to Pliny, in December. This flight mention of coasting voyages is nearly all the evidence we have of a direct East Indian commerce under the Ptolemies; and it is natural to conclude, that, existing in this manner, it was far more profitable to purchase Indian commodities in the ports of Arabia, than to fetch them from India by a navigation fo hazardous and circuitous.

I have been led into this disquisition, however unnecessary it may appear, first, because it seems a point not sufficiently attended to, or noticed by former writers; and fecondly, because it attaches to the voyage of Nearchus in a very extraordinary manner. The coast of the Mekran, (Gadrofia,) which had not been heard of in Greece before the time of the Macedonians, was vifited but little on account of commerce, and perhaps not at all, except by the few veffels which performed those coasting voyages just mentioned, and which probably never touched at any port on it, unless from neceffity. As late, therefore, as the time of Strabo and Pliny, that is, at the distance of three hundred and fifty, or three hundred and eighty years, no freshintelligence had reached the writers of Greece or Rome.

which way the Monfoons blow in India, he

might have faved himfelf the trouble. D' Anville more fenfibly lays it down fouth-west. This wind, in honour of the man who first had the west, but west. Had he asked any seaman skill and courage to profit by it, was afterwards called the Hippalus.

¹⁰⁵ oxina. 106 Libonotus. Salmafius has a long differtation to prove, that Libonotus is not fouth-

Strabo gives much the fame account as Nearchus; Pliny is too indiffinct to make us suppose he had any better materials; but a period afterwards arrived, and to all appearance after the discovery of Hippalus, when this coast was again visited; for Ptolemy, who lived in the reign of Adrian 107, by refiding at Alexandria, had the opportunity of making inquiries upon the fpot. Some merchants and navigators evidently in his age frequented this coast, for he does not draw his materials from Strabo, Arrian, Nearchus, or Oneficritus, but exhibits a varied lift of names and fituations, in the arrangement of which he is followed, with little deviation, by his copyist Marcian of Heraclea. But however some few individuals might furnish information to the geographer, the discovery of Hippalus now diverted the general course of navigation to the richer coast of Malabar; there was no occasion, and little inducement, to visit the Mekran; and confequently there is a chasm of filence on this fubject in almost every geographer, voyager, and traveller, from the time of Ptolemy till the period when the Portuguese penetrated again to this coast of desolation. But though the Portuguese formed settlements in this country, we find little distinct information in their accounts; and if the English East India Company had not directed a furvey of this coast to be made, the expedition of Nearchus could not have been properly illustrated, nor the narrative of Arrian fo fully vindicated, as it may now be, from the charge of imposture.

THE STADIUM.

IX. THE application of the circumstances attendant upon the Monsoon, to the voyage under contemplation, has been an easy and.

107 Anno C. 138.

a pleasant task; and if it were possible to arrange the measures used by our author, and the distances assigned, with the same accuracy, the journal might be presented to the reader with as much precision as a modern voyage: but no accuracy of this kind is to be expected; the subject surveyed under a variety of lights, and measures examined by most numerous combinations, afford only a general result approximating to perspicuity, but nothing which will satisfy a mind habituated to research, or the curiosity of those readers who consult the margin of their map as regularly as the country it contains.

The determination of local fituation, by means of longitude and latitude, is at prefent conducted with fo much facility, and is fo familiar to our apprehension, that we are liable to forget the difficulties to which the ancient geographers were exposed. Narratives and itineraries were the original guides for determining distances and politions; these all depended upon measures, the measures of different countries differ, and the measures of the same country vary in different ages, and in the calculation of different authors. This is fo peculiarly the case with the Greek stadium, that it is in some degree indefinite, unless appreciated by the age and country of the author, or reduced by fome standard applicable to the country under confideration. It is this measure which Arrian has adopted, with what laxity may be readily feen by confulting Mr. d'Anville's Treatife on the Itinerary Measures of the Ancients; and if, by the affiftance of that able geographer, some general estimate can be formed, it is fuch as must be a result from the whole, and must not be expected to apply in every particular inftance. Extraordinary as it is to us who live in times when, by means of the prefs, new acquifitions of knowledge are diffused throughout Europe in the

course of a few months, it is a certain fact, that before this communication took place, authors 108 of the same age in different countries knew as little of each other's discoveries as if they had not existed. Arrian and Ptolemy are nearly contemporary, and yet so far is Arrian from manifesting any knowledge of longitude or latitude as applied by Ptolemy to the plane or the fphere, that he feems ignorant even of the parallel of Eratosthenes, though he is an author quoted by himfelf. He makes but one attempt to mark the course of the fleet, by mention of the shadow falling to the fouth ", and unfortunately the whole track of Nearchus is to the northward of the tropic. But though Arrian has conveyed or preferved no discovery of this fort, he is still a faithful transcriber from his authorities; the flandard measure, therefore, which he has used, we may be affured, is fuch as he found it in Plolemy " and Aristobulus, and the valuation of their stadium becomes the object of inquiry. Mr. d'Anville " fays with great justice, that none of the ancient measures require more discussion than the stadium; he specifies four different forts, and thefe will admit of variations.

		French Toifes 112.						
The Olympian		-		-	941			
The Pythian		-	-	-	125		o feet.	
Xenophon's	-		-	-	75	3	7	
Ariftotle's	-		- 10	-	51	0	0	

The Olympian, or common stadium, is that employed by the generality of writers in the estimation of eight to a Roman mile;

¹⁰⁸ Goffelin, p. 27.

¹¹¹ Mef. It. p. 85.

This will be noticed in its place.

The French toile or fathom is fix feet, Not the geographer, but the companion and a French foot is to the foot English nearly

of Alexander, and afterwards king of Egypt. as 16 to 15.

the Pythian is little noticed; that of Xenophon is taken from the marches of the ten thousand, where thirty stadia are reckoned equal to a parasang; and that of Aristotle, according to Mr. d'Anville, is the stadium adopted by the Macedonians. It requires great confidence in our guide to acquiesce in this affertion, for no stadium of fifty-one toifes is mentioned even by Aristotle himself; it is extracted from him by inference, and the inference itself is extraordinary. The circumference of the earth was estimated by Eratosthenes at two hundred and fifty-two thousand "3 stadia, which gives seven hundred to a degree; but Aristotle " calculates the same circumference at four hundred thousand stadia. This sum divided by three hundred and fixty produces one thousand one hundred and eleven; and if we reckon one thousand one hundred and eleven stadia to a degree, the stadium can contain only fifty-one "5 toifes. Now the truth feems to require, that we should examine whether Aristotle intended to give a larger world or a lefs stadium, before we accede to the inference deduced. If, however, we were once perfuaded that Aristotle had adopted a stadium of this kind, we might find a philosophical reason for the application of it by Alexander; for his instruction to Beton and Diognetus to employ it in their furveys, and for our finding it in the journal of his officers. The philotopher was the preceptor of Alexander; and if he had any hypothesis of his own to establish, by an admeasurement of a new invention, it is not impossible that the pupil might have adopted the system of his

113 D'Anv. p. 82. Cenforinus Vitruvius, toises and a little more; and that the B. de Sainte Croix, quoting the very paffage, should 114 De Colo, lib. 1. c. 14. D'Anv. p. 83. affert, that Mr. D. makes the stadiom fifty toifes two feet five inches, and then reckon 115 It is extraordinary that Mr. d'Anville, fifty toifes without the fraction. Ex. Crit.

See Blair's Treatife on Geography, p. 59.

Mes. Itin. p. 83, should expressly say, sifty-one p. 103.

master, either from deserence to his talents, or from ambition, because it was new.

To confess the truth, when I engaged in this inquiry I regarded lightly the whole of this system; and though I am not now convinced that any such stadium existed, but rather suppose that it is a Greek term applied to an Oriental "6" measure, still the general correspondence of sisty-one toises to the measure of Arrian, be it a stadium or not, does appear, upon the whole, agreeable to fact.

In order to examine this question more intimately, I extracted all the several distances in Pliny ", d'Anville, and Rennell, from the Caspian Straits to the junction of the Jumna and Ganges; and though this stadium would not accord with Pliny, calculated either way, it approached nearer to Major Rennell's distances, than Mr. d'Anville's own, upon the whole extent of the line; and as Major Rennell is the more correct, the coincidence is still more in its favour.

In pursuing the same mode of comparison through the voyage of Nearchus, though it is not possible to establish a proportion of part to part, or perhaps to measure sive hundred stadia in any detached portion of the course with satisfaction, yet so far do the errors correct one another, that it would be ungenerous not to acknowledge Mr. d'Anville's merit in the discovery of this principle, however we may hesitate about the application of it, to the minuter divisions of the voyage.

The distance from the northern mountains where the Indus issues, to its junction with the sea, Arrian estimates, from the account of

Eratofthenes,

miles are cose, equal to 1 coths of a mile.

The fame?

Eratosthenes, at thirteen "s thousand stadia; the same space on Major Rennell's map gives by the opening of the compasses somewhat more than thirteen degrees of latitude; we have then at once a thousand stadia to a degree, and may well make up an hundred and eleven more, by allowance for the course of the river, or the march of armies; and if, by the same proportion, we measure from the sea to Nicæa, or Jamad on the Chelum, we find somewhat more than nine degrees, or about six hundred and twenty-sive miles English, which, with allowance for the course of the river, we may extend to eight hundred and sifty "o or even nine hundred miles.

The fecond distance given is the coast of the Arabitæ from the harbour of Krocala to the river Araba, estimated by Arrian at a thousand stadia, and measuring by Mr. Dalrymple's scale about seventy-five miles.

The third division is the coast of the Oritæ from the river Araba to Malana, one thousand six hundred stadia according to Arrian, and nearly ninety-eight miles by Mr. Dalrymple's scale.

The fourth division is the coast of the Ichyophagi from Malana to Badis; that is, from Cape Maran, or Malan, to Cape Jask, which Arrian reckons at ten thousand stadia, but his total and particulars are at variance. Of this coast we have a survey by Lieutenant Robinson, and according to his scale it measures nearly four hundred and eighty miles, a distance more disproportionate to Arrian's stadium than any of his former divisions, for it differs no less than an hundred and forty-sive miles; the inaccuracy of which we can only excuse on account of the extreme distress of the fleet.

The fifth division is the coast of Karmania from Cape Jask to the island Keish or Katæa; the number of stadia given by Arrian is

¹¹⁸ Indic. p. 315.

^{*19} Major Rennell reckons the navigation up to Moultan at eight hundred miles.

three thousand seven hundred, but his estimate is lax, and the deduction from it dubious. The coast measures somewhat less than two hundred and eighty miles English by Mr. d'Anville's scale.

The last measure we can ascertain is that of the coast of Persis; and even here Arrian's statement of four thousand four hundred stadia must be augmented by an allowance for four omissions, which cannot make it amount to less than four thousand seven hundred stadia, between Keish and the river Endian, the Katæa and Arosis of Arrian. Mr. d'Anville's scale makes this space equal to three hundred and twenty-three miles, but from the later information of Mr. Dalrymple's charts there is reason to think it not less than three hundred and sifty miles English.

Upon a recapitulation of these several sums, the account would stand thus:

			Stadia.	Miles English.
From Jamad to the mouth of t	he In	dus	10,000	625
Coast of Arabitæ		-	1000	75
Oritæ -	-	-	1600	98
Ichyophagi -		-	10,000	480
Karmania -	-		3700	280
Perfis	10	-	4700	350
years are income it alreading of y			31,000	1908
Stadia multiplied by fifty-one toifes			81,000	ftadia.
Miles English multiplied by 826 toises			Too bea	1,576,008 stadia.
	1,5	81,000		
		1,5	76,008	
Difference	d muze	edi	4,992	toises.

¹²⁰ It ought to be five thousand eight hundred. See Persis infra. But a general estimate only is taken here.

Of these particulars, the first only is reduced by computation, the remaining five are the actual estimates of Arrian, compared with the measures derived from modern observations; and when the refult is an error less than five thousand upon upwards of a million and an half, the difference is not worth regarding. I am fenfible, however, that feveral of the modern distances are liable to objection, and I lay no claim to precision on this head; but they were taken in the best manner the charts and maps allowed, without any regard to the iffue, and the refult permitted to come out in its natural course, without previous accommodation. One circumstance which may appear erroneous, is, in my estimation, the natural means of reconciling the two accounts more nearly to truth; that is, I have reckoned ten degrees of longitude from the Indus to Cape Jask by the fame scale as the other distances, which are in reality degrees of latitude; whereas a degree of longitude, in latitude 25°, is in fact about fifty-four miles and an half, instead of fixty-nine and an half. The difference which this causes upon ten degrees is nearly an hundred and fifty miles; but if it be confidered that the stadia of Arrian arife from the course of the fleet, while the modern miles are estimated, in some measure, from the opening of the compasses, an hundred and fifty miles upon ten degrees, instead of being an error, is an approximation to truth. Actual precision I affect not, neither do I think the question capable of being reduced to demonstration.

Upon the whole, Mr. d'Anville has performed an effential fervice to ancient geography, in pointing out a measure of any fort which can enable us to form an estimate of the distances recorded in the journal; and whether it be a stadium of Aristotle, or taken from any standard of the Indians, nay even if it were imaginary, or built only only on an analysis of the several measures specified, it is still an object of importance to find this answer upon a space of almost two thousand miles; and that the unavoidable errors which arise upon the reckonings of all navigators, more especially the ancient, can be made to correct each other mutually, and produce a general refult which is admissible.

Two confiderations arise naturally from the discussion of this subject; the first regards Nearchus, whose estimation rises in proportion, not only to the difficulty, but the length of the voyage. It is no ordinary degree of fortitude which could enable a commander to undertake this expedition in vessels very inadequate to the service, and to explore a coast of this extent, where, if shipwreck were avoided, famine was perpetually to be apprehended.

The fecond confideration respects the general difficulty of reconciling the measures of different countries; no one has laboured this point with the same diligence and success as d'Anville, and I am obliged to follow his measure in toises, because if I desert it, I can find no guide to direct me; but, in fact, even his measures, however carefully reduced, still leave some obscurity behind. One great cause of this is, that the standards of different countries seldom agree without a fraction, and in ordinary calculations the fraction is disregarded; thus, in reckoning eight Greek stadia to a Roman mile, there is always a desiciency of two jugera, or a third part of a stadium. The Olympian stadium is six hundred feet Greek, the foot Greek is nearly the same as the foot English; eight stadia, therefore, produce four thousand eight hundred feet; and two jugera, or a third of a stadium added, makes the Roman mile equal to

Here is another fraction. See d'Anville, Mes. It. on the Foot, p. 10, &c.

five thousand feet Greek or English. Such is the account of Polybius preserved by Strabo 122; and this, one should think, was intended for precision. But Mr. d'Anville in his Treatise on the Roman Mile, and in his Analysis of Italy, by a variety of combinations fixes the mile Roman at feven hundred and fifty-fix 123 French toifes or fathoms; now the French fathom is to the fathom Greek "4 or English as fixteen to fifteen "5; consequently five thoufand feet Greek ought to be equal to four thousand five hundred and thirty-fix feet French; and eight hundred and thirty-three Greek fathoms, with a fraction, ought to be equal to feven hundred and fifty-fix fathoms French: but the refult is not fo; for feven hundred and fifty-fix fathoms French amount only to eight hundred and fix two-fifths Greek fathoms; confequently, either Polybius is not correct, or elfe d'Anville's calculation has this degree of error. d'Anville, in reality, has paid little attention to the fraction of Polybius.

Another example is, that although Mr. d'Anville regards eight hundred and twenty-fix French fathoms as equal to one thousand feven hundred and fixty yards, or a mile English, which is true almost to a fraction 126; yet he reckons fixty-nine of our miles to a degree, instead of fixty-nine one-half. It is not meant to insist on these as errors, but to shew the obstacles which interpose in any calculation of extent; and it is remarkable that Chambers's Dictionary, which reckons one thousand seven hundred and fixty yards, or five

123 With a fraction of two feet two inches It. p. 125. four lines, Mef. It. p. 44.

122 See Strabo, lib. vii. p. 322. Polyb. 124 The Greek and English foot are nearly

125 More exactly as 1440 to 13513. Mef.

126 21 feet, Mr. Wales.

lib. iii. c. 39. Schweighæuser's Ed. vol. v. the same. Mes. It. p. 70. p. 576. We have it not in Polybius.

thousand two hundred and eighty feet, to a mile, in order to obtain a comparative view of our mile with that of other countries, has recourse to the Rhinland foot, a foreign measure as well as the toise I have adopted, and the Rhinland feet in an English mile are five thousand four hundred and fifty-four.

Such are the difficulties to encounter in the reduction of the standard measures of different countries; and if in the attempt here made, to obtain a comparative view of Arrian's fladium with the mile of our own country, any common error should occur, I trust it will meet with indulgence; or should it be of magnitude, I confole myfelf in the expectation of its exciting others to examine the fubject who are better qualified for the investigation.

AUTHENTICITY OF THE JOURNAL.

X. I SHALL conclude this book with a defence of the journal of Nearchus as preserved by Arrian, which has been condemned as spurious by Dodwell, and impeached in point of veracity by Hardouin "27 and Huet "28. The supporters of its credit, however, are Salmafius, Usher, Sainte Croix, Goffelin, and d'Anville; and after the mention of their names, if a new apology should be thought fuperfluous, I must plead the necessity of defending my own opinion independently of others; for if I had thought the work fpurious, I would neither have contributed to support an imposture, nor bestowed the labour of years upon the elucidation of a Romance.

I have not feen Hardouin's edition of Pliny, Croix.

127 Hominis mirare in mendaciis confingen- but I learn from Gosselin, that Dodwell assumes

128 Huet Com. des Anciens, p. 349. Sainte

dis audaciam. Hardouin cited by Sainte all his objections. Croix. Ex. Critique, p. 255.

But Nearchus has experienced a fate fevere in the extreme; he is joined by Strabo with Daimachus 129, Megasthenes, and Onesicritus, as a retailer 130 of fables, in his account of India; and his work has been robbed of its existence, on the authority of Pliny, whose own narrative is far more objectionable. In conducting this charge, Dodwell 131 has not acted generously in prefixing the particular passage of Strabo to the publication of the journal; for as this bears hard upon the veracity of Nearchus, it is prejudging the cause, and ought not to have been introduced without, at the same time, stating the evidence on the contrary side. Justice required it to be noticed that Strabo has copied this journal as evidently as Arrian, and that he is indebted to Nearchus for many sacts which, however extraordinary they might appear in his age, have been confirmed by modern observation.

Nearchus, it is true, speaks of an enchanted island, and a miraculous origin of the Ichhyophagi; not indeed with a view to assert the truth of such trash, but to refute it: and if he mentions himfelf as the only man in the sleet who did not fear enchantment, it may prove his vanity or self-importance, but cannot impeach his veracity.

Two circumstances only occur which can be adduced to support such an imputation; one is, his extravagance in stating 132 the breadth of the Indus; the other, his error in afferting that at Malana, in November, the sun in the meridian was seen to the north. The former may be rescued from the charge of falsehood, by sup-

¹²⁹ He places Daimachus in the first rank. Nearchus and Onesicritus only in the second. Sainte Croix.

¹³⁰ Παραφιλλίζωτες is the throng expression than Nearchus.

of Strabo. Prating nonfenfe.

^{*34} Hudson perhaps, and not Dodwell.

¹³² This charge falls rather upon Arrian

posing that it relates to the river in a state of inundation; and if the latter admits of no satisfactory solution, it ought not, as standing alone, to be insisted on, to the invalidation of the whole work. Dodwell, in reality, has paid no attention to these two points, but I exhibit them without fear of the consequences.

The Baron de Sainte Croix has drawn out the arguments of this great critic, and subjoined an answer to each; but as the whole charge rests upon a single line of Pliny, if it can be proved that the passage itself is inconsistent with Pliny's affertion in other places, and that Dodwell has not explained it in a satisfactory manner, not only the principal argument, but all the collateral inductions fall to the ground. Sainte Croix proposes to correct it by a different reading, which turns the negative into an affirmative; a liberty, which, though not supported by authority, may be justifiable in regard to a text so corrupt as Pliny's; but I shall shew that it is incompatible; and therefore, if it is incapable of correction, it must be rejected altogether.

The passage in Pliny 133 is this: "The journal of Onesicritus "and Nearchus contains neither the names of places where they "anchored, nor the measure of distances." Could any one after this suppose, that the following two-and-twenty lines, which comprehend Pliny's extract of the whole voyage, contain little else but the names of places? and these evidently taken, not indeed from Nearchus, nor from the original work of Onesicritus, but from the journal of Onesicritus, published by Juba 134 the Mauritanian.

¹³³ Oneficritiet Nearchi navigatio nec nomina habet mansionum, nec spatia. Lib. vi. c. 23. Persidis ex India, narrata proxime à Juba. 134 Indicare convenit que prodit Oneficritus Ibid.

Dodwell feels this inconfistency, and accounts for it by making Pliny fay, what he never does fay, that there was no uninterrupted feries of names, like that preferved in the itineraries of Antoninus, of the Peutingerian tables, &c. What Pliny found in Nearchus shall be considered presently; but that he found the names of places in Juba's Onesicritus his own text proves; and that some of these places, Tuberus, Hytanis, &c. were mansiones, or anchorages, is equally evident. He has given no distances it is true; and whether the journal of Onesicritus contained distances or not, it is impossible to discover; but that Nearchus specified distances appears not only by his work, which in this case is no evidence, but by the testimony of Pliny himself upon several other occasions.

There is in Strabo a paffage thrust into his text as strangely as this affertion of Pliny is discordant with the tenor of his affertions. "Nearchus says, he could obtain no native guides or pilots in his course from India to Babylonia, because the coast afforded no places to anchor at ", or any inhabitants capable from experience, or knowledge of the navigation, to conduct him."

This passage stands insulated between two others, with which it has no connection whatever; and how it has intruded itself here seems unaccountable. It contains, however, an expression which has some relation to the affertion of Pliny: "Οτι προσόρμες εκ έχειν, because it afforded no mansiones. What?—not the journal, but the coast; and some expression of this fort has given rise to Pliny's error.

fionumque spatiis. Dis. de Arriani Nearcho, p. 134.

But let us confider the passage of Strabo. Might not a second Dodwell quote these very words, to prove that Strabo bears evidence against the authenticity of the journal, which records two pilots, Hydriaces from Mosarna, and Amazenes from Oaracta? This would make out a stronger case than Pliny's charge amounts to. But the answer is ready; for Strabo contradicts Strabo. He says here, Nearchus had no pilot; and he says afterwards 138, Amazenes, governor of Oaracta, was the pilot from that island up the Gulph.

The ignorance of Pliny himfelf, or the corrupt state of his text, or the vitiated medium through which he received his information, is fuch, that it is not eafy to discover a relation between the account he gives from Oneficritus and that of Arrian's Nearchus. This alfo forms one of Dodwell's charges. But whether Oneficritus is the cause of this difference, or whether it originates from the intervention of Juba, it is not irreconcilable with Nearchus; for, with fome affiftance from Salmafius, I read Arbis for Nabrus, Tomerus, for Tuberus 139, Oritæ for Paritæ, Ori gens for Origens, Andanis for Hytanis, Achæmenidas for Achæmedinas, Aradus "of for Acrotadus '4', and perhaps Arbis for ab eis '42'. And if I now accuse Pliny of ignorance, or his text of corruption, could Dodwell himself, if he were living, defend him? Salmafius '43 goes still farther; he charges Pliny in direct terms with not knowing the west from the east, and confequently with inverting the order of the tribes on the coaft, and he notices a variety of other errors which it is not my bufiness to infift on. These are mentioned merely to shew that the credit of

¹³⁸ P. 767.

¹³⁹ In the margin, Tomberon.

²⁴⁰ Aradus itself is for Arac-us, Arek or L'Arek.

^{14!} Athithradus.

¹⁴² Abies oppidum.

¹⁴³ Plin, Exercit. p. 1177, et feq.

Pliny's work ought not to be rated so high as to be made the standard for others, or the test of truth.

Another objection Dodwell draws from the reckoning by miles, which are Roman, instead of the Greek stadium, and which, if Pliny had copied from a Greek work, he would probably have adopted. Whether Juba reduced the stadia into miles, or Pliny, I pretend not to ascertain; but that it is the general custom of the latter, whenever he extracts from Greek authors, his whole work will prove; and d'Anville, with his usual penetration, has shewn in a multiplicity of instances that Pliny never considered any variation in this measure, but that, by reckoning indiscriminately eight stadia to the Roman mile, he has incurred errors that are subversive of all geography. D'Anville has had the curiofity to compare feveral of these computations by miles with the stadia on which they were made, and the refult has been, that as foon as the measure of the stadium in the author copied was afcertained, the numbers '44 of Pliny have been reconciled to truth; truth, of which the writer himfelf was not conscious.

But Pliny afferts, that there are no measures in Nearchus; and whether he copies his extract from Onesicritus or Nearchus, it is confessedly without any measure of distances. This may be evidence against Onesicritus, or at least Juba; but is of no weight in regard to Nearchus, whom, however he may cite in other places, he certainly does not copy in this extract. In other passages, he actually cites the distances of Nearchus. This Dodwell allows; but then he adds, they were not regular or uninterrupted; that they did

The Olympic stadium being eight to a halving Pliny's measures an approach to the mile Roman, and Arrian's stadium sisteen, by real distance is often obtained.

not extend along a whole coast, or all the coasts of the voyage, fo that a general estimate might be formed; this is the fort of measure that Arrian's Nearchus prefents, and this is a fufficient proof that the work is not genuine. As a general answer to this, it is sufficient to observe, that this uninterrupted feries is an invention of Dodwell's, and we allow that Arrian's work does contain this fort of feries; but a feries commencing at the Indus, and extended to the Euphrates, according generally in its parts, and almost perfectly in its total, with the actual furvey of the coast, as established by modern observation, contains such internal evidence of its truth, that it is impossible to be invalidated by any hypothetical argument whatfoever.

This ought to fuffice; but I will now adduce the very paffages from Pliny cited by Dodwell himfelf, and make them both bear evidence against their own fystem. " Nearchus " fays, that the " coast of Karmania extends twelve hundred and fifty miles." And again: "Oneficritus" and Nearchus write, that from the Indus " to the Gulph of Persia, and thence from the marshes of the Eu-" phrates to Babylon, are twenty-five miles." In another passage: " From the commencement of Karmania to the river Sabis, an hun-" dred miles; from hence vineyards and arable lands to Andanis, " twenty-five miles more." With the account of these distances, corrupted as the text is beyond all conception, I have no concern; but that measures are specified in each separate instance is apparent, and those the measures of Nearchus. In whatever manner, therefore,

Gosselin, p. 25; who reads 2500 for 25. the correction arises frequently from calcu-I quote from the Franckfort edition as rections prepared; but the object here is to

Dodwell does; and though I know attempts flew the spatia of Nearchus, not to correct. have been fince made to correct these readings, See d'Anville, passim.

the testimony of Pliny is to be adduced, for the purpose of invalidating the journal of Nearchus, that testimony destroys itself; and whether the passage containing it can be interpreted or not, whether it be deprayed or correct, whether genuine or spurious, it matters little; for an evidence not consistent is no evidence at all.

Dodwell himself conjectures, that Pliny had seen the original journal of Nearchus, as well as the publication of Juba, because, in the catalogue of the writers whom he consulted, he mentions the name of Nearchus; and from hence it is concluded, that there are no measures in the original, or that Pliny sound none; but it has been proved already that, in the abstract of the voyage, Pliny sollows Onesicritus; and it is now demonstrated that, upon reference to Nearchus in other instances, the text of Pliny proves the existence of those very distances he denies. Fair reasoning, therefore, demanded the assent of Dodwell to the solution of Usher '17', who supposes these distances to have existed in the original, and to have been omitted by Juba; and if this supposition will not make Pliny consistent, why is he to be supported? or why is the existence of other authors to depend upon his suffrage?

In constructing this defence of Nearchus, I am supported by Gosselin 146 and Sainte Croix 149; and had I been acquainted with those authors previous to my own researches, I should have thought it sufficient perhaps to have adopted their arguments without any comment of my own; as it is, I have been proud of obtaining their concurrence, and upon the revisal of this argument have made use of their affishance without reserve. D'Anville 150 has thought it a sufficient answer to all objections to introduce a part of the narra-

¹⁴⁷ Anno 4388.

¹⁴⁸ Geographie des Grecs, p. 25.

⁴⁴⁹ Examin. Critique, p. 250, et seq.

¹⁵⁰ Sainte Croix, Ex. Crit. p. 256.

tive itself, and present it to the reader in the same form as the author gives it; and, in fact, the internal evidence of the work speaks more forcibly for itself than all the arguments which can be adduced in its favour. The circumstantial detail of minute facts, the delineation of the coast with the same features it bears at present, the description of manners, customs, and habits, all characteristic of the natives; the peculiarity of the climate, feafons, winds, and natural productions, all befpeak a knowledge which could have been obtained from actual inspection only, and all present a work which Antiphanes, Euemerus, Iambulus, Euthymanes '5', and all the forgers of antiquity could not have put together.

If it were requisite to pursue this inquiry farther, Salmasius affords a copious catalogue of Pliny's errors in regard to the whole coast; and whether those errors arise from the authors he consulted, or his manner of confultation; whether we are to impute them to himself, or to the mutilated and corrupt state of the manuscripts as they came into the hands of his editors; it is impossible that a single passage in fuch a work should be maintained, in order to depreciate, nay, to annihilate a journal, in which accuracy is as confpicuous as the inaccuracy of Pliny is demonstrable. I shall adduce one proof only, and leave numerous others to the contemplation of those who build fystems upon his authority. " The limit '52 between Karmania and " Armozeia is a promontory; but some place the Arbii between "them, whose whole coast extends four hundred and two miles." This is his affertion in the twenty-fifth chapter; in the twenty-third,

In margine, ccccxx1.

¹⁵¹ Impostors enumerated by Dodwell, Dif. nunt Arbios, cccc11 mill. pass. toto littore. p. 139, &c.

manis jungentur Armozei; quidam interpo- perly; but it cannot depend on interponunt.

¹⁵² Lib. vi. c. 25. A promontorio Car- I know not whether I render toto littore pro-

he fays, their coast is two hundred miles long. But whatever its extent may be, it is more than fix hundred miles from this promontory, Armozon. Such is the magnitude of this error. On the contrary, Nearchus places the Arbii, or Arabitæ, between the Indus and the Sommeany; and a Cape Arabah in the neighbourhood still preserves their name. He says, their coast is about one hundred miles long; and so we find it. He mentions Armozeia as a district of Karmania; it continues so to this day. He marks the low tract on the coast and the mountains inland; so do the best geographers and travellers "at the present hour. Where there is so much information on one side, and a total want of it on the other, it is not difficult to form a judgment upon the merits of either party.

151 Pietro della Vallé.

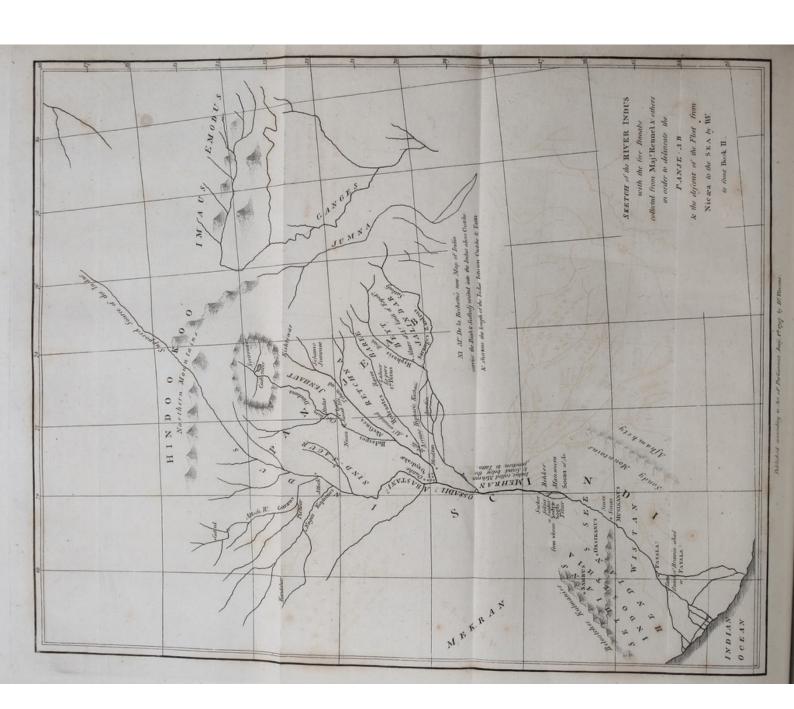
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V O Y A G E

OF

NEARCHUS.

BOOK II.

From NICEA to the MOUTH of the INDUS.

I. Geography of the Panje-ab, or Country on the five Eastern Sources of the Indus; Wealth of the People; Population.—II. Order of the five Rivers.—III. Oxydracæ, Malli, Abastani, Osfadii.—IV. Sogdi, at Behker.—V. Musicanus, Oxycanus, Sambus in Sewee, or Sihwan.—VI. Pattala and the Pattalene; Tatta considered both as a Province and the Delta of the Indus.—VII. Progress of Alexander to the Westward.

THE country denominated the Panje-ab', from the five streams which water it, was, till within these few years, less known in Europe than almost any other of the provinces which compose the Mogol empire; but the translation of the Ayeen Akbari has at

* Panje ab; Rennell.

length removed the obscurity, and admitted us into a knowledge of the fituation, division, revenues, and population of the provinces, the geography of the country, and the course of the rivers, with a degree of precision which reconciles the accounts of the best ancient geographers, and corrects the errors of the moderns. To the encouragement given by the East India Company, and the industry and abilities of the gentlemen employed in its fervice, we owe this excellent work, among a numerous collection of others, which are tending fast to dispel the gloom that hung over the mythology of the Hindoos, and the history of their conquerors. And whatever revolutions may hereafter attend our own commerce or empire in the East, these sources of knowledge opened to the world are an acquifition not fubject to viciffitude, but will perpetuate the honour of all who have been concerned in the patronage or execution of them, as long as the English language shall be read.

This Register of Hindostan, composed by Abu'l Fazil the minister of Akbar, commented as it is by Major Rennell, will form the basis of the following geographical research; and though it may not be perfectly correct in all its parts, its general correspondence with the classical history of the Macedonian conquests is such, as to establish incontestably the sidelity of Arrian and Strabo; and assure us that we have, in their writings, the report of persons actually partakers in the expedition.

Another work has been confulted, that of Tieffenthaler, a German, and a missionary of the Romish church, long resident in Hindostan, published by Bernouilli at Berlin, and commented by Anquetil du Perron. This missionary evidently possessed the language, and drew from the source of Ayeen Akbari. His work contains much

folid information '; but it is so ill put together by the editor, and accompanied with so much other matter not always pertinent to the subject, that it cannot be either read or extracted with facility.

From these and other sources of information it appears, that the Panje-ab is still one of the richest countries of Hindostan; and though both its wealth, population, and power are doubtless exaggerated by the Greeks, it is reasonable to allow that they were all fuperior, at the time of the Macedonian conquest, to any period of prosperity, fince the Tartars of different tribes have haraffed the country with invasion, or reduced it by conquest. It is not possible to affert that there had been no invalion of this fort previous to the age of Alexander; for in the account of the Kathæi there is evidently an appearance of Tartar' manners', as well as a fuspicion, from their name of a relation to the inhabitants of Kathai ; there are likewise instances of Chiefs, not Hindoo, reigning over Hindoos; and the account of feveral little independent republics, which frequently occurs, befpeaks fomething that is more characteristic of Tartar than Hindoo policy. Notwithstanding, however, these shades of difference, the aggregate of the tribes appears perfectly Hindoo, from the time that Alexander passed the Indus, till his return to the Oritæ on the ocean.

The work confifts of three volumes. The first contains Tiestenthaler; the second, Disquisitions by Anquetil du Perron; and the third is a Translation of M. Rennell's Memoir, first edition.

³ Previous to the irruption of Nadir Shah. From that period the Mogol empire can hardly be faid to exist.

^{*} Rennell supposes them to be the Kattry, or Kuttriri tribe.

⁵ Not only in their superior courage, but in their manner of defence, consisting in a triple row of waggons.

They bear one stamp of Indian manners; i. e. they burn their widows. Strab. p. 699.

TKathai was a name brought into Europeby our early travellers, who entered Tartary on the north of Afia, and always found a Kitai, Kathai, &c. See Carpin. Rubruquis, in Bergeron's Collection.

It is confessed on all hands that Hindoo policy, both civil and religious, favours population, agriculture, and commerce; and though it will be faid, upon the authority of Arrian himfelf's, that the Macedonians found no gold in India, if it is a fact, it can only be alleged to prove, not the want of wealth, but of the actual metal. But the fact is fuspicious; for the fable of gold turned up by ants proves the existence of gold in the country; and the tribes westward " of the Indus subject to Persia, as early as the reign of Darius, paid their tribute" in gold. Be this, however, as it may in respect to gold, the wealth of the people in those early ages is felf-evident, from works ftill extant of the most extraordinary magnificence. Their temples, excavations, and public buildings, not to be feen without aftonishment by foreigners, and by the natives attributed to the agency of supernatural 12 powers, all bespeak a command both of labour and riches, which can be rivalled only by the illustrious relics of the Egyptians.

This testimony of wealth and power is in all probability long anterior to the age of Alexander, and not in the country visited by him; but in his age, at the sources of the Indus, we obtain such authentic evidence of superior riches and population, as cannot be contemplated without astonishment. Greece itself was one of the most populous countries of Europe; and whatever country could,

⁸ Lib. v. p. 201.

⁹ Some modern naturalists have supposed that the white ant, the monster of his genus, if he met with a vein, might turn up gold. But the tale of the ancients must be a fable. Oneficritus saw not the ant indeed, but his skin; it was as large as a fox's.

Arrian hardly allows the tribes westward of the Indus to be Indian.

¹¹ Herodotus, lib. iii. p. 246 and 249.

The age of Anakim (as Mr. Bryant very justly styles it), antecedent to all history, still exhibits its magnificence in every country where it is fought for; from the Pyramids of Egypt to the Druidical masses in Britain.

If we attribute their works to natural power, their numbers are incredible; if to mechanic power, their knowledge is equally incompreheafible.

from its appearance, suggest to Greeks an idea of superior population, must exceed in this respect all ordinary calculation.

That they did exaggerate in attributing five thousand cities as large at Cos '3, to the territories overrun by the Macedonians, is past doubt; yet that the view of the country itself suggested this exaggeration is likewise manifest. But let us consider the country of Porus at the time it was invaded by Alexander, and before the enlargement of his power. It consisted apparently of what the Ayeen Akbari calls the Doo-ab " of Jenhat, or the tract between the two rivers Hydaspes and Akesines, not more than forty 15 miles wide at a medium, and from an hundred to an hundred and fifty miles long, Out of fuch a territory as this, without '6 allies, Porus raifed an army confifting of four thousand horse, three hundred chariots, and thirty thousand foot, under his own command, besides an advanced party under his fon, of an hundred and twenty chariots, with two thoufand horse, making at the lowest, with due allowance for those employed about the chariots and elephants, forty thousand "men. And if we now compare this force with the country which was to raife, fupport, and maintain it, what judgment ought we to form of the population of India? Porus, however, was only the head of one out of many tribes in this country of the Panje-ab; Abiffares, a powerful Chief, lay on the north; the Glaufæ, on the east; a fecond Porus, on the Hydraotes or Ravee; and the Kathæi lower to the fouth, between that river and the Hyphasis: adjacent to these,

17 Diedorus fays fifty thousand. Ibid.

²³ See supra; and the extraordinary reading in Pliny. Cominus for Co minus.

¹⁴ Doo-ab, two rivers or waters.

³⁵ Strabo says it contained three hundred eities! Lib. xv. 698.

¹⁶ Embisares; the Abissares of Arrian was to join him, but failed. Diodor. lib. xvii. p. 229.

Sopithes; with the Malli towards the mouth of the Hydraotes; and the Oxydracæ, at the angle between the Akefines and the Indus; besides the Abastani and Ossadii, for whom we can hardly find a scite.

Small as the territory of these several tribes must have been, the numbers recorded of those who submitted, who were slain or subdued, excites our incredulity at every ftep; and little remains but, after due allowance for exaggeration, to admit a population of the greatest magnitude possible.

Numbers to this extent, furpaffing those of Greece, and equalling those of China 18, depended, as far as we can judge, not upon that abominable practice of exposing children, legalifed '9 in both those countries; for this is a fystem that seems never to have entered into the conception of Indian legislators, civil or religious. Existence, however lightly prized by Indian principles20, appears to have multiplied faster by the mildness of government, security from oppression, and the encouragement of maxims political and moral, than by any of those infringements on the law of nature; and though perhaps

two hundred and forty millions by P. Mailla, and that of Japan by Kæmpfer and Thornberg, may make us indulgent to the extravagance of the Greeks. If the cities and towns of China fland as thick throughout the empire, as on the canals navigated by the English, from the Yellow River to Pekin, it does not appear how there can be space for agriculture to feed them. See Æneas Anderson. See also the accounts of the Jesuits in Du Halde. Lettres Edifiantes, &c. &c.

19 In Greece a parent was allowed to expose every child; in China every female, and every third male. The legislators feem to have re-

*8 The population of China calculated at moved the obstacles to marriage, by holding out an immunity from the burden of a family, and to have trusted to the affections of nature for rearing one. This policy appears to have answered in these two instances. But population is not to be purchased by outraging nature, however anxious all legislators may be to promote it .- I ask pardon, - not all. For the legislature of France has discovered that population may be too great, and has in confequence taken effectual measures to diminish it. The discovery is imputed to Mirabeau.

20 It is an Hindoo fentiment, that rest is better than action, fleep better than reft, and death best of all.

too much is always imputed to the purity of remote ages, and we value too highly fystems, the defects of which we can no longer difcover, it will not be thought unreasonable to attribute great effects to Indian policy and manners, and still greater to the fecurity of life and property: in ancient times at least, these were as complete in practice as the theory appears in the Gentoo code, or the inftitutes 21 of Akbar. To this it may be objected, that a tribe of military forms one part of the Hindoo fystem; and that war implies oppression. Against this, however, the same code provides a remedy. The produce of the field, the work of the artifan, the city without walls, and the defenceless village, are declared facred and inviolable 22. Those only who used the sword were to perish by the sword. I find in Bernier one instance of this Hindoo law reduced into practice by the Mahometan family still reigning; which occurred, when Aurungzebe was contending with his brothers for the empire. If I could have found in ancient history that the practice and the theory were in unifon, I should have thought it a sufficient ground to account for the wealth and population of the richest nation upon earth. To prevent war is impossible; but to strip it of its terrors by adopting something similar to this, as a law of nations ", is a fubject for the contemplation of the legislator, of the philosopher, and of every individual, moral or religious.

We no longer eat our conquered enemies, like the New Zealanders or native Americans; we do not murder them, like the Lacedæmonians; or reduce them to flavery, like the Romans. Increasing knowledge, mutual sears and conveniencies, morality and religion, have contributed to abolish these practices. What great refinement of speculation is there in carrying this system still farther?

The mode of letting the lands and fixing the tribute is one of the most curious ordinances in the Ayeen Akbari.

²² See also Arrian. Ind. p. 325.

This was a favourite idea of Dr. Franklin's, who obtained some articles of a similar tendency to be introduced into a treaty between America and Prussia. Unfortunately for the theory, they are two nations least likely of all others to try the effect practically.

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I have entered upon this discussion in order to vindicate the classical historians from the charge of falsehood, by accounting in some measure for the numerous tribes with which this country swarmed. Another cause of this may be found in the nature of the country itself; for the five streams which water it are navigable, during the fummer feafon at least, a thousand miles 24 from the mouth of the Indus; and the Chelum or Hydaspes is said to extend this navigation two hundred miles higher into Cashmeer, from which province there is a communication with Thibet, Boudtan, and Tartary.

The western sources connect with Candahar and Cabul; but as these are not our concern at present, it will be sufficient to notice that Lahore on the Ravee, the principal city of the Panje-ab, is the centre 25 of an immense commerce between that country and Dehli; and that one of the more eastern branches either did communicate 26, or was intended to communicate, by means of a canal, with one of the fources of the Ganges, and must have formed an inland navigation not exceeded perhaps by those of China. These circumstances are sufficient to prove the commercial spirit of the country; and, in confonance with this, Abu'l Fazil informs us, that forty "? thousand vessels were employed on the Indus, which, even in the decline of commerce, are faid by Captain Hamilton to be two hundred tons burden, and the most convenient he had feen for the accommodation of the paffenger and the merchant.

Ten degrees, by the opening of the two hundred above the mountains. compasses, from the mouth of the Indus to the fouthern mountains of Cashmeer. Rennell makes it, by the river, eight hundred miles to Moultan. By the fame estimate, we might reckon four hundred to Cashmeer, and tellifying the magnitude of this commerce.

²⁵ Previous to Nadir Shah.

²⁶ Rennell.

²⁷ Tavernier, Thevenot, Goez, Bernier, Tieffenthaler, Rennell, &c. &c. all unite in

If fuch has been the state of commerce ²⁸ under the empire of the Mahometans, it is but reasonable to assume a much more flourishing appearance of it in the early ages, while the Hindoo policy was in full vigour, uninterrupted by foreign intruders, and unremitting in its encouragement and protection of the people. The population is one proof of this, and the sleet collected by Alexander is another. The wealth ²⁹ he accumulated from his conquest is no where specified; but Maghmoud ³⁰ the Ghaznavide tyrant, the earliest Mahometan invader of whom we have an historical account, is represented as enriched with such an enormity ³¹ of plunder as to make the ravages of Timour and Nadir Shah appear moderate.

The revenue of all these provinces or soobahs, as settled by Akbar, is exhibited in the Ayeen Akbari; but large as they are, both essentially and relatively, they appear reasonable in comparison of the ancient accounts, whether Greek or Hindoo; and these accounts, though exaggerated, have doubtless some soundation in fact. All these provinces were overrun by the Macedonians, except Cash-

²⁸ This foobah is very populous, highly cultivated, and exceedingly healthy. Ayeen Akb. p. 32. vol. ii. The revenue is 559,458,423 dams, which, at forty dams to the rupee, is equal to 1,748,307 l. flerling, from a country about three hundred and forty miles long, and one hundred and fixty in breadth.

There is a passage in Q. Curtius and Athenæus which describes three hundred beasts in the train of Alexander laden with treasure, in which it appears as if the conqueror had carried with him the plunder of Persa out of mere oftentation. But if this affertion has any foundation, it ought to be the conveyance of the Indian treasures; a circumstance similar to the accounts of Nadir Shah. This fact, how-

ever, as supported by no historian of credit, is utterly dubious.

The scite of Ghazna has been determined only within these sew years by Mr. Forster. See Rennell's Mem. p. 114. And from its proximity to Paropamisus, the mountains of Candahar, his army probably consisted of Aghvans, the same tribe that put an end to the Dynasty of the Sess in Persia, so late as one thousand seven hundred and twenty. The commander of that invasion wrote his name also Maghmoud like the Gazzavide; it is probably the provincial dialect for Mehammed.

³¹ Maurice,

meer 32, the paradife of the Hindoos, confisting of a large valley in the northern mountains. But Lahore, Moultan, and Tatta 32, which form the modern soobahs, are the scene of those transactions we are now to enter upon. That we may display these in their proper light, and be enabled to follow the operations of the fleet, it is necessary first to shew the series of the rivers which Mr. d'Anville has mistaken 34, and which must be reduced to order before a clear view of the expedition can be obtained. In the performance of this service, I follow the authority of Mr. Rennell, not merely by retailing his Memoir, or commenting on his Map, but by shewing that our ancient authorities are consistent with truth.

PANJE-AB, OR PANJ-AB.

II. The five rivers of the Panje-ab, which fall into the Indus, are in their order commencing from the west, the Hydaspes, the Akesines, the Hydraotes, the Hyphasis, and the Saranges. Besides these, Arrian, from Megasthenes, brings the Sinarus into the Hydaspes, the Tootapus into the Akesines, and the Neudrus into the Saranges; but of these two last he professes to speak with diffidence, as they were not seen by the Macedonians; and the Sinarus and Tootapus are

32 Abiffares is supposed by M. Rennell to be the Chief of a tribe in the northern part of the Doo-ab of Jenhat, called Kakares. But there is nothing very repugnant in supposing him Chief of Cashmeer. He sent presents to Alexander, but never came in person. And if he dwelt beyond the mountains, that may be a reason why the conqueror did not invade his country.

The whole of this is mere conjecture I allow; but as the initial Ab intimates his territery to be on a river, by fearching for the etymology of Isfar, I am satisfied his residence would be discoverable.

- 33 Tatta was united with Moultan by Akbar.
- Persian map, the Ayeen Akbari, and Cherefeddin. Fraser, Hanway, and Jones's Nadir Shah will afford little affistance to an inquirer. Hanway is total error.
- 35 It is not quite evident whether into the Saranges or Akesines.

mentioned

mentioned no more. Of these five streams the Akesines is the principal, being joined by the Hydaspes on the west, and by the Hydraotes from the east, receiving also (as Arrian asserts) both the Hyphasis, Saranges, and Neudrus, from the east, before it falls into the Indus. Ptolemy causes no small confusion, both to his commentators, and to Mercator who has framed his maps, by giving the preference to the Hydaspes, and making the name of that river prevail over the others. But Arrian maintains the honour of the Akesines, afferting expressly, that all the others lose their name on uniting with him; and that he preserves this pre-eminence till he joins the Indus. This is the more probable, because the modern Chen-ab, his representative, claims the same privilege ³⁶ to the present day.

But if Ptolemy is mistaken in one particular, he is in harmony with Arrian and Strabo in giving the same series or succession; and Pliny, who drops the mention of some intermediate streams, has nothing contradictory to their order. In this respect, therefore, ancient geography is uniform; and if the moderns dissent, either from one another or from consistency, we must impute their mistake to that abundance of appellations which all these rivers severally obtain, either in different parts of their course, or from being mentioned by various names in various languages, Mogol, Tartar, Perfian, or Hindoo.

The Hydaspes is the first in order, corresponding with the modern Chelum, and slowing between the Indus on the west, and the Akesines on the east. The variety of names cannot be better exemplified than in this instance. Ptolemy will serve however, not less upon this occasion than on all the others, as the point of connection between:

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both fides, and shining himself like a luminary in the centre.

- Arrian, Strabo, Pliny, &c. &c. Hydaspes, Bidafpes, - Ptolemy. - Shanfkreet, according to the Ayeen Akbari. Bedusta, - Shanskreet, Tieffenthaler. Vetasta, Dindana, below the mountains of Cashmeer, Tieffenthaler. - Perfian or Mogol, Cheref-eddin. Chelum, Zalam, Forster, &c. Talam, Djalam, between Aurungabad and Rotas, Tieffenthaler. Zeloom, from an island so named in one part of its. Jamad, courfe, Tieffenthaler. Hindostan, Ayeen Akbari. Behut,

Such is the catalogue, confifting of twelve "names for a fingle stream, and sufficient to account for any error in consequence of their variety; but Zeloom, Zalam, Jalam, Djalam, Chelum, are the same sound confused by the Persian Dj. Dindana is a name in one part of its course, and Jamad in another. Behut is the appellation

differens auteurs, ou ecrivains, où il est mention de ces rivieres, a de quoi étonner, et n'est pas une médiocre embarras pour quiconque veut debrouiller cette matiere. Differens noms à la même riviere ont contribué à y mettre de la confusion. Eclaircissemens fur la Carte de l'Inde, p. 28.

See in consequence, the error of this great geographer. In the same page he says, the Shantrou succeeds the Tchen-av; and afterwards, the lower part of the Shantrou bears the name of Jamad, from an isle of that name in the river. Now in reality the Shantrou and Tchen av are the same, and Jamad the isle is in the Hydaspes, or Chelum. used by the Mogols; evidently connected 38 with the Bedusta or Vetusta of the Shanskreet, the Bidaspes or Hydaspes of the Greeks, all dependent on the relation between the vowels A and U in Oriental orthography, or on the connection of the consonants B and V with the aspirate.

This stream is made the Indus of Arrian by d'Anville ¹⁹, and vitiates his whole series in consequence. But it is too clearly defined by the Ayeen Akbari to admit of any future error. According to that register it rises in Cashmeer, and is navigable by vessels of two hundred tons quite up to Syrin-nagar, the capital of that province. Where Arrian would bring his Sinarus into this stream, whether from the east or west, whether within the limits ⁴⁰ of Cashmeer, or below the mountains, is undiscoverable; but his authority is from Megasthenes, and not from the Macedonians. Neither knew any thing of Cashmeer; and yet in Sinarus I think that I trace some relation to the Syrin-nagar ⁴¹ river, as it is called, within the limits of that province. However this may be, the river, after passing the mountains and descending to the Pergunnah of Shoor, joins the Akesines or Chen-ab, and twenty cose ⁴² lower receives the Ravee, or Hydraotes,

38 All founds received by the ear, and committed to writing, differ. What is more apparently different than the French Taiti and the English Otaheite? Compare them, and the resemblance is clear. Ta-ec-tee, o-Ta-hee-tee.

39 And carried into the Attock, which is the real Indus, without joining the Akefines. See his Map, Afie, 1. Partie. et Antiq. Geograph

40 It should rather seem below the mountains; for he says in Oxydracis, Outche. But there is no river there but such as we are acquainted with.

Nagar, nagur, nagoor, is a general ter-

mination, like poor, patam, &c. as Chandernagur. Syrin-nagar is therefore the town, fort, or city, on the Syrin.

Syrin and Sinar, Sinar-us, approximate fufficiently; and why not Abiffinarus for Abif-fares?

42 The principle of the cofe is found in the Ayeen Akbari, vol. ii. p. 213. The breadth of eight barley-corns busked

makes — 1 inch.

24 inches — 1 cubit or duft.

4 dufts — 1 dund.

1000 dunds — 1 cofe.

4 cofe — 1 jowjun.

But-

draotes, at Zufferabad; when the three streams united, after a farther course of fixty cose, form a junction with the Indus at Outche, the Oxydracæ of the Macedonians. This is the account of the Ayeen Akbari, differing indeed from Arrian, as will appear when we come to mention the Akesines. From the same authority we learn, that the Doo-ab, or tract between the Indus and Hydaspes, is styled Sind-sagur by the Mogols; and its breadth is estimated at fixty cose, or an hundred and sourteen miles. The medium of this breadth is, as far as I can discover, taken at the point where the road crosses the Doo-ab, and as such, is to be estimated in the accounts that follow. The whole breadth of the Panje-ab, including all the Doo-abs from the Indus to the Satludj, is given at an hundred and eighty cose, or about three hundred and sifty in miles; the specific measures make the cose an hundred and eighty-sive.

Cheref-eddin's account does not differ "much from the Ayeen Akbari; for he mentions, that the Chelum rifes from the fountain Vir, or Syrin-nagar, and after passing the mountains, takes the name of Dindana "and Jamad. It then passes into the Genave, and above Moultan both join the Ravee, which passes a second Moultan.

But the cose varies in India, as the mile or league in Europe. The royal cose is the shortest, and the standard for military menfuration. Tiessenthaler reckons thirty-two cose to a degree; and Rennell, p. 5, values a cose at one mile and nine-tenths, i. e. one hundred cose is equal to one hundred and ninety miles. Tiessenthaler, who wrote in Latin, styled these milliaria. The cose is probably a very ancient measure, and, according to Strabo, marked as the miles were on the Roman roads. See d'Anville Mes. Itiner.

and the term x0002161. I doubt, however, whether it is Hindoo. See a curious treatife on Indian measures. Lettres Edif. tom. xv. 173, et feqq. If I could find any Shanskreet account of a measure equivalent to Arrian's stadium, I should conclude he had used the stadium, as Tiessenthaler adopts the mile.

43 Ayeen Akbari. Tiesienthaler.

44 Only in respect to the Biah.
45 That the Dindana and Chelum are the same appears, vol. iii. p. 156. Cheref-eddin.

The united stream is afterwards joined by the Biah, and the whole body falls into the Indus at Outche. The mention of two Moultans accords with our knowledge of the ancient Malli and modern Moultan; and it is remarkable that Cheref-eddin 46 should agree with Arrian in making the Hyphasis or Biah join the Chen-ab before that river joins the Indus.

The fecond river is the

Akefines of - - Arrian, Strabo, Pliny, Q. Curtius, &c.

Chen-ab, - - Hindostan, Ayeen Akbari.

Jen-aub, - Perfian, Rennell.

Gen-ave, - - Cheref-eddin.

Tchen-av, - - d'Anville.

Tchan-dar-Bargar, - Shanskreet, Tieffenthaler.

Chun-der-Bahka, - Shanskreet, Ayeen Akbari.

San-da-Bala, - Ptolemy.

Shan-trou, - - Bernier, d'Anville.

The mere inspection of these ten names will shew the relation of them severally, as connected by the syllable Tchen, except the Akesines; and I cannot help thinking but that it is an error of the ear, or owing to a desire of mollisying a barbarous sound, that the Greeks wrote Ake-sin-es for A-chen-ises, or ⁴⁷ A-cesin-es for Ab-tchen-es. I find a tribe on this river, mentioned by Justin ⁴⁸, styled Hia-cen-sanas, in which the prevailing syllable is preserved;

that the Greeks have no Ch in their lan- 48 Lib. xii. c. 9.

⁴⁶ See Cheref-eddin. vol. iii. p. 161. guage, is as near as they could approach to the
47 Kein for Ctchen or Djen, confidering found.

and the initial letter, coming to us through the medium of the Perfian Di, causes all the variety exhibited in Djen, Djan, Tschan 49, Tschen, Chan, Chen, Chin, Jen, Gen, Tchun 5°, Chun, Shan, San. It is to the credit of Ptolemy that he preserves this found; and whether we take his San-dab-ala from San-ab, or Chan-ab, or the whole Sanda-bala from Chanda-bahka, the correspondence with the Shanfkreet is equally visible. The Ayeen Akbari " afferts, that Chunder and Bahka are two streams which issue from the same mountain in the range called Cutwar or Kishtewar, which unite their waters and their names, and in the latter of thefe, I conclude, we are to look for the Tootapus 32 of Arrian, which, from the authority of Megasthenes, he brings into the Akesines at an early part of his course.

The Akefines is confessed, both by ancients and moderns, to be the principal of the Panje-ab streams, and his reception of the Hy-

49 There is a term Dsjienk, which occurs under a variety of forms as an adjunct to rivers in Mekran and Sufiana. (See Cherefeddin, vol. ii. Jub fine. Otter, vol. i. p. 409.) From what language derived I know not; but from its frequent recurrence, it afforedly fignifies a river or water. Whether Tichen, Chen, &c. are related to this found, which is expressed Kienk, Chienk, Dienk, Denke, &c. I dare not pronounce, but I suspect a relationship between the two; and if this should admit of proof, Tschen is the river, in some ancient dialect, with the addition of the Perfian Ab, which fignifies the fame. Tschen-ab is therefore only River, River. It is an hypothefis of many etymologists, that all names of rivers are in some original language expressive the Latin orthography of the Greek diphthong, of water. (See Whitaker's Hift. of Manchefter) And if so, Tichen ab is perfectly etymology. Tootapus is Toot-ab.

fimilar to our own usage, when we say the river Dee, or the river Avon, for both by interpretation are, River, River. On this ground it might be argued, that Ab-Tichen and Tichenab are equivalent; and that Arrian's Akefines is only Ab-Kefin, Ab-Kefn, Ab-Chen, that is, Chen-ab reversed. I do not infift on this, as I tread on Oriental ground with hefitation; but I state it as a problem for resolution, by those who are better versed in Eastern learn-

50 The Persians generally pronounce a, before m or n, like u. Frazer, Nadir Shah, p. 72.

51 Tieffenthaler, Rennell.

52 I assume this form, rather than follow in hopes of obtaining more readily an Oriental daspes or Chelum from the west, with the Hydraotes or Ravee from the east, is confirmed by all. Whether he receives the Biah and Satludi alfo, or whether they join the Indus without communicating with the Akefines, is still a geographical problem. Arrian " every where afferts, that the Hyphafis, Saranges, and Neudrus, that is, the Biah, Satludj, and Caul, join the Akefines, either by themselves or by the intervention of the Hydraotes. the Ayeen Akbari brings them independently '4 into the Indus, confiderably below Moultan; and this is the authority of M. Rennell ". Tieffenthaler, if I understand him right, is not confistent with himself; for in one place 16 he agrees with Rennell and the Ayeen Akbari, in another he makes the Biah and the Satludj join the Ravee. M. Rennell is justified in preferring the authority of the Ayeen Akbari to Arrian, as Arrian confesses himself that, beyond the Hyphasis or Biah, he has no politive " evidence to rely on, and he does not follow his Macedonian guides, but Megasthenes 58. Mr. de la Rochette has adhered to d'Anville in this particular, and, in the difpofition of Ayjodin with the parts adjacent, accords better with Cheref-eddin's march of Timour, than any other arrangement I have feen. It is extraordinary that d'Anville, who is more likely to err on the fide of etymology than by a neglect of it, should not

⁵³ PP. 236. 240. 249. 252. Lib. vi. p. 238. et feq.

⁵⁴ Rather by implication than directly. See vol. ii. p. 136.

⁵⁶ Vol. i. p. 118, compared with p. 115.

⁵⁷ P. 316.

⁵⁸ Megasthenes was fent into India by Seleucus, and reached the court of Sandracota. I am misled by etymology, or I discover the name of a city, and a prince denominated from 55 Probably with the addition of his Persian that city, in Sandracota. It appears to me to be only Santrou Cotta, the town or city on the Shantrou.

have observed that Shan-trou 's rested upon the same root as Shan-ab, his own Tchen-av; but I have mentioned this error too often.

The prerogative of this river, in preferving its name till it joins the Indus, has been already noticed; and Arrian adds, that it is the only stream of the Panje-ab not fordable at any season of the year, which all the others are, after the cellation of the rains. The province, or doo-ab, between the Hydaspes or Chelum and this stream, is called Jenhut 60, and its breadth is estimated only at twenty cose, or about fix-and-thirty miles; although we are here to look for the kingdom of Porus, and a population which could produce an army of forty thousand men. Extravagant as this may appear, it is confirmed by the Ayeen Akbari; for in an age when we have supposed the population to be diminished, Abu'l Fazil asserts, that the quota of troops for Jenhut is three thousand seven hundred and thirty horse, forty-four thousand two hundred foot, with a revenue of 203,164 l. sterling.

The third river is

The Hydraotes of — Arrian.

Hyarotes, - Strabo, Q. Curtius.

Iyrawutti '', - Shanskreet, Ayeen Akbari.

Ivaratti '', - Shanskreet, Tieffenthaler.

Rhuadis, - Ptolemy.

Adris, Adaris, — Commentators of Ptolemy.

Ravi, Ravee, — Persian, or Hindostan.

are all Mogol diffinctions, afligned by Akbar.

From

⁵⁹ I have not met with the name Shantrou except in Bernier and d'Anville; but I have no doubt of its being a native corruption from Chander-ab, Chander-av, Shandrav, Shantrav, Shantrow.

⁶⁰ Ayeen Akbari, p. 132. These names

or the transposition of the syllables in proper names, so often appealed to in this work, cannot be better exemplified than in these two words, both being professedly from the Shanskreet.

From this catalogue it is apparent that the termination Ravatti, Rawatti, or Rawutti, furnishes the Rhuadis of Ptolemy, and the Ravee of the moderns, as Iyrawutti is the Hyarotes of Strabo, and the Hydraotes of Arrian. It is better known at prefent as the river of Lahore, which renders the error of d'Anville more extraordinary, in placing Lahore " on the Akefines, a city of almost equal celebrity with Dehli itself. The roads from Cabul, Candahar, Attock, and Moultan, all unite at Lahore, as a centre between each of them respectively and the capital: and the celebrated avenue extending upwards of three hundred miles from this city to Dehli, which exifts perhaps no longer except in the page of history, befpeaks not merely a communication, but the importance of the intercourse, and the numbers, as much as the luxury, of those who travelled by this route. The communication on the west from Nicæa to this city, explored by Alexander, is probably still open. For though the road from Attock paffes63 at present through Rotas in a more northerly line, as I shall hereafter shew the relation between Jamad and Nicæa, a fovereignty at that island, whether tributary or independent, would naturally open a road from thence to a capital like Lahore; and a line from Attock drawn through Jamad being more direct than through Rotas, it is not impossible that it was the more early means of intercourfe. That Alexander really reached Lahore, and that it existed in his time, there is some degree of proof; for the name written at an early period Lehauer 64, was still more anciently Lackonore and Lo-pore; and Onore 65, Pore, being terminations ex-

⁶² See the Map prefixed to the Antiquité Geographique des Indes; but by his Map 64 Ayeen Akbari. Tieffenthaler, vol. i. of Asie, primiere partie, it is evident he p. 102.

⁶³ Rennell.

fuppofes the Akefines to be the modern Ra- 63 Onoor, Can onoor, Melia poor, Nurferpoor, &c. &c.

preffive of a city or fortress, will afford a reason why Alexander found one Por-us on the Hydaspes, and a second on the Hydraotes, both deriving their name from their government, as Taxiles from Taxila, and both lofing their native diffinction by an omiffion of the Greeks. In Lo-pore therefore, the original name of Lahore, there is some ground for conjecture that we have the city of the fecond Porus; and the antiquity of this place is confirmed by a remark of Tieffenthaler's, that one of its twelve gates is still called Taxili; he fays it is on the west; and doubtless the road passing through it led to the Taxila of the Macedonians, as the Cabul and Dehli gates lead to those cities. Bernier came from Dehli to this city in the fuite of an Omra attendant upon Aurungzebe, and had he been as curious in collecting historical and geographical matter as his knowledge of the Persian language qualified him to be, much information might have been derived from him; but his page is filled with accounts of Mogol grandeur, and the only material circumstance he relates of Lahore is, its decline in consequence of the Ravee having changed its courfe, and now running at fome miles distance; a fact confirmed by Tavernier, and perhaps not unufual with rivers 66 that overflow with periodical rains. Tieffenthaler mentions a canal which has fince been cut from the river to the city, but whether it has in confequence recovered its fplendour is very dubious. It was still a place of importance in Nadir Shah's time, but betrayed into his hands; and is now in possession of the Siks 67,

66 The Indus itself, below Moultan, ex- worship of one God. Their sect is numerous; union, and renders their efforts weak and de-

hibits the fame phænomenon almost every but the doctrine of equality prevents their year. See infra.

⁶⁷ The Siks equally difown Brahma and fultory. Mr. Haftings. Mahomet. They profess equality and the

the deifts and democrats of Hindostan in the present age. Cheref-eddin, whose geography is correct, wherever he attends Timour, is mistaken in confounding the Biah and the Ravee, an error which I could not be convinced he had committed till I found that he placed Lahore 68 upon the Biah. The Ravee, according to Bernier, is as wide as the Loire, but this depends upon the season when it is seen; the vessels, however, built upon it at Lahore are large, and fit for the season, not indeed from their manner of building, but their bulk and capacity.

The province between the Chen-ab and the Ravee is called Retchna, and is thirty cose in breadth.

The fourth river is the

Hyphafis of - Arrian.

Hypafis, - Pliny, lib. vi. 17.

Hypanis, - Strabo, lib. xv.

Beascha, - Shanskreet, Tieffenthaler.

Beypasha, - - Shanskreet, Ayeen Akbari.

Bibafis, or Bipafis, — Ptolemy.

Beah, Bea, Beand, Biah, - Persian or Hindostan.

The Bipasis of Ptolemy is, upon this occasion, once more the centre of relation between the Beypasha of the Shanskreet and the Hyphasis of the Macedonians, who constantly fix the limits of their expedition at this stream. The error of Mr. d'Anville, who makes this stream the last of his series, has unfortunately betrayed Ber-

⁶⁸ Vol. iii. p. 154. French edition. Timour was not at Lahore himself; he passed into India on the south, and returned on

the north of it; but he plundered it by his lieutenants, ibid.

⁶⁹ Ayeen Akbari, vol. i. p. 191.

nouilli, Tieffenthaler, and de la Rochette, into the adoption of his fystem. This is the more extraordinary, as they all acknowledge the Setledi; and yet could not discover that the fourth stream, whatever it should prove to be, must be the boundary of the expedition.

This river " rifes in the Pergunnah of Shoor, from that part of the northern range called Keloo, and joins the Setledj or Satludj, near Feerouzpoor. Below the junction, the stream is divided again near Ayjodin into four branches called Har, Haray, Doond, and Noorny. These four unite once more as they approach Moultan, and, according to Rennell, fall into the Indus about fifty miles below that city. Arrian, as has been already noticed, brings them into the Chen-ab or Akefines, whose authority is followed by de la Rochette. What modern confirmation of this he has found I do not discover, except Cheref-eddin72, whose evidence indeed is direct; for the Ayeen Akbari, though it feems by implication to favour Rennell's opinion, fails of precision at the very moment it is most wanted. Between the Ravee and this river, Alexander fubdued the Kathæi, but in a position lower down than the course of the road from Lahore, as I collect from Strabo's confounding of the Kathæi "

70 Tieffent. vol. i. p. 53; but contradicts Moultan, they receive the Ravee, which paffes by a fecond Moultan. Ensuite le fleuve Biah les joint, et tous auprès de la ville d'Outcha fe jettant dans le grand sleuve Indus nommé Abfend, i.e. Ab-fend, fleuve Send, ou

> Cheref eddin plainly marks two Moultans here. Is it a fluctuation between the province and the city? or are we to suppose there were different heads of the diffrict like the towns of the Malli in the time of Alexander?

himself, p. 55.

⁷¹ Ayeen Akbari, vol. ii. p. 136.

⁷² The evidence of Cheref-eddin would be perfect if Timour had been on the fpot, or if the author himself had not confounded the Ravee with the Biah. But from his mention of both in this place, as an evidence of report, it is flill very flrong. The river of Cashmeer, he fays, takes various names, as the Dindana and Jamad, and joins the Gen-ave (Chen-ab) above Moultan. When they have passed

⁷³ Kabaros. Kathai.

with Sopithes, who was evidently near the junction of the rivers, wherever that may hereafter be placed.

Here the troops refused to proceed any farther; while Alexander, who had obtained intelligence of a powerful kingdom on the Ganges, fufficiently correspondent with the different seats of modern empire, was still unfatiated with conquest. The mutiny, however, was the disobedience of Macedonians, grief and fullen refusal, without turbulence; and the concessions of the king to their requests evince, that his difcretion was as indubitable as his valour. Here, therefore, he built his altars at the limit of his progress, and hence he returned back to the Hydaspes, on which he was to embark with his troops, and to explore the Indus to its iffue.

Mr. de la Rochette has placed these altars on the Setledi, and at the point where the road from Lahore to Dehli croffes that river; but they were on the Biah, not the Setledi, and lower down than that road, if the polition of the Kathæi is right.

The province between the Ravee and the Biah is called Bari, and is only feventeen cofe in breadth. The number of troops, which is above an hundred and fixty thousand 74, with the magnitude of the revenue, bespeak a population capable of producing the resistance Alexander 75 experienced in this country. Here was the termination of his conquests, and I am not called upon to proceed farther; but as there is only one river remaining to complete the feries, it will not be unacceptable to the reader to see the connection of the whole.

⁷⁴ Ayeen Akbari.

gala, the capital, and upwards of feventy confiderable. thousand were taken in the city. Ar, 227,

⁷⁵ Ayeen Akbari.

16 Iib. v. The breadth of this Doo-ab is meafured by the road, but the province itself is

The fifth river is the

Saranga, or Saranges, of Arrian. Pliny. Hefudrus, Zadadrus, Zaradrus, , Zardrus, — Ptolemy. Schatooder, Shetooder, Shanskreet. Ayeen Akbari. Satludi, Setlooge, Tieffenthaler. Satluz, Setlej, Setledge, Rennell. Perfian. Hindoftan. Setelui

In the Shetooder of the Shanskreet we find the Hesoodrus of Pliny, and in the Satludj or Satluz, the Zardrus of Ptolemy. Anquetil du Perron informs us, that Zardluz is the proper orthography of this name in Persian, and that this word written in Greek characters would be necessarily Zardrus. The fource of this stream is far to the north-east, in the mountains of Ghaloor; descending from which, it runs to Feerouzpoor, where it receives the Biah. and with that falls either into the Chen-ab or into the Indus itself. as already noticed. Arrian mentions a river called Neudrus, which joins the Saranges", but without any attributes to enable us to discover what it is. It may be the Caul, which, according to de la Rochette, is derived from the Setledj, and falls into it again; or, according to others, has a separate source, and joins the Setledj from the north-east. As Arrian professes his doubt of every thing beyond the Hyphasis, and we are not concerned in reality with the Setledi at all, it is not necessary to purfue the inquiry. I shall only add,

⁷⁶ Here is another transposition of the syllables. 77 Perhaps rather into the Ravee.

that Ptolemy joins the Zardrus with the Bipafis, that is, the Setledi with the Biah, and brings their united ftream, not into the Indus, but the Chen-ab 78.

The province between the Biah and Setledj is styled Beyt Jalindhar, in breadth fifty cofe.

Such is the detail of the five rivers; and when the Ayeen Akbari calls them fix, either in the province of Lahore or Moultan, it always includes the Indus, without any respect to the Setledi, as confifting of two streams. It will be of some importance to geography, by this enumeration of names, to prevent future mistakes; not that I apprehend I have completed the catalogue, for it is probable that future travellers, in croffing this country in different latitudes, may collect many more local appellations, but an outline is drawn which may be filled up as future discovery shall afford the means. No confequence, indeed, will attach to this fecondary object; but it is a matter of curiofity, at least, to connect the Macedonian appellations, disfigured as they are, with the native names of rivers, and to give a specimen of what may be pursued to advantage by those who are proficients in Oriental learning.

But after conducting these five streams individually into the Indus, fome general observations are necessary to complete our purpose. The sources of all the streams which fall into the main channel of the Indus are to the fouth of that great ridge called Hindoo Khoo, which separates Tartary from Hindostan; the Indus itself, according to Major Rennell and the Ayeen Akbari, cuts that chain 79, like the Ganges and Burhampooter: its ultimate fource is

⁷⁸ This will not appear either in Ptolemy or the Hydaspes, and not the Chen-ab, or Ake-Mercator's Map, because he makes the Hy- fines. daspes prevail over the Akesines, and there- 79 Arrian afferts the contrary. Lib. v. fore the stream he brings them into is called p. 199.

still unknown. The chain of mountains coming from Candahar, the Paropamifus of the ancients, and the feat of the modern Agwhans or Afghans, takes a fweep to the north as far as Cabul, and furnishes those streams which fall into the Indus from the west. If this chain is cut by the Indus, it towers again on the eastern fide of that river, and, dividing itself to encircle Cashmeer, emits the Chelum or Hydaspes from its northern ridge, while its southern chain fends forth the Akefines, Hydraotes, and Hyphafis. The mountains which cover Cashmeer on the east appear to branch again into two ridges, called by Cheref-eddin Tchamou, and by the moderns Jummoo, between which the route of Timour lies in his return so from Dehli, and within which, it is probable, the fources of the Setledi will be found of the sage lasol grow waste follos vien sebut

The rains which fall in these mountains swell all the rivers which join the Indus from the west, or from the east, about the summer folftice "; and from this circumftance both Alexander and Timour, who planned a fummer campaign, experienced all the inconveniences of winter. The limits of these rains may be fixed at Moultan; and from Moultan, the Indus, like the Nile, flows towards the fea through a country rarely refreshed by the genial shower or nutritious dew, and condemned to everlafting flerility "2, except a narrow margin which is moistened by the stream.

This is the reason that on his return we find him at the Genave, (Chen-ab,) without notice of the more eastern Panje- ab rivers.

[&]quot;The rains cease in October, and a cold north wind blows five or fix months. Bernier. No rain in Scindi. See Strabo, lib. xv. p. 691, Arcturus (autumn).

⁸² The country on both fides the Indus is hardly capable of cultivation at any distance from the stream. On the stream itself we find pastures and herdsmen; but beyond these pastures, on the eastern side, is a desert terminated by the Sand mountains, the refidence of who fays, the rains in the higher country begin the Ashambetees or Jams. On the western early in spring, and last till the setting of side, another desert extending to the range of : rocks inhabited by the Belootches.

In conducting the navigation of the fleet through this defert tract, it is difficult to find a fituation for the tribes which Alexander found to conquer. Some fcattered lights are to be collected from the Ayeen Akbari, d'Anville, and Rennell; but unless we can suppose a better government and greater industry to have produced a superior population, to that which modern accounts will justify, the conquest so must have been of small importance to the conqueror.

If I could hope for health and leifure to attend this conqueror through his feveral campaigns, I am perfuaded that the geographical accuracy of Arrian, whenever he follows Ptolemy and Aristobulus, is as demonstrable to the westward of the Indus, as towards the east; but with that at present we are not concerned. My intention has been to prove, that the series of rivers in the Panje-ab is the same in Arrian, Ptolemy, and the Ayeen Akbari, and that the names preserved in Ptolemy are all correspondent to the Shanskreet. This is what the demonstration required, at a period when the Shanskreet was the native language, unmixed by foreign communication, and uncorrupted by Greek, Tartar, or Persian invaders. I conclude, therefore, that the following enumeration is verified:

Arrian.	Ptolemy.	Shanskreet.
Hydaspes,	Bidafpes,	Bidasta, or Bedusta,
A-kefin-es,	Sandabala,	Chandar-Bahka,
Hydraotes,	Rhuadis,	Iyrawutti,
Hyphafis,	Bipafis,	Beypasha,
Saranges,	Zadadrus,	Shatooder, or Satludj.

Behker and Sewee only occur in this tract. Their relative value is confidered hereafter.

NIKAIA, OR NICÆA.

III. AFTER establishing the feveral rivers with their mutual connection and relation, let us return to the Hydafpes or Chelum, to fearch for the position of Nicæa. The discovery is not difficult; for though the present road from Attock to Lahore crosses the Chelum at Rotas, and it would have been agreeable to the plan already laid down to have conducted Alexander by this route, we are directed by Arrian with fo much precision to another point, that we can hardly be mistaken. On a bend of the Hydaspes, he says, there is an island furrounded by the river, with a fecond branch, or artificial canal, on the eaftern fide. Below the fouthern point of this island, and the reunion of the river, Porus had drawn up his forces on the eaftern fide; Alexander, leaving Craterus with a confiderable body of forces opposed to Porus, marched in the night to effect a paffage, under cover of this ifland, to the opposite shore. He embarked himself in a galley, and conveyed his troops in boats brought over land from the Indus. He had fcarcely difembarked them, when he found himself encircled by another channel, which, being fwelled by the folftitial rains, he forded with great difficulty; then, turning to his right, he followed the course of the stream, and, after defeating the fon of Porus, advanced to the fpot where the king himfelf had drawn up his forces opposite to Craterus. the battle was fought, and here must be the scite of Nicæa 34.

concludes that Alexander paffed the Chelum at Rotas; but in the accompanying map places Nicæa lower down 28 miles. Jamad, by de la Rochette, 60 miles. by Rennell's first Map, 65 miles. by Rennell's fecond Map, 28 miles.

Arrian fays, Alexander marched one hundred and fifty stadia from his camp to the

84 Major Rennell, in his Memoir, p. 93, island; by a rude calculation I make it nine miles. As the stadium of Arrian has already been made to appear very indefinite, I can only fay it is not here the fladium of eight to a mile; for if it were, Alexander must have marched twice 18 miles, transported an army across a river, and fought two battles, in the fpace of about eighteen or twenty hours.

The distance from his camp on the western side of the river to the head of the island is given by Arrian, and may be estimated at nine miles. If, therefore, we can find an island in modern geography which will correspond with this of Arrian, we have a precise point given, and have only to fix Nicæa at the requifite diffance below. Such an island is found, and situated on a bend of the Chelum or Hydaspes, about twenty-eight miles below Rotas, and in a more direct line between Attock and Lahore than Rotas itself. The road probably passed at this place in earlier times, and has been diverted to Rotas only because the island afforded a strong post, which in India is always a fource of exaction. This island is called Jamad by de la Rochette, and by Major Rennell in his fecond Map; in his first Map it contains a fort named Shah Buldien's Fort, equivalent, I conclude, to Cheref-eddin's \$5 Chehabeddin. It is remarkable that Chehabeddin 66 should oppose the progress of Timour, at the distance of fixteen centuries, almost in the very spot where Porus had encountered Alexander. From the refistance of Chehabeddin, it may be prefumed that the island has the advantage of high ground and woods, as described by Arrian; and that it was a place of importance so in Timour's time cannot be doubted; for the river, in this part of its course at least, took the name of Jamad, and if there was a road to it from Attock, there confequently was another from this fort to Lahore.

⁸⁵ Vol. hi. p. 48. French edition.

²⁶ Chehabeddin Mobarec etoit prince d'une îsle de la riviere de Jamad. Il avoit un grand nombre de domestiques et d'officiers, et il etoit puissant en bien et en meubles. Cherefeddin, tom. iii. p. 48.

To this the translator, Petis de la Croix,

subjoins a note.

Jamad. Riviere pres de l'Indas. C'est la fuite de la riviere de Dendana, qui vient de Cachmir.

⁸⁷ And p. 49. Se confiant à la force de fon îsle, qu'il croyoit inaccessible.

Nicæa being the point at which the voyage commences, I shall settle the longitude and latitude of this place by Mr. Gosselin's method of correcting Ptolemy; and as it is one object of this work to reconcile ancient geography with modern, the system of Mr. Gosselin is worthy of consideration.

His fystem I am not bound to adopt in all its parts, neither do I believe that the geography of Eratosthenes was founded, as he afferts, upon an earlier and better hypothesis, whether Chaldean, Egyptian, or Greek. I have much hesitation also in acceding to M. Gosselin's opinion, that a stadium is the seven hundredth part of a degree of a great circle, for I reckon it much nearer to a six hundredth part, and that on the authority of Mr. d'Anville.

The Olympic stadium is usually estimated at six hundred * Greek feet, and the Greek foot is very nearly equal to the English. Eight of these stadia are reckoned equivalent to a Roman mile, and there are nearly nine in a mile English. But as my authorities are French, the calculation will be more easily stated in toises than English measures. The French toise, however, being six feet, and the foot French to the foot English nearly as sixteen to sisteen, the reduction may be easily made by any one who wishes to compare it with the

D'Anville never values this one-third of Polybius in his calculation.

600 feet = 942 French toifes.

but the mile English, according to d'Anville, is eight hundred and twenty-six toises, so that nine Olympic stadia are equal to a mile English, and twenty-sour one-half toises over.

This, however, is faid to be the estima-

and twenty-five. D'Anville Mesures Itin. p. 70. See Blair's Geog. p. 67.

^{9°} Eight one-third according to Polybius, Strabo, p. 322; in which there must be some error, or something not understood.

English mile. Let us observe next, that d'Anville reckons seventyfive miles Roman as equal to a degree of a great circle, and then let us inquire whether five hundred, six hundred, or seven hundred stadia correspond best with this estimate of a degree.

The Roman mile of 75 to a degree produces 56,700 toiles.

The stadium of	500	estatu l la la la t	47,250
ftadium of	600	0 8 01 - 100	56,700
stadium of	700	a sargi li a au bi	66,150

Hence it appears, that the computation by fix hundred stadia to a degree contains exactly the same number of toises as the estimate by the Roman mile, which in fact it ought to do. Why, therefore, Mr. Gosselin assumes the stadium of seven hundred to a degree, in order to correct the longitudes of Ptolemy, does not appear.

His fystem is this, that the chart of Eratosthenes was upon a plain ", in which his principal parallel passed through Rhodes; but the chart of Ptolemy was upon a sphere, and as he reckoned sive hundred stadia equal to a degree of a great circle, he allowed four hundred to a degree on the parallel of Rhodes. But Mr. Gosselin says, that Ptolemy ought to have allowed sive hundred stadia to a degree on the parallel of Rhodes (for that was the estimation of Eratosthenes himself), and to have taken seven hundred stadia to a degree at the equator.

The method Mr. Gosselin takes in consequence of this, to correct the longitudes of Ptolemy, is, to multiply the longitude by five hundred, and divide the produce by seven hundred, in order to reduce stadia of five hundred in a degree to those of seven hundred. The success of

Mr. Dalrymple approves of plain, or diminution of the degree of longitude in pro-Mercator's charts, and the rule given for calculating the true longitude according to the

this experiment is extraordinary; and having explained the principle it it is founded on, I must leave the defence of it to Mr. Gosselin himfelf. This is, hovewer, the mode of calculation in regulating the longitude of the principal places, adopted in the following pages.

It is well known that the latitudes of Ptolemy are more correct than his longitudes; and this arose, according to Mr. Gosselin, from his taking feven hundred stadia to a degree of latitude, while he assumed only five hundred to a degree of longitude. It is not requisite for me to enter into this question, or to inform the reader that a degree of every great circle is equal; but another difficulty I had to encounter, which was to obtain an accurate statement of the difference of longitude between the Fortunate Islands, or Ferro, (which is the first meridian of Ptolemy,) and the meridian of Greenwich or Paris, on which most of the charts I was concerned with were founded. I referred this question to Mr. de la Rochette ". whose knowledge of the science qualifies him to solve problems of much greater intricacy, and his folution I have printed in the Appendix 93. The refult of it is this, that Ptolemy makes the difference of longitude between Ferro and London twenty degrees, while the real difference, according to Maskeline's Tables, is 17° 40' 13". This is confequently the allowance to be made; and instead of 3° 30', which Ptolemy gives between London and Paris, the real difference is, 2° 25' 37".

With these preparations before me, I make the first experiment upon Nicæa on the Hydaspes, that is, the isle of Jamad in the Chelum, from whence I take the first departure of the fleet.

53 See Appendix, No. II.

variety of maps published by Faden; particu- I would have obtained for this work if I had larly two, one of India and one of the Pro- dared to venture on the purchase. pontis, which place him high in the rank of modern geographers. He has composed also

⁹² Mr. de la Rochette is the author of a a map for the conquests of Alexander, which

Ptolemy has not Nicæa in his feries, but Bucephala only 94; as Bucephala, however, is supposed to have been on the opposite side of the river, the difference is inconfiderable.

Longitude of Jamad, by Major Rennell, 71° 50' east of Greenwich.

Longitude of Ferro, - -17° 40' west.

True difference of longitude between ? Jamad and Ferro,

Longitude by Ptolemy, -125° 30′ 0″

Mr. Goffelin's method of correction follows:

Longitude of Ptolemy, 125

500 stadia.

62500 250

Stadia, 700 | 62750 | 89 00 1 1 d somi gao l

5600

and corrected by W 6750 lin's method,

6300

450

Latitude by de la K

700 | 27000 | 38

therefore, vol.2 the departure of the fleet on the

twenty-third of October, in the year three hundred and twenty-

Theoofews of Alexander in preparing the thet and ondertaking the 990 gation have been fufficiently noticed

aiready; .

400 reducible to feconds.

94 See Cellarius, tom. ii. 529.

02

This

This process I have thought would not be unacceptable, as I have frequently stood in need of similar assistance myself; and upon my submitting it to Mr. Wales, seeing that 89° 38' was only eight minutes more than the true difference of longitude, his observation was, "That Mr. Gosselin's method of correction succeeded wonder-"fully in this instance; but that he did not immediately recollect whether Ptolemy had any where said, that he assumed sive hun-"dred stadia for a degree of a great circle." For this I have likewise searched Ptolemy in vain; and am forced to conclude, that it is deduced by inference rather than sound by Mr. Gosselin, and that the inference was formed upon a comparison of the plain chart of Eratosthenes, with the spherical chart of Ptolemy.

NICÆA.

Longitude by Ptolemy, from Ferr	ro, -	-	125° 30′ 0″
Longitude of Ptolemy, reduced and corrected by Mr. Goffelin'	to Green s method	wich, }	89° 38′ 0″
Longitude by Rennell, -	P.A.	-	89° 30′ 0″
Latitude by Ptolemy, -	-	-	30° 20′ 0″
Latitude by Rennell, -	-	-	31° 40′ 0″
Latitude by de la Rochette,	-	-	31° 30′ 0″

At Nicæa", therefore, we fix the departure of the fleet on the twenty-third of October, in the year three hundred and twenty-feven before Christ. The views of Alexander in preparing the fleet and undertaking the navigation have been sufficiently noticed

^{*} Diodorus makes the departure from the Akefines. Lib. xvii. 234.

already; but the anxiety which oppressed his mind cannot be exhibited better than in the description of Arrian 96, or the language of Nearchus himself.

He dreaded, fays the historian, the length of the voyage, the danger of a defert coast, the want of harbours, and the difficulty of fupplies; he was fearful least a failure should tarnish the splendour of his former actions; still, however, the defire of attempting something new and extraordinary prevailed. But who was to command fuch an expedition? Who was capable of inspiring the men with confidence; or perfuading them, that in undertaking fuch a fervice they were not abandoned to destruction? Such, fays Nearchus, was the perturbation of Alexander when he ordered me to attend him, and confulted me on the choice of a commander. "One," faid he, " excuses himself because he thinks the danger insuperable; others " are unfit for the fervice from timidity; others think of nothing " but how to get home; and many I cannot approve for a variety " of other reasons." "Upon hearing this," says Nearchus, "I " offered myfelf for the command, and promifed the king that, " under the protection of God 97, I would conduct the fleet fafe " into the gulph of Persia, if the sea were navigable, and the un-" dertaking within the power of man to perform." Alexander hesitated; he loved Nearchus, and admired him the more for the promptitude of his offer; but how could he expose such a friend to the diffresses and hazard of such a voyage! Nearchus still persisted in his propofal, and intreated the acceptance of his fervices.

length

⁹⁶ Arrian introduces this account after the fultation took place before his first appointfleet had reached Pattala; but as Nearchus ment than after he was actually in command.

commanded during the passage down the Indus, it is much more probable that the con
Epictetus.

length the king, who had probably confulted him with the hope that his spirit would prompt him to make the offer, consented, and named him admiral of the fleet. The appointment answered his expectation; for the men destined to the embarkation no longer confidered the expedition as desperate, when they found a man so much in the king's favour and confidence was to be the commander, and one whom they knew he would not have exposed to inevitable danger. Alacrity fucceeded to terror, the ships were equipped, not only with what was neceffary, but with great splendour; the officers vying with each other who flould collect the best men for the service, and have his complement 95 most effective. Success was anticipated, and despair subdued.

The next concern was the appointment of the officers, and a lift of names is given which it is evident does not specify those who performed the voyage, but fuch as had a temporary command only during the paffage down the river. The amount is thirty-three, which specifies the number " of gallies; but of these we cannot certify that any circumnavigated the coast, except Archias.

MACEDONIANS.

1.1.			The Tank
I.	Hephæstion,	fon of	Amyntor.
2.	Leonnatus,	10 10 WC	Eunus.
3.	Lyfimachus,	THE SHIP	Agathocles.
4.	Asclepiodorus,	WOLLS	Timander,
5.	Archon.	E HAME	Clinias.

98 Έκπληιώματα.

mioliæ are half-decked veffels, according to 99 It is true that Arrian, p. 236, fays, the Gronovius; but Cafaubon ad Athen. lib. v. Triaconteri were eighty; but under that title, p. 203, fays, they were rowed with two banks as a general one, he probably includes the of oars from the head to the mait, and from

MACEDONIANS.

Hemioliae, or half-decked vessels. The He- the mast aft, with one. Not. p. 737.

MACEDONIANS.

- 6. Demonicus, fon of Athenæus.
- 7. Archias, - Anaxidotus.
- 8. Ophellas, - Silenus.
- Pantiades. 9. Timanthes, These were all citizens of Pella.
- 10. Nearchus 100, fon of Androtimus.
- 11. Lampedon, Larichus.
- 12. Androsthenes, Callistratus. Citizens of Amphipolis.
- 13. Craterus, fon of Alexander.
- 14. Perdiccas, Orontes. Natives of Orestes.
- 15. Ptolemy, fon of Lagus.
- 16. Aristonous, Pisæus.

Natives of Eordæa.

- 17. Metron, fon of Epicharmus.
- 18. Nicarchides, Simus. Natives of Pydna.
- fon of Andromenes. 19. Attalus, Native of Stymphæa.
- 20. Peucestas, fon of Alexander. Native of Mieza.
- 21. Pithon, fon of Crateas. Native of Alcomenæ.
- 22. Leonnatus, fon of Antipater. Native of Ægæ.

Nearchus was a native of Crete, but a citizen of Amphipolis.

104 COURSE OF THE FLEET DOWN THE INDUS.

MACEDONIANS.

- 23. Pantauchus, fon of Nicolaus. Native of Aloris.
- 24. Mylleas, fon of Zoilus. Native of Beræa.

Thus far the lift confifts of Macedonians.

- 25. Medius, fon of Oxynthemis. Native of Larissa, in Thessaly.
- 26. Eumenes, fon of Hieronymus. Native of Cardia.
- 27. Critobulus, fon of Plato. Native of Cos.
- 28. Thoas, fon of Menodorus.
- 29. Mæandrus, Mandrogenes. Natives of Magnefia.
- 30. Andron, fon of Cabelas. Native of Teios.
- 31. Nicocles, fon of Pasicrates. Native of Soli, in Cyprus.
- 32. Nithadon 101, fon of Pnytagoras. Native of Salamis, in Cyprus.
- 33. Magoas 102, fon of Pharnuches. A Perfian.

Oneficritus of Aftypalæa, Pilot, and Mafter of Alexander's own ship. Evagoras, fon of Eucleon a Corinthian, Secretary, or Commissary to the Fleet.

does not fay in what capacity; I conclude, how-Bagoas. Gronovius. But why? That ever, that it is the fame Androsthenes who went down the gulph of Perfia to explore the Ara-

¹⁰¹ Nithaphon Gronov.

eunuch hardly attended the army.

Strabo mentions an Androsthenes of Thasus, bian coast. Ar. lib. vii. p. 301. p. 766, who failed with Nearchus, but he

Instead of this barren lift of officers, many of whom certainly did not accompany Nearchus round the coaft, and many whofe names are never mentioned except upon this occasion, it would have been fome fatisfaction, if it were possible, to have preserved the lift of those who were the real first explorers of the Indian ocean; but out of the whole number here enumerated, the only names which occur afterwards in the narrative are those of Archias and Oneficritus.

If the whole journal of Nearchus is preferved by Arrian, there is fome reason to complain of the commander for recording all that contributed to his own glory, and to lament that he did not rescue the fame of his brave followers from oblivion. Hephæstion, Leonnatus, Lyfimachus, Ptolemy, Craterus, Attalus, Peucestas, and probably many others, had evidently only a temporary or honorary command; and the filence of Nearchus in respect to the others throws a degree of uncertainty over the remainder of the catalogue. Neither does it any where clearly appear what number of ships or men accompanied Nearchus to the conclusion of the voyage. If we suppose the ships of war only fit for the fervice, thirty gallies might possibly contain from two to three thousand 103 men; but this estimation of both is uncertain, and in reality too high, confidering the little means of support they found on the voyage, and the impossibility of discriminating the fighting men from the mariners.

The mariners were fupplied from a number of Phænicians, Egyptians, Cyprians, Ionians, natives of the Hellespont and Ægean

ace It is possible that I may estimate the thousand. The mariners I find no proper data

number too high, both here and on the voyage. to calculate. At other times, indeed, eighteen See Kokala. For the whole fleet, including hundred horse and ten thousand foot are emtransports, carried no more troops than eight barked.

islands, who had accompanied the army either in a military or mercantile character; neither is it unreasonable to suppose that at the oar many of the natives were employed, induced by advantage, or compelled by force; for this, as a fervice which required little more than bodily ftrength, the Greeks frequently affigned to flaves, or those removed but one degree from flavery.

The fleet had been built or collected on the Indus, and part of it had been brought over land to the Hydaspes. The number of veffels is estimated at two thousand "of by the historians, including all forts, from the galley to the tender. The collecting of fuch a fleet has been accounted for already, and the possibility of conveying great part of it from one river to the other, will not appear extraordinary to those who are acquainted with a fimilar practice at the ifthmus of Corinth, or confider that Alexander was at the head of an hundred and twenty thousand "os men, and was possessed of treafures, alliances, dependents, and tributaries, fufficient to command the fervices of all the native inhabitants of the country, if requisite.

The voyage down the river is described rather as a triumphal procession than a military progress. The fize of the vessels, the conveyance of horses 'ce a-board, the numbers and splendour of the equipment attracted the natives to be spectators of the pomp. The found of instruments, the clang of arms, the commands of the officers, the measured fong of the modulators ", the responses of

³⁰⁴ Eight hundred thips of war and transports. to direct us how far.

¹⁰⁵ We must suppose some extraordinary means requifite, as the space between the Indus and Hydaspes is estimated at fixty-eight cofe, or about one hundred and thirty miles. This distance, indeed, might be diminished by descending the Indus, but we have no data

²⁰⁶ It is not improbable that Alexander had fupplied his cavalry with horfes from the Penje-ab. They are as good as Irakies, i.e. Perfian. Ayeen Akbari.

¹⁰⁷ Κιλίυσταλ.

ses So Gronovius renders Son.

the mariners, the dashing of the oars, and these founds frequently reverberated from overhanging shores, are all scenery presented to our imagination by the historians, and evidently bespeak the language of those who shared with pride in this scene of triumph and magnificence.

Arrian has given us the breadth of the Hydaspes and several other streams which join the Indus, but informs us, he has the authority of Ptolemy for that of the Akefines alone; that river he estimates at fifteen " stadia, the Hydaspes " at twenty. The Indus, he fays, was forty at a medium, and fifteen where narrowest; that in its course from the confluence of the Akesines to the Delta of Pattala it was an hundred, and lower towards the fea two hundred. By any value of the stadium this estimate is doubtless too high, and the variety of accounts recorded by Strabo "gives room for much uncertainty upon the fubject; the highest, he fays, was an hundred stadia, the medium fifty, and the lowest seven. It is evident, therefore, that those who differed as much as seven from an hundred, either did not use the same stadium, or did not measure the river at the same time of the year: but it is remarkable, that if the lowest number is considered as the Olympic stadium ", it corresponds nearly with Mr. Forster's account of the Indus above Attock, where he croffed it, and estimated it at three quarters of a mile English ". Mr. Forster passed in July when the rains must have commenced in the mountains, though they had not reached the lower country; if, therefore, we allow the river to have received fome accession to its volume, we have a very extraordinary correspondence between an ancient and a modern account. It would be well if we could reduce the larger numbers of Arrian with as

¹⁰⁹ P. 222.

⁷¹⁰ P. 239.

¹¹ Lib. xv. p. 700.

Eight to a mile Roman.

¹¹³ Rennell, p. 109.

much facility; but even Mr. d'Anville's stadium of fifty-one toises, which gives fomewhat more than fixteen to a mile English, must here fail us; for fifteen stadia would make the Akesines near a mile broad; twenty would give a mile and quarter to the Hydaspes; forty would fupply two miles and a half to the Indus above the confluence; an hundred produces fix miles and a quarter for the breadth between the confluence and Pattala; and two hundred, twelve miles and an half for its final course. Shall we impute this enormity to the amplification of the Macedonians, or to the overflowing of the river? In support of the latter, we have another extravagance of Oneficritus recorded by Strabo, who fays, the Indus rifes forty feet, twenty to its banks and twenty above them. but, unfortunately for this affertion, the fleet left Nicæa in October, when the fwelling must have been on the decrease, and reached Pattala in July, before the next year's fwelling could be very evident in the lower part of the river. According to Tieffenthaler and the Ayeen Akbari, the Indus between Moultan and Tatta runs in a ftream comparatively narrow, but very deep, and Hamilton " afferts, that the channel at Tatta is not more than a mile broad. Arrian's account must consequently be abandoned, unless we make a large allowance for the flood, and his language feems to justify this at the time when he mentions the hundred stadia; for he adds, " this is the breadth when it fpreads" its waters most." Much

It is reasonable to conclude, that all the vary-

114 It is very possible that the channel from ing accounts of the breadth of the river, which, as Strabo observes, fluctuate between feven and an hundred stadia, owe their difagreement to the different views of the stream, either in its lowest or its highest state. See Arrian, lib. v. p. 200. Ctefias (if Ctefias is any authority) fays, that the Indus where narrowest is forty stadia in breadth, and where wideft an hundred, but that in general, a medium between these may be assigned.

reason

Laribundar to Tatta is less at present than formerly, for the mouths of the Indus all tend to the accumulation of obstructions. Hamilton's account is probably just.

¹¹⁵ κ, ύπερ τως έκατου τυχου δια περιλιμιάζει Maxxon.

Perhaps above one bundred stadia where it Spreads the wideft.

reason as there is to commend Arrian's accuracy in general, it must be allowed that he copied in this instance from those who delighted in exaggeration, or chose to raise ideas of magnificence by describing not what the voyagers saw, but what at another time of the year they might have seen.

The most moderate breadth of the Hydaspes is found where we should least expect it, in Q. Curtius, who says that it is four stadia, or half a mile, and if we allow, with Mr. Forster, three quarters of a mile to the Indus above Attock, at a season when it was not yet much swelled, there is a reasonable proportion in giving half a mile to the Hydaspes "6" at a season when the swelling may be supposed not entirely past.

On this river, at Nicæa, Alexander embarked, carrying on board the hypaspists, Agrians, archers, and the royal troop " of horse. Craterus " marched with another body on the right, or western side of the river, while Hephæstion commanded a third on the eastern bank. A fourth under the direction of Philip, satrap of the country on the west of the Indus, followed at three days distance in the rear. The troops commanded by Hephæstion were by far more numerous than the rest; and he had likewise the charge of two hundred elephants, with orders to join Craterus and reduce the territory of Sopithes ", which seems to occupy the angle between the

also this river—profundo alveo—stagnantibus aquis—occultis saxis—sine vado—in medio amne insulæ crebræ—una insulæ amplior cæteris. All accordant circumstances, and the last agreeing with Arrian, though omitted by Diodorus. Q. Curtius, vol. ii. 653.

rian. It fometimes means all the companions, Έταϊρο, fometimes 1λή βασιλική, the royal troop.

the division of forces, p. 333.

the Kathæi the fame. The scite of the Kathæi is known. They were between the Hydraotes and Hyphasis to the southward of Lahore. Arrian makes them different; but if Sopithes was in the angle between the Hydraotes and the Hyphasis, Hephæstion must have passed two rivers to reach them.

junction of the Hyphasis and the Akesines. Having distributed the land forces in this manner, Alexander fell down the river for three days to a flation, where he halted two more for the troops to join, and then proceeding again for five '20 days, he reached the confluence of the Hydaspes and Akesines 121. The fleet is described as disposed into different divisions, with orders to observe a due distance, that no confusion might arise; and the progress by water was regulated to accommodate the motions of the army. With this object in view, we can hardly cast an eye over the map without adverting to the coincidence of these circumstances with the local geography. The distance from the lower point of Jamad to the confluence is from fixty to feventy miles ", and with three armies moving in feparate divisions, encumbered with plunder, and obliged to make roads or find them, corresponding with the finuofity of the river, eight or ten miles of a right line is fully equivalent to the road distance of each day's march. Pliny says, the fleet passed down the river at the rate of fix hundred stadia a-day. Q. Curtius 123 mentions expressly in this part of the passage, that the rate was only forty. Freinshem, in order to reconcile so glaring a contradiction, supposes four hundred "; but if feventy-five or fifty miles is too much, and five is too little, some other remedy must be fought. It is true, as Mr. Rennell observes of the Ganges, that a passage of fifty " or fixty " miles a-day is eafily performed when the river is fwoln; but this

Major Rennell supposes only five days from Nicæa to the junction.

¹²⁴ Arrian from Megasthenes says, at Cambistholi or Attrobæ. Which of the two is right seems hard to discover. See p. 317.

Pe la Rochette, 57.

¹²³ Vol. ii. p. 691.

By reading quadringenti for quadraginta. See Curt. in loco.

fupposes twenty miles a day's passage for a boat on the Indus.

day down the Indus, p. 290, fecond Memoir.

fleet was to accommodate the army, and no precipitation of this fort can be allowed. Forty stadia, or five miles, continued for eight days, gives indeed only forty miles, but the deficiency is more tolerable than the excess, and if it might be permitted to invert the numerals of Q. Curtius, and read LX. instead of XL. "7, the repetition of fixty stadia for eight days gives fixty miles, a distance not greatly differing from Rennell's corrected map, consistent with probability, and correspondent to the ordinary progress "28" of an army in similar circumstances.

The Hydaspes and Akesines at their junction are both forced into a channel too narrow for their united streams; the rapid eddies and turbulence which arise necessarily from such a cause afford ample scope for the tumid eloquence of Q. Curtius. The more moderate language of Arrian will, at the same time it verifies a fact, give greater pleasure to the reader who prefers truth to embellishment.

Where these two rivers meet, says Arrian, one channel very narrow receives the waters of both. The stream becomes violent from confinement, and whirls in eddies terrible to behold. The

the text of Curtius, as given either by Freinfhem or Snakenborck, for both read quadraginta at full length. Whether the manuscripts
they followed have the numerals XL is not
expressed; but those who are conversant in
Greek or Latin numerals will allow some latitude for correction.

the confluence in the very track that the detachment under Hephæstion should have marched, is thus described by Cheref-eddin, tom. iii. p. 52. Translation of Petis de la Croix.

Après avoir achevé heureusement l'affaire de Chehabeddin, l'on marche sinq ou fix jours,

au bord du sleuve Jamad (Hydaspes), et ... on alla camper sur le bord de la riviere de Genavé (Akesines), a une fortresse, vis à vis de laquelle se fait le confluent de la riviere de Jamad avec celle de Genavé, i.e. the Hydaspes with the Akesines.

Five or fix days march of a Tartar army, with an object in view, is fully equal to the eight days allotted to the Macedonians, whose army was moving in three divisions, and one of these under Hephæssion detached on an expedition.

Lord Cornwallis, in his march from Bangaloor to Seringapatam, moved at the rate of nearly nine or ten miles a-day. See Major Dirom's map,

roar and tumult of the water is prodigious, and heard long before you reach the fpot. When Alexander approached the confluence, neither he, nor those on board his fleet, were uninformed of these particulars; yet, while they were still at some distance, upon hearing the noise and dashing of the waters, the rowers rested on their oars, the modulators were filent with aftonishment; but as the fiream carried them nearer, the commanders recalled both to their duty, and directed them to exert their utmost strength, that the veffels might not be caught in the eddies, but pushed through by dint of force. It turned out, however, that the transports from their built, by yielding to the eddy, escaped with little injury, except the alarm excited in those on board; but the gallies, which from their length and sharpness were less adapted to encounter a danger of this fort, fuffered greatly, and fome, from having two banks of oars and the difficulty of managing those which were nearly on a level with the water, were exposed to the most imminent danger ". Alexander's veffel, however, escaped to a projecting point on the right hand shore, which covered him from the violence of the stream; but he saw two of his vessels sink, and with difficulty faved fuch of their crews as were able to fwim. Many more of the gallies were damaged, which caused a delay here of some days in order to refit them; and while the repair of these was going on, Hephæstion, Craterus, and Philip, joined with their respective forces.

Alexander now ordered the corps of Polysperchon "", the mounted archers, and the division of Philip with the elephants, to be con-

¹¹⁹ Les vagues qui se forment en ce lieu la 230 Τη Πολυσπίρχοντος τάξη; it was a part font paroitre une mer agitée. Cheref-eddin, of the phalanx. vol. iii. p. 52.

veyed over the Hydaspes, and proceed under the command of Craterus, while he landed himfelf and ravaged the neighbouring territory, to prevent fuccours being fent to the Malli. He returned again before the fleet moved, and then ordering Nearchus to fall down the river for three days, he once more formed his army into three divisions, directing Hephæstion to be five days in advance, Ptolemy to follow three days march in his rear, and both them and Craterus to join the fleet again at the confluence of the Akefines and Hydraotes, while with a fourth division he entered the country of the Malli himself. It was in this expedition, attended with a variety of circumstances not connected with our present subject, that he was himfelf wounded in storming an inconsiderable fortress of the Malli. The territory of this tribe naturally fuggefts an idea that it may be the fame as the celebrated province, or foobah, which takes its name from Moultan, a city well known for its fituation and commerce in Europe as well as India.

MOULTAN.

Longitude	0	"	Latitude :	
from Greenwich by Rennell,				
add from Ferro, -	17	40	by Rennell - 29 50	
C. T. J. P. L.		20	by the Turkish geographer, } 29 30	
Ptolemy corrected by	127	0	Etval's, - 29 40	131
from Ferro by Ptolemy, Ptolemy corrected by Goffelin, -	90	4] {	

131 See Otter, tom. i. 407.

According

COURSE OF THE FLEET DOWN THE INDUS. 114

According to the rivers of Ptolemy, Caspira on the Rhuadis ought to be Moultan upon the Ravee; but if it is fo, his latitude is very erroneous, for he places it north of Bucephala, whereas it is near a degree to the fouth '22. The foregoing estimation is consequently liable to all the objections connected with this error.

The fortress, however, where Alexander was wounded was not the capital, for it is as certainly on the north of the Hydraotes, as Moultan is on the fouth. Major Rennell "3 has noticed this with his usual accuracy, and the testimony of Arrian is direct; for he fays that Alexander, after having passed the Hydraotes, returned and croffed it again after the flying enemy, who threw themselves finally into the fortress where this transaction took place. It is remarkable that the boundary given to the province of Moultan by the Ayeen Akbari should correspond with the limits assigned to the Malli by Arrian; for when Abu'l Fazil 134 fays the Pergunnah of Shoor 135 joins the boundary of Moultan on the north, he evidently shews that this foobah extends to the north of the Ravee or Hydraotes, and confequently comprehends the spot allotted for the fituation of this fort among the Malli.

While Alexander was engaged in this expedition, the fleet had reached the confluence of the Akefines and Hydraotes; and hither, as foon as his wound permitted him to be removed, he was conveyed in a galley down the stream of the latter ". The transport of

¹³² See Ptol. p. 171, and Mercator's Map fines, near the junction of that river with the

¹³³ Second Memoir, p. 97, Major Rennell places this nameless fort ten miles from the conflux of the Hydraotes and Akefinee, below Tolomba.

¹²⁴ Vol. ii. p. 136.

^{*35} Shoor lies upon the Chen-ab or Ake- higher up. See p. 252. Ar.

Chelum (Hydaspes).

See in confirmation, Ayeen Akbari, vol. iip. 100.

¹³⁶ Alexander did not land at the actual junction of the rivers, but at the camp of Hephæstion, on the Hydraotes, a small distance

joy with which his troops received him, was some compensation for the dangers he had encountered; and so little did the monarch himself seem to be ashamed of the temerity with which he had exposed his person, that he is said to have taken a Boeotian soldier into his favour, who, in his broad dialect, bluntly applied to him the sentiment of a tragic poet:

" He that would do great deeds must suffer greatly."

Here he was joined by the other divisions of the army, and while he was under cure of his wound he received the submission of the Malli, now humbled by reiterated defeats; and a deputation from the Oxydracæ, offering to become tributaries, and to send him a supply of men.

The Oxydracæ correspond both in name and situation with the district still called Outche, which is comprehended in the soobah of Moultan, and occupies the angle formed by the junction of the Chen-ab, or Akesines 137, with the Indus. It is somewhat singular that Arrian should mention these people as cantoned into departments, and their magistrates 138 as presiding in each separate canton, while the moderns distinguish them to this day by the appellation of the Seven 139 Towns of Outche 149. These local circumstances continuing similar through so many ages, afford no less pleasure to the inquirer than confirmation to the veracity of the ancient historians.

¹³⁷ Ayeen Akbari, vol. ii. p. 136. 138 Hyanores Tur mohtur nj če ropanezas.

de la Rochette's map.

¹³⁸ Ήγεμόνη των πόλεων κ) δι τομάρχαι. - ¹⁴⁰ Perhaps the orthography is, Owj. or ¹³⁹ See Tieffenthaler, vol. i. p. 118, and Oudj. See Ayeen Akb. vol. ii. p. 100.

This tribe must have been in a flourishing condition, for they furnished Alexander with a thousand men and five hundred '41 chariots, and their territory, with that of the Malli, was added to the fatrapy of Philip. During the continuance of the army at this place an aditional number of veffels had been built, and feventeen hundred horse were again embarked, with ten thousand foot, and a body of light infantry, and the whole ordered to fall down to the confluence of the Akefines with the Indus. It is here that Arrian mentions the junction of the Hyphasis with the Akesines, before that river falls into the Indus. But still he does not mark with his ufual attention where the actual junction takes place, neither does he notice the arrival of the fleet at it, as at the confluences which precede and follow. This omiffion gives us room to doubt of the fact, and though de la Rochette has followed Arrian and Tieffenthaler in uniting the Biah and the Setledj with the Chen-ab before that river meets the Indus, there is still great reason to adhere to Major Rennell, who carries those two rivers with one stream into the Indus directly, without bringing them first into the Chen-ab. It occurs here likewise that the Akesines preserves its name after receiving these several rivers, agreeably to what Tieffenthaler observes of the modern Chen-ab.

The city of Moultan, anciently called Mulatran, which gives name to this province, and which is fituated to the fouthward of the Ravee or Hydraotes, is confidered as one of the oldest in India;

[&]quot;" I should rather read mirraxorra fifty, than mation of an error. The number is extrava-

it has a citadel and a wall of brick four miles '42 in circumference. The climate is hot in the extreme, the foil a burning fand, and rain is feldom known. A branch or canal from the Ravee, called Monan, approaches within one cose of the town; the Ravee itself is only two cose distance, and the Indus twelve or fourteen. The junction of the Ravee and Chen-ab is distant twenty-five '41 miles, and that of the Chen-ab and Indus eighty '44. It is not impossible that a town of the Malli should have occupied this scite in the time of Alexander, but certainly not as a capital, or a place of importance; for the Macedonians were more ready to give consequence to the places they subdued, than to detract from them; but local circumstances by no means disallow of its being one of those fortresses '45 attacked by Alexander upon his first crossing the Hydratotes, and before he recrossed that river, to the place where he was wounded.

From the junction of the Hydraotes with the Akefines the fleet now fell down to another station, at the point where the Akefines with all its tributary waters is united with the Indus, waiting there for the arrival of Perdiccas, who had been employed in subduing the Abastani. The submission of another tribe named Osladii had been received by a part of the fleet which had been built at Xathra and came down the Indus, while Alexander had been descending the Akesines. Of Xathra and these two tribes nothing occurs to direct our inquiries but the mention of their names; and in regard to Xathra, the obscurity is of consequence; for there is reason to con-

Tieffenthaler, vol. i. p. 115. His miles are always cofs; fo that we may estimate the city seven or eight miles in circumference.

1+3 De la Rochette.

³⁴⁴ Sixty-five miles. Rennell.

¹⁴⁵ Perhaps Braxmaror Tiva modur, p. 242, Arrian.

clude, that thefe veffels which now came down the Indus were part of the fleet originally built on that river, and left there when Alexander transported the other part over land to the Hydaspes. Arrian mentions this division as confisting of gallies and transports newly built, but it is hardly credible that the whole "6 fleet had been carried over land, and highly probable that part left behind had been augmented at Xathra. If we had any data to fix the polition of Xathra on the Indus, it would afford great fatisfaction to prove the length of the line of transportation, but Xathra is named only by Arrian, and does not appear in Ptolemy, Strabo, Diodorus, or Q. Curtius.

At the conflux of the Akefines with the Indus, Alexander fixed the establishment of a new city, of which, though we find no traces in modern accounts, we may naturally confider the fituation as highly advantageous. A city fixed here would necessarily partake of all the commerce that passed up the Indus, to be distributed by means of the feveral fources above, from Candahar and Cabul on the west, to Tchamoo, and perhaps to Thibet, on the east; and being the centre where all these streams unite, must consequently derive equal emoluments from the commerce that passed downwards to the coaft. The judicious choice of a scite for this Alexandria (for such probably was its name) has been as little noticed by the historians as imitated by the native '47 powers of India; nothing is found in the

65

A fimilar conveyance of veffels over- Hydaspes or Chelum. land appears, lib. vii. p. 300, from Phænicia Triremes, thirty Triaconteri, divided into parts, and brought over-land by a longer transport certainly than from the Indus to the

¹⁴⁷ Whatever local circumftances have conto Thapfacus. Three Quadriremes, twelve tributed to the fituation of Moultan, have united also in preventing the growth of a city at this confluence.

Ayeen Akbari to prove the existence of any place of importance 148 at this junction, and the filence of travellers and geographers on the fubject leaves the whole matter in obscurity.

Alexander remained here fome time both for the establishment of the city, and to regulate the administration of the provinces, for at this junction he fixed the limits of Philip's fatrapy, and the commencement of a new one for Oxyartes the Bactrian, father of his wife Roxana, which was to extend to Pattala and the coast. Python was joined in the commission with Oxyartes, and Philip was left at this new city with all the Thracians and other troops fufficient for the defence of the province.

SOGDI. BEHKER.

IV. As we are now to leave the confluences of the respective rivers, which have hitherto ferved to direct us in the position of cities, tribes, and countries, a fcene of difficulties opens which nothing but a defire of elucidating ancient geography would tempt me to explore at greater length than those who have trod the same ground before me. Our materials are fcanty; for Arrian and Diodorus have only two short pages, Q. Curtius part of one chapter, and Strabo two or three lines. In all of them there is hardly a characteristic feature to distinguish one place from another; time and

143 No magnificent idea is requifite to con- if the place is commodious, by inclination. Ticeive the building of cities in the east. A fort mour, as well as Alexander, built cities in two, or citadel, with a mud wall to mark the cir- three, or five days. The foldan of Egypt cumference of the Pettah, or town, is all that infults Timour, by telling him that the cities falls to the share of the founder. The habitations of the east are built of mud and ephemeral, for the natives are raifed in a few days or hours; ours in Syria, fays he, and Egypt, are of

and inhabitants are supplied either by force, or, stone, and eternal. Cheref-eddin.

distances are equally difregarded by all. Added to this, I feel some repugnance in deferting the guidance of my constant director Major Rennell, by fixing the Sogdi " at Behker, and Musikanus at Sewee; but I do this upon the authority of Strabo's brief account, who affirms that the feat of Musikanus's government was very near '50 the Pattalene.

Let us first take a view of the country as it exists at present. The Indus rolls down from the confluence of the Chen-ab or Akefines to Tatta, four hundred "" miles in one channel, with hardly a fingle point to characterise one part of its course from another, except the island Behker. Behker is the termination of the modern province of Moultan; the general term for the tract below is Scindy; the title it bears in the enumeration of the Mogol provinces is the Soobah of Tatta; but in the time of Akbar this Soobah was added to that of Moultan. The Soobah of Tatta is divided into five circars. I. Tatta, the Pattala of the ancients. II. Hajykan, running parallel to the Indus, and extending north far above Behker. III. Sewistan, between Behker and Tatta. IV. Nusseerpoor, extending east from the head of the Delta; and, V. Chucherhaleh, (as well as I can collect,) extending from the eastern mouths of the Indus along the coast towards the bay of Cutch. We have therefore

149 Though I defert Major Rennell, I have the approbation of d'Anville.

La ville royale des Sogdi, ne peut mieux fe rapporter qu' à Bukor, qui a fervi de réfidence à des rois de cette contree.

Renfermée dans une isle deux villes sur les rives opposées Sukor et Louhri l'accompagnent, Geog. Anc. vol. ii. p. 343.

But d'Anville himself is mistaken about Sin-

domana, ibid. and Eclaircissemens, p. 36; Antiq. de l'Inde, p. 32.

De la Rochette follows d'Anville in placing Muficanus at Sewee.

150 I believe not near, but next to.

Πρός αυτή δ' ήδη τη Πατταληνή την το το Μυσικαιθ λίγυσι, κ) την Σαβούτυ Σιοδοναλίαν, κ) έτι την Портикани.

154 Three Hundred. De la Rochette.

two principal politions on the river, between the confluence and the Pattalene; Behker in Moultan, and Sewee in Tatta. We have likewife two governments named in ancient history, that of the Sogdi and of Musikanus 152. I shall consider each more particularly hereafter; but at prefent these circumstances will afford some reason to conjecture that these circars are natural divisions of the country, and that the reason of this distribution existed as strongly in former times as at the prefent day; if fo, the ancient tribes specified by the historians possibly occupied the same ground as the modern circars.

The nature of the river itself will suggest other reflections, which will tend to throw farther light on the fubject. For the Indus, although it refembles the Nile "33 in forming the centre of a valley and watering a country where no rain falls, differs in some points more effential. The map is crouded with the names of ancient cities and modern villages on the banks of the Nile, while the Indus has only two places of importance, Behker and Sewee, in a course of four hundred miles.

The range of fand "4" hills on the east are the residence of the Alshambety "55, while a chain of rocks on the west commences from the fea, and runs northward nearly parallel with the river till it joins those of Kandahar. All the ridges of Asia afford security to tribes of plunderers; those in the neighbourhood of Kandahar are the feat of the Aghwans, the conquerors of Persia and the desolators of India; and this range from the fea produces the Belootches, a tribe no

¹⁵² Oxykanus was not on the Indus.

Called Jams at Tatta, when Hamilton was there. Jams, robbers from the east :

Major Rennell, Poftfeript. 154 Ayeen Akbari, vol. ii. p. 145. Tief- Baloushes, robbers from the west. fenthaler.

less ferocious than the Aghwans. This range has likewise several branches; one more particularly that reaches the Indus near Sewee, and another which, I have reason to think, forms the boundary between Sewistan and Hajikan; and if there were any guide to direct me, I should as readily assign Hajikan for the feat of the Abastani reduced by Perdiccas, as I can nearly demonstrate that the lower branch in Sewistan was the territory of Oxykanus and Sambus.

From this account of the modern state of the river and the country, let us now return to the ancient historians; the order of transactions, allowing for the variation of the narrative, is the same in all. I. The Sogdi of Arrian are the Sabracæ of Q. Curtius, the Sambestæ and Sodræ of Diodorus. We need not insist on the diverfity of names, for it matters little; but the transactions which occurred, the voluntary furrender of the place, and the establishment of docks and arfenals, are all fimilar and accordant; and though Diodorus would make the Sambestæ and Sodræ distinct tribes, his transactions are too clear to leave a doubt. II. The Mufikanus of Arrian is the same both in name and order as in Q. Curtius, Diodorus, and Strabo. III. The Oxykanus of Arrian answers to the Præsti of Q. Curtius, the Portikanus of Diodorus and Strabo. IV. And finally, the Sambus of Arrian has the fame appellation in Diodorus, and is the Sabus of Q. Curtius, the Sabutas of Strabo. A fituation is now to be found for these four successively; and if a reasonable degree of probability can be assigned for placing the three first, allowances must be made for the scantiness of materials, if it is impossible to arrive at demonstration.

After viewing this question in a variety of lights, I have perfuaded myself that the Sogdi were at Behker, Musikanus at Sewee, Oxykanus

Oxykanus on the west of Sewee at the foot of the mountains, and Sambus on that range of mountains called Lukhy which extends from the great western range, and approaches the Indus at Sewee. The proofs or probabilities necessary to produce the same conviction in others shall be adduced as we pursue the course of the fleet down the river; but I cannot avoid noticing, that by the most curfory view of the map, a fort and dock-yard at the confluence of the Akefines, the same at Behker, with a garrison at Sewee, and other citadels and docks at the head, and two lower points of the Delta, present a line of frontier exactly correspondent to local convenience, and the very nature of the country.

At the confluence of the Akefines, Craterus with the elephants and the greater part of the army was transported to the eastern fide of the Indus, as the country on that fide appeared more convenient for the march of an army; and Alexander dropped down with the fleet to Sogdi. The distance and the time employed are both omitted by Arrian; but if we place the Sogdi '56 at Behker, the distance appears from Major Rennell to be short of an hundred and fifty " miles. In the fame order follow the Sabracæ of Q. Curtius, and the Sambestæ of Diodorus; both describe this tribe as living under a republican 158 form of government, and defended by an army of fixty thousand foot, fix thousand horse, and five hundred chariots; both specify the submission of this people without a battle, and Diodorus adds, that th Maffani 159 and Sodræ were borderers on the river, who fubmitted at the same time. In the construction of a citadel and docks at this place 160, all the three historians agree.

¹⁵⁶ In a right line by the scale.

²⁵⁷ Eighty. De la Rochette.

¹⁵⁸ Arrian fays expressly, to Basianor.

dern Pekier and Sekier, in Sekier written this place, as he names no nation or scite.

Suckor and Sunkar; thefe may be the reprefentative of Sogdi and Sodræ.

¹⁶⁰ Q. Curtius mentions an Alexandria four 159 Maffani and Sodræ are perhaps the mo- days lower down; but it must be referred to

Now though we may allow great scope for the amplification of Curtius and Diodorus, we are still to consider these Sabracæ as a tribe of consequence in the view of the historians, and I ask where is a position to be found for such a tribe in the course of this hundred and sifty miles before we arrive at Behker. Nothing can be more barren of names than the line of the Indus here in Major Rennell, or de la Rochette; and the discordance of those two geographers, being no less than seventy miles, adds still to the consustion and obscurity. Another consideration is, that Behker in the modern division of the province is a circar of Moultan; and where the Dooabeh "circars end, that of Behker begins: it follows, therefore, that Behker would necessarily be the first capital from the junction of the Akesines, and naturally the scite of the Sogdi or Sabracæ, the first tribe Alexander reached after leaving that junction.

BEHKER.

Longitude	0	,	11	-	Latitude	0		
by Ptolemy, from Ferro, 11	8	0	0		Ptolemy, -	25	20	0
by Rennell, from Greenwich, 7	0	0	0		Rennell, -	27	33	0
add from Ferro,	7	40	0}	- 3	Oriental. Otter,	34	0	0
8 this people without a battle.	7	40	0	The same of	De la Rochette,	27	27	0
Ptolemy corrected by Goffelin, 8	4	16	زه	-	rus nides, that the		ia	

I take the Binagara of Ptolemy for Behker, not only on account of its central fituation between Moultan and Tatta, but its refemblance in point of orthography, for it is possibly Behh-nagar or

¹⁶¹ A space between two rivers. Doo, two; Ab, water.

Behk-nagar, in which form it approaches Behker-nagar; nagar being the usual adjunct to express a fortified place, and Ptolemy has in this neighbourhood, Agri-nagara, Ka-nigara, Nagar-anigramma, &c. &c.

According to the modern division, the circar or Dooabeh of Behker contains twelve mahls 162, or places for collecting the revenue, which amounts to fifty-seven thousand five hundred and seventy-eight pounds sterling 163, and furnishes four thousand six hundred and ninety horse, and eleven thousand one hundred foot. These circumstances are stated from the modern account, to shew how reasonably it will bear a comparison with the ancient, allowing for much exaggeration, and considering that India appears more populous in early times than since it has been desolated by invasions.

It would have been a fortunate circumstance if any of the historians had mentioned an island here, or in any part of the Indus between the junction of the Akesines and Tatta; but their silence is unanimous. It will appear, however, that we have something more than conjecture to direct us, for Otter names Bekier, Sekier, and Tekier, as three places dependant on Mansura's; in which, though he is mistaken (for Bekier is Behker the same as Mansura), he is still right in regard to the other two, for Sekier is the Sunker of the Ayeen Akbari, and Tekier is the fort called in that work Alore, the

¹⁶¹ The names of the twelve mahls are the fame in Tieffenthaler and the Ayeen Akbari. If any one wishes to see what spelling can do to confound, he should consult both. Tieff. vol. i. 117. Ayeen Akb. vol. ii. 103.

²⁶³ Reckoning the dam forty to a rupee.

by a branch of the Mehran (Indus). The city itself stands on the western side of the main channel; for the Mehran in its descent separates into two streams at Calere, a day's journey from Mansura; the main stream passes to

Louheri of de la Rochette. Tekier is fituated either at the re-union of the river after its feparation to form the island, or just below it; and Sekier assumes a place at the point where the river divides. It is in Sekier, written Sunker and Suckhor, that I find the Sogdi of Arrian, the Sodræ of Diodorus, the Sadracæ of Q. Curtius; and as Sunker and Alore are two out of the twelve mahls assigned to Behker by the Ayeen Akbari, this division has given rise to the distinction of them by Diodorus into separate tribes. Some reserve is necessary in asserting that Alore and Tekier are the same, but it seems highly probable, because Tekier is not mentioned by the Ayeen Akbari; concerning Suckhor all testimonies are united. I conclude, therefore, that the Sogdi of Arrian comprehend the whole island and circar of Behker, and that the name is derived from the first place in the circar at which the fleet arrived.

If this should not be deemed conclusive, I beg the reader to suspend his judgment till he receives additional reasons for fixing the seat of Musikanus; for the position of either to a certainty will give the respective situation of the other; and I must likewise observe, that the erecting of docks on an island is a natural convenience, while there is nothing on the higher part of the river to direct this operation more to one point than another.

Mansura; the inferior turns to the north towards Sarusan, and then winds back again to the west [read east], till it joins the main channel once more, about twelve miles below the city. Mansura is a mile both in breadth and length. Nub. Geographer, p. 57.

This description has led Mr. d'Anville into a great error, for the whole is represented on his map. The error arises from his making Behker and Mansura two different places, which the Ayeen Akbari proves to be the

fame; but d'Anville places Behker near four degrees higher up the stream, and this Manfura he places below Sihwan. Otter has fallen into the same error Vol. i. 406, 407.

Major Rennell makes the ifle thirty-five miles in length, which does not differ much from Al Edrifi's account. Mansura is doubt-less a Mahometan, and not an Indian title, for it expresses willow in Arabic. See Melchiz. Thevenot, tom. i. in Abulfedam, p. 19.

From this island of the Sogdi 165, Craterus was detached into Arachofia and Drangiana; but as we hear of him again at the next flation of the fleet, we must suppose that he only conducted a body of troops which was to penetrate into those countries by another route, and which was to connect again with the future march of the main army through Karmania. This defign is perfectly confiftent with Alexander's scheme of exploring these provinces by marches in various directions; and it is probable that Craterus went no farther with this body than to mark out the line they were to purfue, and then returned to the main army. The reunion of these forces will be noticed in its proper place.

From Sogdi then, the Behker 166 of the Hindoos, the Manfura of the Mogols or Persians, Alexander hastened down the Indus to reach the city of Musikanus, before he should be prepared for resistance. I have already faid, that Strabo is my authority for placing Musikanus lower down the river than Major Rennell; for Strabo fays expressly, that his territory was near, or next to, the Pattalene; and a review of Arrian's account, short as it is, convinces me that, after the transactions which took place here are confidered, the immediate arrival of the fleet at Pattala confirms the affertion of Strabo.

166 This island of Behker has two dependant places, Tekier and Sekier, fo written by Otter, vol. i. 409. Frazer writes Buckar for Behker, Sunkar for Sekier. Treaty Nadir of de la Rochette's sheet map-

¹⁶⁵ It is worthy of remark that the Nubian Geographer makes Mansura a centre of communication both east and west, p. 57, et seq. ; and fuch it would naturally be in all ages, unless the city Alexander built at the main Shah. Khoudahad seems to be Shicarpoor junction of the rivers had taken root.

MUSIKANUS. SEWEE. SIHWAN.

V. I FIX upon Sewee for the residence of Musikanus, because it is the head of the first circar of Tatta towards the north; and conceiving, as I do, that all these circars have their division or boundaries from nature, I am persuaded that the surest ground for fixing any ancient name is to confider the prefent distribution of the provinces. Sewistan, the name of this circar, comprehends the country on both fides the river; but on the east there is probably little cultivation, as the tract tends toward the defert and the fand hills "67; on the west, there are branches from the mountains extending towards the river inhabited by Belootches, and on one of thefe branches, or at the foot of it, may be placed the territory of Oxykanus, the Portikanus of Strabo and Diodorus. The termination of these three names suggests an idea that they contain some allusion to the country, or some mutual relation or connection. What will be alleged on this fubject I give merely as a conjecture, and I refer it to the Orientalists for further illustration; but I cannot help thinking that I discover the name of the circar in every one of them.

Sewee is written Sevi, Sihouan, Sihwan, and Sehwan. It is not easy to establish the identity of these names to the same place; for though our maps make them the same, the Ayeen Akbari "s mentions a chain of mountains extending from Sehwan to Seewee, regarding them as different places though in the same circar; and an

167 Tieffenthaler, vol. i. p. 122.

168 Vol. ii. p. 142.

obscure San 169 marked on the maps is possibly a corruption of Sehwan. Be this as it may, Sihwan is an appellation fufficiently known and acknowledged; and this word, I think, may be difcovered in Mu-fihan-us, Ok-fihan-us, Por-fihan-us ", for the afpirate b 171 passes into k in almost all words derived from Oriental languages. The termination is Greek for fake of inflexion only, and the initial fyllable will possibly be found in the Shanskreet to convey an idea of the relation in which they stand. If the distinction between Seewee and Sehwan could be established, I should have little difficulty in afferting, that Moo-shwan " was the chief of one, and Ok-fihwan of the other. I am fenfible etymology meets with little encouragement in the prefent age; but I am likewife convinced from much fludy of my authors, that all the Indian names which occur in them are capable of being traced to native appellations existing at this day among the Hindoos at least, if not the Mogols; and whenever the fociety in Bengal for Afiatic refearches thall direct their inquiry this way, they will discover more than can at prefent be calculated. I have proved this in regard to the names of the Panje-ab rivers; others have long feen it in the Malli, Oxydracæ, Peukaliotis, Guræi; and I am convinced that every name mentioned in the historians of Alexander will be found either

¹⁶⁹ San may be, however, the Cahan which Tieffenthaler places in this circar, p. 122.

¹⁷⁰ It is remarkable that the reading of this name differs in Q. Curtius. Posticanus, Porricanus I ask for a third reading : Porsicanus.

⁴⁷⁴ Han or Ham, the original title equivalent to Chief or Lord, passes into Kan, Khan, Cham, and Cawn. Du Halde. I do not object to apbe proved that the Tartars had entered India show that Mou is a native term. at fo early a period.

¹⁷² The title of a Hindoo prince who reigned in this circar formerly, and whose government extended from Mekran to Cachemire, was SIHAR. Tieffenthaler, vol. i. p. 122. writes Sihan.

In a fituation lower down, near Birun, appears a diffrict named Mou or Ebzat by Abu'lfeda. D'Anville Eclairciffemens, p. 39. Who plying Kan Khan to Musi-kanus, if it should will translate Mou? I state this merely to

in the history or memory of the Hindoos. I conceive that they exist in the Shanskreet at this hour, though they may be known to Europeans in a different form derived from the Mogols, diffigured by the lapse of time, change of language, or variety of writing. I have the opinion of Major Rennell in confirmation of this idea, and his judgment I esteem decisive.

If we would now follow Alexander in his descent from the Sogdi to the territory of Musikanus, we must apply to modern fources for information. Arrian gives neither time or distance, and mentions nothing of the country through which the Indus rolls; but the maps give us upwards of eighty" miles "4 from Behker to Seewee, and the Ayeen Akbari '75 informs us, that the country is a defert subject in summer to the Semoom, or suffocating wind. The term defert, however, must be qualified; for we are informed that the Indus changes its course, inclining some years to the east 176, and others to the west; and that it is not so absolutely desert, but that there are villages'" of herdimen who change their habitation with the stream. This circumstance, recorded by Strabo, proves the attention of the obfervers, and the fidelity of the historian; for when we find in Major Rennell 178 that he had fimilar information from an English traveller who verified the fact upon the spot, we obtain a local characteristic fact dependent upon the constant operation of nature, which fiction could not invent, and fcepticifm cannot doubt.

Musikanus had sent no offers of submission to Alexander, but surprised by his sudden approach, and not prepared for defence, he

Seventy-five. De la Rochette.

¹⁷⁴ In a right line by the scale.

¹⁷⁵ Vol. ii. p. 143.

¹⁷⁶ North and fouth. Ayeen Akbari. The fame thing occurs at Behker; which favours

the inclination given to the Indus by Major Rennell.

¹⁷⁷ Aycen Akbari, ibid. Tieffenthaler.

¹⁷⁸ See Rennell's Poffcript.

advanced to meet the monarch upon his arrival, and furrendered his city, territory, and elephants, at difcretion. The readiness of his fubmission, and the acknowledgment of his offence, procured him a ready pardon; for upon all occasions of this nature, the policy and generofity of the conqueror were in unifon. He found the territory one of the richest 179 in this part of India, and the city so commodiously situated, that he determined to erect a citadel here, and leave a fufficient garrifon for its fupport.

Even in the comparative wealth of this place I find reason to think Musikanus must be fixed at Seewee rather than Behker, for the comparative wealth of the two cities continues still the same. According to the Ayeen Akbari, the revenue of Behker is only two hundred and thirty-two pounds 180, while that of Seewee 181 is five thousand two hundred and eighteen.

The erection of the citadel was entrusted to Craterus, whom we must consequently suppose to have returned from the detachment that marched into Arachofia, and Alexander continued on the fpot till it was completed. As foon as a proper garrifon was appointed, an expedition was undertaken against Oxykanus commanded by the king himfelf; his forces confifted of the archers, Agrians, and the horse he had on board. If Arrian or any of the historians had told us on which fide of the river the army moved to the east or west, higher up or lower down, we should have some ground to stand on; but we have now one circumstance only, that he was chief "2" of a district

¹⁷⁹ Erdamerrary. Flourishing is perhaps a more proper term.

¹⁸⁰ At forty dams to the rupee.

lumma.

¹⁸¹ Noudexer The Tairn you, chief of a diffrict in the country here, literally. I cannot conceive a more accurate expression for the 181 Havelly is added to Sewee in this chief of a circar, in reference to a foobah; account. Ayeen Akbari, vol. ii. p. 105. or for the chief of a mahl, in reference to a

in the fame country, and are left to our own conjectures for the reft. My conjecture is directed by the mention of Sambus next, as a fatrap appointed by Alexander himfelf over the Indians of the mountains; for the mountains mentioned here correspond exactly with the range called Lukhy 's in the Ayeen Akbari. They are a branch of that great chain which extends from the fea to Kandahar, a branch of which reaches nearly to the Indus at Seewee, and affords a refidence for a horde of Belootches called Kulmany. On these mountains I have no hefitation to place Sambus; and if in the little light we have to direct us we obtain one position, there is no reasonable objection to fixing the other in correspondence to it. By the motion of the army immediately out of the territory of Oxykanus into that of Sambus on the mountains, it should appear that Oxykanus was on the plain at the foot of that range; and I contend that this plain and these mountains must be on the west of the Indus, because the defert and the fandy hills are on the east; and there is no authority, either ancient or modern, to shew that the range on the east ever approaches the river at any one point.

But let us return to the course of the expedition. Alexander marched against Oxykanus because he had received no embassy or acknowledgment from him; he took two of his largest cities by assault, and in one of them Oxykanus himself; the plunder was abandoned to the soldiers, and the elephants only reserved for the public service. Several other cities surrendered without resistance; for by this time, says Arrian, the spirit of all the Indians was completely this time, says Arrian, the spirit of all the Indians was completely to difference; Oxykanus, he says, was killed, and the people he

calls Præsti. I desire to make but one more observation. Oxykanus was not on the river; for if he had been, Alexander need not have landed to march against him; he was near Sambus, and Sambus was satrap of the mountains. The conclusion is, therefore, that he was on the west of the Indus, and highly probable that his territory was at the foot of that range called Lukhy, consequently that Musikanus and Oxykanus were both chiefs in the circar of Sehwan.

Sambus, the next object of Alexander's pursuit, has a variety of names, which prove only the doubts of historians, and obscurity of the transactions; for this chief is the Sabutas 185 of Strabo, the Sabbas of Plutarch, the Ambigarus of Justin, the Ambiras of Orosius, the Sabus or Samus of Q. Curtius. This recital is preferved in order to excite the attention of the Orientalists; for the idea of locality is assuredly attached to one or other of these appellations, if the true etymology can be obtained.

Sambus is represented as a satrap, or chief, of a tribe of mountaineers in the neighbourhood of Musikanus, and in hostility with that prince, as all the inhabitants of mountains constantly are with their neighbours on the plain. He had made his submission to Alexander, and received from him a fresh appointment to his satrapy is but upon receiving intelligence that Musikanus had made his peace with the conqueror, he had abandoned his country and sled. For this slight no reason is assigned; but it is natural to suppose, that in the reconciliation of his enemy with Alexander he

Com Co

¹⁸⁵ See Snakenbrock's Notes on Q. Curtius, tive chief. The title of Satrap and the name of Satrapy afford a proof of his being confi-186 We ought to confider Sambus as a na186 dered as a subject of the Persian monarchy.

forefaw fufficient reason 187 to distrust both; and as conquerors allow none of their tributaries to be injured by any but themselves, Sambus might reasonably imagine, that either his future incursions would be prohibited, or his former ravages must be accounted for; in either case it was his interest to retire; and if he had submitted to Alexander before the reduction of Musikanus, it is probable that a participation in the plunder of that prince's province had been a principal inducement to effect his fubmission. When or where this transaction took place does not appear, but if we place it at Sogdi. the delay of Musikanus in making application for terms, is a sufficient motive for the conduct of his rival. Invasion is too often fortunate in finding the jealoufy of the natives favourable to the schemes of the invader, and the petty interests of opposite parties co-operating to their mutual destruction.

If Sambus was at the head of the tribe, I suppose, his submission was of importance; for the Belootches who possess the range of mountains called Luhky styled Kulmanies, are faid by the Aycen Akbari 188 to confift of twenty thousand families, and able to bring ten thousand horse into the field. Their country, though covered with hard rock, black and barren, must be interspersed with fertile vallies; for besides the horses raised for their own fervice and for foreign fale, camels also are produced here in great abundance, fufficient, not only for the fupply of Scindi, but of the interior provinces. From this account of a fingle tribe, we

was advancing. After the victory, and the admission of the conquered into favour, this fecond Porus fled upon the approach of the been an enemy to the other on the Hydaspes, conqueror to his own territory. Lib.v. p. 223. 183 Vol. ii. p. 142.

¹⁸⁷ See a fimilar conduct of the fecond Porus upon the reconciliation of the first Porus with Alexander. Porus on the Hydraotes had and had fent deputies to the camp as the army

cannot be surprised at finding the general influence of the Belootches extending far to the westward at present, or even to Cape Jask, according to Niebhur 'so; neither can we think lightly of the Arabitæ who inhabited the same tract in the age of Alexander, and had the same means of making themselves either feared or respected. Q. Curtius '5o, from Clitarchus, states the number of natives who perished by the Macedonian invasion at eighty thousand, besides prisoners; an exaggeration doubtless, but still indicating the relative magnitude of the tribe; and that it was more numerous in the time of Alexander we may conclude; for if the plain country was more rich and populous, the number of banditti maintained out of its spoils would be larger in proportion.

In the Sindimana 's' of Arrian, the capital of Sambus, I find an allusion to Scindi, the most general and common name of the country on both sides the Indus 's'; and though there are strong objections

who have in all ages passed the gulph of Persia towards the east, it would be no difficult matter to form a connection between the Arabs and Arabitæ; but Niebhur does not make the same distinction of Brodia and Bloachee which Porter does, seeming to consider all the wandering tribes in Mekran as Belootches.

The whole account in Q Curtius is confused as usual. For first Alexander enters the country of Sabus, and then falls sour days down the river to attack his capital. This is perhaps an error from want of distinction between Sindonalia and Harmatelia. See Arrian, p. 254. As to the eighty thousand slaughtered, I doubt all ancient numbers, but none more than those of Q. Curtius.

The best MSS. read Sindimana, not Sindomana. Gron. Arrian, p. 254.

192 The Nubian Geographer constantly makes the proper distinction between Scind and India, and between both and China; the Chinese he calls Sin, and describes their commerce on the Indian feas nearly in the fame manner as Marco Polo, with whom he is almost contemporary. I take this opportunity of mentioning these distinctions, because I believe the Arabic writers derived the name Sin from the Sinæ of Ptolemy, and applied it to the farthest people east, as he had done. When the Portuguese passed the Cape of Good Hope, the only navigators they would find must have been Arabians, and from them they derived the term Sin, which has produced the word China, now current throughout Eujections to placing any city of importance fufficient to be confidered as the head of Scindi in the mountains, it is not affuming too much to suppose that the Belootches might have a city at the foot of them. I fpeak with great diffidence upon the identical fituation of Musikanus, Oxykanus, and Sambus; but I have no doubt about the fettlement of them all in Seewistan and the mountains adjacent; and I maintain that Musikanus cannot be at Behker, as there is neither mountain or hill that approaches the river near that island. If M. de la Rochette's '93 Map can be depended upon in regard to this circar, his disposition of Lukhy or Lacki exactly corresponds with the topography I wish to adopt.

Sindimana made no refistance, for though Sambus had fled, he had no hostile designs against Alexander. He was probably alarmed for his personal safety on account of the submission of Musikanus; but the gates of the city were open, and the officers of the fugitive chief delivered up his treasures and elephants without hesitation. From hence the army advanced to another fortress called the City of the Bramins, and as Diodorus mentions his Harmatelia with the fame attribute, it is doubtless the same. This city is said to have revolted, by which we may understand that it was concluded in the original submission of Sambus, and upon his slight prepared to defend itself. It was taken without difficulty, and the Bramins, who were the advisers of refistance, were put to the sword. While these

cheoux Tartars. The Arabians penetrated lection. from the west; and though Ptolemy's know- 193 See his Sheet Map of India, published ledge extended not to China, his Sinæ were by Faden.

rope, a term unknown to the Chinese them- the termination of his chart, and these were felves. Marco Polo, who entered from the the Arabic Sin. See the Voyage of two Aranorth, never obtained this word, but calls bians to China in the twelfth Century, pub-China, Mangi, probably from the Mant- lished by Renaudot, and in Harris's Col-

transactions

transactions were going on, intelligence was brought that Musikanus had revolted. Python, now fatrap of the province, was ordered to proceed against him, while Alexander seized the cities in his territory. Thefe, we may conclude, lay between the country of Sambus and the river, and lower down than the residence of Musikanus; but whether Alexander 194 returned thither, or joined the fleet below, does not evidently appear; he found Musikanus, however, a prifoner in the hands of Python, and executed him with the Bramins, who were the promoters of his revolt.

While Alexander was preparing for the profecution of his voyage. he dispatched Craterus, at the head of two divisions of the phalanx and a body of archers, with orders to take up on his march fuch of the companions and other Macedonians who had before been ordered to proceed through Arachofia and Drangiana. The whole of these forces, with the elephants, were to direct their course by an inland route to Karmania, and join the main army again in that province. The primary object of this route appears evidently to be in correspondence with the plan Alexander had laid down for furveying and exploring the extensive provinces of his empire; and a secondary defign fuggefts itfelf, which is, that he was already acquainted with the sterility of Gadrosia, which he intended to encounter himself, and therefore lessened the hazard of distress in proportion to the diminution of his numbers.

During this interval, Mæris '95, the chief of Pattala and the Pattalene, came up the river, in order to make his fubmission, and to

194 Μυσικανός τι άγιται πρός Πόθωνος, implies that executed him is τη αυτύ γη, which does not quite

Musikanus was brought in. If, therefore, imply his city, but his territory. Alexander was now in his city, Massikanus had be was now brought as a prisoner. Alexander vestigation of future inquirers.

¹⁹⁵ We have the name of this chief from left it and fled into the country, from whence Cartius; and I preferve all names for the in-

furrender himself and his territory to the disposal of the conqueror. His offers were graciously accepted, and he was sent down again to his government with orders to prepare every thing for the accom-

modation of the army upon its arrival.

The proper dispositions were now made for departure. Hephæstion was ordered to take the command of the main body not
embarked, and move downwards on the east '96 side of the river,
while Python conducted the Agrians and light-horse on the west '96.
The king proceeded with the same troops on board as before. He
had advanced only three days, when intelligence was brought that
Mæris had lest Pattala, and sled into the desert with the greater part
of his people. The progress of the sleet was immediately quickened,
in order to obviate the difficulties which might arise from this defection; but before it reached Pattala, the city was without inhabitants, and the country without husbandmen.

I cannot however enter upon the Delta, without recalling the attention of the reader to the geographical difficulties we have already encountered; for in the passage down the river I find every circumstance to corroborate the position I have assumed from Strabo, and the reasons which induce me to place the Sogdi at Behker, and Musikanus at Sihwan. The testimony of Strabo '97 is positive, that the territory of Musikanus joins the Pattalene; it is upon this testimony that I first found reason to dissent from Major Rennell, and upon which I build the whole explication, detailed perhaps too much at length for the ordinary patience of readers, but of great consequence to historians and

blished lately.

Python received to collect inhabitants for the cities already fortified; and which can be no other than those Alexander had taken and ofta-

¹⁹⁷ Lib. xv. p. 701. Heb; arrn vn Harran

geographers, and highly conducive to the elucidation of our claffical authorities. I must now observe that Major Rennell's map gives an hundred and forty miles, and de la Rochette's an hundred and fifty, by the scale, in a right line from Sihwan to Tatta. This, with the finuofity of the river, may be estimated at two hundred miles; and if we should now add eighty "98 or ninety miles more to carry back Musikanus to Behker, I ask what reference can Arrian's three days' voyage have to fuch a diffance?-but there are more than three days; - for he proceeded three days, and after that hurried down to Pattala. I allow this, and I will allow two or three days more for the rapid part of his course; but I must observe, that for the first three days he could not proceed more than fifteen, or at the utmost more than twenty miles a-day, if he kept pace with the forces on shore; and when we have taken fixty miles out of an hundred and fifty or two hundred, we leave a fufficient refidue for the conclusion of his course, when he may be supposed to have proceeded with the fleet alone, leaving Hephæstion and Python to follow with the greatest dispatch in their power. All these circumstances confidered, there is every reason to conclude that Arrian is in harmony with Strabo; and as both these authors drew from original fources, whenever they agree, little attention is due to Diodorus, Q. Curtius, or Plutarch. Upon this occasion, however, though there is fome confusion, there is nothing in any one of those writers contradictory to the deduction here made.

It may be objected, that by placing two chiefs in this province, and a third on the mountains near it, we comprehend too much in proportion to the space allotted; but by the revenue Akbar derived

one hundred or one hundred and twenty, allowing for the course of the river.

from this foobah in general, and from the circar of Seewistan only, there is reason to suppose, that as long as there was any commerce upon the Indus all these circars were rich, and all the parts of them cultivated which were capable of cultivation. There is still greater reason to believe, that in the early ages they were all more populous and more opulent; for a number of small states, such as appear every where during this irruption of the Macedonians, univerfally indicate 199 population, commerce, and wealth. In the state of India, at this day, every chief who has a fortress is a khan or fovereign, and perhaps at this very inftant there may be more than two fuch fovereigns in this identical diffrict. It is Seewiftan itself that the Ayeen Akbari specifies as having forty thousand veffels on the Indus, and its revenue as amounting to forty-eight thousand five hundred and eighty-three 200 pounds. It is probably not less than two hundred miles in length by an hundred and eighty in breadth, and contains nine mahls or fubdivisions; these are fully equivalent to the territories or cities, which two fuch chiefs as Musikanus and Oxykanus can be supposed to have possessed.

But a weightier charge may be alleged against me, for setting up my opinion in opposition to Major Rennell. No one can bear ampler testimony to the accuracy of that able geographer than myself, for no one has studied his map and his memoirs with more attention; and if I dissent from him in this one instance, I do it with that deference which is due to his abilities, and the superior opportunities he has had of obtaining information.

(before the Romans were malters), Sicily, and Gaul, are inflances. In the modern world,

Before we proceed to Pattala, I shall explain another geographical problem, which, though not abfolutely connected with the progress of Alexander, pertains immediately to the country where we now are. Mr. d'Anville and Major Rennell both express their furprise at finding a tract called Indo-Scythia 201, in Dionysius Periegetes, Ptolemy, and the author of the Periplus of the Erythræan Sea. This tract feems in their opinion to extend upwards on the western 202 side of the Indus, and its inhabitants are by some means or other to be drawn out of Scythia or Tartary; but I conceive the whole to be an ancient error of the simplest nature. We find in this tract two tribes of Belootches, one called Sethians, and the other 203 Hendians 204 or Sindhians, which, though ill defined, feem by their names to be one tribe on the mountains and the other on the river; we find a third tribe of Belootches lower down, and nearly in the parallel of Tatta, called Nomurdies, who can raise three hundred horse and seven thousand foot 205. If then we may be allowed to add antiquity to these names, the Nomurdies and Sethians will be metamorphofed in Nomades and Scythians without hefitation; and we shall find the Indo-Scythians of Dionysius and Ptolemy in the Hendo-Sethians of Abu'l Fazil, without taking a flight with Mr. d'Anville to bring Huns out of Tartary, in order to fet them down on the banks of the Indus.

of Scindy, according to d'Anville. Anc. Geo. vol. ii. p. 346. Eclaircissemens, p. 42.

gara in it, (a constant mistake of his about Mansoura or Behker,) is disposed to extend it p. 119.
en the east side of the Indus.

²⁰³ The river Arabis, at which we shall soon arrive, has the name of Hend in d'Anville and de la Rochette; possibly, therefore, the Hendians and Arabitæ are the same.

²⁰⁴ Ayeen Akbari. Tieffenthaler, vol. i.

²⁰⁵ Ayeen Akbari, vol. ii. p. 142.

VI. PATTALA.

Longitude	0	-1	,7	Latitude . , "
by Ptolemy, from Ferro,	112			Ptolemy, 21 00
by Rennell, from Greenwich,	67	36	0	Rennell, 24 47 0
add from Ferro, -	17	40	0	
crus de para contra prisultais e de		16	0	Salesta eraenia tan
Ptolemy corrected by Mr. } Goffelin's method, -	80	0	0	
Ayeen Akbari,	102	30	0	Ayeen Akbari, 24 10 0
	92	31	0	De la Rochette, 24 43 0
Citer, Etvals, -	92	30	0	
Danuell's officertion is tales	. F.	0111	D.	raminahad ruhara nuchahlar

Rennell's estimation is taken from Braminabad, where probably are the rains of Pattala.

We are now to enter the Pattalene, where fresh difficulties occur, which, if they cannot be conquered, may be greatly diminished by a faithful comparison of our authorities.

Pattala, in the Shanskreet, signifies the region ²⁰⁶ below, or Hell. If we are disposed to interpret this appellation in a good sense, we may suppose the Hindoos signified by it, the country watered by the Indus in the lower part of its course. But if we prefer the other sense, there will be nothing improper in the application; heat and burning sands, and want of rain, all justify the allusion; and the entrance into this country from Hindostan, through the desert of Behker, or the other desert still more extensive, parched, and dan-

gerous, in the route from Guzerat, fuggests ideas of hell with great facility to the mind of an Hindoo.

The Pattalene is a Delta, like the Lower Egypt, but the dimenfions of it feem very ill defined. The base of this triangle lies nearly north-east and south-west; and if it were possible to give the extent of it exactly, we should obtain a great desideratum in geography. Ptolemy and the author of the Periplus affert, there are seven mouths to the river, and the modern name of Divillee is said to have the same allusion; but although Alexander navigated the two extreme branches east and west; and though there is reason to believe that the commerce on the Indus passed up and down both these, if not some of the others, in ancient times, I have never yet met with a traveller or voyager who passed up the eastern branch except Alexander himself. The extent between the two outer branches is given by

		Mile	e Eng.
Arrian, at	1800 stadia, -	equivalent by d'Anv. stad. to	113
Pliny 207,	220 Roman miles,		201
Rennell's first memoir,	210 English miles,		210
Rennell's fecond memoir,	150 English miles,	general proposite	150
D'Anville, -	30 leagues 1 1 degree	,	104
Dalrymple 208, Pritty's chart,	108 geog. miles,		125
Dalrymyle, by another chart,	124 geog. miles,	Secretary beautyped	143
De la Rochette, -	118 English miles,		118
Rennell's map, by scale,	170 English miles,	-	170
Ptolemy,	3 degrees 10 minut	es, ——	215

In the disagreement of these several accounts, none of which, as far as comes within my knowledge, are founded on astronomical

observation,

²⁰⁷ By applying d'Anville's folution to
Pliny, his measure is nearly the same as bundar. Allow for Ptolemy's degrees in latitude 24.

144 COURSE OF THE FLEET DOWN THE INDUS.

observation, nothing appears nearer approaching to probability than the estimation of Arrian; it is likewise, perhaps, the only one that is built upon measurement; for if the coast is capable of a survey, it is almost to be depended upon as a certainty that it was measured by Alexander's surveyors.

The measurement of the sides is as difficult to obtain as that of the base of this triangle; nor does any thing appear like authority on this head, except what is found in Major Rennell, that it is an hundred and twenty-sive miles by the course of the river from Laribundar to Tatta, and Laribundar is from sisteen to eighteen miles distant from the sea; this, with four miles from Tatta to the head of the Delta, makes upwards of an hundred and forty-sour miles for the western branch of the Lower Delta, and is reduced to sixty-eight geographical miles by the scale 200. The eastern branch by the course of the river is stated in the same author at an hundred and seventy miles. This is the best information attainable on the subject; for, as the authority of other maps is unknown, they are less to be depended on.

But there is another extraordinary fource of obscurity which belongs to no other spot upon earth; for as the English charts give Lari-bundar for the extreme point west, and by a peculiar inversion Bundar-Lari for the extreme point east, so does the Ayeen Akbari give Cutch for the country eastward, on the bay of Cutch or Scindy, and another Cutch for Mekran on the west. Mr. d'Anville looked likewise for the Sangada of Arrian somewhere on the coast, but could find only the Sangarians or Sanganians, a horde of pirates

then three days fail added. Lib. ix. p. 9.

in the bay of Cutch eastward, whereas Sangada is evidently to the west of the Indus. May not this suggest an idea that Sangada was anciently applicable to both sides of the river, as Cutch is at present; and that the name has survived on the east, while it has perished on the west? In regard to the name of Cutch, Major Rennell is certainly not mistaken, when he conjectures that Cedge "" or Gedge may be the native root of Gedrosia, the Cutch or Gedge-Mekran of the moderns.

It has been already observed, that Alexander had conceived a plan of that commerce which was afterwards carried on from Alexandria to the Indian ocean. I think this capable of demonstration by his conduct after his arrival at Pattala, and I shall enumerate some circumstances in confirmation of this assumption.

Alexander, in his passage down the Indus, had evidently marked it as the eastern frontier of his empire. He had built three cities, and fortified two others on this line; and he was now preparing for the establishment of Pattala at the head of the Delta, and planning two other posts at the eastern and western mouths of the river. The forces to be left under Python, who was fatrap of this country, were chiefly Asiatic; sufficient, probably, for the defence of this frontier, if Alexander had lived to give vigour and stability to his empire, and capable of maintaining the posts he had established for the protection and extension of that commerce he had in view.

With these objects before him, he had, immediately upon his arrival at Pattala, dispatched his light troops in pursuit of the fugi-

Derived, in all probability, from Kiz, Cheref-eddin and the Nubian Geographer. Kij, or Kidge, the capital of Mekran. See

tives who had deferted the city; and most of them, upon promise of fafety and protection, returned. His next care was to explore the deferts on both 212 fides, to find water and to fink wells. This is one evidence rather of a commercial than military tendency, for fuch, all who have travelled in the deferts will efteem it, and fuch was the opinion of Arrian, who adds, that it was with a view to render the country habitable.

The construction of a fortress at Pattala was committed to Hephæstion; and as soon as that business was in some degree of forwardness, Alexander prepared to explore the western branch of the river to its mouth. The general course of this navigation is no difficult matter to conceive; but the particulars afford doubts, which, from the deficiency of materials, and the variations in those we have, are not easy to be resolved. If we place Pattala near the head of the Delta, which we must, the scite of Braminabad now in ruins, within four miles of Tatta, will fufficiently correspond. This city, before the inroads of the Mahometans and Mogols, is faid to have been furrounded with a wall that had fourteen hundred bastions; and the wealth and importance of fuch a capital, while commerce flourished on the Indus, plainly indicate "3 the judgment of Alexander in choosing it as a position for a fortress. If his departure was from this point, his progress was down the Lari-bundar river, or Darraway; and the mention of two islands, one near the mouth and the other out at fea, will afford reason to suppose that the first is that upon which Lari-bundar 214 stands in our best charts.

²¹² More probably on the west only. 213 It indicates, likewife, the population of bundar on the west of the Darraway, or rather ancient India, as fuperior to the modern; a Pitty branch. point fo often infifted on in this work.

²¹⁴ Major Rennell's last map places Lari-

however, is not clear; for Captain Hamilton, who describes Laribundar as a village "5 of an hundred houses with a fort, and who himself conducted 216 a caravan from hence to Tatta, does not inform us on which fide the river it is placed. From the course of his march we should suppose it to be on the western side, as Rennell 217 has described it; otherwise he must have crossed the river, which is not noticed. There is, however, one circumstance to make us think his route lay within the Delta, for he mentions the tombs 213 of the ancient kings evidently at Braminabad, four miles from Tatta, as if they lay in his road; if fo, Lari-bundar is not on the west of the Indus.

Mr. Dalrymple 219 is fatisfied in regard to the position of Lari-bundar on the eastern bank, but thinks its infular fituation dubious; neither would it have been necessary to infift on this point, unless from a defire of fixing one of those islands observed by Alexander in his passage to the fea. He fet out from Pattala with all his gallies, feveral of his half-decked veffels, and his best failing transports; dispatching Leonnatus at the same time at the head of a thousand horse and eight thousand infantry, with orders to proceed within the Delta 220, and attend the motions of the fleet. It had been found impossible to procure a native pilot, as the inhabitants had fled, and upon the fecond day a ftorm arose, which, blowing contrary 221 to the stream,

²¹⁵ In 1699.

²¹⁶ Vol. i. p. 114.

²¹⁷ I conclude this from Major Rennell's

from Mr. Erskin, English Resident at Tatta full vigour. in 1760.

²¹⁹ Private correspondence, December 22, 1794.

This is a confirmation that the Delta in map, which places Dungham, an intermediate this part was not interfected with rivers or flation of Hamilton's, on the west of the Dar- canals, and countenances the opinion I have formed of Hamilton's march.

Anguetil du Perron mentions these tombs 228 As this was nearly the month of as still existing, and testified to him by letter August, the south-west monsoon was in its

endangered the fafety of the fleet. Some of the gallies perished, and the remainder was with difficulty faved by running them on shore. During the delay occasioned by this misfortune, and the repair 222 of the veffels, some light troops were sent in pursuit of the natives, and a few were taken who were used as pilots in the profecution of the voyage. When thefe difficulties were furmounted, the fleet proceeded; and as it now approached the fea, the stream appeared enlarged to two hundred stadia 223; an exaggeration which no computation of the stadium, no allowance for the overflowing of the river, can justify. It is true that the feafon "" might have fwelled the waters nearly to the highest, and the monsoon contributed to the obstruction of their discharge; but that a river, which is not more than a mile or a mile and a half broad, should from either of these causes be spread to the extent of twelve or thirteen miles 225, is not confiftent with probability. The numbers in Arrian are poffibly erroneous, (for all numbers in Greek historians are to be suspected); but if they are correct, and copied from the journals Arrian followed, we must either make great allowance for the different 226 breadth of the river in that age, or suppose (as is much more probable) that the Macedonians on board were fo alarmed at the catastrophe which befel them the following day, that they amplified in proportion to their terror.

athers were constructed. But perhaps we ought to read, it itigat, the others were repaired, if commission will bear that sense; for time would scarcely allow the building of new ships, and the country affords no timber.

²²³ Arrian.

July or August.

²²⁵ By the lowest stadium.

fubject to the folditial swell, accumulates obfructions at its mouth. In the records of modern history, the sands are much increased, and Tavernier speaks of the mouths as hardly navigable; and such is the Rosetta, or grand branch of the Nile at this day.

That day produced a violent gale from the fea, and great hazard to the fleet, which had evidently moved with the tide of ebb, and been involved in the turbulence raifed by the opposition of the wind to the stream. To avoid this, they took shelter, by the advice of their native pilots, in one of the canals 227 or creeks which had been formed for the convenience of the neighbouring country. As the tide fell, the veffels were left aground; but upon the return of the flood, those only that had fettled upright in the mud, or ooze, escaped unhurt, while all that lay inclined upon the harder 228 ground were exposed to the most imminent danger, and feveral were loft.

The furprise of the Macedonians on this occasion, and their ignorance of the tides, has been ridiculed by Voltaire, who thinks it incredible that Alexander should not know the nature of tides, as he must have seen the Euripus when in Bæotia, and must have known that Aristotle wrote upon the subject. Major Rennell has corrected this petulance, by shewing that the tide in the Indus is the Bore ", which operates along the whole coast, and which in the neighbouring bay of Cutch, and round the whole peninfula of

described by the author of the Periplus Maris Erythræi (page 27, Hudf. Ed.) in the gulph of Cambay, or Guzerat, which he writes Barugaza; and I invert Barugaza into Ba-Guzara, or Guzerat; for Guzerat is only a corruption of the Arabic Gezira, and is a peninfula. In this view I contemplate the Barugaza of the Periplus, and the Ba-gafira of Arrian, as the fame word; for Arrian applies Ba-gafira to Cape Arraba, which is a peninfula alfo. The adjunct Ba will be no. ticed hereafter; and as the Orientals themfelves transpose the fyllables, writing Genra or Gerifa, fo does the Periplus add another 229 The Bore, with all its attributes, is transposition, Rugaza for Guzara, or Guzarat,

^{· 227} Διώρυκα, a nullah.

²²⁸ The gallies (TRANSOTOFOI) were probably, in the nautical phrase, sharp built, that is, with deep keels; a vessel of this kind is ill adapted for taking the ground, and when she is left upon an hard furface lies down almost on her fide; the consequence is, that upon the return of the tide, she fills with water before she floats. I am informed that the circumstance here noticed is exactly fimilar to what takes place in the mouth of the Seine, between Havre and Rouen, where the tide rifes with a rapidity greater than any experienced in our own country, except perhaps in the Severn.

Guzerat, is described as one of the most alarming effects which the fea produces.

The damage was repaired as well as the fituation of affairs would allow; and two of the transports were fent down to explore an island called Killuta [Killoota], where it was faid anchorage and shelter would be found, and occasion might be taken for profecuting the difcovery 200. Upon a favourable report the fleet proceeded to this station; and Alexander, taking with him some of the best failing veffels, proceeded to a fecond ifland which lay clear out of the river, and ascertained the existence of a passage. The distance of this fecond island from Killuta is estimated at two hundred stadia, or about twelve miles; and if our modern maps or charts were to be depended on, we could find positions for both these islands. One of Mr. Dalrymple's charts gives an island named Lari-bundar (from the town), which would answer to Killuta, and another small islet which might correspond with the second; Mr. de la Rochette's map feems to have followed this as authority; but as Mr. Dalrymple publishes the drawings he receives, without making himself answerable for their accuracy, and as he has himself doubts concerning Lari-bundar, nothing can be determined positively on the subject. From the nature of the river, we may conceive that new accumulations have obscured the ancient face of the coast, new channels may have been formed by art or nature, and old ones obstructed; and if we were to give a preference, it would be to abandon the position of Killuta 231 here assumed, and establish upon future ob-

2.0 More will be faid on the subject of this tions Deboul, Divil Scindi, here, in latiisland when it comes under consideration again tude 22 30", which it certainly is not; and upon the departure of Nearchus. Lahuri Larri on the eastern branch, two days 231 Cilluta, Cilluta Scilluslis Pultucin. Curt. journey distant, which is vague. Vol. i.

Loccenius, in loco; but see infra. Otter men- p. 406.

fervation the scite of the outer islet, as the extent of Alexander's progress.

The Western Mouth of the Indus called SAGAPA by Ptolemy :

From this point he returned back to Killuta, and facrificed to the gods; he proceeded the next day a fecond time to the outer island, and facrificed there also; after which, he stretched out into the ocean, as he afferts 232 himself, to determine whether the sea were open, or there were land in the neighbourhood; but, as I imagine, says Arrian, not a little instigated by the vanity of having it recorded, that he had navigated the Indian 233 ocean. At the extent of his course, he sacrificed a third time to Neptune with still greater solemnity, throwing the golden vessels he had used in the ceremony into the sea, and praying for a prosperous issue to the expedition of Nearchus.

The object of this excursion being completed, Alexander returned *34, with the vessels which had accompanied him, up the river again to Pattala, where he found the citadel completed, and Python

Spartan government! But where are we to find it? Both Diodorus and Curtius are ignorant of the voyage down the castern branch. Diod. xvii. p. 241.

²³² Probably in his letters, which were extant in the time of Arrian.

²³³ Τη, έξω Ιδώ, θάλασσαν. In opposition to the Mediterranean.

²²⁴ To Hyala, fays Diodorus, a city with a

returned from his expedition. Hephæstion was left to superintend the conftruction of a naval arfenal here, with orders to fortify it, and prepare it for the reception of a fleet which was to be established at this flation, while Alexander himself should undertake another excursion to the sea by the eastern branch of the river.

These two branches only are mentioned by Arrian, and the reason evidently is, that thefe were the only two explored by the Macedonians. I have met with no author prior to Ptolemy who mentions the feven 235 mouths; and modern geography, though it preferves the record of the river still having feven issues, affords nothing specific upon the subject. On two of Mr. Dalrymple's charts, double the number of creeks or inlets may be collected, with their names; but whether they are natural or artificial, ancient or modern, feems, from all the information we have at prefent, impossible to determine.

Major Renuell brings out the eastern channel much farther towards the east in his second map than in his first; the channel itself, or the place at which it issues, is named Pandrimmee or Pandrummee, in his and feveral of Mr. Dalrymple's charts; and the stream is called Nulla Sunkra. But Nulla, Nalla, Nalla, Nallah, is a Perfian term, and feems as if it was never applied properly except to an artificial 236 cut. The authority for making this the easternmost branch at prefent stands high; for we have in Frazer the translation of the . actual treaty 237 between Nadir Shah and the Mogol Emperor, in

marshes they pass through.

236 Nullah or Nallah is a Perfian word, derived from the Hebrew and and a hollow, valley, or course of a torrent-the torrent it- same manner as Frazer, writes it Nalé Senfelf. Lev. xi. 9. Deut. ii. 24. Ifaiah, xxx. 28.

235 The author of the Periplus says there xxxv. 6. xxxiv. 9. But there is an authority, are feven mouths, but two only navigable; Isaiah, xi. 15. where יוב is applied to the others are shallow, or choked by the the seven streams of the Nile. Bishop Horfely.

237 Frazer's Nadir Shah, p. 226.

Otter, who reports this treaty nearly in the

which Nala Sunkra is made the new boundary of the two empires. It is not a little remarkable, that previous to this treaty in 1739 the boundary of Indoftan and Persia was nearly the same as in the age of Alexander; for till this took place, the Mogul empire extended to the range of mountains on the west of the Indus, the residence of the Belootches, and in Arrian's journal the river Arbis or Arabis, which springs from that chain and runs parallel with it at no great distance, was the limit of India and of Indian manners 236.

Nadir Shah had paffed the fources of the Indus and the Panje-ab. and he preferred the Attock river as a boundary to any other; he prescribed this, therefore, to the conquered Mahommed, and at the fame time carried his claim to the circar of Tatta and its dependencies, including the whole Delta, as bounded by the easternmost branch, or Nala Sunkra, and establishing 239 Lohry-Bundar (evidently beyond that line) as the extent of the Mogul empire.

There is nothing but the term Nala which hinders me from eftablishing this as the very channel navigated by Alexander; and though no modern accounts have ever been attainable to afcertain the paffage down this branch, yet I have no doubt that while commerce flourished on the Indus this was the immediate course of communication, as trade always flowed to Guzerat and the coast of Malabar naturally, rather than to any port on the west of the Indus. If the prefent Nala be a genuine stream, there is no difficulty in adopting it; if it is an old channel cleanfed, it might assume the

but were not Indians.

Lari-bundar, thus fpelt in the treaty; this cover the application of this term to both.

¹³⁸ The Oritæ partook of Indian manners, is what our English authorities call Bundar Larce, to distinguish it from Lari-bundar on 239 Written Seuheri by Otter, vol. i. the western branch, or Daraway. Better p. 409, perhaps for Leuheri. Lohry is knowledge of the language will possibly dif-

name of Nala; and if it is a new cut, it cannot be of very late date; for the commerce on the Indus is ruined. In any view, it must be nearly parallel with the ancient channel, and at least part of the course pursued by the Macedonians. Alexander himself assumed the office of exploring this passage; and no commander was ever more personally entitled to the honour accruing from the success of his designs, or contributed more by his own exertions to the accomplishment of them: In battle he constantly fought at the head of that body on which the fortune of the day depended; in all expeditions to the personally executed that part which presented the greatest difficulties; and in every scheme of magnitude, after procuring the best information, he was the first to try the ground himself, before he committed the execution of it to others.

It was in conformity to these principles of conduct that he now determined to explore the eastern branch of the Indus; conquest was at an end, for the barrier of the empire was determined on; and evidently no object was before him, but either the safety of the sleet in the choice of a passage, or that still greater system of commerce which he had meditated, to connect the interests of Europe and India, and of which the success of Nearchus was to be the origin and commencement.

He departed from Pattala apparently with the same escort as before, and sell down the stream till he arrived at a lake or bay, which was of great extent, and received its supplies from other waters in the adjacent tract. But as we know the Indus receives no tributary streams after it passes Behker, we must conclude that these

²⁴⁰ He fent Craterus through the midland provinces, and marched himfelf through Gadrofia.

²⁴¹ He visited the stagnant pools from the inundation of the Tigris and Euphrates, and planned the barrier at Pallacopa.

waters in the neighbourhood can be no other than different channels, which branch from the main river and interfect the Delta in different directions; thus is Arrian, who mentions but two channels, compelled to bear witness to the existence of more. And would not this be the case with the Macedonians themselves? They navigated only two streams, and therefore described but two; they have nevertheless recorded the circumstances which occurred, and these circumstances prove more to us than to those concerned in the transaction.

This lake 242 is evidently no more than a bay into which the eaftern channel falls, and must be searched for in vain at the distance of twenty centuries, confidering the nature of the river, and the accumulations at its mouth. It is described by Arrian as very extensive, and abounding in all the species of fish which are common to the neighbouring fea. At the head of this bay Leonnatus and the greater part of the forces were put on shore, while Alexander proceeded with the gallies to take a view of the ocean. He observed the paffage here more open and convenient than that through the western branch; and though he did not afterwards send the fleet down this channel, we may collect that he intended to use it as the means of communication with the coast of Guzerat and Malabar, by the transactions which took place; for as foon as he had anchored he landed with a body of horse and, proceeded three 243 days march along the coast, making observations on the country, and directing wells to be funk.

The

²⁴² Q. Curtius, who knows nothing of the prous, but were cured with oil. Lib ix. passage down this branch, finds a lake on the p. 9. other, where those who bathed became le-

The general title of this tract is Cutch 244, and gives name to a bay on which it lies; the country is a defert inland, and feldom passed but by the caravans which used to travel between Guzerat and the Indus. Our modern journals still mark the wells which have been sunk to make the desert passable. Parallel to the coast runs a range of mountains called Chigoo; and the strip of land between these and the sea is the residence of the Sanganians 245, a race infamous for their piracies in the accounts of all our early voyagers. Along this level Alexander advanced, and the wells he sunk sufficiently indicate the object of his expedition.

If I understand Arrian right, Mr. Rennell 246 is mistaken when he supposes Alexander to have advanced westward along the Delta upon his landing in the direction that his sleet was to sail, for the sleet did not put to sea by this channel; and mention is afterwards made of a detachment that appears to have landed on the Delta, with orders to examine the coast, to sink wells 247, and then join the main army at Pattala 248.

Upon the conclusion of this excursion, Alexander embarked his horse again, and returned to the head of the bay where he had left Leonnatus. Here he directed a station 249 to be fixed, with a naval yard and dock, leaving a sufficient garrison for its protection, and provision for four months.

I enter into this detail of minute facts, in order to evince the reality of that forefight and prudence which I have all along attributed to this great commander; his character has been usually esti-

²⁴⁴ Kartich. De la Rochette.

²⁴⁵ Hamilton had a battle with them.

²⁴⁶ Poftfeript, p. 204.

³⁴⁷ See Gronovius's Note, p. 259.

²⁴⁸ Την Παραλίαν.

²⁴⁹ Possibly the Xylenopolis of Pliny. Lib. vi. p. 23.

mated by the victories he gained and the ravages he spread; but the regulation of his empire, the fecurity of his frontier, the extent of his commercial views, the furvey of his provinces, and the share he took himself in every thing that concerned his government, lie obscured by the splendour of his arms and the extent of his conquests. We are now to attend him back again to Pattala; and if I could give a fatisfactory account of this eaftern branch, I should fatisfy the curiofity of the most accurate inquirer: but Major Rennell, who fays it is an hundred and feventy miles in extent, does not carry the Nulla Sunkra to Tatta, but much higher. Mr. de la Rochette's 250 map gives it a direction I could adopt, and makes a confiderable bay at the mouth of it; but as I know not the authorities he follows, I am conftrained to hefitate while I feek for evidence. The lower part of the Delta is interfected by a variety of channels which it is impossible to specify; it is without wood, and abounds in camels; the upper part near Tatta was fertile in the best rice, and other produce of importance, while the country had any commerce; and cultivation being probably in a higher state at the time the Macedonians visited the country, the support of three garrifons for its protection was neither superfluous or oppressive.

Alexander did not stay long at Pattala after his return; he had previously determined to penetrate into Gadrosia, and explore the coast, in order to facilitate the success of Nearchus; and from the circumstances which occurred, we may collect that he moved near a month earlier than the sleet. Strabo mentions that he was ten months in his passage from Nicæa to Pattala; if, therefore, he had

fet out on the twenty-third of October in the year three hundred and twenty-seven A. C., he came to Pattala in August three hundred and twenty-fix; but the dates in the fame author prove rather nine months than ten; and the concurrent testimony of other facts favours this estimate rather than the other. We cannot allow much less than a month for the transactions which took place at Pattala, including the navigation of the two streams; if, therefore, he left that place at least a month before Nearchus, as will presently appear, he must have arrived there in the latter 251 end of July or the beginning of August, and left it early in September.

We shall be under no necessity of attending upon this expedition farther than it is connected with the progress of the fleet; but as there were two opportunities of communication embraced, and a third attempted, we must accompany the army into the country of the Arabitæ and Oritæ; after which, it will be fufficient to sketch the general course of the route into Karmania, where Nearchus joined Alexander again, and reported the account of his fuccefs.

VII. I place the departure of the army from Pattala in the beginning of September, at which time Nearchus received his final orders, which directed him to take charge of the fleet, to prepare every thing necessary for the voyage, and to proceed to sea as soon as the feafon would permit.

Alexander proceeded into the country of the Arabitæ, lying evidently in that range of mountains before described, which com-

251 Strabo, Lib. xv. p. 691.

They fet out a few days before the fetting of the pleiades, and spent the autumn of that year, the winter, fpring, and part of the following fummer, in their paffage down the river; they arrived at Pattala about the rifing of the dog flar, completing their navigation

in ten months-but how fo ?-the pleiades fet the 28th of October, and the dog-star rises the 26th of July, which makes nine months as nearly as is requifite. How can we account for liez wieze here, but by that perpetual error which pervades all the numerals in Greek

mence from the fea and extend parallel with the Indus up to Kandahar. These mountains are still occupied by different tribes of the Belootches, whose habits to this day refemble the manners of the people described by the Macedonians. They dispersed at the approach of a superior force, and collected again from their fastnesses as foon as the enemy was paffed.

These Arabitæ are mentioned by Arrian as an independent tribe, like the Belootches of the present day; as in fact all the inhabitants of mountains 252 either in Persia or Hindostan have generally been. Their country feems to lie on one of the branches of the great chain, and extends into the plain as far as the river Arabis, which was the limit of India in the age we are treating of, and either at this river or at the mountains the boundary continued, till Nadir Shah, by his treaty with the Mogul emperor, removed it to the eastern stream of the Indus. Major Rennell's fecond map defines this country and the ridge which ends at Cape Monze, agreeably to Arrian's account, and, from a variety of corresponding circumstances, there is every reason to subscribe to his opinion.

And here, as I shall have no better opportunity to mention a variety of facts, which will contribute to the perspicuity of the narrative, I shall introduce a general view of the coast, and the peculiarities connected with it. The nature of the two coasts of Malabar and Coromandel is now well known in Europe, as confifting of a tract of low land towards the fea, below a line of mountains. which encircle the whole centre of the peninfula; the fame circumstance seems to take place again on the bay of Cutch, where the

robbers inhabiting one part of Afia, i.e. Taurus, published with Major Capper's route from Amanus, M. Cafius, &c. &c. may find a very Bafra to Aleppo.

²⁵² Those who wish to see a catalogue of the extraordinary one in Mr. Baldwin's journal,

Chigoo mountains appear running inland, parallel with the fea, till they join the range of fand hills which form the eastern branch of the valley in which the Indus flows; the centre of this valley is occupied by the stream, and at no great distance on the western side another barrier is raifed by the chain of black and rocky mountains fo often mentioned; one ridge of which terminates not far from the western mouth of the Indus at Cape Monze, the Eirus of the Macedonians. Out of this chain, at no great diffance from the fea, a branch shoots off again, running west or north-west parallel with the coast *53, and inclosing the level country of Gadrosia, parched and barren in the extreme. The modern name of this tract is Mekran, or Cutch *54 Mekran, and is specified in Commodore Robinson's journal, published by Lieutenant Porter by the name of Bloachee, and Brodia. Bloachee is a corruption of Balotchee, and I imagine the coast is so called as far as the influence of the Belootches 255 extends. and, where that ends, Brodia. That this branch fends off shoots towards the fea at particular points feems probable; but that its general course is parallel with the coast, is ascertained by Commodore Robinson's 256 journal, and another of the Houghton East Indiaman, 1755, which I owe to the communication of Mr. Dal-

shoots from this chain, forming the residence of the Oritæ.

Q. Curtius fays, that Alexander waited at Pattala for the return of spring; not knowing that the change of the winds causes the difference of seasons. He adds, lib. ix. p. 10. that Alexander made nine days' march into the country of the Arabites, and nine more into Gadrosia; subjoining, almost immediately, five days' march to the river Arabis.

²⁵³ It is nearly evident that a second ridge I could have made use of his eighteen days, if he had not destroyed his own confistency.

²⁵⁴ Gedje-Mekran; Rennell: from Kiz or Kidge, the capital.

²⁵⁵ The boundary between Bloachee and Brodia is fixed by Lieutenant Porter at Guadel:

P. 5.
256 "The land, as in all other parts of the coast [of Bloachee], is extremely low by the fea fide, and very high in the country." C. Robinson. Lieutenant Porter, p. 2.

rymple. In all this level country no river 257 has a longer courfe than from the mountains to the fea; in which it refembles the coast of Malabar, where almost all the rivers rife westward 258 of the Ghauts. One branch of this range, I imagine, verges towards the fea, not far eastward of Cape Jask, separating Gadrosia from Karmania; but no fooner are we past that promontory than we find the fame face of the country return, a level tract along the coast called the Kermesir, or hot country, with a range of mountains inland. This range, Mr. d'Anville fays, is never cut by any river, but stretches on uninterrupted till it joins the mountains which encircle Perfis and Sufiana. Here the Tigris stops its farther progress, and fends it off with various curvatures till it joins the mountains of Armenia. These general properties attending the whole range of coast almost from the mouths of the Ganges to the Tigris. prefent one of the boldest features in the geography of the world, and become of more importance, as these mountains connect with that extraordinary chain which extends on the north of Perfia across the sources of the Indus, forms the barrier of Hindostan, and penetrates through the extremity of Asia, till it falls into the sea of Amoor, on the north of China.

There is no part of Arrian's hiftory where these general circumstances connect with the transactions of the Macedonians, which is unworthy of the attention of geographers; and, on the particular coast of which we are now to treat, nothing which the most accurate investigation of modern inquirers has not confirmed. He has

Banca as rifing beyond the mountains; but, as the Nerbudda, Krifina, Ganga, and Caveri, no memoir accompanies his map, I know not &c. all rife above the Ghauts, and near the on what authority. Otter, however, counte- western range. nances this opinion.

²⁵⁷ Mr. de la Rochette marks the Tanka- 259 It is not so on the coast of Coromandel.

traced the line of these mountains, from Paropamisus to the sea, with as much precision as the Ayeen Akbari; and he has brought the army to that pass over them, which continues to this day the route of intercourse between the Indus²⁵⁹ and Mekran; if intercourse there can be, where the roads are exposed to banditti, and where there is little power or attention in government to protect the interests of commerce.

Arrian does not indeed expressly state, that Alexander passed a line 260 of mountains in this march; but it may be collected from what he has said above, that the range in the country of Musikanus, or Sambus, extended to the sea. He advanced with a body of horse and light troops, leaving the remainder to follow under the command of Hephæstion; the natives sled into the desert on his approach; in pursuit of them he passed the Arabis 201, a narrow stream with little water, and advancing through the desert all night, reached the habitable country in the morning. This was the residence of the Oritæ. Here he left his infantry to follow in due order; and, spreading his

259 See the Nubian Geographer, p. 57, et

The existence of this range is indisputable, for the Ayeen Akbari says, "there is another range, one extremity of which is in Kutch, (the coast west of the Indus,) and the other joins to the territory of the Kulmanies, where it is called Karch. It is inhabited by four thousand Belootches."

It has already been shewn that the Kulmanies are on the parallel of Sewistan, and probably occupy the territory of Sambus; this range, therefore, that runs from thence to Kutch, (the coast,) can be no other than the one occupied by the Arabitæ or Oritæ. I am persuaded with Major Rennell, that there are two of these ranges, one belonging to each; and nothing hinders me from afferting it but the appellation of Karch, which affords a suspicion that Kar has some relation to Har, Haûr, Hor-eitæ, Or-eitæ.

"The land at the back of Crotchy is pretty high, and extends fo to C. Monze." Lieutenant Porter, p. z. I shall shew hereafter that Crotchy is the Crocala of Arrian; and C. Monze, Eirus, or Irus: and I consider this evidence of Porter as full proof of the existence of a chain previous to the river Arabis.

de la Rochette, and the Arabitæ; perhaps the Hendians of the Ayeen Akbari.

cavalry over the country, flew all that refifted, and brought in a great number of prisoners. The army then halted at a small 262 stream for the arrival of their light infantry and the junction of Hephæstion. As foon as they came up, Alexander himfelf moved to Rhambacia 263 the principal village of the Oritæ; he found the fituation advantageous, and directed Hephæstion to fortify it as a post, while he proceeded again to the confines of Gadrofia. Here the Oritæ who had fled, after being joined by the Gadrofians, had taken post in a pass that was narrow and difficult of access (apparently on the fecond of those at chains already mentioned); and this pass they determined to defend. Upon his approach however they dispersed, and the Oritæ fent offers of submiffion. He ordered the chiefs to

again under the name of Tomerus.

263 Ram, or Rham, has doubtless a sense in Shanskreet. There is a Ram Raja in the Mahratta country; another Ram mentioned in Nadir's treaty; and Ram-nagar in the Ayeen Akbari, as lying in the course of the mountains north of Gadrosia. I see no reason why this last may not be Rham-bacia; but I find no Ramnagar in the maps. See Snakenborck Not. ad Curt. lib. ix. p. 10.

264 I have before appealed to [C. Robinfon] Lieutenant Porter, for the existence of a range which falls in at C. Monze, or Irus; and I think we have his authority for a fecond ridge between the Oritæ and Gadrofia, which falls in at Cape Moran, or the rocks of Kingalah. Moran, I have no doubt, is the Malana of Arrian, which he fays is the western limit of the Oritæ; and a bluff head-land, mentioned here by Lieutenant Porter, is, I apprehend, the termination of the ridge. Moran is marked by d'Anville with the title

262 Probably the stream we shall hear of of Malan; and considering how easily I passes into r, both to the ear and by pronunciation. no doubt remains that the Malana of Arrian, the Malan of d'Anville, and the Moran of Porter, are the fame. See Lieutenant Porter, p. 3. I have met with Malan and Mahlan in other journals. Mr. d'Anville, p. 44, Antiq. Geog. quotes Thevenot; and Thevenot mentions Malan, p. 194, Eng. ed. but with fuch obscurity, (for he did not see it,) that it is not eafy to afcertain whether he means to fay it is twenty or forty leagues from Scindi.

> " Cudjerah appears a low point, but ter-" minates in a bluff, as by its last appearance " with C. Moran." Lieutenant Porter, p. 3. " The land from Sommeany, [the mouth of " the Arabis,] runs extremely low next the " fea, but the back is very cragged, and con-" tinues fo to Cudjerah." Id. ibid. All these testimonies indicate a ridge tending to the sea at Malana; and here, where Arrian places the boundary of the Oritæ, we ought to find it.

collect the fugitives, and fend them to their respective habitations, under a promise of fafety and protection.

Apollophanes was appointed fatrap of the province, and Leonnatus was left with the Agrians, a body of archers, horse and infantry, and the whole of the Greek cavalry in the fervice. These forces were intended to support the regulation of the province, to superintend the establishment of the city, and to wait the arrival of the fleet on the coast. Alexander 265, upon leaving Pattala, had defigned to have proceeded along the coast and attend to this service himself, by digging wells and collecting such supplies as the country afforded; but he had been diverted from this purpose by the flight of the Arabitæ and Oritæ; and as he was now at the entrance into Gadrofia, where he forefaw the difficulties he was to encounter, he was defirous of proceeding with all dispatch, and left the protection of the country and the fleet to Leonnatus. That officer approved himself worthy of the charge; for scarce had Alexander left the province before the Oritæ, with the neighbouring tribes, collected again into a body 266 and attacked the forces left for its defence. A victory over fuch an enemy as this was perhaps no great atchievement; but as Leonnatus flew fix thousand natives, faved the province, and relieved the fleet, his fervices were rewarded with a crown of gold when he afterwards joined the main army in Sufiana 267. Neither ought we to undervalue the merit of this fervice; for this part of the coast, before we enter Gadrosia, appears neither deficient of inhabitants or the means of supporting

²⁶⁵ See Arrian, p. 260. 266 Eight thousand foot, five hundred horse. Q. Curt. lib. ix. p. 10. The reverse is more received the crown in Susiana,

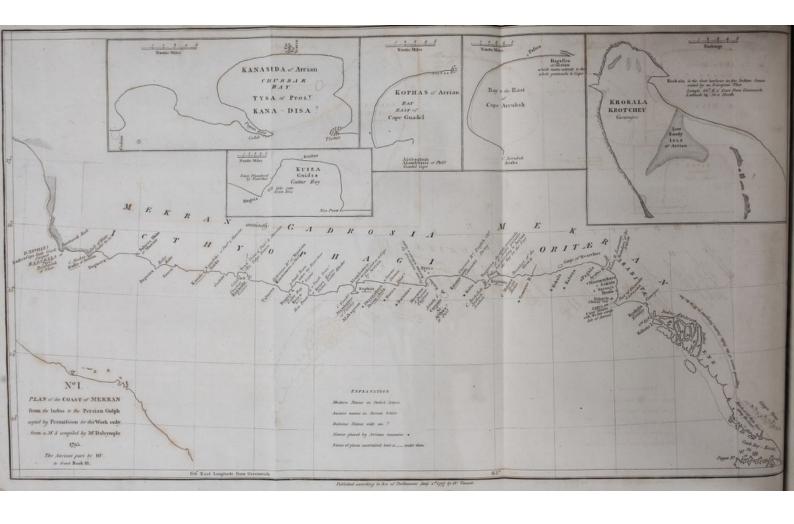
credible, for these tribes are all mounted. 267 He probably joined in Karmania, but

165

them. The natives, as possessor of a mountainous country, were probably hardy, and accustomed to a life of pillage, neither unacquainted with the use of arms, nor without courage to maintain their independence. They are described by Arrian as not being an Indian tribe, for India ends at the Arabis; but as being the last people whom Alexander sound with Indian manners. As soon as he entered Gadrosia, he was properly in Persia; and the distress he experienced in that province shall be no farther noticed than as it is connected with the navigation of the sleet, to which we must now return.

them. The orders of policitors of a mountainers country, were probably hardy, and accellanced to a life of quinger orders upper quainted with the often arms nor without courage to maintain them independence. They are ordered by Arrian to not being an Indian with, the tools at the chiefficed by Arrian to not being an Indian with, the tools at the chief property of the factor of the difference of the courage of the life of the difference of the courage of the life of the difference of the courage of the fact, to which we out they are in the couraged of the the cave grown of the fact, to which we out how





AS OF SURFIES PERMIT

V O Y A G E

OF

NEARCHUS.

B O Q K III.

COURSE from the INDUS to CAPE JASK.

I. Coast of the Arabies, or Arabitæ.—II. Coast of the Oritæ.—
III. Coast of the Isthyophagi.—IV. Dissertations.

HAVE already fixed the departure of the fleet from the Indus on the fecond of October, in the year three hundred and twenty-fix A. C. and though I might have taken advantage of Strabo's authority to postpone this date to the tenth, I still prefer the precision of Arrian to the general date of the Geographer. The north-east monsoon, which commences in November and becomes settled in December, makes a later day more agreeable; but as we shall immediately see that Nearchus, after having cleared the river, was obliged to lie in harbour twenty-four days, till the season

was favourable, and other circumstances of the voyage mark the commencement and vigour of the monfoon, the method purfued to fix the date is not liable to objection.

The reason for proceeding before the monsoon commenced, is ascribed by Strabo to the discontent of the natives; and we may obferve, that though Mæris, the chief of Pattala, had previously made his fubmission to Alexander, he fled on the approach of the fleet. and no mention is afterwards made of his return, or his being brought in by the troops who were fent in pursuit of him. His flight into the defert, we may conclude, was on the east of the Indus; for had it been on the west, we should have heard of some attempt to recover him, when the army proceeded in that direction; but as no fuch circumstance occurs, we must suppose that he returned as foon as he heard of Alexander's departure, and endeavoured to recover the province he had loft.

This transaction throws light upon the narrative of Arrian, and reconciles the difficulty arifing from the departure of the expedition before the feafon. Arrian', however, is fo far from acknowledging it, that he mentions the performance of the games and facrifices usually adopted on such occasions, which intimate neither hafte or confusion at the actual moment of embarkation. But there is one

omitted.

Και δή η φησίν ο Νίαρχος, ήδη τη Βασιλίως τελώντος την όδος, αυτός μιτοπώς θ κατά Πλειάδος έπιτο ή Ισπιρίαν άξξασθαι τη πλύ, μήπω μέν των mieumatar likelar bitar, tar di Bagbagar litenigistar αυτόι, κὰ ἰξελαυώντων καθαξέδοαι γας απελθάτος τε Βασιλέως, κὰ ἐλευθιςιάσαι. Lib. 15, p.721.

Nearchus fays, that after Alexander was upon his march, he fet fail himself on the

1 The passage in Strabo is too express to be evening rising of the Pleias, though the wind was not yet favourable. But the natives attacked them and drove them out, having refumed their courage on the departure of the king, and wishing to recover their independ-

> If these circumflances were in the journal of Nearchus, which there is every reason to believe, Arrian cannot be justified in suppressing them.

> > particular

particular relating to the departure, which, if Arrian intentionally suppressed the flight of the Macedonians, seems to indicate the reality of it; which is, that the fleet, according to his own account, did not take its departure from Pattala, but from a station near the mouth of the river. This station is doubtless the post Alexander had formed, and probably at Killuta ' (Killoota); for there, our author fays, he had found water and good anchorage, with protection both from the tides and the monfoon. If I had any actual data for fixing the Debil-Scindy of our modern maps at the mouth of the Laribundar river, or could afcertain its fize and position, I should have little hesitation in afferting its identity with Killuta, for Debil-Scindy is only a Persian or nautical corruption of Dev, or Dive-il-Scindi, the island of the Scind, or Scindi.

Were I to form a polition for Dive-il-Scindi from fuch observation as I can collect, it should lie on the east of the Lari-bundar entrance, running up from ten to fifteen miles from the bar, and then separated from the Delta by a branch or channel of the main ftream, which should entitle it to its infular name and situation. The course of its shore where it formed the eastern bank of the river ought to incline north-east and fouth-west. Whether this is really fo I pretend not to afcertain; but if ever it shall be afcertained, or if ever the mouths of the Indus shall be laid down with the same accuracy as those of the Ganges and the Euphrates, I dare to predict that, with due allowance for variation on the coast, and the

² άραντις άπὸ τη Ναυς άθμη.

Selen-dive is Ceylon. Lack-dives, Mal-dives, Anje-dives, are all clusters of islands. Diu in Guzerat is another form of corruption. Pimentel, favours these conjectures. Antiq. See d'Anville Eclair.; and Selen-dib, which de l'Inde, p. 38.

we meet with in Oriental orthography, 3 Dive is either Tamoulian or Malabar. gives the change of w into b, in Dib-il-Scindy. Il is written el, al, or ul, of.

⁴ D'Anville's account of Debil Sindi, from

accumulation of two thousand years, these conjectures will not be very distant from the truth.

But if Nearchus took his departure from a flation ' at this island, and not from Pattala, (as will immediately appear,) though it does not amount to proof that he was driven from thence by the natives, it affords great reason to suspect it, and to confirm the affertion of Strabo, who copied from the journal of Nearchus as wellas Arrian.

Wherever we place this station, it was only an hundred and fifty stadia 6, or little more than nine miles from the mouth of the river; for Arrian gives two distances, one within the bar and another from the bar to Krokala, each of an hundred and fifty stadia; and as the latter corresponds within a mile to the actual measure of the coast, we cannot without injustice suspect the former of inaccuracy.

Anno 626. A. C. Oct. 2. Oct. 3, 4, 5.

When the fleet weighed from this station, the first day's course down the river 7 was only fix 8 miles, and they anchored at a creek 9 or inlet called Stura (Stoura '°), where they continued two days; on the follow-

commenced. Unde ceperunt exordium. Lib.vi.

c. 23. But the whole is dubious.

6 I have before examined d'Anville's fladium of fifty-one French toifes, and shewn its general conformity upon the whole voyage; I pretend not to ascertain its accuracy in particulars, nor shall I trouble myself or the reader with fractions; one thousand one hundred and eleven of these stadia, with a fraction, make a degree of a great circle; fifteen of these stadia, with a fraction minus, are equal to a Roman mile of feven hundred and fifty-fix toifes; and fixteen, with a fraction plus, are equal to a mile English of eight hundred and

5 This is the place intimated by Pliny as twenty-fix. I shall neglect all these fractions, the Xylenopolis, from whence the voyage, because accuracy is unattainable in the application of individual distances. To state this precifely where precision cannot be obtained, is affectation. I use the toise, a French measure. because Mr. d'Anville's is the best calculation on this fubject:

7 Arrian has no where given us the name of the western channel, but Ptolemy calls it Sagapa, and places it in longitude 110° 20',

latitude 19° 50'.

8 One hundred stadia.

9 διώριχι μιγάλη, a large nullah.

10 I shall preserve generally the Greek orthography for the contemplation of Oriental etymologists.

ing day they weighed again, but came to an anchor at Kaumana" before they had proceeded two " miles. In the creek here they found the water falt, or at least brackish, even upon the tide of ebb. The next day's " course was little more than one " mile to Koreatis; and scarce had they weighed from hence before they were checked by the violent agitation now visible at the bar "; for as they had proceeded with the tide of ebb, the wind was confequently in a direction exactly opposite. This brought them to an anchor again immediately; when, after waiting till it was low water, they obferved that the projecting fand (which probably formed the bar) was foft and oozy near the shore, and little more than a quarter of a mile in breadth. This they determined to cut " through, as the readiest and fafest passage into the open sea. They had so far effected their purpose during the receis of the tide, that upon the return of the flood they carried their veffels through it " in fafety, and after a course of about nine miles " reached Krokala the same day. Here they remained the day following.

Oa. 6.

Od. 8.

the Indus, it is not probable that any relation to Stoura, Kaumana or Koreatis, should be discoverable; they appear all to be names of nullahs cut for purposes of agriculture or communication; and these nullahs, we may conclude, have been all obstructed. I preserve the names, however, for the consideration of such as may hereafter visit this country. The names in Gronovius's best MS. are written Kaumara and Koreestis. Koreacatis, Dodwel, Geog. Min. Freinshem. Curt. ix. 9. 9. and ix. 9. 20, mentions, on the authority of the academicians at Coimbra, the violent tides

on this coast, and the necessity of these nullahs, or happy, for the safety of vessels which navigate either the coast or the river.

12 Thirty stadia.

13 A day not specified, but allowed.

14 Twenty stadia.

25 Iqua. Scindi bar is known to all navigators on this coast, and I imagine every mouth has its bar.

16 I have allowed two tides for this, or twenty-four hours; it possibly was one only.

Mouth of Lari-bundar river, in latitude 24° 44'. Rennell, Poffcript.

Allowed two days.

ARABIES, OR ARABIT Æ.

KROKALA. CROTCHEY. Oct. 9. First station.

Krokala is the Crotchey 'bay of Commodore Robinson; and it is with infinite concern I repeat the complaint of Mr. Dalrymple, that the views which were taken during this gentleman's furvey of the coast never reached his hands. I present to the reader, however, a Plan " of this Bay, by Lieutenant Mascall, taken in 1774; and I feel great fatisfaction in exhibiting the first harbour in the Indian ocean, in which an European navy ever rode. Krokala 1, fays Arrian, is a fandy ifland, and fuch an ifland, dry 22 at low water, we ftill find in

19 Written Caranchy Carrangee, &c. and by Gronovius, Kiwkiha (Crocela), from his best MS. The Greek language has no ch.

20 Furnished by Mr. Dalrymple. Lieutenant Mascall was an officer on board Commodore Robinson's ship. [See a Plan of this

Bay in Chart, No. 1.]

" From the mouth of the Larry Bunder " river is feen part of the high land over " Crochey. There is nothing remarkable " between that place and Crochey. The " land by the water-fide is low, interspersed " with fhrubs; but up the country there are " feveral hummocks of moderate height." Lieutenant Porter. Com. Robinson, p. 1. This is the rifing to the ridge at Cape Monze, which I have marked before as the eastern limit of the Arabitæ. " Crochey (the town) was of formerly under the Bloaches, but is now " seized by the prince of Scindy." Id. p. 2. It is five miles from the bay, and one from a creek which falls into the bay. The people are described as civil. Possibly the Belootches are not worse robbers than their more refined. Stantly covered by the sea. neighbours.

21 Major Rennell supposes Crotchey to be the port of Alexander. Poftscript. But that is impossible, as the fleet evidently passes Cape Monze before it reaches that

22 I here follow the authority of Lieutenant. Mascall's drawing; but Lieutenant Porter's journal fays, there are feveral islands to the northward; and that the entrance into the bay is generally between a promontory, on which a white tomb stands, and the largest of the islands. This island can hardly answer to the moss aumidns of Arrian. Lieutenant Porter. C. Robinson, p. 1. For by the plan it appears high; and I conclude the low island mentioned by Arrian to be that fand in the heart of the bay, dry at low water. Probably. the first isle mentioned at C. Eirus by Arrian, and marked as a shoal by Dalrymple, is likewife dry at low water, or vifible fome tides. It is fufficient, however, for Arrian's affertion, that this shoal should mark such a spot, which, though visible formerly, may be now conthis bay. It lies in latitude 24° 28' twelve leagues from Scindi bar, and, according to Captain Prittie's chart, ten nautical miles from Lari-bundar river. The latter distance is so nearly correspondent with the measure I assign to Arrian, that I regard it as a full demonstration of the identity of the place, and a high testimony of the accuracy of the journal. If I were curious to reduce the two distances to a coincidence, I might add some fractions to the stadia, and suppose the cut through the fand 23 to have shortened the course. But I mention once for all, that where I find a general correspondence I shall not insist upon minute difficulties.

But if the distance from the bar to Crotchey is established, the course from the point of departure to the bar must be of necessity allowed; both are given at an hundred and sifty stadia by Arrian, and if one is true, the other can hardly be erroneous. However, therefore, I may be mistaken in my position of Killuta, or my conjecture of its identity with Dive-il-Scindi, I assord means for the correction of my error by any future navigator who shall visit the river with a knowledge of the present work. I conceive the cut through the sand to be made at the point where the bar formerly joined the western shore of the Lari-bundar channel; and in any position about nine miles above that, which affords security from the tide of slood and the prevailing monsoon, I consent to place the station of the sand which Nearchus departed.

promontory was cut, he had two more to

24 The ranoraduor of Arrian.

I am persuaded it is on the eastern side of the channel; but recommend it to suture inquiry.

attempt of this kind may appear to modern navigators, the difficulty of carrying a fleet of Greek gallies out to fea in opposition to the monsoon, is at least as great as the danger Xerxes would have encountered in doubling Athos; and even after the neck of that

At Krokala, Arrian places the commencement of the territory of the Arabies, and its termination at the river Arabis. The aspect of the inner country from the sea, as given by the modern journals, is perfectly agreeable to this position and the rising of the land from hence to Cape Monze, consistent with the idea I had formed from consideration of the author's text.

IRUS. EIRUS. Cape Monze. Oct. 9. Weighing from Krokala 25, the fleet proceeded to the west, having a promontory named Irus on the right, and a low island almost level with the sea on the left; this isle runs parallel with the coast, and so near as to leave only a narrow channel 26 winding between both. They cleared this passage, and doubled the Cape, apparently under the protection afforded by the islet against the prevailing wind; the coast, as soon as they had passed the streight, presented a bay or harbour under cover of a second island called Bibacta, not more than three hundred 27 yards from the entrance.

25 Crotchey town is fituated about five or fix miles from the place where the ships lie. It is fortified with a mud wall, slanked with round towers, and has two useless cannon mounted. It formerly belonged to the Bloachees (Belootches); but the prince of Scindi finding it more convenient for the caravans out of the inland country, which cannot come to Tatta, on account of the branches of the Indus being too deep for camels to pass, he obtained it from the Belootches by exchange, and there is now [1774] a great trade. Lieutenant Porter, p 2.

This prince of Scindi is a Mahometan of Abyssinian extraction; his residence at Hydrabad on the Indus, near Nusserpoor, which hies not far from the head of the Delta. Rennell. Postscript, p. 291.

From Porter's account, I collect that Hamilton's route must have have been within the Delta, for his cassila or caravan consisted of sisteen hundred beasts, as many men and women, with two hundred horse; all these must have crossed the Indus, or Lari-bundar river, at least once, if not twice, had they marched to the westward of the stream, which, by Porter's account, appears impracticable; if so, Major Rennell's position of Lari-bundar and Dungham is on the wrong side of the river.

26 Fred xolato. Fretum finuofum.

I would render it with an allowable licence, a passage curving with the land.

²⁷ ςαδίες δύο ἀπέχεσα.

This harbour Nearchus thought fo large and commodious 28, that he honoured it with the name of Alexander, and determined to avail himself of the security it afforded, till the season should be more favourable for his progress. A camp therefore was formed on thore, and fortified with an inclosure of stones to guard against any attempt of the natives; and this precaution was no more than neceffary, as they were now within the confines of the Arabitæ, whom Alexander had attacked and dispersed not many days before their arrival. Security both from the natives and the feafon they found; but the people fuffered greatly, having no water but what was brackish "; and little food to support life except muscles 30, oysters, and another fpecies of large shell-fish 36 which they collected on the shore.

Such an harbour as this port of Alexander is described, ought to be more discoverable on this coast at present than in reality it is; for Lieutenant Porter flightly mentions, that as foon as you are round the Cape there is a kind of bay; but with whatever indifference an English navigator might view this, it was really an haven to a Greek fleet of gallies, affording good anchorage under shelter of the island; and however slight our modern intelligence is of the harbour itself, the position of it is indubitable; for Eirus is Cape Monze, and Bibacta, Chilney Isle. Upon this point there can be no hesitation, since the publication of Mr. Dalrymple's last chart of the coast. Previous to that, I had looked in vain for the two

barbour. In what fense our author uses this expression will appear at the Arabis, or Sommeany.

²⁹ a huppir.

³⁰ Mozs Sanaorius. Any shell-fish, says

¹⁸ μέγας τι κ' καλός ο λιμείν. A large and good Salmasius, which has two shells to open and thut. From won, nictere. Exercit. Plin. p. 1129. Gronovius in loco.

³¹ Σωλχεχς is explained by neither; but is, I conceive, the Kima cockle. See infra.

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islands described by Arrian, where I could find one only; but the new chart gives a fand (dry " perhaps only at low water) in the very position off the Cape as laid down by Arrian, and Chilney for a fecond island corresponding exactly with the Bibacta of that author.

Cape Monze, according to Major Rennell ", lies in longitude east from Greenwich 65° 46', and in north latitude 24° 55'. Commodore Robinson's chart does not mark the longitude.

Chilney Isle " appears immediately as you are passed the Cape, lying off shore to the fouth-west in the very direction for covering the fleet in the bay, and of a height fufficient to interrupt the blaft of the monfoon; for it is near a league long, and rifes as it is exhibited in this form: It is the more material to fix this point accurately, as we cannot depend fully on any other till we come to the river Arabis. From Cape Monze to that river the coast falls in with a fweep or hollow, round which we must trace the course of the fleet close in shore; but we cannot hope to ascertain the scite of stations where we have in the journal itself names only without habitations; and where, if ever habitations arife, the neighbourhood of the Belootches will hardly allow them to be permanent. The place and diffrict around are called Sangada by Arrian, and the fituation of the camp was evidently on the narrow stripe of low ground which

SANGADA Place. BIBACTA Ifle. PORT of ALEXAN-DER. Oct. 10. Ninth day. Second flation.

> 32 Mr. Dalrymple's chart does not authorife me to fay that this fand is ever dry. But the position is so precisely conformable to Arrian's narrative, that there can hardly be a latitude 24° 57'. De la Rochette. doubt but it was above water, and visible to

Nearchus two thousand years ago.

33 Poffcript.

³⁴ Longitude 60° 40' from Gibraltar, north

extends close to the sea, all round the sweep from Cape Monze to Sommeany, or the Arabis, with a chain of high land at its back, which terminates at the promontory.

In this camp Nearchus continued four-and-twenty days; during all which time the monfoon continued without wavering, and with unremitted violence. This interval brings our account down to the third of November before the fleet could again proceed; a date that accords admirably with the day assumed for the original departure from the Indus: for the monfoon changes in the middle of November, and there is always an interval of fluctuation between the termination of one and the commencement of the other. Some remission of this fort might regularly occur about the third of this month; and it will appear by the shortness of the course for the following days, and the very close adhesion of the fleet to the coast, that the fluctuation had taken place; that the wind was still adverse in general, only affording momentary remissions; that feveral days' course was lengthened as they approached the middle of the month; and that they did not obtain the full force of the north-east monfoon till nearly about the commencement of December. Is it possible to advert to these circumstances without confessing the internal evidence of authenticity which this journal contains; or without subscribing to the testimony of Strabo, who afferts, that Nearchus was driven out of the Pattalene by the natives? What elfe could have induced that commander to encounter the hazard of navigating in fuch a feafon, and the danger of impending famine, but the dread of not being able to proceed at all, unless he escaped while it was in his power?

In the name of Sangada, or at Saranga the next station but one, Mr. d'Anville is desirous of finding the modern Sangadians, or Sangarians 33, a tribe famous for their piracies; but their scite is on the bay of Cutch. It is not impossible, however, that they have in all ages frequented the whole coast; and that places out of their own country, if infested by them, might take their name. All the pirates on the coast lie concealed behind the head-lands to surprise the vessels as they come round. The pirates of Severndroog, on the Malabar coast, are mentioned as pirates by Strabo and the author of the Periplus; and it is equally probable, that the piracies of the Sangarians are as ancient; if so, the Port of Alexander, close round Cape Irus, was exactly one of the positions they would occupy in order to seize vessels coming from the east; and had Nearchus sailed with the monsoon, he might have sound here an enemy unexpected.

Dom #.
Third flation.
Thirty-third
day.
Nov. 3.

From this port, upon a relaxation of the wind, the fleet ventured once more to proceed on the third of November; the course, however, was apparently close in with the coast, and the progress short of four 36 miles. They took refuge under an isle called Domæ 37. The coast itself was without inhabitants and without water; but the latter was found, and of a good quality, at the distance of little more than a mile 38 from the shore.

36 Sixty stadia.

³⁵ Captain Hamilton was attacked by them, and beat them off. They are mentioned also by Porter, who says they come upon the coast of Brodee, or Mekran, as far as Churbar; but their residence is Jefferabad.

I do not find Jefferabad mentioned in Rennell, except a town of that name on the east of the Ganges. I suppose this to be in Cutch, or Guzerat,

³⁷ There is a fmall island marked in Commodore Robinson's chart by Mr. Dalrymple. Whether I should call this Domæ, as I havenamed it in the chart, No. 1. or reserve it for two rocks mentioned afterwards, is dubious.

³⁸ Twenty stadia,

The following day they proceeded nearly nineteen 39 miles to Saranga, and arrived not till night. Water was found here at half a mile from the shore.

Weighing from Saranga, they reached Sakala and anchored on an open coast, when finding this possibly unsafe, they seem to have advanced again the fame day 40, and paffing two rocks fo close to each other that the oars of a galley might touch " both, after a course of about nineteen miles they came to Morontobara, a harbour with a narrow entrance, but fafe, capacious, landlocked all round, and protected from the wind in every quarter. They thought it no fmall atchievement to have passed these rocks in safety, for the waves ran high, and the sea was in great agitation.

I should wish to identify these rocks with the rock of Lieutenant Porter, which he lays down ten miles from Cape Monze; neither do I think the distance a great objection; for though I make it more than four-and-twenty miles by Arrian, it is evident that Nearchus kept as close as possible to the shore, making an arc of a circle, while Lieutenant Porter describes the diameter. But there are two42 rocks in Arrian, and only one in the English journal; this circumftance excepted, there appears no great difficulty in affigning the fame position to both. I place Sakala and these rocks at no great distance from Saranga, because the fleet appears to have anchored at the former, upon coming in fight of the

SARANGA. Fourth flation. Nov. 5. Thirtyfourth day.

SAKALA. MORONTO. BARA, OF MORONTO-BARBARA. Fifth and fixth flation. Nov. 6. Thirty-fifth day.

³⁹ Three hundred stadia.

⁴⁰ Day allowed.

judge from iκπλώσαιτις, ἐκπεριπλώσαι, and yet Wight; there are now only two.

da The σκοπίλων διεξίπλιο implies the contrary. 42 Within these thirty years there were three 41 They did not pass between them, if we may Needle rocks at the western end of the Isle of

rocks 43, foon after it had weighed on the fifth of November; and Morontobara 44 I place seventeen or eighteen miles by the bend of the coast to the north-west of the rocks. This harbour, or something to represent it, I have no doubt will be found, if ever this coast should be explored again; for the description of it is very precise in Arrian, and its name (which in the language of the natives fignifies the Port of Women) is the only one of Arrian's on this coast, which is retained by Ptolemy and Marcian of Heraclea.

That the course of the fleet was close in with the shore is apparent from the particulars already specified; and that the monsoon was not yet changed is equally evident from the danger encountered in paffing the rocks at Sakala, for if the wind had been at north-east it would have been off the coast; but it is clear, from the turbulence of the sea, that it still blew from the opposite direction, and lay full upon the shore. Both these assumptions will be justified still more by observing that the following day, when they lest Morontobara, they preferred an intricate course 45 between an island and

ser's rock for these two; though the circum-Hances are probable, his rock, in point of from Homer's βαθύκολπος; and I wish a redistance, agrees better with Domæ.

4+ Morontobara will hereafter obtain an etymology either Arabic or Shanskreet; and if ever this coast should be visited again, the harbour may perhaps be found, or the place occupied by it be ascertained.

ό δὶ λομόν μέγας κὰ ἔυκυκλος κὰ βαθύς κὰ ἄκλυσος* à di l'iomans is autòs renós.

Literally, " the harbour is large, well pro-" tected from wind on all fides, runs far " within the land, and is perfectly quiet; the

43 I by no means infift on Lieutenant Por- " entrance into it is narrow." I render τυκυκλος sheltered, and βαθύς running inland, ference to be made from this passage to the description of the Port of Alexander, which the author calls only μίγας κ καλλ, large and good, and which a bay might be without being entitled to the other characteristics so particularly given to Morontobara.

> 45 There is every reason to believe that it was an arm of the Arabis flowing round an island, now perhaps choked; or, if capable of investigation, of no service in the present state of nautical knowledge,

the main, (so narrow that it appeared rather an artificial cut than a natural channel,) to the open passage without side of the island.

The harbour of Morontobara, with all its conveniences, prefented nothing to tempt men to a longer delay, who for almost forty days had found but a scanty supply of provisions, and seem to have supported life by such casual means as the shell-sish on the coast afforded; they left it therefore on the following day, and proceeded towards the river Arabis 45, having an island on their left, and the main on their right. The passage through this channel was somewhat more than four miles 47, but so narrow, as to appear like a work of art; the coast was woody, and the island in a manner overgrown with trees of all forts. They did not clear the passage till the following morning, when they found the tide out, and the water shoal and broken 48;

RIVER.
Nov. 7, 8.
Seventh flation.
Thirty-fixth and thirty-feventh day.

they

46 Arbis, Arabius, Araba, Artabis.

See a very long note of Salmafius, Plin. Ex. 1177, to prove that Arbis is the true orthography; but C. Arrubah or Arraba proves the contrary.

47 Seventy stadia.

of former editors, who render this word usually by rupes, feopulus, locus feopulofus, littus feopulofum, &c. and in this inflance, per angusta quædam loca; but he has not with his general accuracy defined the proper meaning. I shall every where render it either furf, or the shoal which causes the surf; for the whole coast, both of the continent and islands in the Indian ocean, is exposed almost constantly to a very extraordinary surf. See Marsden's Sumatra. And if it is not surf in this one instance, it is the breach of the sea arising from the straits, or narrowness of the passage; κατὰ ἐπχίων επόν. The word occurs frequently in the journal, and

is used enxin, enxia, and eaxia, from enous frango, cum strepitu allido. Lennep. in voce. And so ¿axıs dorsum, à junctura vertebrarum, (potius disjunctura,) capability of separation, from garaw. Thucyd. lib. iv. p. 10. Scholiaft. όθιν το νώτιον ός ώδις, ξάχις καλδιται, ώς από τῆς eaxing the wittens. This feems to favour the editors' rendering rupes, scopulus. So also, έαχία ές επιτρώδης πόπος, περί οι περιξέργευται ή θάλασσα, κ) δ κλύδων, κ) ή τῆς θαλάσσης δρμή. Notæ ad Polybium. Schweighæufer, vol. v. p. 573. But, notwithstanding this bigh authority, I am disposed to think, that, in Arrian at least, it is the furf fimply, and used frequently without reference to the rock, or rocky ground, which the furf breaks on; for at Kokala the furf ran fo high upon the arrival of the fleet, that the people could not land; on the following day, however, they all got on shore, hauled up the veffels, and formed a camp: If the rocky

they got through however without damage, and, after a course of between seven and eight miles, anchored at the mouth of the Arabis.

This river is the western boundary allotted to the Arabies by Arrian. According to d'Anville and de la Rochette it still retains the name of Araba 49, with the additional appellation of Il Mend. Their authority for Araba I know not, but I have no doubt that it is a native term, from the prefervation of it in Cape Arrubah 50, which lies not far to the westward; and that Il Mend is a title which, if due, it has acquired from the Perfians. At this point we must pause, to consider the course of the fleet from the Indus. Three positions are clearly established; Krokala corresponding with Crotchey or Carantchy, Eirus with Cape Monze, and Bibacta with Chilney Isle, where I fix also the Port of Alexander; these, with the mouths of the Indus and Arabis, give five fixed points on a coast of about eighty miles. The rocks off Sakala " are possibly without great difficulty reducible to Lieutenant Porter's rock; and Morontobara is fo characteristically distinguished, that it cannot be mistaken if the coast should be visited again. Domæ, Saranga,

fhore had been the obstruction, that circumflance would have existed the second day as
well as the first. But a stronger instance will
occur at Cape Jask, which is, by the testimony
of all our navigators, a low sandy point: but
there, also, the term invitin is applied; where
Mr. d'Anville is so missed, by reading rupes or
seepulus in his authors, that to find a rock he
recurs to the assistance of Bombareek, which is
at seven or eight miles distance by his own account.

⁴⁹ I rather apprehend that d'Anville has been missed by the Nubian Geographer, who mentions an Hendmend and Araba, with this addition—Atque hinc intratur in regiones Indorum. But both the Hendmend and Araba of the Nubian Geographer are in Segestan, far to the north of our Araba. See Nub. Geog. p. 134.

D'Anville, however, may have other authority, and certainly can interpret the Nubian Geographer better than his corrector.

50 Arrabah, or Arraback, by Lieutenant Porter.

found to fignify either rock or mountain in fome of the Oriental languages. The Nile rifes from a Sakala, according to Bruce and Lobo.

and Sakala, it will not be thought negligent to leave undefined upon a coast that is now almost desolate, and where, if villages 52 have formerly existed, they may have been destroyed by the incursions of the Belootches.

The number of stadia given by Arrian and Strabo from the Indus to the Arabis is a thousand; and, what is not very usual in Greek. authors, the particulars answer to the total. These reckoned by Mr. d'Anville's stadium make fixty-three miles and an half; but there is an omiffion of distance between Krokala and the Port of Alexander, and another minute one between Saranga and Sakala. The addition of these might possibly make the estimation something thort of eighty miles, which accords fufficiently with the best charts I have feen. When we reflect that a Macedonian fleet spent near forty days in completing a navigation of this length, we may form a judgment of the courage requifite to undertake and execute the whole voyage. We discover, at the same time, the difficulties which arose from setting out before the regular season; and while we admire the perseverance of Nearchus under the disadvantage of adverse winds, and the pressure of famine, we have the satisfaction to find that the dates assumed are corroborated by the circumstances of the navigation.

The mouth of the Arabis 13 is placed by Ptolemy in longitude 105°, and latitude 20° 15', and by Mr. Rennell in longitude 65° 34' from Greenwich, latitude 25° 26' and about 44' west from the western mouth of the Indus.

52 Sakala and Saranga do not appear as trary opinion, both from the diflances given,

Arrian

places inhabited, by the journal; and Domæ is and the distinction between an isle and a rock. an ifle. Whether future inquiry may make vestigation. I am induced to embrace a con- but corrected it in his second.

⁵³ Mr. Rennell has placed the Arabis to this Lieutenant Porter's rock, remains for in- the eastward of Cape Monze in his first map,

FROM THE INDUS TO CAPE JASK. 184

Arrian mentions an island 54 at the mouth of the river, which Lieutenant Porter does not notice; but fays the bar runs out a long way, and is dry in some parts at low water. There is still a small town called Sommeany, at the entrance, and labouring under the fame difficulty for water which is noticed by Arrian, who mentions that they were obliged to go up the country above two miles to find a well 55. Lieutenant Porter fays, "every thing is fcarce, even " water, which is procured by digging a hole five or fix feet deep, " and as many in diameter, in a place which was formerly a fwamp; " and if the water oozes, which it fometimes does not, it ferves " them that day, and perhaps the next, when it turns quite brackish, " owing to the nitrous quality of the earth." We shall find the fame identical circumstance introduced by Arrian at a future period of the voyage. Minute facts of this nature exemplify the authenticity of the journal better than all the arguments that can be produced against Hardouin and Dodwell.

It does not appear from Arrian that the place was inhabited when Nearchus was there, but he calls the harbour large 56 and commodious, and fays that shell-fish, with others of various forts, were found here in great abundance. Marcian mentions two cities upon the river Arbis, Perfis⁵⁷ and Rhaprava on the coast between the river and Morontobara; the distance between the two latter he states at a

³⁴ Arrian's island is high.

⁵⁵ hankor. Perhaps a pool.

⁵⁶ μίγας κ' καλός. The fame expression as that applied to the Port of Alexander. We may judge of one by the other; for Lieutenant Porter mentions no harbour here but the mouth of the river.

capital of Gadrofia, which cannot be in this country. It should feem that he had heard of such a city, but did not know where to place it. It is in reality the Pura of Gadrofia mentioned by Arrian and others, and the found of which is still preferved in Phir, Phor, and Phor-eh. Ptolemy has a Parsis with evidently the same confusion, 57 Perfis he writes Perfith, and calls it the p. 167. Written "Hασις μητροπώλις for Πάρσις.

thousand and sifty stadia, which by no means agrees with Arrian, and gives reason to suspect that he consounded the Port of Women with the Port of Alexander, for his next station is Koiamba, where he fixes the limits of the Pattalene state, possibly the Krokala of Arrian; and lastly, Rhizan and Rhizana for the termination of the coast, as it should appear, at the Indus. In the whole of this account Marcian follows Ptolemy in his list of names, but is so barren of facts, and so vague in his distances, that little information can be obtained from him. His whole length of the coast amounts to sourteen hundred and sifty stadia.

II. OREITÆ. ORITÆ.

No mention is made of any stay at the Arabis, we must therefore make the sleet sail the following day, and proceed twelve miles and an half to Pagala. The course is described as close along the coast, and a surf at the place where they finished their progress, but the anchorage was good. The men were forced, however, to continue on board, and only a few landed to procure water. Such a spot as this can be characterised only by its distance; and our measures, which answer sufficiently along the coast of the Arabies, will now be less capable of accuracy in many particulars, till we reach the gulph of Persia.

PAGALA.
Eighth
flation.
Nov. 9.
Thirtyeighth day.

They failed the next morning, and after a course of almost mineteen miles reached Kabana in the evening. The place was only an open

Ninth station. Nov. 10. Thirty-ninth day.

Marcian evidently intends to place Koi- but I suspect he has confounded the limits of amba at the mouth of the western channel; the Arabies with those of the Pattalene.

and defert shore, on which a violent surf broke, which hindered the veffels from approaching the land. The progress of these two days fufficiently indicates that the wind was not yet fettled at north-east, and in the prefent day's course they experienced directly the reverfe; for a strong gale came on from the fouth-west, in which two of the gallies and a transport foundered, but the course was so near the shore that the men were faved by swimming. If we advert to our date here, which is the tenth of November, we find fuch a coincidence with the turbulence accompanying the change of the monfoon, as cannot fail of exciting our admiration, while we obferve, at the fame time, that no instance of a similar calamity occurs afterwards in the journal.

KOKALA. Nov. 11. Fortieth day.

They left this defolate place at midnight, and reached Kokala next Tenth station. morning, after a course of about twelve miles. The coast here was fuch, that the veffels could not be drawn on shore, but rode at anchor without the furf. The fuffering of the people was however fo great, from being confined on board two nights ", that it was found neceffary to difembark them, and form a camp on shore, which

> 39 In vessels like those of the Greeks, which afforded neither space for motion, or convenience for reft, the continuing on board at night was always a calamity. The gallies of Alexander had perhaps a deck; but the 'Ημιόλιαι are exactly the vessels of Homer's age, the fore part and waift open for the rowers, with a deck raifed over the hinder part; this in Homer is called igguer, and formed an elevation on which the steersman stood. On this deck, or under it, the persons on board sometimes flept, which the poet calls fleeping

παρά πρυμείσια είως. Od. M. 32. For there, perhaps, the cables were coiled; but, when a whole crew was to fleep on board, this was impossible, and the suffering was in proportion to the confinement. This makes Ulyffes complain, that restraint on ship-board rendered his limbs rigid and unfit for gymnastic exercise; and the same confinement, Captain Bligh says, chafed the limbs of his people, against which he found no other remedy but wetting their clothes in fea water.

Nearchus

Nearchus fortified as ufual. It is worthy of remark that, during the three days' passage from the Arabis, we hear of no provision being procured except water; neither do the places where they anchored appear villages or inhabited country; if, therefore, the flock of grain which they brought out of the Indus was exhausted, as it probably was in an interval of forty days, we can find no means of supporting life, but fuch a fupply of shell-fish as they might have procured at the Arabis, where we are informed it was in plenty. But it should seem they knew that relief was at hand, for here it was that Leonnatus joined them, who had been left in the country by Alexander, with a particular charge to attend to the preservation of the fleet. He had, after the departure of the main army, fought a battle with the Oritæ and their allies, in which he had defeated them, killing fix thousand of the enemy, and losing only fifteen 60 of his own horse, with Apollophanes ", the new-appointed satrap of Gadrofia. He now joined Nearchus, bringing with him a fupply of ten days' provisions, collected by the order of Alexander, and possibly spared out of his own immediate wants. Not that this province ought to be represented as a defert like Gadrosia, but the circumstances of the time, and the resistance of the natives, rendered this fupply rather proportionate to the condition of the country, than the wants of Nearchus. The attention of Alexander is still con-

⁶⁰ I never feel myself bound to account for thefe disproportionate numbers. Leonnatus had with him at this time, possibly, a large force of native Afiatics. If a thousand of them had been killed, they would not have been thought

⁶¹ In another passage of Arrian, lib. vi. p. 267, this Apollophanes is faid to have been deposed from his fatrapy, when Alexander was halting in the capital of Gadrosia. See Gronov. p. 338. In the journal, Arrian follows Nearworth notice. These fifteen are Macedonians. chus; in the history, Ptolemy or Aristobulus.

spicuous; and a second unsuccessful attempt 62 he made in Gadrosia, when he would have hazarded famine himself to preserve his fleet, ought to exculpate him from the charge of useless vanity in penetrating through that defert region; a charge which even Nearchus is faid to have countenanced.

To fearch for correspondent positions to these three defert stations would be fuperfluous; for as the next is the river Tomérus 63, at the distance of one-and-thirty miles, the two rivers give us the boundary of the four days' course, and as they are known points, the measures specified are sufficient to mark three places, which, being uninhabited, can be of no importance. I should have wished to have placed Kokala with precision, on account of the transactions which took place here; for befides the supply obtained from the army, Nearchus discharged several of his people, who appeared not to have fufficient spirit or fortitude for the enterprise, and received others in exchange from Leonnatus: he likewife repaired here feveral of his veffels which had fuffered in the voyage or the fform. This proves that the weather grew more moderate during his continuance at this place, for upon his first arrival the furf was too high to admit of drawing "them on shore. If therefore we shall, with Rooke 65, allow ten days for the completion of these affairs, it brings the account to the twenty-first of November; at which period the wind, if it had fixed at north-east, would be off shore, and the

⁶² See infra.

upon which inland Alexander halted, when he invaded the territory of the Oritæ. And protribe, who derive their name from Haur, but I think the allowance just. Horitæ, Oritæ.

⁶⁴ It is not expressly faid they were drawn 63 The Tomérus is apparently the river ashore. The author afterwards, at the Tomerus, uses the term Hankson.

⁶⁵ Rooke finds ten days in his author, I bably it passes by Haur, the capital of that can only find mention of ten days' provision;

furf consequently diminished. This accords exactly with the following day's progress, for upon leaving Kokala they sailed, for the first time, upwards of thirty miles, and it is the first time Arrian specifies their sailing with the wind 66 settled in their savour.

The fatisfaction of meeting with a fupply of provisions would not be a little heightened by a fight of their countrymen again, after having experienced unfavourable weather and the danger of famine for fix weeks; additional confidence also would arise, not only from the change of the season, but from a consideration of the attention paid to their preservation by Alexander: the victory of Leonnatus contributed likewise to render the Macedonian name respectable to the barbarous tribes they were now to visit. All these circumstances considered, with the certainty of finding future support from the army, if possible, we may reasonably conclude that Nearchus embarked again with more considence than before, and that the supply of men he received from Leonnatus came on board with alacrity.

I have looked in vain for authority to give the number of gallies or other vessels of which the sleet consisted. The number of commanders appointed at Nicæa was thirty-three, and by these I estimate the gallies. There was also a greater proportion of half-decked vessels, and transports in abundance. That Nearchus had transports as well as gallies appears by the wreck of one on the preceding day; and if we were to allot him all 67 the gallies, it would,

άκρας. See Hom. Od. Book 421.
κ'κρας Ζέφυρον. Schol. ἄκρως ποίοντα πρός
την χριίαν θτε πλέον θτ' έλαττον. Stephan. in
voce.

But there is another derivation from κιράνσυμ, μη κικραμμένο, ἀλλὶ ακριδώς Ζέψυςοι. Purum probable that, if any were fuper Zephyrum. And that derivation feems peculiarly applicable in this paffage. It was the yards established in the Pattalene.

arjafi. See Hom. Od. Book 421. north-east monfoon settled, and without fluctu-

⁶⁷ Q. Curtius mentions the destruction of fuch vessels as were superfluous before the departure from the Indus. It is much more probable that, if any were superfluous, they were laid up at Pattala, or the other dock-yards established in the Pattalene.

perhaps, not appear like exaggeration. The gallies were all of thirty oars; if therefore there were only one man at an oar, we cannot estimate less than sixty or seventy men to each vessel, which makes the whole number about two thousand s, exclusive of those on board the transports. This number does not appear unreasonable; and conjecture is only allowable where accuracy is not to be obtained. None of the original officers appointed at Nicæa appear in the course of the navigation, except Archias and Onesicritus. Leonnatus joined the main army in Karmania, and must have brought the first account of Nearchus's progress as far as the Tomérus.

Tome'rus. Eleventh flation. Nov. 21. Fiftieth day. On the twenty-first of November be the fleet proceeded with a fair wind, and made good a course of thirty-one miles to the river Tomérus. The length of the course corresponds, as observed before, to the change of the season. Commodore Robinson, Lieutenants Porter and MacCluer, Tavernier, and Thevenot, all agree in fixing this change to the middle of November. All the circumstances of the voyage conspire to prove the difficulties previous to this period, and the advantages obtained after it was past. We are arrived at the last ten days of the month; and after the commencement of December there is no fluctuation. Tomérus is described as a winter torrent, with a lake at its entrance. It appears to answer exactly to the stream Alexander had found inland very ill supplied with water, at which he halted after his pursuit of the Oritæ; and seems to come from the ridge of mountains which form the barrier of the whole coast to the north; where, in the season, rain falls in

⁶⁸ See Sequel.

from Kokala, and before, on the twenty-fourth, than to take.
from the Port of Alexander, I have given two

70 It is wri

days which I might have added. In all that affects a fystem, it is more honourable to give than to take.

⁷⁰ It is written Toungos in the Greek.

abundance, though none is feen in the low country between them and the fea. Lieutenant Porter repeatedly mentions the lowness " of the coast, and the appearance of the high country inland. As the same circumstance in regard to the rains occurs in Scindi from Moultan downwards, and in Egypt universally, is it not reasonable to conclude, that the same cause operates generally in the regions bordering on the tropic, and that mountains are as necessary for condensation, as vapours are for the cause of rain?

At the Tomérus, inhabitants were found living on the low ground rear the fea, in cabins, which feemed calculated rather to fuffocate their inhabitants than to protect them from the weather; and yet these wretched people were not without courage. Upon sight of the fleet approaching, they collected in arms on the shore, and drew up in order to attack the strangers upon their landing; perhaps they were not unacquainted with similar visits of the Sanganians. Their arms were spears, not headed with iron, but hardened in the sire, nine feet long, and their number about six hundred. Nearchus ordered his vessels to lay their heads towards the shore, within the distance of bow-shot, for the enemy had no missile weapons but their spears. He likewise brought his engines to bear upon them (for such it appears he had on board); and then directed his light-armed troops, with those who were the most active and the best swimmers,

Indiaman. A journal curious, because this fhip kept the coast in fight from Scindi to described Gomeroon, and back again; while most of the vessels which come from the eastward to the gulph of Persia stretch across the ocean from Guzerat, or the coast of Malabar, to Mascat vation?

⁷¹ βράχεα, marihes or marih ground.

⁷³ Kahosais maynais. Such are the cabins described by Cook in a thousand instances, into which you must enter crawling, and when entered you cannot stand erect. A Hottentot village is styled a Krahl. What is the derivation?

to be ready for commencing the attack. On a fignal given, they were to plunge into the fea; the first man who touched ground was to be the point at which the line was to be formed, and was not to advance till joined by the others, and the file could be ranged three deep. These orders were exactly obeyed; the men threw themfelves out of the ships, swam forward, and formed themselves in the water, under cover 74 of the engines. As foon as they were in order, they advanced upon the enemy with a shout, which was repeated from the ships. Little opposition was experienced, for the natives, ftruck with the novelty of the attack, and the glittering of the armour, fled without refistance. Some escaped to the mountains, a few were killed, and a confiderable number made prisoners. They were a favage race, shaggy 75 on the body as well as the head. and with nails fo long and of fuch ftrength, that they ferved them as instruments to divide their food (which confisted indeed almost wholly of fish), and to separate even wood of the softer kind. Whether this circumstance originated from design, or want of implements to pair their nails, did not appear; but if there was occasion to divide harder fubflances, they fubflituted stones sharpened instead of iron, for iron they had none. Their drefs confifted of the skins of beafts, and fome of the larger kinds of fish 76.

Nearchus staid at the Tomérus fix days, during which time he drew some of his vessels on shore and repaired them; and this

the landing of a party, from the Endeavour, in New Zealand, under protection of the ship's

⁷⁵ These Oritæ are the next tribe to the " à des ours." Vol. i. p. 119. Arabies or Belootches, whom Tieffenthaler thus

⁷⁵ Will not the reader think that I describe describes from Oriental authority: " Cette

[&]quot; nation est barbare et féroce, portant les " cheveux longs et sans ordre, laissant crôitre

[&]quot; la barbe, et ressemblant à des faunes ou

²⁶ Seal-fkins poffibly.

interval being specified, may make the former allowance of ten days at Kokala appear too large. It is, however, a conjecture I have followed rather than formed; and confidering that they were with their countrymen, had much business to transact, and had fortified a camp, I can hardly suppose there is an excess.

The fleet left the Tomérus on the fixth day, and, after a passage of nearly nineteen miles, reached Malana in the evening. At Malana, Arrian fixes the boundary of the Oritæ; and the distance from the Arabis, the eastern limit, to this cape, being accurately specified by Mr. Dalrymple's chart, enables us to compare the stadium of Arrian with our modern measures precisely. The opening of the compasses gives eighty-five geographical, or nearly an hundred British miles, and Arrian's total fixteen hundred "ftadia. This is so exact a coincidence with the stadium of d'Anville, on a coast where there is little indenture, that it may be deemed a strong confirmation of the measure assumed by that able geographer. It is true that the particulars affigned to each day's progrefs give but fifteen hundred stadia; but, in the course from Pagala to Kabana, the manuscript of Gronovius reads four hundred and thirty, instead of three hundred, which makes the whole fixteen hundred and thirty; and this Arrian expresses by a round number. So fatisfied am I with the precision of my data here, that I have no fcruple in fixing Pagana, Kabana, and Kokala, by the measure of each day's fail; and as I observe Arrah 78, Cudjerah, and Kingalah in Commodore Robinson's chart.

MALANA. CAPE MALAN, OF MORAN. Nov. 27. Fifty-fixth day. Twelfth station.

27 D'Anville's stadium gives fixteen to a Commodore, and in positions which I could perhaps adopt; but it varies fo effentially in 78 There is a chart by Lieutenant Mascall, other points, that Mr. Dalrymple does not esteem it highly.

mile British, with a very small fraction.

who was a volunteer under C. Robinson, which places these three names differently from the

I should have been happy to make them correspond in position as well as number; not that these obscure places are important, but because minute coincidences in are satisfactory in geography. The Oritæ, who inhabit this coast, Arrian describes as dressed and armed like the Indian tribes; but their customs, manners, and language mark them as a different race.

The territory of the Oritæ is well defined by Arrian, bounded on the east by the Arabis, on the north by a chain of mountains or running inland parallel with the coast, and on the west by a ridge shooting off from the grand chain, and touching the sea at Malana, or Cape Moran. This cape does not appear to project far or rise high, and I imagine is connected by high ground with Cape Arrubah that the name of Cape Arrabah preferves the original appellation of the Arabite Belootches of antiquity, for though it is not within the limits assigned to that tribe by Arrian, the influence of these mountaineers has extended itself along the coast through the whole province of the Oritæ, and as far as Cape Guadel. We have the fullest evidence of this from Lieutenant Porter s, who says

79 If it should be thought necessary to investigate this point, a short table will shew all the particulars at one view.

Stadia.		Miles.
200	-	121
5 300	-	\$ 19
1 430	-	27
200	-	121
500	-	314
300	-	19
-		-
1500	-	944
130	-	8
_		-
1030		1024
	200 300 430 200 500 300 1500	200 — 300 — 430 — 200 — 500 — 300 — 1500 — 130 —

" The land from hence (Sommeany Arabis) runs along extremely low next the tea; but the back is very cragged, and continues fo to Cudjerah." Lieutenant Porter, p. 3.

81 Arrabah, Arraback.

²² A plan of the bay, formed by the projection of Cape Arrabah, is given in the chart furnished for this work by Mr. Dalrymple; but as Nearchus did not anchor here, we are no farther concerned than to mention it.
²³ P. 6.

expressly,

expressly, that the coast as far as that cape is now called Bloachee (the country of the Bloaches or Belootches), and from that cape to the gulph of Persia, Brodia. The Belootches, therefore, in carrying their arms westward, carried their original name with them, which is still preserved in Cape Arrabah; and perhaps, if we could investigate the name by which they distinguish themselves, we should find, whatever they may be styled by their neighbours, that they still retain some relation to this original appellation in their native language.

Mr. d'Anville ⁸⁴ places Haûr as the modern capital of this province on the river Tomérus, corresponding with the ancient Ora. In this, I conceive, he follows the Nubian Geographer ⁸⁵, who carries a route from the Indus through Manhabere, a town on the Arabis, and through this Haûr to Firabuz ⁸⁶ in the Mekran, or Gadrosia. Oræa is mentioned by the author of the Periplus, but with so little precision, that nothing satisfactory can be collected from him. It is evident that this writer had personally visited the coasts of Arabia and Malabar; but he doubtless sailed with the sleet from Egypt, which at that time crossed the ocean by the assistance of the monsoon, and never approached the coast of Gadrosia. He

the twelfth century, if refined of its drofs, would be found to contain much pure metal. Mr. d'Anville could have performed this fervice.

The Dabil of Al Edriss he places three stations from the mouth of the Mehran (the Indus), that is seventy-sive miles, which makes it nearly agree with Pattala. I suspect that Deb-il-Scindi, in its Oriental sense, comprehends the Delta, however afterwards applied to a part of it. Nub. Geog. p. 57.

^{**} Eclaircissemens, p. 42. Antiquit, p. 44.

** Al. Edrifi. Nub. Geog. Lib. Relax.

Manhabare et Firabuz media est urbs quadam parva babitata, Haur appellata. Urbs autem Firabuz est incolis et mercatoribus frequens, pertinetque ad provinciam Mekran. Nub. Geog. p. 58.—If the Nubian drew his information from Arabic sources, from whence did the Arabians draw? This Arabic work of

therefore mentions only the bay of 57 Terabdon 53, which the ancients place between Cape Jask and Guadel, and then, with the incidental notice of Oræa, passes to the Sinthus . He seems to have mistaken the fite of this place; for he fays it is at the mouth of a river, and in the bay, whereas that imaginary bay terminates at Guadel, and this is far to the eastward of it. This error, if he really means Oræa for Ora, is excufable only on account of his not having vifited this coast; for whatever he saw himself, he describes graphically. Ora " is laid down by Ptolemy in longitude 102° 20', latitude 23° 40'; but as little would be gained by the method I have purfued in correcting his error, it is here omitted. The general name of Gadrofia is extended fometimes by the ancient geographers to the whole coast between Karmania and the Indus, as that of Mekran is by the modern Orientals; but the distinction ought to be made, of what is defert and what is habitable. The country of the Arabies and Oritæ appears full of inhabitants, and no notice is taken of the army's experiencing any diffress before Alexander croffed the mountains into Gadrosia; from that line it appears that the defert commences, in passing which the army encountered greater difficulties than in the whole course of the service.

In detailing the coast of the Oritæ, I find only three fixed points, the two rivers Arabis and Tomérus, with Cape Malana or Moran. Thevenot 91, in his passage from the gulph of Persia, mentions Cape Malan, but he never came in fight of it; and his evidence, there-

88 On this subject, see infra.

⁸⁷ Perhaps the Paragon Sinus of Ptolemy.

⁸⁹ Sinthus is the name he uses for the Indus; and this proves his acquaintance with the native appellations Scind and Scindi.

⁹⁰ By Mercator's map it does not differ much from the Ora of the Periplus. The confusion seems to be general.

D'Anville Antiquit. p. 44. Thevenot, Eng. ed. p. 194. Part II.

fore, amounts to nothing more than proving the existence of the name still in the language of the country; and that Malan is the Moran of Porter cannot be doubted, either from its fituation or the fimilarity of found. The interchange of the liquids l and r occurs in numerous inflances, exclusive of the deception to which the ear is fubject in receiving foreign founds. The three other stations on this coast I can fix only by the distances given; they all appear uninhabited; and when we find names "2 given to obscure places so readily by Arrian, we are led to conclude that he had natives on board, to whom they were familiar.

As Lieutenant Porter mentions three names on this coast as well as Arrian, which are Arrah, Kudjerah, and the rocks of Kingalah 93 it is possible that Kudjerah may be the Kokala of Arrian; for we are to remember, the Greek language has no found correspondent to our English cb, and Cochela is not very distant in found from Gudjerah. Refemblance of this kind, where diffances or local fituation agree, is strong prefumptive proof. Kabana is supposed to be Kingalah by de la Rochette.

The extent of this coast, given by Strabo, is eighteen hundred stadia; and if he drew from the original journal as well as Arrian, it is extraordinary that they should differ to the amount of an hundred and feventy stadia in fo fmall a number: but this is perhaps only an additional inftance of the little dependance upon all numerals in Greek manuscripts, rather than a proof of disagreement between the authors. Arrian's stadia, as corrected by the manu-

⁹² Porter's are three names merely, and this notre petit vaiffeau pouvoit être à l'ancre. is an Oriental practice; for thus Niebuhr Voyage, tom. i. 230. Amsterd. Ed. fpeaks of the coast between Suez and Jidda. On appelloit ancrages tous les endroits où

⁹³ Hinglah, Mafcall,

fcript 94 of Gronovius, produce nearly an hundred and two miles; Strabo's, an hundred and thirteen; and both accord so nearly with the chart of Commodore Robinson, which gives somewhat more than an hundred miles, that nautical menfuration, without the affiftance of instruments, can hardly be reduced to greater conformity.

Here I should have closed the account of the Oritæ, but at Malana we find a circumstance recorded by Arrian which demands no small degree of attention; for here it is that he introduces the mention of a phænomenon, which, however familiar to the navigators of the prefent day, was, in his own age, a matter of no small curiofity. The fun, he tells us, was feen by Nearchus in the meridian to the north, and the shadows fell to the fouth. I shall translate the whole passage, before I enter upon the discussion of a subject which has exposed my author to much reprehension.

" As they failed along the coast of India, that is, the country of " the Arabitæ and Oritæ [for the Ichhyophagi are not accounted an " Indian tribe], Nearchus fays, that the shadows had not the same " effect as in those parts of the earth with which they were ac-" quainted, for when they flood out to fea a good way to the fouth-" ward, the fun " was either vertical at noon and no shadow was " to be feen, or fo far to the north that the shadow fell to the fouth. "The northern conftellations, which are always above the horizon, " fet almost as soon as they rose; and others which they were used " to contemplate, were either close to the horizon or not visible at " all. In this Nearchus appears to affert nothing improbable; for at

" Syene

in the Grand Duke's Collection. See Præfat. Aurifpa from Constantinople in 1403. See ad Lect. It evidently contains readings of Roscoe's Life of Lorenzo, p. 30. the first importance; and the reconciliation 95 I take some liberty to make this conof numerals is no fmall proof of its fuperi- fiftent.

⁹⁴ This MS. Gronovius found at Florence, ority. It is possibly the MS. brought by

- " Syene in Egypt, when the fun reaches the fummer tropic, they
- " fhew a well, in which at noon there is no shadow; and as the same
- " circumstance occurs in Meroe, it is probable that in India also, which
- " lies towards the fouth, the shadow should be subject to the same
- " law, and more particularly in the Indian ocean, which extends
- " still farther to the fouthward."

In this account there is apparently little to perplex; but when we confider, that at Malana Nearchus was in north latitude 25° 16', where these circumstances could not occur, it is not very easy to discover the reason for introducing them at a place not within the limit of the tropic. We must recollect also that we are now arrived at the latter end of November, when the sun was to the southward of the equator; and therefore, whatever licence we may assume in rendering the text, when it afferts that they stood out far to the southward, we may be assured that no Greek vessel ever stretched so far from the coast as to verify this phænomenon in the manner specified by the historian.

Neither Alexander himself, or any detachment from his army, were ever farther to the south than the mouth of the eastern branch of the Indus; and there, at the summer solftice, the sun might be vertical: but, from all we can collect, Alexander did not reach that point till the latter end of July, when the sun was again on his journey to the south; neither is it perfectly ascertained that the mouth of the Nulla of Sunkra is within the tropic: Mr. Rennell's last map and Mr. de la Rochette, it is true, bring it within that

⁵⁶ See Goffelin Geog. des Grecs, p. 32; within the tropic, Plin, lib. ii. c. 75. who, mentions that Onesicritus places Pattala

line; but till it shall be determined by observation or there is still room to doubt.

If this phænomenon, however, was to be recorded, it is extraordinary that it should not have found its place at the point farthest fouthward which the Macedonians ever reached; and that it should be referved for Malana, when the fleet was nearly two degrees to the north of the tropic, and the fun fouthward of the equator. I would fave the credit of Arrian, if it were allowable, by supposing that he spoke for Nearchus in this passage generally, rather as a circumstance known than experienced; but truth compels me to confefs, that to my apprehension his language is too express to admit of general interpretation: it is Nearchus speaking of what he had seen 98 himself, and I cannot acquit Arrian without making Nearchus subject to the imputation.

Nearchus, it is true, is enrolled by Strabo in the fame lift with Oneficritus, Megasthenes, and other writers upon India, as indulging too much in narrations which are fabulous; but we have at this day far better means of comparing the accounts of these authors with the actual flate of the country than Strabo had, and I must acknowledge that I have found Nearchus a most faithful and unerring guide. If I cannot excuse him in the present instance, I can join him in his error with companions fo illustrious, that I hope the reader will pardon me for entering upon a digreffion in which the knowledge of the ancients in geography is materially concerned.

If, therefore, Pandrummee is the eastern 98 299 autoion.

places Pandrummee in latitude 23° 13'; and in only mean to fay it is not fixed by obhis chart of Scindi, latitude 23°.

⁹⁷ Mr. Dalrymple's chart, by C. Prittie, mouth, it is confequently within the tropic. I fervation.

The increasing length of summer days and winter nights, in proportion to the approach towards the pole, was known as early as the age of Homer, and the corresponding phænomenon of the fun casting no shadow at the summer tropic " had evidently been obferved by the Egyptians previous to all the aftronomy of the Greeks with which we are acquainted. The spherical figure of the earth alfo, we are now told, was no fecret to the Indians, Chaldeans, Egyptians, and Phœnicians; or if their discoveries, as antecedent to history, are the less regarded, we know from facts that Thales was acquainted with this important truth. If science had proceeded regularly upon these principles, the properties of a sphere might have led men to contemplate the proportion of these phanomena as well as the phænomena themselves, for they wanted neither knowledge or industry to observe them; but they failed in the refult and combination of their observations. Thus it happened, that although Thales was acquainted with the spherical figure of the earth, and Anaximander had described the known world on a globe, yet it was not till three hundred and fifty years after Thales that Eratofthenes drew a line parallel to the equator, which fuggefted the doctrine of latitudes to the school of Alexandria, and finally enabled Ptolemy to apply both longitude and latitude univerfally to the science.

Arrian is contemporary with Ptolemy, but fo little was he acquainted with this great discovery, or rather the application of it, that he has in no one instance made use of the term. It is evident, however, that he had a knowledge of the phænomenon produced by

cock, and Blair's excellent treatife on the Rife but there is much reason to give it a higher of Geography, who mentions that the well at antiquity.

⁵⁹ See Bruce on the Obelisks, Norden, Po- Syene was made for the use of Eratosthenes:

the fun in the tropic, from his mention of Syene in this passage; and he could not be ignorant that fouthward of Syene the fun might be feen 100 to the north; for he has in another passage noticed the folfitial rains in Ethiopia (Nubia or Abyffinia), as the true caufe of the inundation of the Nile; and whoever verified this fact, which was known to Strabo 'e' as well as Arrian, must have observed the shadow falling to the fouth. Arrian discovers his knowledge of all these circumstances in reasoning upon this extract from Nearchus, and Nearchus feems to have been as cautious in giving this fact as Arrian is in repeating it, when he fays it took place, not actually upon the coast, but at some distance out at sea. So likewise Arrian does not affert that Malana lies upon the fame parallel with Syene, but carries the parallel out into the ocean. As all this was really true, if the fleet had been at Malana during the fummer folftice, neither of these authors is culpable for any thing more than for afferting that as feen, which only might have been feen at another feafon; and if it were not for the positive affertion (ωφθη αυτοισι), they fare it themselves. The whole passage might be received generally or hypothetically, and the credit of both be established.

But if they cannot be defended, it will at least be some palliation of their offence, and a matter of no small curiosity, to shew how generally the vanity which gave rise to this error, existed in the writings of the ancients. Great travellers and great conquerors never thought their accounts or their progress sufficiently magnificent, unless they were carried to the boundaries of nature. Alex-

As he fays himself in Meroé. Meroé, strab. lib. ii. p. 98. according to Bruce, is Abyssinia.

ander is conveyed by his miraculous 102 historians to those regions on the north, where perpetual cold and darkness reign; on the east and fouth, to the utmost limits that the heat allows to be inhabited. But without recurring to fuch admirers of the hyperbole as Q. Curtius, we must reflect that Orpheus 103 carries his Argonauts to the Cimmerians, who never fee the fun. And where do they dwell?that is no eafy matter to discover: but their country is excluded from the folar rays by the Alps, the Rhipæan mountains, and the rock of Gibraltar 104. Homer claims the fame privilege for Ulyffes, for he conveys him to a region which enjoys the polar day", which his commentator affures us must be the country of the Cimmerians, and yet the poet informs us that this was in the territory of the Læstrygons, and Læstrygonia is in Italy, just three days fail from Circe and the bay of Naples. Cæfar 100 speaks with the caution of an historian when he says there was no night 'or in the extremity of Britain, or the islands "es lying north of Mona. Such, he fays, was the information he received, but he had no opportunity of ascertaining it; he observed himself only, that in Britain the summer days

quidem longiùs posse procedere. Brevi incognita nisi immortalibus visuros.

The whole of this subject is worthy of discussion at large, if I could have ventured to indulge in it.

103 Orph. Argonaut. 1, 1116.

of ridicule, but it is ferious truth. Orph. Argonaut.

έπειτα δὶ Κιμμερίοισι Νῆα Θολο ἐπάγοντες ἐκάνομιο ὁ δι ἐά το μῶτοι "Αιγλης ἄμμοροί ἐισι πυριβρόμα κιλίοιο" "Εν μὲν γὰρ Ῥίταιον ὅρος, κὴ ΚΑΛΠΙΟΣ αὐχλο 'Αντολίας ἵιργθο', ἐπικίκλυται δὶ πελώρη
''Ασσοι ἐπισκιάυσα μισημερικὰι ἡέρα Φλέγρη.
Δέιελοι αὐ κρύπτυσι Φάος τανυπκέες ''Αλπεις

Kilmon μεζόπισση, αχλύς δ΄ ἐπικίκλιται αἰιλ. 1125.

The uniting of the Rhipæan mountain,
Calpe, and the Alps is given up even by the
commentator.

105 Εγγύς γάρ πατός τι κὸ πματός ἰισι κίλιυθοι. Od. K. 86.

106 Bel. Gal. lib. v. c. 13.

is not absolutely dark, he is not guilty of an error.

108 He feems to mean the Hebrides.

were longer than on the continent. Pytheas 109 of Marfeilles went farther north himself, he was at Thule, or Iceland; and here, he fays, the day and night were each of fix months continuance; a fact which is true only immediately at the pole, whereas Iceland unfortunately is not within the arctic circle.

I have not introduced these several accounts for the purpose of exhibiting them in a ludicrous view, but to flew that travellers, poets, and historians, have all conspired in placing a true phænomenon in a falfe latitude. They had all heard that this took place fomewhere in the north, and they have all fixed it at the extremity of their own knowledge, or the knowledge of the age they lived in. If, therefore, I cannot acquit Arrian or Nearchus of a fimilar error, I have at least, according to my promise, given them such companions in their error as to reconcile the reader, in some degree, to a vanity which feems to have pervaded fo great a proportion of our ancient authors, and which may be thought pardonable at leaft, though by no means worthy of imitation. I trust that the general veracity of Arrian in his detail of facts will not be impeached by this one lapfe, and to prevent fuch an imputation is the only excufe I have to plead for this digreffion.-I now return to conduct Nearchus along the coast of the Icthyophagi; a part of his voyage where he experienced every calamity but adverse winds, and where no commentator has ventured to trace his progrefs.

vour with his countrymen; for Huet thinks him not quite a dealer in fiction, and Goffelin discovers that, though he speaks little truth, he exhibits a knowledge drawn from purer fources, and a specimen of that geography which, though antecedent to all history, was better than that of the Greeks. This is a fystem

Pytheas is reprobated as a fabulist by of Gosselin's, and by no means the valuable Strabo, i. 64. ii. 104.; but he has found fa- part of his work. Geog. des Grecs, p. 45,

> Pytheas fays, the tropic of Cancer becomes (or stands in lieu of) the arctic circle; which Goffelin explains, by supposing that he means the tropic of Cancer is always visible above the horizon. Strab. 114. Gof. 48.

III. ICTHYOPHAGI.

This desolate coast, extending from Malan to Cape Jask, is not less than four hundred and fifty miles in a right line, and nearly fix hundred and twenty-five miles, or ten thousand " ftadia, by the course of the fleet. It is not meant, however, to infer that an hundred and feventy-five miles, the difference between these two numbers, is wholly imputable to the course of the fleet along the shore; for the coast lies generally straight, and the indenture of the bays is not deep. We may suppose that the pressure of famine augmented the efforts of the navigators; while the acquifition of a pilot, and the advantage of the prevailing wind, contributed to lengthen each day's courfe. We shall find, therefore, that their progress was now fometimes a thousand stadia, or upwards of fixty miles a-day; and as proofs will arife, that they did not always adhere fo closely to the shore as in the other parts of their voyage, it may be prefumed their means of judging distances were diminished, which caused part of the error in their reckoning; and which error naturally tended to increase their estimation of the measure.

It is necessary to premise these circumstances, because the stadium of d'Anville is less applicable to this coast, exactly in proportion to the difference between four hundred and sifty and six hundred and twenty-sive; and as no such variation occurs in the former part of the voyage, and none so great will occur in the gulph of Persia, it becomes more requisite to point out the causes of variation here; the

Strabo fays feven thousand four hundred, p. 720. This will be examined more correctly hereaster.

principal of which are, the diffresses that caused distances to appear longer, at the same time that they engaged the mind too much to allow of accurate calculation.

A coast which furnished nothing but fish, which afforded no characteristic distinction to its inhabitants but the name of Fish-eaters. presented no consoling ideas to a body of Greeks, with whom the want of bread was always confidered as famine ": and though turtle is mentioned as found on this coast by Arrian, and a tribe called Turtle-eaters by Marcian "2 of Heraclea, it is not to be supposed, that because turtle affords a delicious repast in modern estimation, that it was by any means acceptable to a Grecian palate. I rather fuspect that Icthyophagi and Chelonophagi stand in the Greek text as appellations bordering on contempt, or at least as intimations of mifery; and though I can find no express testimony of antipathy conceived by the Greeks against this species of food, neither can I find any evidence that they made use of it, as is noticed in regard to the shell-fish found in the Port of Alexander and the river Arabis. We shall have reason to observe as we proceed, that fish is almost the only means of supporting life, or furnishing the conveniences of life, fuch as they are, to the natives; that their houses are constructed with the larger bones " of fish, and thatched with the refuse; that their garments are of fish-skins; that their very

as bread with us is the general term for food. There are many inflances of the Greeks confidering the want of bread as famine; and a very particular one in Roman history. At Avaricum Cæsar's troops had plenty of meat but no bread, and this was considered by him as a sufficient reason to offer to his army a proposal for quitting the siege.

Hudson. Geog. Min. Mar. Herac.

The whale, which we shall hereaster find frequented this coast, might supply ample materials, as we see by the jaw sufficiently common in England. Shells, or rather large conchs, are mentioned, lib. vi. p. 262, as forming part of these houses, perhaps the roof.

aread is a fifty fubstance pounded and preferved; and that even the few cattle they have, feed on fish. The same observations occur to modern travellers who have visited this coast. Thevenot, Tavernier, and Niebhur, feem to comprehend the coast of Persis and Karmania as under the fame circumstances with that of the Ichyophagi; and Edward Barbofa, who was pilot on board one of the Portuguese fleets which first visited this coast about the year one thousand five hundred and nineteen, has the following remarkable passage: "They have few ports, little corn or cattle; their coun-" try is a low plain and defert; their chief support is fish, of " which they take fome of a prodigious fize; these they falt, " partly for their own use and partly for exportation; they eat " their fish dry, and give dried fish likewise to their horses and " other cattle "4." So invariable has been the mifery of this coast for two thousand years! and so positive are the affertions of modern voyagers in correspondence with the testimony of Arrian!

The modern name of Mekran appears to be the Persian or Indian appellation for the whole of this coast from the Indus to Kerman or Karmania, so called in the first instance from its commencement at the Indus or Mehran, and augmented afterwards by the title of Kutch Mekran, from Kidge or Kutch the capital; distinguished, however, by the more modern division of Bloachee and Brodia, the limit of which is at Guadel: but in the time of Alexander the title of Ichyophagi was confined to the inhabitants of the coast, while the country within land, from the confines of the Oritæ to Karmania, was styled Gadrosia, almost equally desolate, and as incapable of supporting an army as the coast.

This country Alexander had evidently entered before the fleet had reached Kokala, as Leonnatus joined Nearchus at that flation, having been left behind for that purpose when the main army had advanced into Gadrofia. The difficulties this army experienced are foreign to the present purpose, but the attention Alexander paid to the prefervation of the fleet is connected with the voyage; and a reference to his conduct will tend more effectually to exculpate him from the charge of vanity imputed to him in this part of his expedition, than any other arguments which can be produced.

It is mentioned "s expressly, that when Alexander entered this province it was his intention to proceed along the coast, to examine what harbours it afforded, to fink wells, and provide whatever elfe might afford accommodation for the fleet; but he foon found that, from the nature of the country, this was impracticable. He fent down Thoas, however, with a finall body of horse to make observations, which amounted to no more than a confirmation of the mifery of the few inhabitants to be found there; and that even water, which was fcarce "6, was brackish also, and obtained only by opening holes in the fand or beach. The army, therefore, was obliged to advance inland; and here the length of the marches to reach water harraffed the men and killed the beafts. It happened, however

Arrian, lib. vi. 262. Strabo, lib. xv. ancients and moderns as falt or nitrous, it may be prefumed that all the waters in the country partook of this quality. Such Arrian represents them here, and such Lieutenant Porter fays they are at Sommeany. If the Sommeany river itself were not brackish. shall shew hereafter, (see article Cyiza, river the natives would not have cause to open the fands for better, and the water in these openwere falt or brackish, and from the nature of ings ceases to rise fresh the second or third

When we find in Otter, tom. i. p. 409, no less than five rivers specified in this province, we may be led to think, that more is faid of the want of water than is true; but I Hydriakus,) that two at least of these rivers the foil all along the coaft, described both by day.

that at one station he met with a supply of corn, and this, notwithstanding his own wants, he destined for the support of the fleet, fixing his feal upon it, and ordering it to be conveyed down to the coast; but diffress prevailed over the fear of punishment; the efcort broke the feal, and supported their own lives by the fupply entrusted to their charge; neither did Alexander, knowing their sufferings, think this a time to punish their offence. He made a fecond attempt by fending down Cretheus with another fupply of no great importance, and a third when he dispatched Telephus with a small proportion of corn ready ground, having previously directed the natives in the upper provinces to collect dates, sheep, or even falt provisions, if by any means the preservation of the fleet could be effected. Sixty days "did the army struggle with their distresses before they reached Pura "s, the capital of this defert; and during one part of their progress so imminent was the danger, from the failure of water and the ignorance of the guides, that had not Alexander put himself at the head of five horse, (all that were capable of fervice,) and pushed down to the sea-side, where he found water by opening the fands, it is confidently afferted that the whole army must have perished. They proceeded along the coast for seven days, fupplied by the fame means, till the guides recovered the track, and conducted them fafe to Poora "?.

There is fomething in this account which induces us to think that one diffress, the want of water, would have been less experienced on the coast than within land; and during these seven days it is

117 Strabo. Arrian says expressly, from Cheref-eddin, vol. ii. p. 417. French edition. Poora, which is the Poreg or Phoreg of the 118 I shall write Poora, which is the Greek Nubian Geographer, feems however still a

place of fome relative importance.

the time they left Ora.

pronunciation.

[&]quot; The present capital of Mekran is Kidge.

probable that Alexander, feeing nothing of his fleet, despaired of its safety; for he could not know that Nearchus had been detained near a month by the monsoon, nor properly calculate the reason of his delay. It is certain that Nearchus found water in the same manner as the king; both were directed by the natives, and several voyagers acquaint us, that wherever palm-trees "or grow, however arid the soil, there is always water to be found, by opening the ground to the depth of from ten to sisteen feet.

I cannot account for the fixty days attributed to this march through Gadrofia; the distance through a sandy desert could not be much longer than by sea; and how four hundred and eighty miles in should require such a length of time seems a considerable difficulty. Arrian mentions that the marches were protracted to the destruction of numbers; and Strabo specifies that they were two hundred in some says and strabo specifies that they were two hundred in says as high as thirty-seven miles a-day; a length incredible; and the more the length is increased, the less it agrees with the number of the days.

As no folution of these difficulties occurs, I shall only state the position of the army at Poora and the fleet at Malana, according to the dates given by the historians; and this seems necessary, as we

the Egyptians had poisoned the water in the Kalish of Alexandria, Cæsar opened wells on the coast.

Four hundred and eighty miles give eight miles a-day; a march not too short in an impracticable country, if it can be made to accord with the other forced marches; and perhaps we ought to compensate the particular length of some days march, with the general difficulties which rendered others short.

There is fomething unaccountable in Strabo's stadia, for if they are those of d'Anville, two hundred are only twelve miles and an half; no very extraordinary day's march; and if they are the Olympian stadia, six hundred make seventy-sive miles; a march which is impossible.

Miles English. Miles Roman.

200 stadia of d'Anville, 12½ Olympian, 25

400 ditto, — 25 Ditto, 50

600 ditto, — 37½ Ditto, 75

Shall

shall have no farther reference to Alexander till Nearchus found him in Karmania. He had left Pattala a month or fix weeks before Nearchus, that is, fome time in August 123; what time he continued in the country of the Arabies and Oritæ does not appear, but from a circumstance which occurred in Gadrosia, and the fixty days employed in that province, we shall bring him to Poora "4" in the latter end of November; and as Nearchus reached Malana on the twentyfeventh of November, we may conjecture that the feven days' march of Alexander along the coast of the Icthyophagi, at the western extremity, took place during the very time Nearchus lay at Malana, or had just commenced his course at the eastern limit of the fame tribe. I have entered into these particulars in order to connect the motions of the fleet and army, and have no small pleafure in finding that they correspond with each other. Another object was to prove, in opposition to all the historians, that the penetration through the defert was not a mere idle fuggestion of vanity, but part of that great defign which Alexander had conceived of opening a communication by fea with India: the three attempts which he made in the midst of his own distress to assist the fleet, establish this point as the first object of his mind; and the loss which he fuffered fell perhaps chiefly upon the Afiatics, who now composed the bulk of his army, for the Macedonians do not appear to have been weakened, either upon their arrival in Karmania, or from the transactions in which they were afterwards engaged.

he is mistaken, as he disagrees both with the Nubian Geographer and Cheref-eddin. It should seem that Phoreh is the ancient, and Kidsj the modern capital.

¹²³ See Anamis, infra.

as the capital of Mekran; but as he makes Kié and Kiz, or Kidsj, two distinct places, and diftinct they really are, it is highly probable that

212 FROM THE INDUS TO CAPE JASK.

Істнуо-PHAGI.

BAGASIRA. Nov. 28. Fifty-feventh day. Thirteenth station.

We left Nearchus at Malana on the twenty-seventh of November, where he staid only that day, and, weighing at night, proceeded thirty-feven miles to Bagafira. There was a good harbour here, and a village called Pasira 125, about four miles up the country. The fite of this station answers to a creek in Porter's chart to the eastward of Cape Arraba, and which, in Mascall's chart, obtains the name of Jerkumutty 126, but the distance is only fifteen miles. We cannot, however, well be mistaken, because the next day's fail is round Cape Arraba; and as no distance is specified for the doubling of that promontory, the thirty-feven miles applied to the whole are fufficiently correspondent: the text does not justify this allotment, but as the Cape is a fixed point, there is little danger of an error.

Upon the mention of Ba-gasira, I must be permitted to notice, that the term Gafira indicates an Arabian navigation on this coast previous to the age of Alexander; for it is neither more or less than Gefira, fignifying in Arabic an ifland or peninfula confesfedly, and, as I apprehend, a cape likewife. It is remarkable that, on the coast of the Ichyophagi, this term occurs twice, in Ba-Gasira the first station but one, and Da-Gasira the last but one. It occurs, likewife, in the Periplus of the Erythræan fea, with the transposition of a fyllable, where Ba-rygafa is either Guzerat ", or the gulph of Cambay, and Ba-rygafa corrected is exactly the Ba-Gafira applied by Arrian to the bay east of Arraba. I appeal, then,

125 De la Rochette places Pasira to the rect. Jerkumutty is ill applied; it belongs to westward of Cape Arraba instead of the eastward; and his whole distance from the Tomérus to the Cape is reduced to nothing. Has he not mistaken the Jerkumutty creek for the Tomérus? Pafira is possibly a corruption of

126 This chart of Mascall's is not from his own observation, and therefore far from corChurmut, the Calametta of the Portuguese, the Kalama of Arrian. From the first view of the two words, who would conceive that Jerkumutty and Kalama were related?

*27 The fluctuation or corruptions of this word are endless; for we find Gafira, Gefira, Geriza, Geziret, Dsjefiret, Guzerat, &c. &c.

to the professors of Oriental literature for the interpretation of Ba, for it is a component part of many names on this coaft, as Ba-lomus, Bar-na, Ba-dara, A-la-ba-geion, Ba-geia, Ba-dis; and, wherever it is employed, I can point out a gulph or bay, as it is used in Ba-rygaza for the gulph of Cambay, and in this passage of Arrian, for the bay formed by Cape Arraba. I had looked for an opposition in Ba and Da, suspecting that Da, Dah, or Dagh 128, fignified the head of a cape, and Ba the neck or falling-in of the land, in contradiffinction; but my friend Dr. Ruffell, whom I confulted, gave me no hope of finding any fuch primitives in Arabic, where they ought to be looked for. I have only to add, that as a bay '29 occurs almost to a certainty in every instance where Ba is applied as an adjunct, it is an extraordinary coincidence of found with our native term; and I look with no little curiofity to an etymology of it, if it should be discovered in Arabic, Persic, Pehlvi, Shanskreet, or any native dialect of the coaft.

The fleet weighed from Ba-gasira early in the morning, and stretched out round the cape, which projected far into the sea, and appeared high and bold. After doubling the head, they were obliged to ride at anchor without landing the men, as the surf ran high upon the shore '3°: some of the people, however, were with difficulty landed, in order to procure water; this was effected by opening pits upon the beach, but the quantity was small and bad. Though Arrian has assigned no name to this cape, there is no possibility of a mistake in calling it Cape Arraba, a name which still preserves the title of Arabies, given to the Belootches by Arrian, whose

CAPE
ARRUBAH,
ARRABA.
ARRUBAK.
Nov. 29.
Fifty-eighth
day.
Fourteenth
station.

Dahr, in Perfic, a head officer: if derived from any root figuifying a head it would answer in this inflance; but that is not allowed by Mr. Jones or Dr. Russell.

Our word Bay, is from Beagan to curve or bend. Junius in voce.

¹³⁰ gazin. Petrofum littus, according to the translators.

influence, as I have before observed, reaches much farther westward at prefent than this promontory. The island Karnine, which Arrian places two day's fail from hence, corresponds so precisely with Ashtola "", the only island worthy of notice on the coast, that there can be no error in assuming both names for the same spot; and if the island is right, the cape cannot he misplaced.

KOLTA. Nov. 30. Fifty-ninth day. Fifteenth flation.

KALAMA. Dec. I. Sixtieth day. Sixteenth station.

The next day's fail was only twelve miles and an half to Kolta; and that of the day following fomething more than thirty-feven to Kalama 132.

I have before taken notice that the measures on this coast tend almost regularly to an excess, and the numbers specified between Malana and Kalama prove this. Fourteen hundred stadia produce eighty-feven miles; and if I had added a distance for doubling the cape, the disproportion would have been still greater. In eightyfeven miles there is an excess of twenty-two, for Commodore Robinfon's furvey gives only fixty-five; and in my account there can be no mistake, unless I have been too desirous to make Malana and Morán the fame, which is hardly possible, as the previous measures all correspond. We must impute, therefore, this excess either to the circuitous courfe round the cape, which feems more than requifite, confidering the wind which blew; or to the error of Nearchus's reckoning. I incline to the latter, because I consider the cape and Kalama as fixed points; the former from the circumstances of the navigation, the latter by the mention of an island lying off shore at this point. For I have been enabled to discover the position of

fite to the river Arabis; but as there is no conspicuous island on the coast except Ashtola,

¹³¹ Ptolemy has an island in this sea called there is every reason to suppose, that, how-Ashaea, placed by his longitude indeed oppo- ever misplaced, Ashaea has a relation to Ashtola.

¹³² Kalama, Kalyba, Gron, MS.

Kalama by extraordinary good fortune, and find that the Churmut river of Robinson is synonymous: if this is capable of proof, what latitude ought not to be given to conjectural reconciliations? What credit is not due to Mr. Dalrymple, who recommends the preservation of all names as they stand in authors who have visited the spot? In a Portuguese manuscript of Ressende, in the British Museum, we have a map of this coast, in which Passaum (Possem) is laid down very well, and the next station on the east, Rio de Kalameta. Kalameta [Kaulmet] is evidently the medium between the Churmut of Robinson and the Kalama of Arrian. I consider this station, therefore, as sixed with the utmost precision; and the island Ashtola, or Karnine, mentioned by Arrian as lying off this place, completes the evidence.

That Karnine 133 is the modern Ashtola, there can be no doubt; for though the journal places it about seven miles from the coast, while it is in reality double that distance, this ought not to appear a difficulty, for Nearchus did not visit it. It is visible 134 from Cape Arraba, and perhaps during the whole passage to Kalama; but, in judging distances by the eye, possibly Nearchus was not so skilful as our modern seamen. Lieutenant Porter describes Ashtola as nearly three miles long, with two or three bays on the north side, where turtle may be caught in great abundance: the passage between this and the main is clear; but on the south side there is a rock with soul ground, and overfalls for twelve miles. From the same memoir we have an account of the coast from Cape Arraba, on the east side of which a bay 135 runs in so deep as to make the cape appear like

¹³³ Karnina. Kanina. Gron. MS. opt.

¹³⁴ Lieutenant Porter, p. 4.

¹³⁵ It is in that bay I place the anchorage.

an island "", with a smaller one that has shoal-water on the western side. The coast from hence to the westward is very craggy for seven or eight miles, being, as I imagine, the termination of that branch which shoots from the great chain inland, to the sea, forming the boundary between the territory of the Oritæ and Gadrossia; and the rise to this branch possibly commences at Morán.

At Kalama, the natives were disposed to be hospitable; they sent a present of sish on board, and some sheep; but the very mutton was sishy, as were all the sowls they met with on the coast: neither is this extraordinary, for there was no herbage to be seen; and the animals, as well as the inhabitants, fed on sish. A few palm trees were observed about the village, but the dates were not in feason "37.

KARBIS
COAST.
KYSA
VILLAGE.
Dec. 2.
Sixty-first
day.
Seventeenth
station.
KISSA.

From Kalama they fet fail the following day, and, after a course of little more than twelve miles, anchored at Karbis, which is the name of an open shore, with a village called Kysa, about two miles from the sea "3". The inhabitants sled upon the approach of the ships, and nothing was found in the place but the boats which the wretched sishermen of the coast used, and some goats which they seized and carried on board. Corn they searched for without success, and their own stock "39" was almost exhausted.

136 An additional reason for its name, Ba-Gasira.

137 xhwear in the text. Green.

It is not impossible that the appearance of this fruit may be adduced to determine the seafon of the voyage; for those who have been on this or the neighbouring coasts, cannot be ignorant of the time of year, when the date is green. I know not how to suppose that this can be the case in a northern latitude, however near the tropic, in December; nor,

on the other hand, could I easily abandon all the data, by which I have determined the seafon of the voyage, from a contradiction of this kind. However the naturalists may determine this point, the monsoon, which regulates my whole process, is, in my estimation, a foundation which cannot be removed.

138 Gron. MS. opt. Kiffa.

139 Probably what they had obtained from Leonnatus.

The following day they doubled a cape which projected nine miles into the fea, and, after getting round, anchored in a fafe harbour called Mofarna.

As Mofarna is the flation at which the voyage is to assume a new appearance, it becomes necessary to establish the site of it with precision; and in this there would be no difficulty if there were any harbour, bay, or bight within a day's course from Cape Passence. The cape we cannot be mistaken in, as the island of Karnine, or Ashtola, fixes Kalama, and the course from thence; while the projection of Arrian's nameless cape corresponds almost exactly with that affigned to Cape Paffence or Posmee by Lieutenant Porter: but No day specithere is, in fact, no harbour here, or what might be deemed an harbour'40 even for a Greek fleet, represented in the charts; and Commodore Robinson affured me that the chart of his survey is accurate. If so, modern geography can afford us no affiftance, and we must only suppose that, if such a harbour formerly existed, it is now choked up. That there was one can hardly be doubted, for Mofarna is comparatively confpicuous, being mentioned both by Ptolemy and Marcian as the boundary of Karmania and Gadrofia. Where to fix that boundary inland may be a difficulty; but Arrian, who calls the country inland Gadrofia, and the coast Ichyophagi, takes no notice of Karmania till he comes to Cape Jask. On the contrary, Ptolemy and Marcian confider the whole coast as Karmania from Mosarna to Cape Jask; and from thence to the river Bagrada in the gulph of Persia. Be this as it may, my present purpose is to shew that Mofarna must be placed at some short distance to the westward of Cape

PASSENCE. POSMEE Cape. MOSARNA Harbour. Dec. 3. Sixty-fecond day. Eighteenth ftation. fied by Arrian, but allowed.

140 is λιμίνι ακλύστω is Arrian's expression; it means land-locked, or at least so sheltered as to be a quiet harbour.

Passence, in consequence of the fleet having doubled the cape that day, and come to an anchor near it in the evening. Arrian gives no number of stadia for this day's work, except his mention of the extent of the promontory; and as we have met with the same omission on the doubling of Cape Irus or Monze, when the sleet anchored immediately in the bay which joins it, we may conclude the same circumstance took place upon the present occasion.

There is a paffage in Lieutenant Porter's memoir, which, if I understand it right, confirms the position I assume for Mosarna. "Cape Posmee appears like the top of an old barn in coming from the eastward, but varies according to its different points of view, which I have endeavoured to delineate as exact as possible; and from whence is formed a small bay, at the bottom of which is a small town called according to the name of the cape, chiefly inhabited by fishermen." Now if it is allowable to interpret (from whence,) from Cape Posmee, that is, to the westward of Posmee, this position would answer exactly; but it is evident the chart does not authorise this, for the chart places the village of Passence or Posmee eastward of the cape, and in the bay formed by the projection; and here, if the text of Arrian had not been positive to the contrary, I should have placed Mosarna.

I state the evidence on both sides, and I confess my disappointment in not being able to reconcile the apparent difference, as this village is still a point for the caravans to make from within land; and the dingies ", or vessels of the country, still resort hither for dates, cotton, dried hides, and salt-sish; a trade which gives a relative importance to the place, conformably to my ancient authorities.

At Mosarna, Nearchus found a pilot who undertook to conduct the fleet to the gulph of Persia; he was a native of Gadrosia, and from the name (Hydraces) given him by Arrian, I imagine, an inhabitant of Hydriacus, a town near the bay of Churbar or Chewabad, which I shall hereafter have occasion to mention. The minute circumftance of meeting with a pilot at this place denotes fomething more commercial than any thing that has yet occurred on the coaft; and Arrian fuggests, that from hence to the gulph of Persia the voyage was more practicable, and the flations 142 better known. Upon the acquisition of Hydraces, or the Hydriacan, two circumstances occur, that give a new face to the future course of the voyage; one is, the very great addition to the length of each day's course; and the other, that they generally weighed during the night: the former depending upon the confidence they acquired by having a pilot on board; and the latter, on the nature of the land breeze. I must recur to both these circumstances as soon as the seet leaves Mofarna; but, at prefent, I shall take the opportunity of laying down the detail of this coast from Mosarna to Badis, where it ends, by forming a Table from Ptolemy and his copyist Marcian, compared with the order of Arrian's stations, so that the whole of our ancient authorities may be exhibited at one view.

μαλλόν τι ότομαζόμενα, έτι έπε τὸν κόλπον τὸν where they had hitherto landed. Names more Πεισικόι. Which Rooke translates: Lefs diffi- familiar; at least I have not witten noncult to be paffed, though much more famous in sense. flory.

but I apprehend it means, places better known, p. 9.

142 Ta di and Tude exite xalena ni, alla in opposition to those obscure coasts or villages

Porter bears evidence to the better appear-I am not fure that I render διομαζόμετα right, ance of the country between Churbar and Jafk,

TABLE for comparing Arrian, Prolemy, and Marcian.	From Mosarra From Mosarra To Zorambus. To Zorambus. To Barada, Badara, To Bagia Prom. Expira. To Hydriakus, Candriakes River, To Hydriakus, Campriakes River, To Masis, Magis, Magida, Mazinda, To Royara, To Royara, To Masis, Magis, Magida, Mazinda, To Royara, To Royara, To Royara, To Masis, Magis, Magida, Mazinda, To Royara, To Royara, To Royara, To Royara, To Masis, Magis, Magida, Mazinda, To Royara, To Royaria, To Royara, To Royara, To Royara, To Royara, To Royara, To Royara, To Royaria, To Royara, To Ro	18. To Karpella, ———————————————————————————————————	just to give the preference of Fracti. The corruption of the text fida and Kanaté, Arrian, from Mofarna to Kyiza, 2550 flad. 10 the account of the jour. In the reading of this word is fuch, that there is a namelef Marcian, as will appear hereafter, reckons Kanthapit, and the transposition of Zo can be discovered, it may be reduced to the 750 fladia to eight fladia to a Roman mile, and confequently Kantatia, &c.furnifly greater and to comprehend the cefs than Arrian. 10 fladia. 10 fladia. 11 fladia. 12 fladia. 12 fladia. 12 fladia. 13 fladia. 14 fladia. 15 fladia.
			220054
	Pola, Polla, Palla, off at fea, no correspondent illand in modern charts. Libé, Libá, Zibé, off Alambatefr; Guadel S. Karminna, off Derenopilla; Karnine of Artoritan, off Churmut, or 112. Calametta. Afthæa, long. 105°, 14-lat. 18°, mifplaced, 15-lat.	Kodané, long. 107° 30', lat. 17°, quite uncertain.	

In this Table I have given the number of stadia as they appear in Arrian and Marcian; but as all Greek numerals are defective, and as I have already partly accounted for the inaccuracy of Nearchus's reckoning on this coast, so I imagine the numerals in Marcian '43 are still less to be depended on, his total rarely agreeing with his particulars, and his order of names not being correct. Equally inaccurate are the longitudes of Ptolemy, and yet, from a comparison of the three, the whole may admit of regulation, and the errors be made mutually to correct each other: of this something more will be said. If I prefer the authority of Arrian, it is not from predilection, but because Nearchus's journal, standing upon each day's work in the order it arose, must be more authentic (if we have a faithful copy of it) than any thing Ptolemy could obtain from the information of others.

The Table commences from Mofarna, and ends at Bombareek, the Karpella of Ptolemy.

It does not appear that any fupply was procured for the fleet at Mosarna but water '44, and perhaps fish; but taking the pilot on board, they weighed anchor in the night, and proceeded forty-feven '45 miles to Balómus. The length of this day's course is such as has not occurred before, and must therefore be imputed to the charge Hydraces had taken of the fleet; and we shall find, on some of the following days, their course extended to even sifty-sive or sixty miles; not that it is intended to affert that these measures are correct, but only that their progress was much increased and per-

BALÓMUS.
Dec. 4.
Sixty-third
day.
Not specified,
but allowed.
Nineteenth
station.

difficulty of giving diffances accurately, from a variety of causes, in the proem to his work, well worth confulting.

And if Do Conne in M. Garage Vices

And if Passence is Mosarna, Lieutenant Porter's memoir is in persect correspondence.

Dried fish he specifies as an article of trade; and adds, "Water is to be procured here in "the same manner as at Sommeany. Goats also, but very lean, and not reasonable."

The people are Blochees, and very civil.

145 Seven hundred and fifty stadia.

haps their ideas magnified in proportion. The circumstance of their failing in the night is likewise to be noticed, for though this may have occurred accidentally before, we shall now find it a prevailing practice; and as this is an additional proof of the advantage gained by the acquisition of a pilot, it is important to consider the cause which led to the adoption of this practice.

I know not that I am authorised to say, it is an universal cause, but doubtless it is general, that in every region within the limits of the trade winds or monfoons, a land breeze blows during the night, and a fea breeze during the day. Mr. Marsden, in his History of Sumatra 146, has given a curious and philosophical account of the means by which these effects are produced. With the cause I am not concerned, but the effect is, that, " on the west " coast of Sumatra, the sea breeze usually sets in, after an hour or " two of calm, about ten in the forenoon, and continues till near " fix in the evening; about feven, the land breeze comes off, and " prevails through the night, till towards eight in the morning, " when it gradually dies away "47. This is Mr. Marsden's account; and if his reasoning upon the cause is just, as apparently it is, it must produce the same effect wherever the same circumstances exist; and that this effect takes place upon the coast where we are now employed, is a fact capable of proof.

Captain David Rannie 148 mentions the land breeze upon this coast, as well as those of Malabar and Guzerat; and he adds afterwards 149 expressly, " if a land wind blows from these coasts, either " in the night or morning, a ship working along may depend upon " a sea breeze, or at least a wind along the coast, from the north

²⁴⁶ From p. 15 to p. 19.

²⁴⁸ In Mr. Dalrymple's Collection, p. 87, et feq.

²⁴⁹ P. 16.

" westward "50, to carry her in shore again, and neither is the land " or fea breeze ever attended with fqualls of thunder or rain, as the " land winds frequently are on every coast of India."

Here is a collection of circumstances dependant on the invariable course of nature, which throws more light upon the journal we are contemplating than could have been expected to be obtained at the distance of so many ages; the tranquillity of the sea, the advantage of different breezes, and the fecurity of navigation, all contribute to the accomplishment of this voyage, as a prelude to the communication with India, in veffels of fuch a fort as must probably have perished on any other coast of equal extent: but there is a peculiarity in this evidence of Captain Rannie, that accounts for a circumftance in the voyage which, without it, would have been inexplicable. We have feen the fleet pass two capes, Arraba and Posmee, with some symptoms of alarm or difficulty, and both noticed in the journal; but we are now approaching a third at Guadel, which Arrian never mentions. We should reasonably be surprised at this, as the doubling of a cape is always an atchievement in the eftimation of a Greek navigator; but having now a native pilot on board who was doubtless acquainted with the nature of the winds, it is evident he took advantage of the land breeze to give the fleet an offing, and an head-land was no longer doubled by creeping round the shore to its extreme point. This is clearly the reason why we hear nothing in Arrian of Ptolemy's Alabagium 15', or Alambateir,

[&]quot; if the eaftern monfoon leave you when you

[&]quot; crofs the tropic, your best course is to stand

[&]quot; in for the shore, and so ply it up; because

[&]quot; there you shall have the land breezes in the " night, and the fea breezes in the day many

[&]quot; times, and also a current setting to the

[&]quot; westward, until it meet with the current off

^{150 &}quot; Before you come to Cape Guadel, " the gulph." J. Thornton, in Dalrymple's Collection, p. 66.

¹⁵¹ From the Arabic article Al in this word, I find fresh proof of an Arabian navigation on this coaft; and I am perfuaded that Al-abagium and Al-ambateir will be found to have an Arabic etymology.

the prominent feature of this coast; the difficulty was surmounted without danger, and therefore passed over without notice. I anticipate this observation as it is connected with the knowledge of the winds, which we have here acquired, and with the skill of Hydraces, who was now on board.

Balómus is not noticed by Ptolemy or Marcian, nor is their Zorambus mentioned by Arrian; if, therefore, it had flood in the journal posterior to Barna, instead of prior, there would have been little doubt of its correspondence with Zorambus. Even now, there is reason to suppose it the same, from the respective omissions; and if, upon these grounds, it should be thought right to reduce the three to a consistency by an inversion of the order, Nearchus might claim the preference, as his journal is kept from day to day. The resemblance of names would justify the following correction, upon which the preceding Table has been constructed.

Ptolemy and Marcian.	Arrian.	Ptolemy and Marcian reduced to Arrian.
Mofarna.	Mofarna.	Mofarna.
	Balómus.	Zorambus.
Badara, or Barada.	Barna.	Barada.
Zorambus.	Dendróbofa.	Derenóbila.
Kophas.	Kophas.	Kophas.
Derenóbila.		
Alambatier.		Guadel.

The distances are omitted in both; those of Arrian because they are evidently too large, and those of Marcian because they do not correspond. The real distance by the chart is not more than seventy miles, or, with allowance for the coast, eighty-two; whereas the particulars of Arrian make the total one hundred and nine, and those of Marcian sixty-two.

Balómus

Balómus is a village on an open shore, and no day is specified in the journal till they arrived at Dendróbosa. A day is, notwithstanding, allowed to each station which is named, as an error is of less importance on this side than on the other, and may be easily corrected, if the excess is too great, when Nearchus joins the army again in the gulph.

The next station is Barna, twenty-five miles from Balomus, a village only, but recommended by some circumstances of distinction; for here the inhabitants were found not so utterly savage in their manners and appearance, and some cultivation was observed both of fruit-trees and gardens. The palm is mentioned without any notice of its fruit, and the gardens are described as producing slowers and myrtle '5', of which they made chaplets '5'; indulging, for the first time perhaps since the voyage commenced, one of their native '5' luxuries.

BARNA.
Dec. 5.
Sixty-fourth
day.
BARADA.
BADARA
of Ptolemy.
Twentieth
flation.

From Barna the fleet proceeded "" twelve miles, to Dendróbofa; and here the fhips could not approach the fhore, but rode at anchor. This circumstance may induce us to suppose, that the whole course from Mosarna to this place is the course of one night, and to the evening of the following day; if so, it makes thirteen hundred and fifty stadia, or eighty-four miles. Both the distance and the time em-

DENDRO'BOSA.
Dec. 6.
Sixty-fifth
day.
Anderwoose,
Perhaps DERENOBILLA
of Ptolemy.
Twenty-first
station.

151 μυξίρια. Q?
152 The pleasure which the Greeks received from wreaths and chaplets in their convivial hours, is too notorious to insist on. The expression, as it stands in the printed copies, is, αθια, ἀρ' ἔτων ειξαιώματα τῆσι κυμήτιστα ἐπλίκοντο; rendered, stores è quibus paganæ corollæ texebant; but which should rather be, corollæ texebantur paganis innectendæ. A piece of gallantry either way, not unlike that of British sailors and Otaheite women. But Gronovius's

best MS. reads κώμησι, instead of κυμήτησι, their own head, not the head of the willagers. I am forry to lose a circumstance which bears so much resemblance to the manners of modern voyagers; but I think the middle verb, imarking, confirms the reading of Gronovius.

153 Πιριπλώσαιτις intimates a cape or projection here; possibly the high land of Daram mentioned by Lieutenant Porter; and confequently Ba has the sense assigned.

ployed are to be admitted with some reserve, and with this obfervation, that there must be an excess in the distance, as eighty-two miles would carry us to Alambateir, or Cape Guadel; and Arrian has still four hundred stadia to Kophas, which precedes it. That the course is only the work of one night and day I am inclined to believe, though I mark it otherwise in the margin, for the reason already given; and this is the more probable, as the sleet is said immediately afterwards to have weighed from hence at midnight.

That Dendróbosa "" is the Derenobilla of Ptolemy, and that Ptolemy's order ought to be inverted, receives the sanction of Hudson "; who says, he once thought the same. Why he changed his opinion does not appear, but the name differs no more in reality than Deren-óbosa, Deren-óbosa, Deren-óbila, and I imagine Deren, the constituent part of the name, is still preserved in the Daram, or Duram, of Lieutenant Porter, who places this as a high land on a part of the coast between Cape Passence and Guadel, in a situation which would correspond with Deren-óbosa; as I conjecture Shied and Muddy Peak would agree with the other names of Arrian, if they had been inserted in Commodore Robinson's chart.

KOPHAS.
KOPHANTA.
Dec. 5.
Sixty-feventh
day.
Twentyfecond
fiation.

From Dendróbosa the fleet weighed at midnight, and reached Kophas 156, after a passage of twenty-sive miles. And here a variety of difficulties arise, which I despair of solving to the satisfaction of

155 Hudson Geog. Min. Marcian, p. 23.

a plural, Κώραντα. It occurs but once in Arrian, and then without an article; but Marcian uses it, άπο δι Κώραντος, which marks Kophas as the right name.

Justified by the organs of speech, and exemplified in Tipns, Greek; Tener, Latin; Tender, English.

the reader. I place Kophas to the eastward of Alambateir, or Cape Guadel, because Ptolemy, Marcian, and Arrian, all concur in the fame affertion; but de la Rochette carries it to the westward, into the bay formed by the projection of that headland. This can hardly be justified in opposition to all the ancient authority we have, however obscure it may be. This cape is the most conspicuous feature upon the whole coast, and forms the termination eastward of a vast imaginary bay, which Ptolemy calls Paragon Sinus, and the author of the Periplus, Terabdon. The western extremity they place at Karpella '57, fo that if the existence of this bay were established, it would be near three hundred miles across; but it does not exist. The coast rifes gently, indeed, about half a degree towards the north, during its whole course; and though there are two or three fmall indentures, there is no general curvature whatfoever. mistake of Ptolemy (of far less magnitude than his error in regard to the peninfula of India) admits of a folution nearly felf-evident; for the fleets from Egypt which failed with the monfoon from the promontory Syagros in Arabia, if they ever made the coast of Gadrofia, made it at this cape of Alambateir, as a point of eminence, and left all the coast from Cape Jask on their left out of fight; this naturally raifed the idea of a curve inwards, because no land was seen; and if Ptolemy knew any thing of fuch veffels as failed from the gulph of Persia, or if any did in reality sail, they also, from the moment they doubled Cape Jask, took advantage of the monsoon, and did not creep along the shore like the fleet of Nearchus, but

157 Upon consulting other passages of Pto- " dian Gulph;" apparently giving support to lemy, it does not appear that he uses κόλπος the idea of calling that sea a gulph which lies precisely as a bay. His xóxxos wxx Jors, in the between the coast of Arabia and Scindy, in

gulph of Persia, is not a bay : but Francklin, which the entrance into the gulph of Persia is when at Maskat, uses a peculiar expression- difregarded. See Francklin's Tour, p. 35-44 Cape Rofalgat, which is opposite the Scin-

shood off from one headland to another, and avoided the interruption which the land winds or the nature of the shore presented. It is, therefore, the discovery of Hippalus, the knowledge of the monfoons, which preceded the age of Ptolemy, that gave a different idea of this coast to the mariners of his time, from whose information he drew his plan of this great bay; and it is modern geography alone which has destroyed his curve, and restored the right line of Nearchus. So consistent is truth, and so erroneous is conjecture.

We shall find, however, that the general arrangement of names in both these authors corresponds; and though it is highly extraordinary that no notice of Cape Guadel occurs in Arrian, still as Ptolemy places Kyiza immediately to the westward of Alambateir, and Kophas to the east, we must admit that the Kyiza of Arrian, coming next in succession to Kophas, naturally concludes Alambateir between the two, and reconciles both 158 authors happily to each other.

CAPE GUADEL.

ALABAGEION 159. ALAMBATEIR of PTOLEMY.

Longitude		0	,	,,]	Latitude	0		1
by Ptolemy	-	101	0	0	icu anti-usi	20	0	0
by MacCluer,	- flat		34		Anna Amaga	25	7	0
and from Ferro,	A CONTRACT	17	40	01	Robinfon,	25	4	0
		78	14		political year			
Ptolemy corrected	by Goffelin,			0)	-			

¹⁵⁸ Marcian, as the copyist of Ptolemy, the Arabic AL is visible. This is Ptolemy's is always included in this estimate. own word. Alambateir is from Marcian, and

the Arabic AL is visible. This is Ptolemy's own word. Alambateir is from Marcian, and the Latin copies; and Ambateir is not without a relation to Bageion, if it were discoverable.

There

The Western point of Guttar Bay is called Bageia; and the etymology of that word would explain Ala-Bageion, in which

There is some great error in the copies of Ptolemy here, for Kyiza is placed 15' to the east of Alabagium, although it is to the west of it; and Bagia Prom. in the same longitude with Alabagium, though it is a whole degree to the west.

The head of Cape Guadel stretches out parallel with the coast like the Pharos of Alexandria, and being joined to the main by a neck of land not half a mile over, makes two bays, one to the eastward and the other on the opposite side; that on the west is largest and most sheltered, with twelve or thirteen fathoms at the entrance, and shoaling to the upper part. The town of Guadel is situated close under the north fide of the cape; that on the east is small, and not well sheltered, in which, however, we must suppose Kophas to lie, and possibly near the point marked at its entrance from the east. Mr. Dalrymple has enabled me to prefent the reader with a plan of this bay, and the foundings will shew, that in whatever part of it we place Kophas, there is a fufficient depth of water for Greek gallies; possibly, at the favourable time of the year when Nearchus failed, fuch shelter as the shore itself afforded was ample security. Between this bay and the other on the western side there is a neckwhich joins the peninfula to the main, and which has been fortified by a wall "o" with towers. There are still the remains "of a town built with stone, but the present inhabitants live in mat houses, and trade, which has been formerly confiderable, is now ruined by the miferable state of the country 162. Water is procured here by opening pits on the beach; goats, sheep, and fowls are likewise to be purchased. These circumstances, insignificant in themselves, are of

Possibly a work of the Portuguese, who had a settlement here, if not of more ancient date.

¹⁶¹ Lieutenant Porter's Memoir.

¹⁶² Hamilton mentions this decline in his time.

fome consequence to navigators; and induce a probability that conveniences were not less attainable here in former ages than at present. Good water is a commodity specified in the journal, which adds, that the place was inhabited by sishermen, who were possessed of small and wretched boats, which they managed with a paddle instead of an oar. The expression is characteristic, for Arrian says, it was like digging the water with a spade; and whoever has seen the New Zealand canoe, in Cook's first voyage, can hardly conceive the idea represented with more precision.

No where have I found more difficulty to render the narrative confistent, than from Mosarna to this place. Mosarna I have fixed by the neighbourhood of Ashtola and Cape Posmee, and Kophas is, I hope, established by means of Ptolemy, and the position he gives to Alambateir; the distances appear incapable of correction; on this head I have confessed my inability to obtain the truth, and must hope for indulgence where the means of information are so deficient.

Two islands are noticed by Ptolemy and Marcian in this neighbourhood; one called Pola, Polla, or Palla, at some distance from the coast, for which I can find nothing equivalent; and another named Libe, Liba, or Zibe, close to Alambateir; the latter I conclude to be nothing more than this very peninsula of Guadel before us, which may have been an island '63 till connected with the main by the increase of the neck of land, or might be considered as such, like the Pharos of Alexandria.

From Kophas, in the eastern bay of Guadel, the fleet failed early "4" in the evening, and, after a course of fifty miles, reached

^{*63} Seen possibly as an island at sea, from the lowness of the coast.

**About the first watch; fix o'clock. This is the third instance of weighing at night.

Kyiza, which, by the distance specified, ought to be the Noa Point of Lieutenant Porter, forming the entrance of Guttar Bay from the eastward: but if we are to suppose that the eight hundred stadia, mentioned for this day's work, exceed as much as those of former days, we must place Kyiza 165 on the coast somewhat short of Noa Point; and for this there is a sufficient reason from the next day's course of sour hundred stadia, which would be evidently too much for the termination we must allot. Marcian (if his numbers are of any value) places Kyiza at sifty 166 miles from Alambateir, or Cape Guadel.

KYIZA.
Dec. 8.
Sixty-eighth
day.
Allowed.
KYEZA.
Ptolemy.
Twentythird flation.

A plan of Guttar Bay is given in the general Chart, No. I. and will, by the allowance here made, answer in position to the transactions which are to take place on the following day.

At Kyiza the men could not land, as it was an open shore with a great surf "67; they therefore took their meal "68 on board at anchor, and then weighing, proceeded upwards of thirty miles to a small city placed on an eminence, at no great distance from the shore.

This nameless city is not without features to distinguish it; for Lieutenant Porter says, though the land round the bay is so low, that you can neither see the other side nor the bottom of the bay, from Noa Point; yet there is a hummock or two visible which appear like islands, and one of these hummocks we may assume for the eminence so of Arrian upon which this city was situated. "We

A SMALL CITY. Dec. 9. Sixty-ninth day. Twentyfourth flation.

Nearchus reckons, between Kyiza and Talmena, from the extreme points of each bay; that is, from the eathern point of Guttar Bay to the western point of Churbar.

Kuidfa, or Kuifda, as this word would be written in Greek letters, approaches very near to Khudar; the Oriental orthography according to Otter, vol. ii. p. 409. 166 At eight stadia to a mile, Marcian's numbers agree with Arrian's. Fifty miles.

ditional reason for placing Kyiza previous to Noa Point.

168 iδιιπιοποιέοντο, is not precife enough to fpecify an evening meal, but is apparently fo.
169 γελόφε.

" found,"

" found," fays Lieutenant Porter, " a fmall town at the bottom of " the bay, inhabited by fishermen." Is it not a whimfical coincidence, that at the diffance of two thousand years, an English navigator should find a town without a name, as well as Nearchus? I do not build upon this; nor do I affert, that the town I am looking for stands where the present town does; this is doubtless Guttar; but I can place Nearchus's town any where in the bay that the position of a hummock will justify, and I rather suppose on the western fide, as Lieutenant Porter appears to have viewed the hummocks as he entered the bay from the eaft.

When the fleet reached this place, it was totally without bread or grain of any kind; and Nearchus, from the appearance of stubble in the neighbourhood, conceived hopes of a fupply if he could find means of obtaining it; but he perceived that he could not take the place by affault; and a fiege, the fituation he was in, rendered impracticable. He concerted matters, therefore, with Archias, and ordered him to make a feint of preparing the fleet to fail, while he himself with a fingle vessel, pretending to be left behind, approached the town in a friendly manner, and was received hospitably by the inhabitants. They came out to receive him upon his landing, and prefented him with baked fish, (the first instance of cookery he had yet feen on the coaft,) accompanied with cakes '7° and dates '7'. These he accepted with proper acknowledgments, and informed them he wished for permission to see the town: this request was granted without fuspicion; but no sooner had he entered, than he ordered two of his archers to take post at the gate, and then mount-

speak from authority, but I think the date is

¹⁷⁰ πέμματα όλίγα. 171 This does not specify the season of the gathered in April or May. ripe fruit. They might be dried. I do not

ing the wall contiguous, with two more and his interpreter, he made the fignal for Archias, who was now under weigh, to advance. The natives inftantly ran to their arms; but Nearchus, having taken an advantageous position, made a momentary defence till Archias was close at the gate; ordering his interpreter to proclaim at the fame time, that if they wished their city to be preserved from pillage, they must deliver up their corn, and all the provisions which the place afforded. These terms were not rejected, for the gate was open, and Archias ready to enter; he took charge of this post immediately with the force which attended him, and Nearchus fent proper officers to examine fuch flores as were in the place, promifing the inhabitants that, if they acted ingenuously, they should suffer no other injury. Their stores were immediately produced, confisting of a kind of meal "" or paste made of fish, in great plenty, with a fmall quantity of wheat and barley. This, however infufficient for his wants, Nearchus received, and, abstaining from farther oppression, returned on board with his supply. The fleet hauled off to a cape in the neighbourhood called Bageia, and there anchored at no great distance, as I conclude '72, from the town.

The circumstance of a cape here determines, in my opinion, the correspondence of all particulars relating to this place; for this cape must be the western point of Guttar Bay, and all the circumstances unite in giving a position to this nameless town on the western side of the bay, as I have done.

BAGEIA. PROM. Twenty-fifth station.

cattle should eat fish, as mentioned above; or fattening. than the Caviar of the Wolga. Lieutenant Porter reports, p. 13, that at Mascat in Arabia they make a mixture of fish and dates with like immediate anchoring, after leaving the a kind of earth and water, which the cattle town.

¹⁷¹ This is not more extraordinary than that eat as their common food, and it is extremely

See infra.

¹⁷² No distance is mentioned, and it appears

Lieutenant Porter writes, "The bay" is large and deep, with shoal water, and in crossing right over from Noa Point, a lump is seen on the opposite shore, with an island nearly under it, and a little bay called Bucker Bundar", where the natives sish, and where the Sanganian pirates often lie in wait for the small vessels that trade along the coast." To this lump I had looked for the eminence on which the town stood, but it is inland, and stands on the high ground behind. I have little doubt, however, that this lump directed Nearchus as the first point seen across the bay, and led him to the town itself. And if it is thought extraordinary that he does not mention a bay here, it is not more so than his omission of Cape Guadel, and it ought to be observed, that when he calls Bageia a cape, a cape necessarily implies an indenture on one side or the other.

From these various deductions I consider this nameless town and Guttar Bay as identified '75, and I now return to attend the fleet on its progress.

But before I enter upon the remainder of the course from Bageia to Badis, it is necessary to take a general view of the coast, in order to dispose of the intermediate stations which Nearchus, from the distress of the sleet, had little opportunity of describing; and on which, consequently, the scantiness of the journal leaves great ob-

Bucker and Bageia, Buckah.

This would make Bageia and Noa Point the fame; and place the nameless town of Arrian eastward of Noa Point. Even upon this supposition, there can be no greater error than the breadth of the bay; and the numbers of Marcian are too disputable to ground this alteration upon them.

³⁷³ Memoir, p. 7.

unless it should be thought worth while to pay attention to the stadia of Marcian. He reckons twenty-five miles from Alambateir to Kyiza, and sixteen from Kyiza to Kasia, i. e. Bageia.

fcurity. Kophas, Alambateir, Kyiza, and Bageia, corresponding in the three authors, conduct us fafely to this point; and thus far there can be no error, unless I have assumed Bageia for the western point of Guttar Bay instead of the eastern: but the reasons already given are more than sufficient for the occasion.

I am now to take the departure of the fleet from this station of Bageia, and the first step to Talmena is the greatest difficulty; for the distance given by the journal between Bageia and Talmena is a thousand stadia, or fixty-three miles, an estimate which carries Talmena beyond Churbar Bay, and which, if a remedy is fought by commencing the course from Noa Point, encroaches as much on the previous measures as the contrary supposition does upon the subsequent part of the coaft. I had, however, originally fixed Talmena at Churbar, Kanasida at the Tanka, Kanaté at Kalat, Trœsi at a creek, and Dagafira at a headland previous to Muckfa "; but by means of fresh information collected from Otter, I have been induced to alter this arrangement, and abandon the measures of the journal. The following discussion I submit, with some degree of hesitation, to such as may be disposed to examine a question which, though not important, has at least research and novelty to recommend it.

The three " following stations in Arrian are Talmena, Kanasida, and Kanaté; and in the series of Ptolemy there is a Kandriakes, answering to Talmena; if, therefore, we assume Kandriakes for Talmena, we obtain three successive names, of which Kan is the initial component part. Now it appears from Otter, that the

'77 There are four in reality, for a nameless

Oriental

The Chart, No. I. will give all these one is placed between Kanasida and Kanaté, positions. which is possibly the modern Godeim.

Oriental accounts which specify the rivers of the Mekran, employ the adjunct Kienk or Kenk, as the Perfians use Ab 178 or Roud, to express a river; thus we have Kiourkienk, Nehenk, and Kiechenk '79, all of which d'Anville has adopted in his map '80 of Mekran, and given them the course assigned by Otter. The same term is found in Susiana, for Cheref-eddin 181 mentions a Hoo-chenk and a Dou-danke croffed by Timour in the neighbourhood of Sufa, the position of which will be ascertained in its proper place: but this term takes two different appearances in its derivation from the original form, Dsjenk paffing, by one process, from Sj into Chienk, Kienk, Kenk, Ken, Kende, and Kande; and, by another, from D into Dienk, Denk, and Danke. In its first form, it is connected possibly with Tchen, Chen, the root of the Chen-ab or Akesines; with the Ganga, the Ganges, the Kishen-Gonga, the Sevi-Gonga of India; and with the Gihon of Sogdiana: in its fecond, Denk furnishes the Dou-Danké of Susiana, and the Samy-Daké of Ptolemy, which is the Danké or Tanka152 river of the modern charts on this coast. This term, in one or other of these shapes, appears the most ancient '93 expression for a river of any that occurs; and it may be eafily shewn that Ptolemy knew of its various orthography and its meaning; for he writes both Samy-Daké and Samy-Kadé, and he interprets Kand-riakes by Hudr-iakes, evidently from "Youp, the Greek term for WATER. Upon confulting Otter, I find a stream

180 Afie première partie.

182 Written Tanqua by Ressende. Portug. and Tanqua Banqua, the white river.

¹⁷⁸ Ab-Schirin, Ab-Argoun, Roud-chiour.

¹⁷⁹ Chienk, Chenk, pass into Kienk, Kenk, by an Oriental variation, as Kirbe, Girbe, Jirbe, the fkin for water used in caravans, and Chienk, Jienk, into Dienk, Denk, by the same analogy as Jumna into Diamuna,

¹⁸¹ See infra in Sufiana.

^{*83} If it be really connected with Gihon, as I suppose, it is as old as the book of Ge-

in this neighbourhood called Kié-Chek 184, which may be interpreted the river of Kié or Guié, an inland town at some distance 185 from the coast, and I cannot help thinking that Ptolemy's Kandriakes is a transposition of the same word Kande-Kié, or Kandre-Kié, for Kié-Kande. Otter says, this river falls into the sea between Khudar and Pichin. Pichin 186 is not discoverable, but Khudar is Guttar Bay, which the sleet has now just left, and if Pichin is to the westward, we have the mouth of this river falling into the sea between Guttar and Churbar, corresponding with the Kandriakes of Ptolemy. If it were now possible to identify the Talmena of Arrian with this Kandriakes, the journal would be clear; but Talmena has no allusion to a river; it signifies a ruined 187 fort, and that is an object which might occur in one part of the coast as well as another. What remains, then, but to consider the series of both authors, and examine how far they correspond?

Ptolemy.
Bageia,
Kandriakes,
Tyfa,
Samy-Kadé.

Arrian.
Bageia,
Talmena,
Kana-fida,
Kan-até.

Chek as a fort; and yet he writes, Le Kiour-Kienk recoit aussi Peau de Kié-Chek. Chek is Chenk, or Kienk.

one hundred and twenty miles.

D'Anville gives Pichin a fituation such as is required; but I apprehend has only Otter's authority; for I do not find Pichin in Al Edrifi.

navi, at Basra, are expressive of a fort. Tal

is, in Hebrew, a ruinous heap; and from hence, perhaps, Arabic or Perfic. That fuch ruins were as common on the coast formerly as at present, there can be little doubt; for the Belootches from the eastward, and the native Gadrosians are both tribes of plunderers. The very next station at Kanasida is noted by the journal as a ruined city. Thus has rapine joined with avidity to desolate this coast in all ages. See Parkhurst in voce property; and an inhabited place; but the last is dubious.

This

This is their order, and if the first agrees with the first, and the two last can be discovered to correspond mutually, the second may be confidered as the unknown quantity we are fearthing for. Permit me, then, to read Kana-Difa 'ss for Kana-Sida; and I find Kienk-Difa, the river of Dis, Tiz, or Tidsj. This is the Tyfa of Ptolemy, the Tefa or Teifa of Marcian, the Teiz of Dalrymple, and the Tearfa of Porter. All these different modes of writing are expressive of a town situated in the bay of Churbar, celebrated by Al Edrisi 189 for its commerce with Keish, an island in the Gulph, and Oman in Arabia, both fufficiently noticed by Cheref-eddin and other Oriental geographers. Otter brings the Kiour-Kienk, or falt river '90, into this bay; and unless Sida shall be found to express falt, there can be little doubt but that it is a transposition from Disa or Diz. By a fimilar process the modern Tanka may be found in the Kanaté of Arrian, and the Samy-Kadé of Ptolemy; for Kanat and Kade come by one method from Kienk and Samy-Daké, Danke and Tanka by another: if, therefore, upon these grounds Kana-Sida corresponds with Tiz or Churbar, and Kanaté with Samy-Kadé or Tanka, Talmena confequently answers to the Kandriakes of Ptolemy, and the feries in both authors is confiftent. It is not necessary to infift on this reasoning as indisputable; but if we find the initial Kan thrice repeated in fuccession, and three rivers locally agreeing with this, and still preferving the traces of the adjunct, it is some light gained in a region of obscurity, and may lead to the just distribution of the stations on the coast, if it should ever be visited

189 The licence requested for these transpositions is stated fully hereaster at Agris. Roud-Chiour the falt river, near Kunk in Loristan; and Kunk itself is related to Kienk. In those countries where the foil is falt or nitrous, there are falt rivers every where. See Marco Polo Ramusto, tom. ii. p. 8.

city. Est urbs parva, celebris tamen et populos.

again. More rivers than these three '9' I cannot distinguish in Otter '92; for his Kiourkies and Souringuiour are only the fame, or parts of the same stream, Kiour-Kienk; and what their course may be inland is of no confideration to the journal. Otter's authorities, in this respect, are much embarrassed; and I am not without fuspicion that he has mistaken Kié for the capital instead of Kidge: I once thought them both the fame; but Al Edrisi writes '93 Kia and Kir as distinct places, and Kir he seems to estimate as the principal city; if fo, he writes Kir for Kirge, and Kirge is Kidge. All the geography I am acquainted with makes Kidge the capital of the province, called from hence Kidge or Kutch Mekran in the Ayeen Akbari; and Kedge, Gedge, or Gedrofia, by the ancient historians: for Mekran is the country related to the Mehran or Indus; and Kutch Mekran implies the western side of the Indus towards Kutch or Kidge. This is a point, indeed, not neceffary to discuss, as it is not connected with the voyage; neither is it infifted on farther than as the suspicion of a mistake. Otter has made a fimilar lapfe in regard to Ahwaz in Sufiana, and this gives an additional reason for supposing that he may, in this province also, have been misled by the sluctuation of Oriental orthography.

Having now obtained a probable folution of these difficulties, and found three rivers which may afford the means of reconciling Arrian with Ptolemy, and both with modern geography, it remains to conduct the fleet along the coast to the three following stations of Tal-

There is a fourth, Makeshid, to the west; of which see infra,

¹⁹² Otter, tom. i. p. 408.

¹⁹³ Nub. Geog. p. 56.

mena, Kanasida, and Kanaté, with a fourth between the two last, which is nameless, and without any distance specified.

TALMENA.
Dec. 10.
Seventieth
day.
Twenty-fixth
ftation.
KANDRIAKES and
HUDRIAKES of
Ptolemy.

The fleet weighed from Bageia at midnight '94, and proceeded a thousand stadia, fixty-two miles and an half to Talmena. distance, if taken from Noa Point, is not greatly in excess, but this affumption the transactions recorded do not authorise; and there is reason to apprehend that the error of numbers lies somewhere about Guttar Bay, or Kuiza. Whatever it may be, the finking of it here relieves the remainder of the course to Badis; and we might build fomething on the four hundred stadia of Marcian to diminish the excess, if we could find their proportion with other flations; that, unfortunately, is impossible. No circumstances relating to Talmena are recorded in the journal, but that it was a fafe harbour; and this, at least, has nothing discordant with the station allotted to it at the mouth of Ptolemy's Kandriakes, the Kié-Kenk (Kié river) of Oriental geography. Nothing in Otter's account forbids the iffue of this stream to be fixed between Guttar and Churbar Bay, and nearer to the latter than the former. We must not pass this place, however, without observing that Hudrakes, the pilot of Nearchus, seems to derive his name from this Hudriakes. It is faid expressly that he was a Gadrofian; and if we are right in affuming this ftream for the river of Kidge, it is a native of Kidge who is now on board. May we not lament that the brief narrative of the journal has fuppressed this circumstance? Or will it afford ground for an argument, that the filence of the journal upon this head furnishes matter against the arrangement? Either way, this must be left to its fate, that we may return to the profecution of the voyage.

194 Again at night.

From Talmena, the diffance to Kanasida is estimated at twentyfive miles, a fpace not greatly in excess; and Kana-Disa has been interpreted the river at Tiz or Tidsj, which Otter calls the Kiour-Kienk, or falt river. The remembrance of the town still exists in the bay of Churbar, and the cape at the entrance is still called Tiz-mee, by the fame analogy as Cape Paffence or Poffem '95 is flyled Pof-mee: is it not remarkable that two navigators, at the diftance of fo many centuries as Nearchus and Commodore Robinfon, should find the same place in ruins? Nearchus does not mention a river here, and probably did not advance far enough into the bay to fee it; but they found a well ready dug, which faved the trouble of opening the fands, and the wild palm tree, from which they took the tender shoots 196 of the head to support life; so that the little fupply of corn they had procured at Guttar Bay could have relieved only a momentary want. The plan of this bay, with its double curve, is given in the Chart, No. I. and I am difappointed in finding no river marked here by our English navigators, in which they agree too well with Nearchus. My authority for bringing the falt river into this bay is Otter, whom d'Anville interprets agreeably to my supposition: but proof is still wanting, and the initial Kana is the only evidence Nearchus affords that the stream exists in this place.

KANASIDA, or KANA-DISA. Dec. 11. Seventy-first day. Twentyfeventh flation. TYZA OF Ptolemy.

195 Paffaum. Portug.

196 Strabo mentions, p. 722, that the army of Alexander, in paffing the defert of Gadrofia, was preferved from famine by the fame means. 'and de rur Conixur no n outneia, to te карти и тв гукифали. According to the tranflation, Fructus et cerebrum faluti fuerunt. So Xenophon, Anab. lib. ii. c. 3. feems to in this passage of Arrian, τύτων τὸς ἰγχίφαλος πλώω ταμιευόμενα. P. 726.

xónrorres, feems to imply cutting the tender head of the plant, rather than the fruit; for fruit at this feafon there could be none, though I must recall the conjecture in note 171; for I now find the date is an autumn fruit, and specified as ripe in October by Cosmas Indicopl. Tab. p. 338. Montfauc. N. Coll. Patrum. Strabo mentions the preferved date: use εγκίφαλος for a part of the fruit : but I think 'Οι Γιδιωσίοι φυλάττυσι του διαύσιου καρπόυ δις έτη

242 FROM THE INDUS TO CAPE JASK.

At the time Churbar was visited by Commodore Robinson's little fquadron, the natives were defirous of the English fettling at Tiz, where they shewed him the ruins of a Portuguese fort, and informed him that Churbar had been a place of confiderable trade in ghee '9', filk, twiled cotton, and shawls, till a fix years' drought had reduced the land to a defert '95. Water, however, was eafily procured here, and good; with sheep, goats, and vegetables. Their horses also were of a fine breed; and while the English lay in the bay, there were two veffels in the harbour fent by Hyder Ali to take advantage of the market depressed by the drought, and to seek a fupply for his cavalry even in this defert region of the Mekran. Such was the attention of that extraordinary man, whose spirit foared as high as Alexander's, and whose conquests might have been as rapid, if, like Alexander, he had met with no opposition but from the native powers of India. The inhabitants of Churbar informed the English, that there was a large and extensive city properly walled round, about a week's journey from the coaft. This intelligence agrees well with Otter's fite of Kié '99, and argues fomething for the river supposed to fall in here, or in the neighbourhood; for in this tract there can hardly be a city unless where there is a river to supply it.

From Kanasida, Nearchus proceeded four-and-twenty hours without intermission to a desert coast, where he was obliged to anchor at some distance from the shore, as the distress of the people was now risen to such a height, that, if he had suffered them to land, he had

¹⁹⁷ Half liquid butter.

¹⁹³ Lieutenant Porter, p. 8.

by Al Edrifi's giving five days distance from

Tiz to Kir, agreeing fufficiently with the week's journey of Porter. Nub. Geog. p. 58.

reason to suspect that they would not have returned on board. This defert shore has neither name or distance, and the day and night allotted to the course, as well as the number of stadia given to Kanaté, the following station, apparently comprehend both the space and time to that place. A day, however, will be allowed here in conformity to the usage I have adopted, but the measure will be carried to Kanaté. The point I would assume for this anchorage is Godeim, at the western extremity of the second curve in Churbar Bay. Godeim 200 is a headland very level along the top, with steep cliffs next the fea; from whence Cœlat or Kalat is feen, which is a remarkable object, and fomewhat short of which is the mouth of the Tanka Creek. It is observable, that headlands of this kind fre_ quently attract the fleet to an anchorage; but whether for the purpose of surveying the coast before doubling them, or any other reason, does not appear.

This stream, therefore, naturally corresponds with the Kanaté of the journal; and if Kalat had been at the Tanka, Kanat-é might have been thought not unconnected with it. Seven hundred and fifty stadia, or forty-seven miles, answer almost exactly from the eastern point of Churbar Bay [Kanasida] to the Tanka; and as there is nothing in Arrian to forbid the application of this measure to the two days' courfe, I shall consider this as a station ascertained. It has already been shewn how the Kanaté of Arrian and the Kadé of Ptolemy are allied, as well as the connection of both with Daké, the Danké or Tanka at this place. This connection is verified by the copies of Ptolemy giving Daké 101 or Kadé indifferently, which

A DESERT SHORE. Dec. 12. Seventyfecond day. Twentyeighth flation.

KANATE. Dec. 13. Seventythird day. Twentyninth station.

it; and d'Anville has an island here. May Marciani Perip. p. 22. Samy daké, Samynot this be the Pola of Ptolemy?

²⁰¹ Ptolemy, p. 157. Samy-kadé, in- Ptolemy.

²⁰⁰ Lieutenant Porter, p. 9. He fays, terp. Samy-daké, Samy daka. Samy-dokhes Godeim looks like an island till you are near river, interp. Samy-dakhia. And so Hudson kadé, Samy-dokhés, noting the fluctuation of

is not a various reading, but derived from the fluctuation of Oriental orthography. Whether this will be admitted as proof of the identity I cannot fay, but fuch it appears to me; and on a coast involved in so much obscurity, every approximation to probability is clear gain.

The journal affigns no attributes to Kanaté but that of an open shore, with the mention of some shallow watercourses, intended possibly for the purposes of agriculture, and the bettering of an arid foil. Porter calls the Tanka a small river, and the artificial cuts 202 of Arrian befpeak a river also; for on this coast, wherever. there is not a river, no fuch circumstance could occur. It would be well if this stream could be identified with any of those specified by Otter: the Nehenk is the one I looked to, but he carries that far to the eastward, and so is he interpreted by d'Anville: his Kiour-kies is that nearest the fite of the Tanka, but he joins the Kiour-kies with the Kiour-kienk, and brings them united to Tiz. There is reason to suspect that both are the same; for Kiour-kienk is the salt river, and Kiour-kies is the falt [river] of Kié. We must abandon, therefore, the inland course of these streams for want of information, and content ourselves with the issues we find upon the coast. The mouth of the Tanka in this place is indisputable; for it is the Tanka-Banka 203 of Ressende; and the Portuguese had a fort about three miles up the stream, the ruins of which, with a Bazar and wells, were reported to Lieutenant Porter when he was on the fpot with Commodore Robinson 204. To this river a long course inland is affigned by de la Rochette, on what authority I know not; but it can hardly rife beyond the mountains, as he makes it, if we may judge by the fize and shallowness of its mouth.

²⁰² Artificial cuts; διώρυχες βραχείαε. Ar-

²⁰³ White River? from Bianca Ital. Portug.
204 Lieutenant Porter, p. 9.

It does not appear by the journal that the people were fuffered to land at Kanaté; neither is there any mention made of a fupply 205 being procured. A fufficient reason for concluding, that the course was hurried on faster than the time I have allotted, and for which due allowance will be made.

Upon this ground I affign another day for the paffage to Træfi; the course made good was fifty miles; and here, at last, a scanty fupply of provisions was obtained. The place prefented several mean and wretched villages, deferted by the inhabitants upon the approach of the fleet; but a fmall quantity of corn was found, with fome dried 206 dates, and thefe, with the flesh of seven camels which the natives had not carried off upon their flight, afforded a repast, of which perhaps nothing but the utter diffress of the people could have induced them to partake. Whether the Greeks had any particular aversion to camel's flesh, more than what is common to all mankind, who naufeate what they are not used to confider as food, I have not discovered; but it is evident that Nearchus means to give this instance of famine in the extreme, such as we at present understand by the eating of horse-slesh in a besieged town: I feel indeed some concern for the friends with whom I have so long failed, that I do not hear of their feafting on the turtle with which this coast abounds. Porter mentions the turtle in great abundance at Ashtola; and Marcian fixes a tribe of Khelonophagi, or turtle-eaters, in the neighbourhood of the spot, where the fleet now is: but the Greeks feem to have confidered men reduced to live

TROIS. TROISI. Dec. 14. Seventyfourth day. Thirtieth ftation.

²⁰⁵ All bread-food was certainly exhausted. Kyiza,

²⁰⁶ Balances in Commer. The copiousness of If any thing was on board to support life, it the Greek language did not supply a term for could only be the fish-paste procured near this fruit. It is literally the acorn of the palm.

wholly upon fish, turtle, or camels, as stamped with barbarism; and the terms expressive of these tribes are used always as indications of contempt or aversion.

I do not here mean to draw a conclusion, but I cannot help noticing it as a remarkable coincidence, that Nearchus should find a supply of dates at this station, and that Porter should say 207, "Between the "Tanka and Mucksa, we found the land bear a better face than any "we had hitherto seen, as the vallies in most places were full of date trees." If this does not apply to the spot, it is at least descriptive of the coast.

What the name of this station is, or where it is situated, is no easy matter to determine; for Arrian's usage of the word leads properly to no distinction of it in a Greek form. He writes Troisin, which, if plural, leaves great room to doubt of its origin; and Gronovius is disposed to read Taoi. In point of order, it corresponds with the Pasis of Marcian, which Ptolemy writes Masis, Magis, Magida, and Mazinda; and which Marcian seems to fix at a river 2008 called Sarus and Salarus: but this does not admit of proof, for Ptolemy's Magis is five-and-thirty miles to the eastward of his Sarus. This is of some consequence to note, because by these means I may take his Magis previous to the cape which I assume for Dagasira; and carry his Sarus westward to a creek marked in Commodore Robinson's chart, which answers to the Iskim of d'Anville 2009, de la Rochette, and Ressende 2100. So far Nearchus corresponds with Ptolemy's position of Magis, that he intimates no river at Træsi.

Marcian gives no distance between Pasis and the Salarus,

209 It is very ill defined in all.

²⁰⁷ Memoir, p. 9.
²⁰⁸ The reason for afferting this is, that

Usk are names of rivers in our own country, and all fignify water.

Upon finding Makichid mentioned as the name of a river in Mekran, by Otter, I thought I had discovered the clue; for the corruption or fluctuation of the text in the three authors would have justified any reading in Arrian: but if Otter's disposition of the Makichid is just, it is far to the eastward, and can have no relation to the Magida of Ptolemy.

Out of the uncertainty caused by these various authorities, I can extricate myself only by adhering to the measures of Arrian, which, with allowance for the excess attending the whole of this coast, enable me to place Troess short of the cape which succeeds first westward of the Tanka, and to six on that cape for the Dagasira of Arrian. The reason for this will be assigned hereafter; but I shall first conduct the fleet to Badis, and then take a review of the coast.

From Træsi to Dagasira the course was short of nineteen miles. The fleet sailed at day-break ""; and as this is the first instance since Hydrakes was on board, it may not be improper to observe, that if we six the hour between six and seven in the morning, the land breeze would hold good for an hour or more to secure an offing. The shortness of the course was determined either by this circumstance, or by another which occurs frequently, the appearance of a cape. This, indeed, is not noticed by Arrian; but Dah-Gesira 212

DACASTRA.
Dec. 15.
Seventy-fifth
day.
Thirty-first
station.

On all other occasions from Mosarna, failing in the night is mentioned, or the time is omitted altogether.

In all etymology, I speak, subject to the correction of those who understand the language, or have been upon the coast: but I have before suggested that Dahh or Dahr might signify a bead, and Bah or Bahr, in contradistinction, the interior part, or bay. I shall now add that Bahr signifies a sea, as Bahr-ein the two seas; Bahr Nedsjef, the dry sea or lake at Meschid Ali. Niebuhr: but I ought not

to omit that another sense of Bar occurs in Montsaucon's Presace to Cosmas Indicopleustes, where he says it signifies a continent, as in Zangue-bar, Mala-bar, &c. In this sense, Bar-Gazira is literally Xisto-moss, a Chersonese, such as Guzerat and Arraba and Guadel are. This, though contrary to my own hypothesis, I think it right to state. Perhaps if not the true etymology, it may lead to the discovery of truth. See Montsaucon N. Collectio Pat. Præsat, ix. Cosmas, p. 132.

expresses

expresses the head of a peninsula or promontory, and there are two capes between the Tanka and Muckfa. From the distance between Dagafira and Badis, I prefer that which is the more eaftern. One circumstance only is noticed here, that of meeting with a few straggling natives, from whom it does not appear that any affiftance was obtained. Unimportant as this may appear, it preferves a picture of the coast; and the habits of the natives are the same at the distance of twenty centuries. " Every where along the coast," fays Porter, "there is a family here and there which keeps a few " goats and camels, and fubfifts upon their milk "." And again, at Muckfa, he adds, "A few miserable people live on this desolate " place on the shell-fish they pick up at low water, without any " grain or dates, unless at the time of year they are in feafon." Such were the wretched inhabitants Nearchus found here; and Gronovius is almost angry that he honours them with the title of Nomades (herdsmen wandering in search of pasture); he insists upon it, that they are mere vagabonds; but Porter's camels and goats feem to justify a better fense of the expression. In one view. their mifery feems rather upon the increase; for if they are not provident enough to preferve the date, they are funk below the condition of their ancestors. Strabo mentions the fruit in its dry flate, and Nearchus evidently procured dried fruit at Træfi. The inhabitants are called Brodies by Porter; but Niebuhr confiders them all as Belootches, quite to Jask 214, and connects them with the Arabs on the opposite side of the gulph. If this connection could be established, it would not be impossible to extend it through the whole Mekran, and to unite the Arabitæ on the Arabis, with the

Abbas the Second. Niebuhr fays he was a

²¹³ Porter, p. 8. There is a prince of Jask whose roman. Balludsj. See Tavernier. tic history makes a figure in the reign of

Arabs of Oman 215. Neither is it unreasonable to suppose that the Arabic names on the coast are a proof of this; for as the Arabs were the earliest navigators of the Indian ocean, so were they better qualified to bear the hardships of the defert than any other nation; and if a life of rapine is characteristic of the Arabians, the Arabitæ or Belootches, in this respect, have in all ages maintained a perfect claim to confanguinity.

The diftress of the people, and the impossibility of procuring a fupply at Dagasira, urged a hasty departure of the fleet. They failed in the evening, and continuing their course all that night and · the following day without intermission, they reached, after a stretch of almost fixty-nine miles, a promontory projecting far out into the sea, with a furf beating upon it to a great extent. This they did not dare to approach, or to double the cape while it was dark. They rode at anchor confequently during the night, as near shore as the furf would permit, and the following morning got round into a bay, where they found the town of Badis, and where they were at last relieved from the miseries they had experienced on this This promontory is the boundary between the desolate coast. country of the Ichyophagi and Karmania; and at Badis they found corn, vines, and fruit-trees of every kind except the olive, a town inhabited, and the inhabitants ready to relieve their wants.

BADIS. Two days. Dec. 17. Seventyfeventh day. Thirty-third flation.

Pasis, (see the Table, p. 220.) and placed, by the author of the Periplus, fix days' fail east from the gulph of Persia. (See Peripl. Maris Erythræi, p. 20. Hudson Geog. Minores.) The author mentions the connection of this Ommana with Kana in Arabia, and Barygaza in India, as a kind of central emporium. The place probably did not exilt in the time of

215 There is an Ommana, mentioned by Nearchus, but feems to owe its rife to the ex-Ptolemy and Marcian, to the westward of tension of the Arabian commerce towards the east. The name intimates that it was a colony of Arabians from Oman, the immediate province on the west of the gulph, always celebrated for its commercial spirit, and containing Muscat, still the greatest Arabian mart on the ocean, which is the Moscha of the Periplus. See Niebwhr's map of Oman.

And now having conducted my friends into a place of fafety, I must return to survey the coast. The first point necessary to fix is Badis. Badis I place at the cape called Muckfa by Robinson and Porter, and which will prefently appear to be the real Jask. The name is written Kan-Theatis, Kan-Thapis, Kan-Eatis, and Kau-Ratis, by Ptolemy and Marcian; and if we prefix Kan to the Badis of Arrian, it bears no little refemblance to every one of these variations. Kau-Ratis 216, in conformity to the other three, is necessarily Kan-Ratis 217; and this differs so little in the form of the Greek letters, that there is no violence used in afferting, that Kan-Batis and Kan-Ratis are the fame. Now Kan marks a river, and Ba-dis, if my conjectures are right, a bay: both these circumstances are applicable to the fpot, for there is a river five miles within this cape; and at this river I conclude the fleet anchored on the morning of the feventeenth.

The fluctuating orthography of the Greek text will justify still greater liberties than I have taken; and when it is confidered how much the native names of every coast vary in modern charts, how difficult it is to write foreign founds received by the ear, and how feldom two persons express the same sound by the same letters, there will appear no extraordinary licence in the changes adopted upon the prefent occasion. I never wish to lay more stress on these conjectural criticisms than they deserve; and if this explication had flood alone, I should think it of little weight; but if it shall be found to accord with the nature of the coast, with the best digestion

²¹⁶ Kangaridos, in Cod. Herv. Hudson. the mistake is natural. Marciani Periplus, p. 22. Kanaridos in the text. I only go a step farther, and read in Mar-

The difference in Greek letters, between cian, Kar-Caric for Kar-garic; or, in capitals, Καιζατι, and Καυζατις, is fo evanescent, that ΚΑΝ-ΒΑΤΙΣ for ΚΑΝ-ΡΑΤΙΣ.

of the measures attainable, and with the general course of the fleet, even those who set little value upon etymology will allow it to contribute its due share to the mass of evidence which may be procured from other quarters.

In order to fix Badis geographically, it is necessary to encroach on the limits of Karmania, and to find in the first place what is the Karpella of Ptolemy; for as d'Anville, by conceiving that Karpella. and Badis are the fame, has confused the account of the ancient historians, so is it a most extraordinary coincidence, that modern charts and modern navigators have varied equally in fixing the proper fite of Cape Jask. It happens, that upon the approach to the gulph of Perfia there are two capes about twenty-feven miles afunder; the easternmost of which is the Cape Mucksa of Robinson, Porter, &c. and the westernmost their Cape Jask. Here is the origin of that embarrassment which involves the whole question in obscurity, for in reality Mucksa is the true Jask, and their Jask is Cape Bombareek. It is this Bombareek which is the Karpella of Ptolemy, and confequently when d'Anville brings Badis to this point, he fixes it twenty-seven miles farther to the west than it really is.

I shall settle the ancient geography first; I shall then proceed to consider the mistake of the moderns, and give the reasons for pronouncing it an error with so much confidence as I have done.

Ptolemy's feries comes down the gulph of Perfia to Karpella. This lays me under the necessity of going still farther out of the province I am treating of; but at the same time it gives me an opportunity of identifying Karpella with Bombareek to a demonstration. Armozon is a cape opposite to Mussendon, on the KK 2

252 FROM THE INDUS TO CAPE JASK.

Arabian shore, where is the narrowest part of the streight at the entrance of the gulph; between which and Karpella are two remarkable eminences, one called Strongylus, or the Round Mountain, by Ptolemy, near Armozon, and the other Karpella, from which the promontory derives its name. The former of these is the modern Elbourz, which signifies a fire tower of the Parseés; the latter is the Bombareek rock, which communicates its title to Cape Bombareek, as Karpella did of old. It is true that Strongylus is not enumerated in the series, but stands at the foot of the account; its latitude, however, marks its place.

Armozon,	-	-	23° 40′	0".
Strongylus,	200	010000	23° 0′	o".
Karpella,		BOIDS	22° 30′	0".

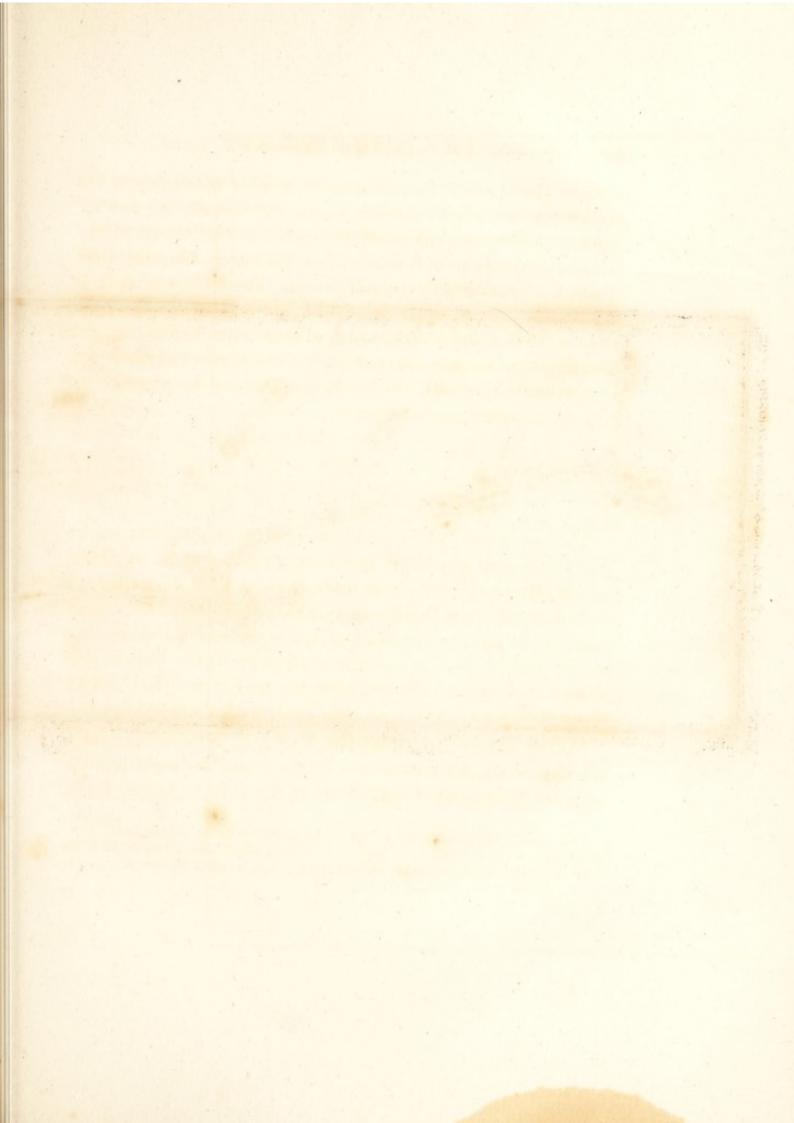
The inaccuracy 218 of these latitudes is of no importance; but let them be true or erroneous, they equally prove that Strongylus is between the two capes: and as there is not a third, Karpella must be Bombareek. The Bombareek rock is in reality six or seven miles north of the cape, and upwards of two miles from the shore; but as the land is low, it makes a conspicuous sigure from a perforation at its top, and appears, when the land is not seen, like an island 219.

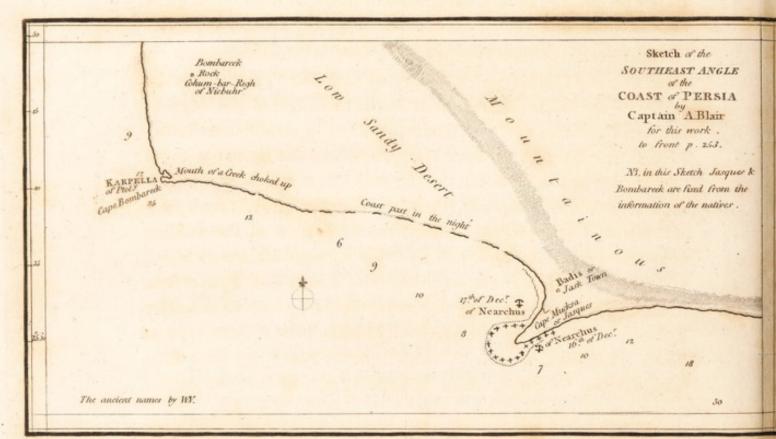
Now it is very remarkable that Kar 220, in Hebrew, fignifies a bole through which the white light appears; and if I could find the means of afcertaining a fimilar fense of this word in Arabic, Persic,

or 25° 40'.

That Mr. d'Anville has an island here.

220 Jn, Kar. Also a hole or slit in the lid of a box, for admitting money.





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or Pehlvi, I could shew that Pella might be allied to three " Hebrew origins, all expressive of division or separation. Whether this idea would be applicable to the cleft of the rock itself, to the termination of the province, or to the division of the two seas, must be left as a matter of doubt. In any sense, it contributes to identify Karpella with Bombareek.

Bombareek is written Combarick ***, and, as Niebuhr informs us, more properly Cohum-barick, fignifying loofe fand ***; and fuch is the nature of the foil from Muckfa all round this angle of the coast to Elbourz ***, with a range of mountains at no great distance inland. Muckfa and Karpella are both low points, and the latter not easily discoverable at a distance but by the rock, from which it therefore naturally takes its name. If, then, the Karpella of Ptolemy is fully ascertained, I may proceed to shew the sluctuation of the modern accounts in regard to Cape Jask; for the suffrages are nearly equal, whether it is at Karpella or Muckfa. Lieutenant Porter says, Muckfa has been frequently mistaken for Jask; and Commodore Robinson's chart gives the name of Muckfa to the same cape as Porter; but Captain Blair ***, who was on board the same fleet, mentions that he was on shore at both capes, and that the natives

פלה . פלא יבים, Pala, Palah, cut, fevered,

Do, Palag. Applied to the dividing or bounding of countries. See Parkhurst in voce. All have properly Ph.

²¹² Combarrack, Gombarrat, Mumbarack, &c. &c.

²²³ Pietro della Vallé writes, Sable delié.

Rick, or rather Regh, will appear as a component part of Bunder-Regh, Regh-ian, &c.

one particularly at Yezd.

with Captain Blair; for he fays Kohumbareck is three three-fourths German miles north-west of Jask: but this is not certain; for his text stands, à Pest vers le nord. I read, à l'ouest vers le nord, because north-east agrees neither with one Jask or the other, tom. i, p. 72.

uniformly agreed in calling the eaftern cape, Jask, and the western, Bombareek: now what is the name of any place but that which the natives give it? Captain Blair, upon a personal interview, favoured me with a variety of circumstances relating to this coast; and, with a liberality that does credit to the officer and navigator, drew up a sketch of the topography, from materials in his possession collected on the spot, which I have caused to be engraved, and inserted in this work. In this sketch, his Cape Jask is the eastern promontory, and his Bombareek the western; and in this he is supported by Cutler and Pietro della Vallé 226; on whose authority I rely, notwithstanding the evidence on the contrary side is highly respectable.

In the Chart, No. II. is introduced a plan of the bay formed by the eaftern cape, from a manuscript of Bassin and Sommerson preferved in the Bodleian Library, and published by Mr. Dalrymple. In this plan the town of Jask is given, and a river "" five miles from the cape, near which I suppose Nearchus to have anchored, and upon which the town of Badis possibly stood in that age. This chart, it

226 Nous doublâmes le cap, qu'ils appellent en Perfan Combarick, c'est à dire, fable delié, et la nuit suivante nous laissames derriere nous, la pointe de Giask. Piet. della Vallé, tom. vi. p. 251.

This language manifestly marks the same Combarick and the same Jask as Captain Blair's; and Pietro della Vallé is the best of evidence, as he was in the neighbourhood of Ormuz during the siege, and makes frequent mention of the English sleet in Jask road.

227 "To the northward of Cape Jasques comes in a river, distant about five miles.
Any vessel, not drawing above ten or eleven

"feet, may run into it as a good haven. It is as fecure as a wet dock." N. Cutler's coasting pilot in Dalrymple's Collection of Memoirs, p. 83. See, in the same Collection, J. Thornton, p. 69. Both copy a note of John Hatch, master of the Bee, assixed to Bassin's plan. The river is marked in the copy of that Chart engraved in No. II. with the town of Jask to the north. I suppose Nearchus to have anchored near the mouth of the river, and nothing forbids the existence of a town on that stream two thousand years ago.

is true, does not style the eastern cape, Jask; but it calls the bay, Jask Road: the town, however, being close upon it, naturally communicates its name to the bay and cape nearest, rather than to the western point, which is at twenty-seven miles distance. This is the Jask road in which the English sleet lay in the year one thousand fix hundred and nineteen, when it came to affish the Persians in the reduction of Ormuz; and, during the north-eastern monsoon, it is as safe as a harbour. All this evidence collected, with the information obtained by Captain Blair on the spot, sets the question so far at rest, that I shall in suture call the eastern point regularly Jask or Badis, and the western, Bombareek or Karpella.

The mistake committed by d'Anville, in supposing Karpella and Badis to be the same, is sounded upon, and supported by another error; for he read in the translation of Arrian, that there was a rock "s" at this point, and, in order to establish the identity of Badis with Karpella, he went six or eight miles north to setch the Bombareek rock to the cape. Unfortunately for this system, the Greek text says nothing of a rock, but uses that term "s, which I interpret surf or breakers, and which, with Gronovius to support me, I can maintain against all the translators. Let the reader refer to Captain Blair's sketch, and he will see breakers to a great extent at Jask, but

228 Memoir, p. 140.

Il parle d'un rocher escarpé sur cette côte; or la terre du cap est assez basse, mais l'anse qui lui succede est terminée par un rocher blanc, fort pres de terre, escarpé, plat sur le sommet, et qu'on prendroit de loin pour une forteresse; son nom est Bombareca.

In this short account there are four inaccuracies. 1. There is no bay (Anse), but only a creek. 2. The rock is not at the termination of this creek. 3. It is not near the

land (pres de terre), but upon land. 4. Its distance, though not here specified, is made to appear much too near Karpella. Added to these, the principal scature of Bombareek, its perforation, is omitted. All these errors are incurred, to find a rock at the cape, where there is no rock, except in the translation of Vulcanius: for it is Vulcanius qui parle d'un rocher escarpé, and not Arrian.

2:9 gazein. See this fully stated above.

none at Bombareek; and when he is affured that these were inferted from this officer's own materials, and not previously concerted to answer my purpose, let him judge for himself concerning the correctness of Arrian, and the exact picture of the coast he gives, as it appears at the present hour.

It will afford no little pleasure to consult the draught, and to compare it with the text of Arrian; to view the right angle at Bombareek, and the acute projection of Jask; to observe Bombareek without breakers, and Jask encircled with them all round, and this to a considerable distance from the point. Afterwards, let us refer to the testimony of Arrian, which is repeated twice, and is contained in the following words: "They anchored," says he, "not close to the shore, but rode in the open sea, upon account of the surf, which was of great extent." A digression then ensues, comprehending an account of the natives, and some general circumstances of the voyage; after which, he resumes the narrative, with particulars of the same tenor. "As soon as the fleet reached the boundary between the coast of the Ichyophagi and Karmania, they rode at anchor at a distance from the shore because a violent surf so beat along the line of the coast, and extended out a

230 So I render wassiraro.

Ορμίζοται δὶ ἐ ωρὸς τῆ γῆ ἐπχίη γὰς ἦν ἐπὶ ωκλλὸν ἀνίχυσα, άλλὰ μετίωροι ἐπ' ἀγκυρίων, p. 344.

Neque vero ad terram appulerunt, erant enim frequentes ad littus fcopuli, fed jactis in falo anchoris fubstiterunt.

Ως δὶ ὶς την Καρμανίην ἀπὸ τῶν Ἰχθυοφάγων κατῆριν ὁ Στρατὸς, ἐνταθθα ἴνα ωρώτοντῆς Καρμανίης ωρμίσαντο, ἐπ΄ ἀγκυρίων ἐσάλιυσαν, ὅτι ἐνχίη ωαριτίτατο ἰς τὸ ωίλαγος τρηχίη, P- 347.

Postquam vero ex Ichyophagis in Carmaniam perventum est, primum anchoris in salo jaclis constiterunt, quod aspera in mare petra porrecta esset.

This translation of engine by scopuli and petra is the very origin of d'Anville's error. He looks for a rock where there is none, till he has brought it from eight miles distance, and then it is not in the sea, but on a sandy plain near three miles from the shore.

I render ¿nxin, furf; and there can be no error in my confiruction greater than this. It is either the furf itself, that is, the breach of the water, or else the shoal or breakers on which it beats.

" confiderable

" confiderable way into the fea." Thefe, as nearly as I can render them, are the very words of Arrian, and a fingle glance at the Jask of Captain Blair's sketch seems now to determine the question past contradiction. The extent of the furf naturally implies the extent of the projection; and if extent is not the peculiar feature of Jask, in opposition to Bombareek, there is no truth either in the plan of Baffin or the sketch of Blair: add breakers to this projection, and the picture is complete. But we may advance one step farther still, for Arrian fays expressly, that from this cape the course was no longer west, but north-west. This is true of Jask, but not of Bombareek; for from Bombareek the course would be almost due north. Let us hear modern authority upon this point. Cutler, in his Coasting Pilot, fixes the same points for Jask and Bombareek as Captain Blair; and he afferts 231, that " from Guadel to Jask the coast " lies west by north, and east by fouth;" but " from the point of " Jask to the low point of Bombareek the course is north-west."

These are the grounds upon which I venture to assert, that d'Anville is in an error at the commencement of his discourse; but it is an error arising, not from want of research or discernment, but from the materials he had to work upon; and from a salse considence common to too many of his countrymen, who place their trust in translators, instead of referring to the original text. The attention paid to this station of Badis will not be deemed supersuous, when it is considered that the geography of Ptolemy and Arrian are thus rendered consistent, and the true limit of Karmania fixed. Neither will the modern navigator be displeased to obtain the true Cape Jask, which, if native information be the best, is fixed immutably

²³¹ P. 69 and 70. in Mr. Dalrymple's Collection. He writes Jasques and Combarick.

by Captain Blair. It is no ordinary pleasure to have my owns doubts fatisfied; for, having originally assumed Muckfa for Badis, I had afterwards changed the arrangement in deference to d'Anville, I now revert to my first opinion 232, upon the authority here produced; and I know not of any one fuggestion to the contrary, except that Badis and Bareek bear a distant resemblance. cifion which has been attained by these inquiries will enable me now to reduce two previous flations to probability, which were passed in hafte; for Dagasira falls in, by the measures of Arrian 233, with the first cape west of the Tanka, and Troes must of course be about eighteen or twenty miles eastward of Dagasira. My first arrangement of the stations from Kyiza had been very different, but the measures are more correct by the present allotment, which is founded on the information of Otter compared with Ptolemy, and is upon the whole as accurate as any statement can be expected in a tract of the greatest obscurity. Træsi is the only place I have reason to doubt, and the corruption of the text renders it a hopeless fearch. I would have carried it either to the Masis of Ptolemy or the Salarus of Marcian, where a river is still marked by Commodore Robinson, if the cape had not stood in the way; but I can determine little what is right, except from the order given to it by Arrian. The same must be confessed of Ptolemy's-Rhogana and Ommana. The journal, indeed, is not concerned with them; but I would wish to assign them a site, though it is not easy to discover one, unless they lie between the two capes east of the Tanka, and

²³² In consequence of this fluctuation, this 233 Eleven hundred stadia, nearly fixtypart of the narrative has been reviewed and nine miles. written three times over.

then the Agris 234 of Ptolemy interferes with the disposition. add but one particular more, as a general confirmation of the arrangement I have adopted, and fubmit the whole to the judgment of the reader. It is this: - The rivers of my ancient authorities are all found upon the modern charts; if, therefore, an individual polition should be wrong, the general delineation is nevertheless right; and I add, upon the comparison it will prove that Kan is equivalent to Kienk, and that both indifputably mark a river.

Kan-driakes, - the Kie-Kienk, between Guttar and Churbar,

Kana-difa, - the river at Tiz.

Kana-Té, the Tanka.

Sarus. the Ifqui, or Ifkim.

Kan-Ratis, or Batis, the river at Badis, or Jask.

These five streams appear in Arrian, Marcian, and Ptolemy, and five only, without addition, on the modern charts; four of them

234 The Agris of Ptolemy is written Agrifa, as Hudson informs us, by the old interpreter of that author; and Agrifa it appears in Marcian; in the Table I have ventured to form, Agarifa, and then transpose the syllables so as to extract Agasira or Dagasira from it. If the reader should doubt the propriety of these transpositions, I must observe that the corruption is not merely European, but Oriental alfo. Gezira is a town of fome note on the Tigris, near Merdin, and takes its name from being furrounded on three fides by a winding of the river. Dr. Howel, who came by this route from Bafra to Constantinople, fays, the natives call it Jesseera or Geraza. (See his Journal 1788, p. 79.) If he had written both words, as he ought to have done, with the same letters transposed, we should have had the very transposition from the natives for Jercessa. The errors which arise between the credit for the resolution of this difficulty.

eye, the ear, and the mouth, in hearing, writing, and pronouncing, are beyond calculation, befides those which proceed from ignorance. Two instances are before me which may cause the reader to smile. The English translator of Bernier's Travels makes the French physician fay, that he was hospitably entertained by the English at Calcutta, who treated him with an excellent liquor called Bouleponge. The translator never once suspected that his countrymen made a boaul of punch.

A second occurs in Pietro della Vallé. His French translator fays, he embarked in an English ship at Gomroon, called the Vubali. This strange word is nothing more than the Whale. But the Frenchman, having no w in his own language, wrote two u's, or rather Vu, and then turned an Italic b into a b; thus Whale became Vubali. Etymologists are which I contend :- Gerifa, Gefira; Jesseera, often ridiculed; but I claim no small share of occur with the adjunct Kan. Is it arrogance to fay that this amounts to demonstration?

At Badis²³⁵ is the boundary between Karmania and the defolate coast of the Ichyophagi; and at this limit I must pause, to confider the sum of Arrian's measures, and to compare them with the actual extent of the coast. This labour indeed is shortened by the Table already given from Mosarna, comprehending seven thousand four hundred stadia out of the ten thousand which form Arrian's total between Malana and Badis; but this total, like many others, differs from its particulars, for the numbers from Malana to Mosarna stand thus:

				Stadia.	
To	Bagafira,	STILL IS	-	600	
To	Kolta,	tely . The	- 700	200	
To	Kalama,	interaction	no - nh	600	
To	Kyfa,	-	-	200	
To	Mofarna,	~	-	150	Rook 236, 400
				1750	
				250	from Rook.
				-	
				2000	the same of
				7400	to Badis.
				9400	

marks a bay, or that part of a cape which joins the main, I ought not to contradict this by a new supposition; but I cannot help noticing that Badb in Hebrew signifies a limit or boundary; and for the connexion between Hebrew, Arabic, and Persic, see the questions proposed by Michaelis, &c. to Niebuhr and his

fellow-travellers, in the first volume of Ara-

dred and fifty stadia are assigned to the cape alone; but I observe, where a cape is marked and no distance afterwards given, the sleet appears to anchor as soon as it is round. See Eirus.

To this fum Rook adds fix hundred 237 stadia, for a distance omitted between Kanafida and Kanaté, to make up the ten thoufand of Arrian. These fix hundred I have omitted, from the pressure of numbers too high on that part of the coast, and comprehended the whole two days' course in the seven hundred and fifty stadia to Kanaté. Nothing, however, is gained by this; for though it eafes the measure on the coast, it still disagrees with the total. It is not a little remarkable, that Strabo's 238 measure of the whole coast should be the precise sum that Arrian reckons from Mosarna, seven thousand four hundred; and as Marcian and Ptolemy extend the limits of Karmania to Mosarna, if I had found the same number in Marcian, I should have concluded Strabo had been missed by some boundary of the fame kind: but Marcian's total from Badis to Mofarna is four thousand fix hundred, and from Karpella one thousand more. I shall produce a reason likewise presently, why I think Marcian reckoned by a different stadium: but let us first obferve, that by Arrian's total,

so that the excess upon the whole coast, by Arrian's numbers, is 145

237 By an error of the press, it appears nine ledged here; for the former measure was taken to Karpella, twenty feven miles west of Jask, as I did not at that time know the real distinction between these capes. After due allowance made for both thefe errors, and fome confiderations of fmaller moment, there is still room for farther discussion, if I had not already dwelt on these minute particulars too long.

hundred.

²³⁸ Gronovius doubts Cafaubon's statement of Strabo's fum. Arrian, p. 344.

²³⁹ The four hundred and eighty miles are continued here, to correspond with the same number in Book I. Art. Stadium: but an error was there noticed, arifing from the diminution of a degree of longitude in latitude 25, and there is a fecond error to be acknow-

miles, and Strabo's comes much nearer to the truth. It is not possible to account for Arrian's excess by the finuofity of the coast; for no shore of equal extent has fewer curves: but if the excess cannot be juftified, it justifies the fystem I have adopted all along this tract of the Icthyophagi, of shortening all his measures where the nature of the course or character of the coast required it. It is not just to charge Nearchus with a defign of lengthening this navigation, in order to enhance the difficulty or the danger: but diffress and famine make every paffage appear longer than it is, as mariners affure me; and when the fleet under the guidance of Hydrakes kept at a farther distance from shore than Greek pilots would have dared, it is probable that measures were ascertained with less correctness, or inflamed by conjecture. Marcian, in the proem to his work, has fully flated the difficulty of obtaining correct diffances by means of itineraries and journals; fome measure by a right line, fome by the curvature of the coast, and all in general exceed the truth. That this, therefore, should take place in the narrative before us, will not appear extraordinary to those who know that the length of the Mediterranean was estimated by the longitudes of Ptolemy till the last century, and that it was curtailed of near twenty-five degrees by observation 240, no farther back than the reign of Lewis XIV.

The general excess of Ptolemy is too well known to require a comment here; but the effect of it upon this coast will explain the estimates of Marcian upon a principle that has never been noticed

Mediterranean near 65°; d'Anville's little more than 40°.

Scanderoon, Alexandria, and Conflantinople were determined by Mr. Chazelles, about the year one thousand fix hundred and ninety- of Geog. p. 154.

240 Mercator's map in Ptolemy gives the three, fent up the Levant for that purpose, The meridian of Paris to the Straits of Gibraltar about one thousand seven hundred and twenty. Some doubt flill remains between Gibraltar and Algiers. Blair's Rife and Prog.

hitherto by geographers. Ptolemy places Karpella in longitude241 94°, and Mosarna 103° 15'; the interval is consequently 9° 15' degrees of longitude; and, upon the fame interval, Marcian reckons five thousand fix hundred stadia, which brings his estimate to fix hundred and twenty-two stadia for a degree of Ptolemy's. Let us then advert to the common calculation of the Greeks, fix hundred and twenty stadia 142 to a degree, and we immediately discover, that Marcian's stadium is the Olympian, of eight to a Roman mile, and not the stadium of Arrian, which is nearly fifteen to the same meafure. It is evident threfore that Marcian, as the copyist of Ptolemy, has taken his degrees for a standard, and formed his own measures by this calculation of fix hundred and twenty stadia to the degree. In order to apply this estimate then to the case before us, let us next take the measures between Mosarna and Badis. The stadia of Arrian are feven thousand four hundred upon this interval, and those of Marcian four thousand six hundred: but as Arrian's stadia are fifteen to a mile Roman, they produce four hundred and ninetytwo 243 miles Roman; and as Marcian's are eight to the fame meafure, they give five hundred and feventy-five miles Roman. From this deduction, therefore, it is manifest that the estimation of the coast by Marcian is more in excess than Arrian's statement; and upon repetition of this experiment upon the whole extent from

²⁶¹ In latitude 25°, which is the medium of professed geometricians. this courfe, a degree of longitude contains in might be grounded : but the object here is hundred and twenty. only to obtain a general deduction, and the 243 Equal to four hundred and fixty two reasoning, as far as I am a judge, is con- miles English. The fractions are omitted, clusive: but I refer it with great deference to

²⁴² D'Anville reckons fix hundred, Goffereality but fifty-four one-half geographical lin feven hundred, for a degree of a great miles; and upon this, fome farther inquiries circle: the ordinary and usual estimate is fix

Karpella to the Indus, I had the fatisfaction to find that the iffue was nearly the fame.

By this method, if I cannot reconcile Arrian's account to truth, I at least account for his error; and I shew that his error is less than that of other ancient geographers. Even in his error, I find the means of elucidating his narrative; for there is little reason to object to the position of the stations in the order they appear, but the discordance of the measures. This discordance affects, in reality, only one place upon which there remains any just reason to doubt; that is, Træfi. If this be carried to the Sarus, Dagasira must be fixed at the fecond cape westward of the Tanka, instead of the first; and this encroaches as much on the measures between that cape and Badis, as the contrary supposition does on the distance between the Tanka and the first cape. Working as I have done upon scanty materials, I trust that merit will rather be imputable, for the service performed, than blame incurred, for the degree of obscurity which remains 244. Some obfcurity remains upon all nautical measurements; and if modern navigators, with the affiftance of inftruments which divide to a fecond, still differ in their observations, what allowance ought not to be made to the ancient discoverers, who had only the eye and the hand to direct them, and who confequently drew the best of their conclusions from conjecture?

The time employed on the coast of the Ichyophagi is twentyone days, according to the account in the margin, which reduces each day's course to an average of twenty-two miles on the real

²⁴⁴ φημὶ δὶ ἐκ ἱν ἄπασι τοῖς τῆς θαλάττης It is no easy matter to determine accurately μέρισι ἐκάδιον ἔιναι τὸν τῶν καδίων ἀριθμὸν ωρὸς τὸ the number of stadia upon any coast. Marcian ἀκριδίστατον ἀκυριῖν.

Heracl. p. 3.

measure, and twenty-nine upon the measures of Arrian. The estimate of time may be corrected, when the sleet opens a communication with the army in Karmania. The allowance, therefore, of a day upon some particular intervals, where there was no evidence in the journal, cannot materially affect the correctness of the account. As the sleet sailed with a pilot on board, and with the advantage of the monsoon, more days may have been allowed than necessary, and less extent given to the average of each day's course; but there are data to correct the statement, which will be produced on the arrival of the sleet at the Anamis.

The manners of the wretched inhabitants have, occasionally, been already noticed; but Nearchus dwells upon some farther particulars, which, from their conformity with modern information, are worthy of remark. Their ordinary support is fish, as the name of Ichyophagi, or fish-eaters, implies; but why they are for this reason specified as a separate tribe from the Gadrosians, who live inland, does not appear. Ptolemy confiders all this coast as Karmania, quite to Mosarna; and whether Gadrosia is a part of that province, or a province itself, is no matter of importance: but the coast must have received the name Nearchus gives it from Nearchus himself, for it is Greek, and he is the first Greek who explored it. It may perhaps be a translation of a native name; and fuch translations the Greeks indulged in, fometimes to the prejudice of geography 245. But these people, though they live on fish, are few of them fishermen; for their barks are few, and those few very mean and unfit for the fervice. The fish they obtain, they owe to the

²⁴⁵ Heliopolis in Syria, Polytimetus a river in Sogdiana, Hecatompylon in Parthia, &c. &c. are all inflances of this practice.

flux and reflux of the tide; for they extend a net 46 upon the shore, supported by stakes of more than two hundred yards in length; within which, at the tide of ebb, the fish are confined, and settle in the pits or inequalities of the sand, either made for this purpose or accidental. The greater quantity consists of small sish; but many large ones are also caught, which they search for in the pits, and extract with nets. Their nets are composed of the bark or sibres of the palm, which they twine into a cord, and form like the nets 47 of other countries. The sish is generally eaten raw, just as it is taken out of the water, at least such as is small and penetrable; but the larger fort, and those of more solid texture, they expose to the sun, and pound 448 them to a paste for store: this they use instead of meal or bread, or form them into a fort of cakes 449 or frumenty. The very cattle live on

of Kent will recollect a fimilar practice in Sandwich Bay, called Pegwell Bay from this circumflance, where the nets are of much greater extent; Arrian fays two fladia (equal perhaps to two hundred and eight yards English), meaning to express a great length. I am aware that the expression may be judged to interfere with the small stadium of d'Anville, but every thing is small or great by comparison; and if the ordinary Greek net was less than two hundred yards, this is consequently large.

The use of the net was found, I think, in every island of the South Sea visited by Captain Cook, and on every coast except New Holland. Specimens of the natives' skill in the art of net-making are found in the British Museum. This, among other endowments, tends to prove them of a superior origin to the Blacks of New Holland or New Guinea, they are probably Malay, as the vocabularies of their language seem to prove.

218 Katahurte, rendered by Vulcanius. Majores vero durioresque ad solem torrentes simul ac penitus tosti fuerint molentes in farinam redigunt; that is, they grind them and make a paste or caviar of them. Gronovius objects to grinding them, as they have no mills. He proposes to read καταθλώντις, pounding, or κατακλώντις, breaking small; both which manners of preparation are justified, by Strabo's mention of mortars made of the vertebræ of the whale, and the paste or meal noticed by Arrian : and xaraherric, grinding, may be thought not to depart from its proper fense, if we consider the people spoken of, though they had no mills. The fame kind of paste is made to the present day on this coast, on the coast of Arabia, and in the gulph of Persia.

249 Μάζας, Polenta, a thin cake or passe of meal, still used in Italy by the name of Polenta, according to Barretti. (Letters to S. Sharp.) The ancient Polenta was sometimes not a folid.

dried

dried fish, for there is neither grass nor pasture on the coast. Oysters, crabs, and shell-fish are caught in plenty; and though this circumstance is specified twice only in the early part of the voyage, there is little doubt but that these formed the principal support of the people during their navigation. Salt is here the production of nature; by which we are to understand, that the power of the fun in this latitude is sufficient for exhalation and chrystallization without the additional aid of fire; and from this falt they formed an extract 250 which they used as the Greeks use oil. The country, for the most part, is so desolate, that the natives have no addition to their fish, but dates: in some few places a small quantity of grain is sown; and there, bread is their viand of luxury, and fish stands in the rank of bread. The generality of the people live in cabins, finall 251 and stifling; the better fort only have houses constructed with the bones of whales; for whales are frequently thrown "52" up on the coast, and when the flesh is rotted off they take the bones, making planks 253 and doors of fuch as are flat, and beams or rafters of the ribs or jaw-bones: and many of these monsters are found fifty yards in length. Strabo confirms this report of Arrian; and adds, that the vertebræ or focket-bones of the back are formed into mortars, in which they pound their fish, and mix it up into a paste, with the addition of a little meal.

aso "Excust, oil. But how oil from falt? fays Rooke. Read "Excust for "Axes; for what else is oil made from but olives? If olives were found upon this coast, the reading might be just; but olive oil was such a luxury to the Greeks, that if a single tree had appeared on the coast Nearchus would not have omitted the mention of it. He assirms the direct contrary.

²³¹ Er καλύδαις συγηράις. See Ar. 335.

²⁵² Strabo fays the bones only.

If they had the art of splitting whalebone, a very commodious covering might be obtained, for the jaws of this fish furnish a thousand plates from twelve to fifteen feet long, eight or ten inches broad. Lettice's Tour in Scotland, p. 421.

²⁵³ From a part in the jaw.

To this feanty lift of provisions our modern voyagers add little. Barbofa, Thevenot, Tavernier, and Niebuhr, all mention fish on this coast as still the food of the natives, and from hence all up the eaftern shore of the gulph of Persia; to which Lieutenant Porter adds a few goats and sheep, neither cheap or good; and once only he mentions vegetables at Churbar, which were good but very fcarce. Whether camels are usually eaten on this coast, as they are in Arabia, is not afcertained; those which Nearchus procured at Troesi he seems to have employed, as the inhabitants of a besieged town may fometimes be reduced to feed on horse-flesh; but beyond this inflance I find nothing specified. Marcian mentions a tribe called Camel-eaters 15th, in Karmania, if they are not rather Camelfeeders; and another styled Turtle-eaters at Samydake 255, on the coast of the Ichyophagi: it should rather seem that all these names imply difgust at the manners of the natives.

Whether whales are found on this coast at present, or whether houses are still built of their bones, I find no authority to determine. The filence of Lieutenant Porter appears in evidence against it, for it is a peculiarity which would be as likely to command the attention of a modern as an ancient navigator; and whether the animals feen by Nearchus were whales, or not, may possibly be disputed, for the Greek word may be applied to any fish of great magnitude. The fize of fifty yards 256 feems to confine the expression to this animal;

Κομπλορώγοι, like χιλοποφάγοι, &c.

initial letter.

δια σες ίκ σρηγήρων βία άνα Φερόμειου.

verting to Thevenot's description of the water- fea more especially, is remarkable.

254 Kaunhoboxol, if enters, would be rather spouts seen by him nearly in this very sea. Part II. p. 185. Eng. ed. Honsel, however, 255 Written Autoaniv: fo little apology is is faid not to be the word which usually exwanting for the addition or subtraction of an presses that phænomenon, but Tucio. Yet I see nothing in either to apply one more particu-256 fixors of white opposits. Twenty-five larly than the other, except the modern Milinction. I do not mean to infer that Nearchus mistook a water-spout for the blow-I never reflect on this passage without ad- ing of a whale; but the comparison, in this

and though blowing is not peculiar to the whale, the circumstances which are immediately subsequent will best determine the judgment of the reader.

For Nearchus fays, that on the morning he was off Kyiza or Guttar, they were furprifed by observing the sea thrown up to a great height in the air, as if it were carried up by a whirlwind. The people were alarmed, and inquired of their pilot what might be the cause of the phænomenon; he informed them, that it proceeded from the blowing of the whale, and that it was the practice of the creature as he sported in the sea. His report by no means quieted their alarm; they stopped rowing from astonishment, and the oars fell from their hands. Nearchus encouraged them, and recalled them to their duty, ordering the heads of the veffels to be pointed at the feveral creatures as they approached, and to attack them as they would the veffel of an enemy in battle: the fleet immediately formed as if going to engage, and advanced by a fignal given; when shouting all together 257, and dashing the water with their oars, with the trumpets founding at the same time, they had the fatisfaction to fee the enemy give way; for upon the approach of the vessels the monsters a-head funk before them, and rose again a-stern, where they continued their blowing, without exciting any farther alarm. All the credit of the victory fell to the share of Mearchus, and the acclamations of the people expressed their acknowledgment, both of his judgment and fortitude, employed in their unexpected delivery.

The fimplicity of this narrative bespeaks its truth, the circumstances are such as would naturally occur to men who had seen

animals

ο war. Αε loud as they could shout the alala, or cry

animals of this magnitude for the first time; and the better knowledge our navigators are possessed of, who hunt the whale in his polar retreats, shews that he is sometimes as dangerous an enemy ashe appeared to the followers of Nearchus.

The mention of this engagement might have been spared in a work dedicated to geographical refearch, but those who are acquainted with Arrian would not have pardoned the omiffion; and it is one part of my intention not to defraud Nearchus of any honour due to him, either for his fortitude or his nautical abilities. This transaction is almost the only part of the voyage that Diodorus thought worth recording; and if the readers of his age had a relish for this fort of hiftory, why should he not have indulged their taste? But there is a fecond tale too fingular to be passed without obfervation, for we are informed that the Ichyophagi derive their origin and manners from a race of men who frequented these seas, and who having by chance or enchantment landed on an ifland named Nofala, were there entertained by a Nereid, and afterwards Fortunately for the metamorphofed, this transformed into fish. fpot was under the protection of the Sun, who, displeased equally at the cruelty of the nymph as her licentiousness, ordered her to depart the island. She submitted to the decree, and was preparing for her exile; but, as a last effort, she hoped by a display of her charms to entangle the god, and involve him in the fame fate 258 as his predecessors in her favour had experienced. How great was her mortification, when she found him inattentive to her allurements, and employed in a fecond transformation of her lovers into their

²⁵⁸ This is Gronovius's interpretation of an obscure passage.

native figure? From these men, so happily restored, the Icthyophagi derive 25" their origin.

Arrian 260 is offended at Nearchus, first for recording this fable, and then for refuting it: but the story is perfectly Greek; for the Nereid is only Circe, or Calypso, conveyed to the East Indies, and Apollo is Ulyffes, but with more continence. The catastrophe of the piece, which confifts in the delivery of the metamorphofed, is brought about with more dignity by Apollo's refisting the temptation, than by Ulysses's 264 yielding to the solicitation of the enchantrefs.

The best excuse for introducing this tale is, that Nearchus had loft one of his transports manned with Egyptians, and the report was current in the fleet that the veffel had disappeared at an enchanted island; Nearchus ordered out a party to visit this isle, and call aloud the names of those whom he supposed to have been shipwrecked. Not content with this, he went himself to the place, and compelled his people to land, much against their inclination; but they found neither their lost companions nor the Nereid.

Possibly even this excuse will not be admitted; for no island occurs on the whole coast after leaving Ashtola, except a very small one in Guttar Bay, which must have been seen on the day the nameless town was taken, and which lay too clearly in view to cause these idle terrors. If any island exists, it ought to unite the

²⁵⁹ These are the Myrmidons of Thessaly, similar circumstances; but without the Nereid. the Sparti of Thebes, transplanted to an In-Indian guides : but it is Greek ; unless fables over the world.

²⁶⁰ Strabo mentions this flory, p. 726, with this subject in Rousseau's Emile.

²⁶¹ Ulyfies refished the cup, but not the dian foil. Nearchus imputes the fable to his passion of Circe. Od. K. 347. His refusal of the cup forms an allufion for the moralist; fimilar to the Greek mythology are current all his passing a year with the goddess is suppreffed. See a very elegant frontispiece on

Polla of Ptolemy with this Nofala "; but the coast is now too weil known to give us hopes of finding 163 one; and if not found, the whole is a tale calculated to raife the importance of Nearchus, and fhew that he was the only man in the fleet who feared neither the blowing of a whale, nor the enchantment of a Nereid.

Upon a review of both these stories, we shall be induced to reflect that Greek mariners were fubject to vain terrors and fuperstitions like those of our own country; and in both, if we find this failing not incompatible with determined bravery, we ought to allow due merit to every commander who knows how to suppress the one, and call the other into action.

I cannot take a final leave of this coast without observing, that the whole distance from the Indus to Cape Jask comes out as near as may be, fix hundred and twenty-five miles, equal to the eftimation of Arrian on the coast of the Ichyophagi alone; and this number of miles Nearchus was from feventy to feventy-five days in paffing: if, however, with due allowance made for fetting out against the monsoon, and twenty-four days lost at Cape Monze, we reduce the whole to forty 264 days, we may form a comparative view between ancient and modern navigation; for it appears from the journal of the Houghton East Indiaman, that she made the same run in thirteen days, and upon her return was only five days from

miles, from the coast. Arrian.

" coast." M'Cluer, in Mr. Dalrymple's Collection, p. 98. But in feveral charts of the gulph of Perfia one island, and in some the eastward of Cape Jask. They are appa- not more than were necessary for repairs. rently nothing more than hummocks upon a

262 Nosala lies one hundred stadia, or fix low coast shewing themselves like islands at a distance; and laid down as fuch by those who 263 "There are very few islands on this never approached near enough to ascertain them. D'Anville has thus made islands of. Godeim and Bombareek.

264 Some days were loft on the junction two very small ones, are specified a little to with Leonnatus, and at the Tomérus, but Gomeroon 265 to Scindy Bar. But so far is this from diminishing the credit of the first navigators, that it is enhanced by every difficulty they had to furmount; weak vessels with inexperienced mariners, no provisions but such as an unknown coast might furnish, no convenience for fleeping on board, no pilot but fuch as they might cafually pick up on their course; no certainty that this sea was ever navigated before, or even navigable; and no refources fuch as the moderns have, without number, in their arms, their inftruments, their experience, and the accumulated acquifitions of knowledge, whether practical or theoretical. Under all these disadvantages, if the object was attained, and the voyage completed, it is not the length of the course that ought to raise the name of Columbus higher than that of Nearchus; the confequences derived from the discoveries of both are equally important, and the commerce with the East Indies upon a level with that of America: but if the communication fixed at Alexandria is the origin of the Portuguese discoveries, and the circumnavigation of Africa, Nearchus is in fact the primary author of discovery in general, and the mafter both of Gama and Columbus.

There is one extraordinary circumstance attending this expedition, which is, that we find no mention of mutiny or disease among the people: the former would be naturally checked by their situation, for they had no second hope if they failed in the execution of their enterprise, and no chance of preservation but by obedience to their commander; the latter was less likely to occur, from the circumstances peculiar to the navigation; and the maladies arising from famine or bad provisions appear not to have had sufficient time to exhibit their worst effects: as far as can be collected from the

²⁶⁵ Gombroon, Gambroon, &c. the B inserted, as in Cymeru, Cambro-Britons.

journal, they were never without shell-sish till within a few days of their arrival; and scorbutic disorders, which are the scourge of the mariner in the protracted voyages of the moderns, are never noticed by the ancients. The proximity of land, the frequency of sleeping on shore, and the properties of their vessels, which were not decked, seem to have operated to the exclusion of a disease, which two hundred years experience is only now teaching modern navigators to combat, and this experience nothing but the persevering discipline of Cook could have reduced to practice.

It is not apparent that the passage 266 from the Indus to the gulph of Persia had ever been performed by the natives, for however great the commerce on that river was, and however extended, its progress naturally bent towards the coast of Malabar and the peninsula. The natives there, were all Indians; while on the west, the name terminated at the Arabis, and all Indian manners with the boundary of the Oritæ at Malana. This appears to me a proof that no commerce from the Indus was carried farther by the Indians; the other natives, whether Oritæ or Icthyophagi, had no embarkations even for fishing, and the Persians were never navigators. If any vessels, therefore, visited these coasts even in that early age, they were probably Arabian 267; but of this there can be no satisfactory evidence.

266 Τὰ μὶν γαρ τῆς Ἐῶας ᾿Αλίξανδιος ὁ Μακιδῶν δηλα τοῖς ἀθηώποις πώντα κατίσκου.

Anonymous author, cited by Dodwell in his Differtation on Scylax, p. 47.

Alexander was the discoverer of the east.

The reason for this conjecture has been noticed upon the mention of Dagasira; and I suspect Sakala, Kokala, Gogana, Malana, Talmena, &c. to be all Arabic, if their signification were traced. When I meet with a river called Ægospotamos, I can discover the language of the nation from whence the name

is derived as readily as I can assign Cape Finisterre, Cape Clear, or Christmas Sound, tothe respective people who have bestowed these appellations.

"There is a striking analogy between the manners ascribed to the ancient Isthyophagi and those of these Arabs [on the astern coast of the gulph of Persia].

"... They use little food but fish and dates; they feed also their cattle upon fish."
Niebhur, Eng. ed. vol. ii. p. 138.

That fomething paffed upon the fea, and in all appearance from port to port, there feems to be ground for supposing; for Hydrakes could not have been worthy of employment without some fort of experience; and there is a shadow of evidence that the pirates to eastward of the Indus, who have been pirates in all ages, accidentally vifited the coast, either for the purpose of intercepting the traffic, or of plundering the property of the inhabitants; and yet what temptation could they prefent, unless slaves were a commodity? If fo, their perfons might be feized, provided there were any record of a market to point out where they were disposed of, but the whole testimony which can be collected amounts in no degree to a proof of a navigation like that of Nearchus from India to Persia; and as this is the principal link in the future chain of communication with Europe, the merit of examining it feems wholly due to him as the original undertaker. I am not ignorant of a much longer voyage in this very direction imputed to Scylax by Herodotus 265, from Pactya (the Pekeli 269 of Rennell) into the gulph of Arabia; but whether this voyage was performed by the Perfians, or that other round the Cape of Good Hope by the Phænicians from Egypt, as recorded by him, is a point highly problematical in the opinion of every one who confiders the structure of ancient vessels, and their whole method of navigation: I believe the record of both, as preferved by Herodotus, to be evidence that the Perfians or Egyptians knew, from communication with the interior of the respective countries, that they were bounded by the ocean, and afforded the means of navigation; but that the voyages were actually performed

²⁶⁸ Herod. lib. iv. p. 300. Caspatyrus, to be on the Ganges. See Dif-269 The province Peckeli, or Puckeli, on fert. on Scylax. the Indus; but Dodwell supposes Pactya, or

requires more evidence, more particulars, and a clearer detail of facts, to enable us to form a judgment. The bare affertion that the thing had been done might lead Alexander to think it practicable; but the Perfian voyage produced no confequences whatever, and the Egyptian navigation led to nothing, unless we suppose the Portuguefe discoverers influenced by the affertion 270, that a passage round the Cape was practicable.

Scylax ought to be a Greek by the place of his nativity, Caryanda, or at least an inhabitant of Asia Minor; but we have no remains 271 of his journal, and no other evidence of his voyage but the report of Herodotus, which is very deficient in circumftances to confirm its own authority; and collateral evidence there is none. In regard to the circumnavigation of Africa, there is one particular much infifted on by Larcher, Gefner 272, and other commentators, which is, the appearance of the fun to the north; a phænomenon dependent on every navigation within the tropics. The referve of Herodotus 273, in faying that others may suppose this probable, though he doubts it himself, is a caution worthy of such an historian, and more perfualive than the boldest affertion. I must, however, notice a peculiarity in this paffage which feems to have escaped the scrutiny of his commentators; for he informs us in another place 274, that he went up the Nile himfelf as far as Elephan-

270 Whether it will be thought probable that the Portuguefe navigators, or the council of Portugal, or any of the learned of that country, knew any thing of Herodotus, I pretend not to judge; but it is a remarkable coincidence, that the first edition of Hero-

Gama's discovery of the Cape, 1497

See Pref. to Wesseling's Herod.

²⁷¹ The Syclax, published in the Geog. Minores by Hudfon, is proved to be an imposture by Dodwell.

²⁷² See Gesner de Navigationibus extra Columnas Herculis, Præl. I. 6.

²⁷³ Lib. iv. p. 298. Ed. Wes.

²⁷⁴ Lib. ii. p 115.

tine, in order to afcertain some circumstances relative to the head of that river, about which he thought himself imposed upon by a secretary of the priests at Sais. Now is it not extraordinary, that if he reached Elephantine he should not have visited Syene 275, the very place at which he represents his doubts to exist? Is it not strange, that though he lived prior to the construction of the well 276 at Syene,

he

275 The modern Affouan, visited by Pocock, Norden, Bruce, &c. &c. Su-ene is As-sooan with the article. D'Anville, Geog. Anc.

Syene older than Strabo, lib. xvii. 817. but conclude that older may be found. Pliny, lib. ii. cap. 73, feems to intimate, that it was dug by Eratofthenes at the time he was meafuring an arc of the meridian. The following observations are kindly communicated by the Bishop of Rochester:

The well, befides that it was funk perpendicularly with the greatest accuracy, was, I suppose, in shape an exact cylinder. Its breadth must have been moderate, so that a person, standing upon the brink, might safely floop enough over it to bring his eye into the axis of the cylinder, where it would be perpendicularly over the centre of the circular furface of the water. The water must have stood at a moderate height below the mouth of the well, far enough below the mouth to be sheltered from the action of the wind, that its furface might be perfectly fmooth and motionless; and not so low, but that the whole of its circular furface might be diffinelly feen by the observer on the brink. A well formed in this manner would afford, as I apprehend, the most certain observation of the sun's appulse to the zenith, that could be made with the naked eye; for when the fun's centre was

upon the zenith, his disc would be seen by reflection in the water, in the very middle of the well; that is, as a circle perfectly concentric with the circle of the water: and I believe, there is nothing of which the naked eye can judge with so much precision as the concentricity of two circles, provided the circles be neither very nearly equal, nor the inner circle very small in proportion to the outer.

Plutarch fays, that in his time the gnomons at Syene were no longer shadowless on the folfitial day. This is very strange. Eratofthenes died, according to Blair's Tables, in the year before Christ 194; and Plutarch died in the year of Christ 119. The interval, therefore, between them was only 312 years; and the change of the obliquity of the ecliptic in this time (the only cause to which I can refer the alteration) was no more than 2' 36". A gnomon, therefore, at Syene of the length of twelve inches, if it cast no shadow on the day of the folftice, in the time of Eratosthenes, should have cast a shadow, in the time of Plutarch, of the length only of Too this, i.e. not quite in the of an inch. The shadow of a perpendicular column of the height of 100 feet would have been Toths of an inch. But I can hardly think the ancients ever thought of constructing gnomons of such a size. We read, indeed, in the Comedians, of shadows of ten, twelve, and even twenty feet long. Thefe: feem to have been the fliadows of gnomons:

he should mention nothing of the situation of Syene itself under the tropic? Had he been there in fummer, he must himself have feen the phænomenon he professes to doubt, or at least the fun vertical; and if his vifit was at any other feafon, is it not remarkable that he should not have heard of this circumstance? Elephantine is an island, or a city on an island, in the Nile, opposite to Syene "77, and yet Herodotus does not quite fay he was actually at Syene. From his mention that the Cataracts are four days' fail from the Elephantine he visited, may we not suspect that it was some island lower down (for there are many), or that the island 278 called Elephantine by Pocock is not the Elephantine of Herodotus? and that the historian was not nearer Syene than within three days' fail? for it is in reality less 279 than one day's fail or journey by land from Syene to the Cataracts. I mention these particulars, in order to shew the great obscurity which attends all the discoveries, whether real or pre-

but they were evening shadows, when the fun would be more easily discovered by the well was low, and people were going to supper: and this affords an argument that the gnomons of the ancients were of a very moderate fize; for in the latitude of 40°, at the feafon of the equinoxes, the fun's altitude, one hour before funfet, could be 11° 26'; and a gnomon, of the height of 2 feet 3ths of an inch, would cast a shadow on the horizontal plane precisely ten feet long. Half an hour before sunset, a gnomon of the height of one foot would cast a shadow ten feet long. And in the same latitude, at the same season, a gnomon of the height of fix feet would cast a shadow of the length of ten feet fo early as eleven minutes after three in the afternoon. I think the time of Eratosthenes and that of Plutarch, is to be taken into the account.

than by any gnomon the ancients can be supposed to have used.

277 Pocock, B. ii. p. 117. Bruce.

278 Bruce mentions the island, but does not call it Elephantine. Vol. i. p. 150.

279 " The distance from the gate of the " town [Affoan] to Termiffi or Marada, the " fmall villages on the Cataract, is exactly fix " English miles." Bruce, vol. i. p. 156.

See also a very curious account of the well and the latitude of Syene, which Bruce fixes at 24° o' 45", and consequently not under the tropic, p. 160; but more than half a degree to the north. Bruce, however, allows for the approximation of the ecliptic to the fmall variation that took place, between the equator. The circumference of the fun's dife

tended, in ages antecedent to history; and notwithstanding all that Mr. Goffelin has produced, to prove an early state of navigation and geography, previous to the knowledge of the Greeks, and founded upon better principles; notwithstanding the erudition difplayed by Gefner in his treatife 250 on the navigation of the Phœnicians in the Atlantic; there is nothing appears fufficiently fatiffactory to establish the authenticity of any one prior voyage, of equal importance, upon a footing with this of Nearchus; or any certainty to be obtained where the evidence is all circumstantial, and none positive. From a journal like the Periplus 284 of Hanno, a knowledge of the coast of Africa will enable us to form a judgment of his progress; but a bare affertion of the performance of any voyage, without confequences attendant or connected. without collateral or contemporary testimony, is too slight a foundation to support any superstructure of importance. I should think it time well employed to vindicate the honour of Columbus against the usurpation of Vespucius; but I would not bestow a moment in annulling the claim of Madock and his Cambro-Britons to the difcovery of America. The reader may conceive that this vindication of Nearchus partakes more of the partiality of an editor than the investigation of truth: but I appeal to the ancient geographicalfragments still extant; the Periplus of Hanno, the furvey of the Euxine fea by the real Arrian, and that of the Erythræan fea or Indian ocean by the fictitious one; and I fay that all thefe, as well

of Orpheus.

Dodwell errs as frequently on the fide of frepticism as others do on the fide of cre-

as the journal of Nearchus, though they have their errors, difficulties, or even abfurdities, still contain internal evidence of veracity, and are well worthy of examination; while the expedition of the Argonauts 282, of Pytheas or Scylax is merely a speculation of amusement.

There is, however, another way of inquiry into the discoveries attributed to the earliest times, which is, by examining the commodities such discoveries would produce. Tin, the staple of Britain, is mentioned in the most ancient authors neither as a rare nor a very precious metal; this must have been introduced to the nations on the Mediterranean, either by a transport over land (such as is mentioned by Diodorus 283), or through the medium of a Phænician navigation: the existence of the metal, therefore, in Greece and Asia is a proof that the voyage was performed in some sense or other. The sudden inslux of gold into Judæa 284 is equally a proof of a commerce extended into the Indian or Æthiopic ocean, beyond the limits of the gulph of Arabia. The materials still found in

as Gefner, in his Preface to the Argonauticks of Orpheus, is confident that there is no expression that indicates they are posterior to the age of Homer. If the fact is so, it must be confessed that the mention or knowledge of Ireland, which occurs in that work, is an extent of geographical science most surprising; for Homer's information went no farther than Italy, and even there it was only mythological.

283 Lib. v. p. 361. Ed. Wes.

Diodorus here mentions tin found in Spain, upon the whole of this subbut not in great quantities; and it is highly bertson has not prosecute probable that the grand source of that metal See Ezekiel, chap. xxvii. was always in Britain.

²⁸⁴ It is not the bufiness of this work to follow up these several incidents; but Bruce has most admirably illustrated the commerce of Hiram, Solomon, the Arabians and Egyptians on the Red Sea, and most indubitably proved that it tended to Africa rather than Asia. When the haughty spirit which procured so many enemies to this illustrious traveller shall be forgotten, neither his knowledge nor his veracity will be longer impeached. There is much scope for curious investigation upon the whole of this subject, which Dr. Robertson has not prosecuted to its sull extent. See Ezekiel, chap. xxvii.

Egypt, that contributed to the preservation of the mummies, are fome of them supposed to be Oriental; and if so, Egypt must have had, even antecedent285 to history, a communication with the East, either directly by commerce of their own, or indirectly by means of intermediate nations, perhaps Arabian. In all these cases, we have a right to assume the navigation from the view of its effects; but the voyage 286 of Scylax from India to Egypt, or that of the Phænicians from Egypt round the continent of Africa, have neither produce nor confequences; and thought his is only a negative proof of their nonentity, it is as strong as the nature of the case will admit: if no fecond navigator had doubled the Cape of Good Hope, the discovery of Gama might have been deemed problematical. Were it possible to ascribe these two voyages to the age of

285 " Several authors agree in opinion, that the ancient Egyptians poffeffed themfelves of the trade of the East by the Red " Sea; and that they carried on a confider-" able traffic with the Indian nations before " the time of Sefostris, who was contemporary " with Abraham." Aftle. Or. and Progress of Writing, p. 41; who quotes Rollin, p. 59, 60. and Univ. History, vol. i. p. 513. and might have added Huet.

I pretend not to investigate any fact antecedent to history; but I can believe the Egyptians (from the increasing evidence we now have of their arts, through the means of Pocock, Norden, and Bruce) to have been capable of any enterprise. Navigation, however, does not appear as one of their pursuits, for we cannot imagine those who never appear upon the Mediterranean, to have made any great efforts upon the Indian ocean. All the ranean are either Greek or Phænician. Phæ- lib, xi. p. 518,

nicians navigated the Red Sea for Solomon, and not Egyptians, 2 Chronicle ix. 21.; and if the Egyptians had poffeffed a trade on that fea, they would not have fuffered rivals to interfere. The paffage round Africa is not attributed by Herodotus to Egyptians, but Phænicians: but I decline all disquistion on these matters previous to history; and mean at prefent only to maintain, that if we have the real journal of Nearchus in Arrian, it is the first authentic document of a voyage of importance to navigation.

aso It is not impossible that all these affertions of circumnavigation arose from the idea of the ancients, that the ocean furrounded the earth like an island; an idea in fome degree true : but unfortunately for one of these affertious, that of Patrocles, who maintained there was a passage from the Indian ocean into the Cafpian fea, it has turned veffels we find in early ages on the Mediter- out that the Caspian is a lake. See Strabo, Herodotus, his testimony is such, that it ought to preponderate against every argument of mere speculation; but he probably records only the vanity of two nations, one the most proud of its empire, and the other of its science; both capable of attributing to themselves an action done, if it were possible to be done; and of this, the possibility was perhaps known from internal information. My own opinion is decidedly against the reality of both these voyages; but whatever be my own judgment, it shall be subject to the decision of those 287 who professedly consider the question in its full extent; it is here only incidental: but I must still repeat, that it is the affertion of facts without circumstances, while the voyage of Nearchus is detailed in all its parts, and is the earliest authentic journal extant. If, then, I am right, this is the first voyage of general importance to mankind; if I am mistaken, it is still the first of which any certain record is preferved.

This discussion may appear more appropriate to the conclusion, than the progress of the enterprise; but the fact is, that, at this point, the great difficulty of the whole passage was surmounted; the remaining part, up the Gulph of Persia, was neither exposed to the calamity of famine, nor hazardous from the nature of the coaft. We shall have some opportunities to remark, that as there was commerce among the natives, there were confequently pilots to be obtained; and fo fatisfied was Nearchus of the

Hanno which we have is of late age, according 188 It is prior to the Periplus of Hanno, if to Dodwell, and a copy or extract possibly from

¹⁸⁷ Gefner.

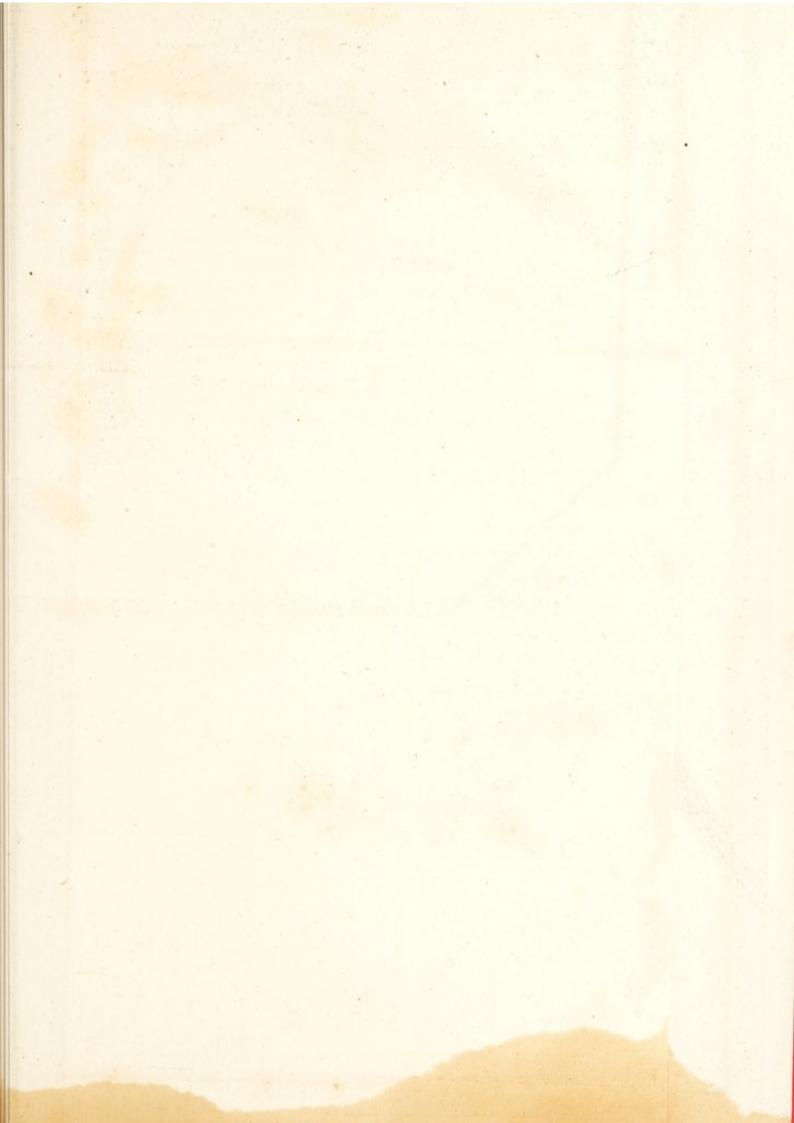
it is the same Hanno, contemporary with Aga- the Carthaginian journal, as Arrian's is from thocles as generally supposed, for Agathocles Nearchus. died anno 289 A. C. The Greek Periplus of

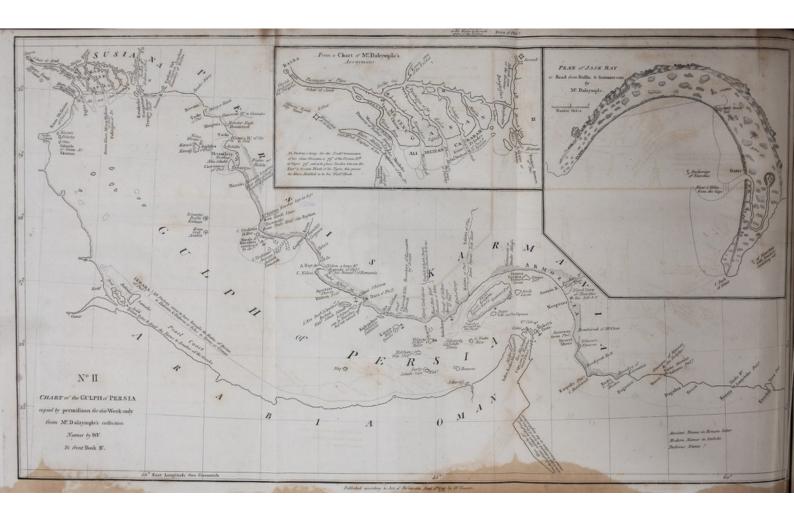
facility of his future charge, that he refused being exonerated of the command.

The narrative itself also will, in some degree, be relieved from a barren recital of distresses, and a dubious arrangement of geography; our classical guides will be more intelligible; and our modern conductors, Dalrymple, d'Anville, and Niebuhr, more satisfactory. I have already mentioned d'Anville's dissertation on this navigation of the Gulph of Persia; and if I performed no other service than introducing this work to the knowledge of the English reader, it would be an undertaking of merit.

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rice ben geldgelistek ment at lijer achieg freshie ma gelgerig resider, it would be an undertaking of ment





V O Y A G E

OF

NEARCHUS.

BOOK IV.

GULPH of PERSIA.

I. Karmania.—II. Persis.—III. Susis, or Susiana; with the Mouths of the Tigris, Euphrates, Eulæus, and Pasitigris.

WE are now to enter upon the navigation of the Gulph of Persia, comprehending the coast of Karmania, Persis, and Susiana; and, fortunately for this part of the voyage, our materials are as ample as could be desired. Mr. d'Anville has published a Memoir 'expressly upon the subject, which I shall use so freely as to preclude the necessity of specifying the passages immediately referred to, unless where I am constrained to dissent from his arrange-

Vol. xxx. Memoirs of the Academy of Infcriptions, &c.

ment; and this I shall always do with the respect due both to his classical and geographical pre-eminence: but our English navigators have, within these few years, explored this gulph so successfully, as to leave little more for the investigation of others. With these Mr. d'Anville was of course unacquainted; and, for want of the information they afford, was necessarily mistaken in fixing some points of importance, more particularly at the head of the gulph, and the mouths of the Euphrates, the Tigris, and the Eulæus.

I have a variety of charts furnished by Mr. Dalrymple, accompanied with observations of his own , and illustrated by personal communication with him; but especially four by Lieutenant McCluer, a most active and intelligent officer, which render all that concerns hydrography almost as perspicuous as we could hope to find it on any coast of Europe: two of these comprehend the lower, and two the upper part of the gulph; the later publication in both instances is the most correct, and in both instances agrees best with Arrian. This is no accidental correspondence, for Nearchus, by adhering to the coast, is necessarily more minute than a modern navigator who pursues his course unrestrained; but the more such a navigator enters into the detail of the coast, and the more intimate knowledge he acquires of it, the better ought his information naturally to coincide with a journal of such discoverers as the Greeks. Mountains, rivers, bays, shoals, and islands are in their nature eternal; if these are marked

Two by M'Cluer.
Two by Harvey.
Two by d'Apres.
Gne, Niebuhr.
One, Van Keulen.
Two, Thornton's.
One, Claude Ruffell.

One, Anonymous by Dalrymple, containing the mouths of the Euphrates.—Besides a variety of plans and topographical sketches.

One, Lieutenant Cant.

One, Kæmpfer. One, Engelbert. One, Friend.

distinctly

distinctly by Nearchus, they will still be discoverable by their features; if otherwise, I would abandon the journal as a siction. The issue is, however, exactly what we could defire; for such is the conformity of it with the modern accounts, that there will not remain a doubt upon more than one or two stations in the whole gulph.

In regard to the geography of the country, I have not only confulted classical authority, and the best modern travellers; but, where I could obtain it, have sought for personal information from those who have been resident in the country. To Mr. Jones I am more especially obliged, who was head of the English factory at Busheer for several years, and afterwards in the same office at Basra. This gentleman, from his knowledge of the Persian language, his connexions and intimacy with the principal persons in power, and his frequent visits to the interior part of the country, is better qualified to decide in points of doubt, than almost any European who has been in Persia; and I ought to add, that, without any previous knowledge of the author, he was as ready, as he was able, to communicate information.

With every affistance, however, that can be obtained, it is not in my power to give the course of the rivers with that correctness I wish; and though d'Anville has performed a great service, in thewing that the rivers of Persis, beyond the mountains, never reach the sea, but are lost in lakes, exhausted upon agriculture, or absorbed by fands; and though he has likewise proved that the rivers, which fall into the gulph, are all derived from the range

This is to be understood of places which on an open cast can be ascertained only by have a name and characters. All anchorages measurement (such as it is) and circumstances. which

which runs parallel with the coaft, and forms the back ground of the Kermesir, or hot level country next the sea, he is still undoubtedly mistaken in the course and names he gives to some of those in the upper part of the gulph; and I am not fully furnished with materials to correct his errors. The cause of this lies in the nature of the journals themselves. Of these, I have consulted a great number; but every one of them takes its direction from the point where the author landed, to Schiras, or from Schiras to the coaft; and there is not one that goes along the Kermesir below the mountains, nor perhaps ever will be one; for it is a matter of doubt whether any European, except Hephestion and the forces he commanded, ever trod the whole extent of this ground; and as this is the only route which could cut the ftreams from the mountains at right angles, and afford the means of establishing the order in which they fucceed, it will be long before this defideratum in geography can be fupplied. Pietro della Vallé went from Mina to Lar; but from Lar, north-west to the Arosis or Endian, there is no method of continuing the route but by fragments of routes from Al Edrisi, or by enumerating the principal places which lie in that direction.

I must now return to the sleet, which I left at Badis, that is, in the bay of Jask, in order to conduct it along the coast of Karmania. Badis I have concluded to be either the town of Jask, marked in Bassin's plan and Captain Blair's sketch, or upon the river laid down by Bassin in the bay, about five miles from the head of Jask, if there ever has been a town in that situation. Cutler * has noticed

^{*} Cutler, p. 83, in Dalrymple's Col- to have copied from Baffin; and Thornton not lection. Thornton, p. 69, ibid. Both feem correctly.

this river as a fecure harbour for any veffel not drawing more than eleven feet, and here a fleet of Greek gallies might have lain, though, from the shortness of the time Nearchus staid, we ought rather to suppose he rode in the open bay. No day is specified here, but as this was the first place where it was possible to procure a supply, after the diffress they had experienced for some time past, it is necessary to allow a day, both for receiving the supply on board, and to give some relief to the people. After weighing, the following day the fleet proceeded fifty miles, and came to an anchor again upon an open coast. This anchorage, as it has no characteristic to distinguish it, but that the cape on the Arabian side of the gulph was in view, I have a right to fix by the measure of the course, if it coincides with a fight of that object. The journal, in fact, gives an hundred miles between Badis' and the river Anamis or Mina; and notwithstanding d'Anville's map gives the same distance between Karpella and the Anamis, there is great reason to suppose that he has both extended the measure between the two, and carried the Anamis nearer to Gomeroon than it ought to be; for his own map of Asia allots only one degree, while that composed for the memoir allows a degree and an half for the fame space. The suspicion on this head is confirmed both by Niebuhr and Pietro della Vallé. Upon reference to the charts it will immediately appear, that there is a cape on the Perfian coaft, nearly opposite to Mussendon on the Arabian fide; and the streight between these two points is exactly the part where the entrance into the gulph is narrowest. It mea-

AN OPEN SHORE. Dec. 18. Seventyeighth day.

First station in KARMA-NIA. BADIS. Dec. 17. Seventyfeventh day.

error in Pliny, feem to suppose that Badis is Salmas. Plin. Ex. 1188. fius : but Sabis is an inland town, and Sabai part.

⁵ Both Gronovius and Salmauus, from an is in Persis. See Gronovius in loco, p. 347.

the Sabis of Ptolemy and the Sabai of Diony- 6 See the general map of Afia, first

fures here only thirty-four 7 nautic miles in M'Cluer's chart, and Mussendon is so high as to be visible, not only on the coast opposite, but almost all the way from Karpella. The cape on the Persian side is improperly named Bombareek by M'Cluer, an error he fell into from considering the real Bombareek as Jask: but this cape is the Armozon of Ptolemy, as appears evidently by his feries, though it has no name in our English charts on which I can depend. It is in the curve previous to this cape that I six the present anchorage on an open shore; and in the passage from Badis to this point, the sleet must have passed the Bombareek rock, though no notice is taken of it, nor of Mount Elbourz, not far from which they must have anchored. Bombareek, which is the orthography I adopt, is no otherwise proper than as the term most in use by our navigators; but it passes through a great variety of appellations, all, as I have before observed, corruptions of Cohum-ba-regh s, and appears from

the fea as is here represented, loose fand, between two and the shore, but is not an island, in d'Anville and several of the

in a level plain of three miles from as it is laid down older charts. This

is the rock which gives name to the cape, and at the cape there is a fmall creek, but so entirely choked up 'o', that it will not admit a boat; it is represented in Commodore Robinson's chart, in the chart com-

⁷ Pliny fays, fifty Roman miles. D'Anville makes it about twenty-four miles and an half English. See Plin. lib. vi. c. 23. c. 26. D'Anville Mem. p. 144.

Pliny is nearer the truth than d'Anville chooses to allow. Arrian says, it is a day's sail. Six or seven of the charts before me agree with M'Cluer; and d'Anville hazards

fome deductions of importance, if he is miftaken.

⁸ Gombareek, Gombarreek, Gombarat, Bombarack, Bombarick, Mumbarick.

⁹ This has arisen from a deception of the fight when the object was viewed at a distance, and the coast was not high enough to appear.

¹⁰ Lieutenant Porter, Lieutenant Blair.

posed for this work, and in Captain Blair's sketch: if Badis were to be fixed, therefore, at Karpella, this creek must be assumed for the position of the town, but there is no town here at present; and, from the sterile sand in the neighbourhood, it does not appear that a town could exist. This circumstance, added to the insignificance of the creek, contributes to extinguish all idea of fixing Badis here, while an ample bay, a town, and a river, added to the acute angle of the cape at Jask, direct us to prefer that as the true position of Badis.

Mount Elbourz, or Ehours, the Strongylus of Ptolemy, the Round Mountain of Semiramis, as it is called by Marcian, lies, according to Ptolemy, thirty nautic miles north of Karpella. D'Anville gives it nearly the fame distance, and Samuel Thornton fomething more; but it is in my estimation only twenty-four miles, to which if we add twenty-seven from Jask to Karpella, the total is fifty-one miles, differing only one mile from Arrian. My authority for this is the journal of the Houghton East Indiaman", which may possibly reckon from the Bombareek rock rather than the cape. Even in this case, the distance will fall short only eight miles; this is the extent of the difference, and many of the measures on the coast of Karmania will partake of the same deficiency. It may seem extraordinary that fuch a rock as Bombareek, and a mountain like Elbourz, which had evidently attracted the notice of mariners in the age of Ptolemy, should be passed in silence by the journal; but fimilar inflances are not unfrequent; errors of addition there are none, but omiffions have already occurred, and there are fome more

[&]quot; Mount de Chouse is eight leagues "bareek." Journal of the Houghton, to the eastward [northward] of Bom- 1755.

to occur" in the course of the navigation: but it is observable, upon more occasions than the present, that a rock, an headland, or a river, however unnoticed, attracts the fleet to an anchorage; and this is probably the case with Elbourz in the instance before us. Arrian feems to confider the gulph of Persia as commencing at a line drawn between Cape Muffendon and the shore where the fleet now rode; and this naturally directs us to Elbourz itself, which Marcian describes as close to Armozon. His language is so precise, that I shall adduce his very words: "Near Armozon" lies the "Round Mountain of Semiramis; opposite to which is Mount " Pafabo in Arabia, and the promontory formed by it: thefe two " mountains, with their promontories, form the streights at the " entrance of the gulph of Persia." Pasabo is the Sabo and Asabo of Ptolemy, the Muffendon of our modern charts; and Strongylus, or the Round Mountain, is the Elbourz of d'Anville, transformed by our English navigators into Ehowers, Howres, Howse, and Chowse. M'Cluer has very improperly brought Bombareek to this cape and mountain, but I admit his delineation of the coaft; and here, attracted by the Strongylus, I bring Nearchus to an anchor. The ancient name of Mussendon '4 is Makæ 15, and Maketa, as well as Afabo, and the cape itself is the termination of a very high and broken island ", partaking of the nature of a craggy ridge on the continent of Arabia, called the Black Mountains by Ptolemy. Thefe,

Geog. Min. p. 21.

³² The island at Bender-Regh, &c.

¹³ Αρμόζοντος Ιντάυθα παράκειται τὸ προέξειδι ερογγύλον δρος Σεμεράμεδες ώπερ ἀντικδισθαι έφαμεν κατά την ευδάιμονα Αραδίαν Πασαδώ δρος τι και άκρωτήριον, άπες εκάτερα δην τε κ, άκρωτήρια τὰ ειτά ποιεί τὰ Περτικθ κόληκε. Μαιcian Huds.

¹⁴ Written Musseldom, Mussendom, Mochandan, Moçandan, &c. &c.

¹⁵ Makæ, more properly the people.

¹⁶ M'Cluer, p. 16.

with their adjunct " Asabo, express the Black Mountains of the fouth "; for towards this point they lie in respect to the Arabians, who conferred the title upon them. Several small and rugged islets lie off this cape, called the Coins, from forming the angle of the streights, as I imagine, and the whole presents a frightful appearance, if the delineation of Ressende in the British Museum may be credited.

The fight of Mussendon gave rise to a dispute which renders this anchorage important, for this promontory Onesicritus proposed to explore, with the intention, it should seem, of extending the voyage to the Gulph of Arabia. He afferted that '9 they were in distress, and likely to be driven about the gulph they were now entering, without knowledge of the coast, or any determinate point to which they might direct their course. Nearchus 20 resisted this proposal with the utmost steadiness; he represented to the council of officers, that Onesicritus appeared ignorant of the design of Alexander, who had not put the people on board because there were no means of conducting them by land; but that his express purpose was, to obtain a knowledge of the coast, with such harbours, bays, and islands as might occur in the course of the voyage; to ascertain

It is not very evident what Oneficritus means; but as Alexander was mafter of Egypt, he might confider the gulph of Arabia as a fea known to the Egyptians, and more likely to afford them fafety or protection than the Gulph of Persia, which had never yet been visited by his countrymen.

This dispute is not only detailed in the journal, but recorded in the history, p. 301.

whether

¹⁸ Sabo, with the article in Arabic, Af-Sabo. D'Anville Geog. Anc. vol. ii. 228. Sabo fignifies South. Bruce, vol. i. p. 381. So in Scripture, the queen of Seba is called the Queen of the South. Mat. xii. 42. Marcian writes the name Paſabo probably by a corruption of the text.

^{*9} ώς μή κατά τὸι κόλποι ἐλασρεύοντας Γαλαιπωςδεσθαι.

whether there were any towns bordering on the ocean; and whether the country was habitable or defert. He added, that they had now almost obtained the object of their expedition; and that they ought not to hazard the completion of it, by the pursuit of a different design: that the cape in view proved, that the coast below it tended to the south, where the country might be more directly under the influence of the sun, more torrid, parched, and destitute of water; and that, since they had reached the coast of Karmania, they were no longer in despair of support. These were all reasons, he alleged, for pursuing the course they were now in, rather than deviating from it; and if Alexander had completed his expedition by land, there was reasonable ground for hope that a communication with the army might be obtained, when all the dangers they had experienced would be rewarded by the approbation of the king, and the applauses of their countrymen.

This address had its due effect upon the council; the advice of the admiral was adopted; and in this instance, says Arrian, I am persuaded that the success of the expedition, and the preservation of all that had embarked in it, is imputable solely to Nearchus: an encomium to which no one can resuse to subscribe who is acquainted with the coast of Arabia, and considers the total unfitness of the fleet for such a navigation.

Pietro della Vallé, who refided fome time at Mina, a town on the river Anamis, in this neighbourhood, has furnished fome general circumstances that demand attention; for he not only mentions the river at Mina, which he calls Ibrahim ", and which must be the Anamis, to which the fleet is now directing its course, but notices

²¹ Probably a Mahometan title from fome Imam, or fovereign.

two or three little ports between the present anchorage and Gomeroon; not that they are ports, he adds, but that every village where a vessel can land her cargo, or whence there are a few vessels sent to sea, obtains the name of Bender; and, in this sense. Kuhesteck and Bender Ibrahim are ports as well as Bender Abbassi or Gomeroon. Such a port as this was probably Neoptana, a place which the sleet reached the following day, after a course of forty-sour miles; and Bender Ibrahim, the port at the river Ibrahim, or Anamis, seems to occupy the very same ground on which Nearchus formed his naval camp, when he arrived at that river the succeeding day: the distance from Neoptana is stated at about six miles, making in the whole an hundred miles from Badis.

NEOPTANA.
Dec. 10.
Seventyninth day.

ANAMES Rive. Dec. 20. Eightieth day.

Upon a review of this distance, I am more confirmed in fixing Badis at Jask, and the first anchorage from thence at Elbourz, for the measure of about fifty miles, comes out confistent both by the journal and our modern accounts; and if the space from Elbourz to the Anamis does not correspond so happily, it must be observed that M. d'Anville has lengthened that distance in the map of his memoir, in order to accommodate it to his interpretation of the journal: this at least I suspect, though I cannot find the means of correction, for our English charts are too hydrographical to notice so small a stream, and it must be confessed that the manuscript of Ressende, which was consulted, carries the Obremi, as Ibrahim is there written, much nearer to Ormuz.

The river Anamis is fixed by Arrian in the country of Harmozeia, an appellation which immediately fuggests the resemblance it bears to Harmuz or Hormuz, the celebrated isle of Ormuz, in the

The distance is greater in the map constructed for his memoir than in that of Asie, premiere partie.

neighbourhood:

neighbourhood. The same title is given to this tract by Ptolemy, of which his Cape Armozon is the boundary; and the means by which the name passed from the continent to the island are common to almost every island in the gulph. This tract is styled Moghostan, or the date country, in Oriental geography, extending to Karpella, or perhaps Jask; and as we are much concerned with the interior part of it, on account of the journey taken by Nearchus from the Anamis, to the encampment of the army, it is fortunate that we have the information of so circumstantial a traveller as Pietro della Vallé to direct our investigation.

Pietro della Vallé was a Roman of noble family, who, after refiding some years in Persia, came down from Schiras, with an intention of embarking at Ormuz for the East Indies; but upon his reaching the coast he found the forces of Persia collected, which, with the affiftance of the English fleet, were to wrest the possession of this Oriental emporium from the Portuguese. The consequence necessarily was, that all communication with the island was prohibited, and that, in order to avoid the infolence of the foldiery, he kept at a distance from the coast, taking up his abode at Mina, the capital of the diffrict, where he continued during the latter end of the year one thousand fix hundred and twenty-one, and the commencement 23 of one thousand fix hundred and twenty-two. He had here the misfortune to lose his beloved Maani, a Christian lady, and a Nestorian, whom he had married at Bagdat, and in whose ftory are interspersed a variety of pathetic " incidents, painted with

poetical, and Madam Maani's horse Dervisch 24 The writings of Petrarch formed a is upon a level with Argus, the dog of Ulyffes,

²³ Tom. v. in fine.

fchool of romantic lovers in Italy; and Pietro without the appearance of imitation. Gibbon was an academician of the fociety called Hu- styles him, not without reason, an author intomourists, at Rome. His narrative is often lerably prolix and vain.

the romantic gallantry of an Italian lover, and furpaffing in reality all the lucid fictions of a modern novel. I have not thought it inconfistent with my defign to mention these particulars, because the geographical information dependant on them is important. He acquaints us, then, that Mina is the capital of Moghostan, and this its name implies, for Mina 35 fignifies a fort, and Moghostan is a district of the ancient Karmania, extending from Cape Jask to the north of Gomeroon26: he adds, that the heats are insupportable, and the climate most unhealthy; but a more particular circumstance he notices is, that the river which rifes in the neighbourhood falls into the gulph at about two days' 27 journey from the city, and this river can be no other than the Anamis of Arrian, and the Andanis " of Ptolemy. If Arrian had followed the inflexion of this word. which I hoped to find in him, we should have read ANA-MINA: but he has written Anamis, and confequently ANA-MIN 29. I cannot be perfuaded, however, to believe, that there is no connexion between the ancient and modern name, unless it shall hereafter appear that Mina is of a more recent date. The name of Ibrahim, which the river now bears, is evidently a personal derivative, and most probably from the sepulchre of some Mahometan faint in the neighbourhood; but the ancient appellation is confonant to the present usage of mariners, who drop the native names of rivers, and call them from the town in their neighbourhood, as the Busheer river, the Bafra river, &c.

²⁵ Gambron, Niebuhr. Combru, P. della Vallé. Gambroon, Gameroon, &c. &c.

²⁶ Mina, Minau, Minavé. Mina fignifies a fort; as Minavé the fort of Basra.

²⁷ From forty to fifty miles.

²⁸ There is in Marcian a Tuanes, rendered MINAS.

Addanius by Hudson, which he supposes may be the Anamis.

Another fort of folution would account for Ana. By transposition, Anamis is A-

I infift the more upon this name, because if Mina was formerly the principal place of the district, as it now is, it points out the reason why Nearchus pitched upon this station in preference to any other for a camp. He had here a communication with an inland town of eminence, from which he might hope to derive some intelligence of the position of the army, and open some means of communication with the king: and as the communication was actually effected afterwards from this very point, it is hardly imputing too much to the intelligence which we may reasonably suppose he obtained upon the coaft.

He informs us himself, that he found the natives hospitably difposed, and the country abounding in every kind of supply, but oil. The difembarkation here is expressed in terms of joy, that intimate the previous confinement of the people on board for many days; a grievance almost intolerable, considering the construction 30 of a Greek veffel, and a deliverance from which was the greatest of all refreshments. A naval camp was established here immediately, by drawing a line from the river to the beach, and fortified by a double rampart with a mound of earth, and a deep ditch, which feems to have been filled with water from the river. Within this inclosure, the veffels were hauled on shore, and all the proper measures adopted both for their fecurity and repair. It was the intention of the commander to leave his people in this camp, under the com-

Similar &

30 Ulyffes, in all his wanderings, never ap- waift. weverious are properly the cables at pears to have flept, was a weepings a sine, in the the flern, but perhaps the after-part of the veffel likewise; whether, when they slept on other bed. In Homer's gallies there was an board, waga wgountora, they flept on the after-deck called "Ixpor, on which the fleerf- "Ixpor [deck], or under it, does not clearly

after-part of the thip, when he could find anman was elevated above the rowers in the appear. Either was bad lodging.

mand of proper officers, while he tried himself to obtain an interview with the king: but before we accompany him in this attempt, it will be necessary to consider the country around him with that which he was to penetrate, and the probable site of the Macedonian camp at the time.

It is eafy to recognise the name of Ormuz in the Harmozeia of Arrian; but we are not therefore to suppose, that the local circumstances of both are exactly the same. The present Ormuz is an island known to Nearchus by the name of Organa, and to the subfequent ages by the title of Gerun; and however fanciful a recurrence to transposition 31 may be deemed, Oregana converted into O-gerana is probably the medium for uniting them both. The appellation of Ormuz, afterwards given to the island from the neighbouring tract on the continent, is agreeable to an usage prevalent in the gulph of Persia, which we shall have occasion to notice upon other occasions; and the flight of the inhabitants from the continent to the islands, in cases of oppression or invasion, is to this day a fettled practice, as we are affured by Neibuhr 32. D'Anville finds two periods, when the Harmozeians on the main might have fled to Gerun, and carried their name with them to their new abode. One in the beginning of the thirtcenth century, when Bahud-din, a native chief on the coaft, fled from an inroad of the Atabek Turcomans, who about that time established themselves in Pharsistan and Kerman 33; and another in the year one thousand two hundred and feventy-three, when the descendants of Gengis-Khan were mafters of the Persian empire 14. To these two periods I must add

³¹ So Smaragdus is from Zumrud, Zmaragd. Bruce, vol. i. p. 207.

³² Persis and Carmania.

³⁴ Cheref-eddin, vol. ii, p. 418. French

³² See Niebuhr under the head. Abu-Schæhr. edition.

a third: in the year one thousand four hundred and seven ", when Mahomet the fon of Timour was fent down from Schiras by his father to this coast, in order to subdue Mahomet Shah, the sovereign of Ormuz, Ormuz was at that time evidently on the continent, for the fon of Timour took feven fortreffes which were the defence of the Shah's kingdom, and compelled him to fly to Geroum 36, exacting even there from him a tribute of fix hundred thousand dinars. This transaction proves, that the island was not yet called Ormuz in one thousand four hundred and seven; while it is almost evident that Gerun was the place of retreat for the inhabitants of the continent on these three different occasions; and, according to the obfervation of Niebuhr just mentioned, this is the custom of the coast. The fluctuation of this word in European orthography justifies much greater liberties in regard to names, than any which occur in this work. Ormus, Ormuz, Ormutz, Hormus, Hormoz, Hormuzd, Harmozeia 37, Armozufa, Armoxufa, Armuza, are all applied either to the ifland or the neighbouring continent, and I conclude have all a derivation common also to Hormisdas, which is Oromasdes or Hormudsch the good principle in the superstition of the Parsees, and a name assumed by feveral princes of the fourth dynasty, and some of a later date. Mr. d'Anville 18 has observed that there are four districts, two on the gulph and two inland, that take their titles from different Per-

35 Really one thousand three hundred and ninety-seven; for there is an error of ten years in the chronology of Cheref-eddin.

writes Harmuz with Ptolemy and Arrian. Gol. ad Alfrag. p. 112.

38 Mem. p. 156.

D'Anville derives these divisions from Golius ad Alfraganum; but Niebuhr says, no knowledge of such a division now remains. See Gol. Not. ad Alfra. p. 115. Niebuhr, vol. ii. p. 166. French edition.

³⁶ Geroum is called by Petis de la Croix in the margin, Gomeroon; but it should rather be the island: not but that Geroum and Gomeroon may be mutually connected, like Ormuz, on the main, and Ormuz the isle.

³⁷ It is worthy of notice, that Alfragani-

fian monarchs, Cobad 39, Sabur, Darab 40, and Ardeshir, from Artaxerxes as he is ftyled in Greek, Cobad, Sapor, and Darab; but, perhaps, if we should judge these rather to have a derivation in common with the name of those kings, than to take a name from them, Armoza may be added as a fifth ", and related to Hormifdas or Oromafdes by the fame connexion. All this is, however, a speculation rather curious than necessary, and our concern is with the tract called Harmozeia by Arrian, Armuza by Ptolemy 42, and with his Cape Armozon, which Strabo 43 has marked precifely as lying at the very point where the ftrait is narrowest. At this promontory I suppose the district of Arrian to commence; how far it extended towards the north, or whether it comprehended Gomeroon (Bender-Abbaffi) within its limits, cannot now be determined; but there is fufficient ground to conjecture, that it terminated within the limits of the modern Moghostan at the river called Rud-fiur by Pietro della Vallé, and extended inland to the foot of the mountains. Every where along this coast a range runs in a line at no great distance from the sea, inclosing the Kermesir, a narrow strip of level country rendered hot beyond measure, and unhealthy, from the want of circulation. As Harmozeia was a district of Karmania, in the same manner Laristan 44 and Moghostan are, in modern

43 Strab. p. 765.

³⁹ These names seem all to arise from the fourth dynasty of Persian race. Heylin Cosm. lib. iii. To this dynasty, perhaps, all the mythology and all the learning of the Parsees discovered by Anquetil du Perron may be referred.

⁴º Thus Darab-chierd is Dario-certa. Pietro della Vallé, tom. vi. p. 130.

⁴¹ It ought, however, to be noticed that Armozeia is in Karmania, not in Perfis.

⁴² Ptol. p. 157.

⁴⁴ Laristan, from Lar, a town much to the westward of Gomeroon, in the tract below the mountains. Pietro della Vallé retired to Lar, after a severe illness, which ensued upon the death of his wife, and had the good fortune to find there a Persian well skilled in physic. His route, if we were concerned with the interior of the country, is well worth pursuing. See infra.

estimation, so distinct from Kerman, that the province can hardly be faid to commence till you are past the mountains. Moghostan, or the land of dates, by its name implies the means of support, and though the air is unwholesome, according to modern accounts, the foil does not appear to be barren. The whole diffrict was flourishing while the Portuguese maintained their commerce at Ormuz; and Pietro della Vallé, in his time, found an English factory 45 established at Mina for the purchase of filk. The whole of this coast is defolated at prefent by the diffracted flate of Perfia; and, according to Niebhur, fubject to Arab Scheiks, who have taken advantage of those troubles to pass from the opposite coast, and establish petty governments from Ormuz to Busheer.

At the river Anamis, then, Nearchus took his measures for difcovering the fituation of the army, and he had the fatisfaction to find, upon inquiry, that it had arrived in fafety, and was not at a greater distance than five days' journey from the coast. A day's journey is still an Oriental measure, and may vary in its utmost difference from twenty to thirty miles. Taken at a medium, therefore, Alexander was now an hundred and twenty-five miles from the coast; out of this fum, if we be allowed to conduct Nearchus to Mina 46, we have two days' journey to subtract from our uncertainty, and only feventy-five miles inland from Mina, upon which a doubt would remain. My reason for conducting Nearchus to Mina is not wholly conjectural; for, in the first place, it is the capital of the diffrict, which would naturally attract him; and, in

frequent occasion to dispatch messengers to the coaft: but N. B. Six leagues is the expression

⁴⁵ Or at least merchants.

⁴⁶ Niebuhr fays Mina is only fix leagues from the fea; but I depend upon Pietro della of the translator. Niebuhr himself fays, some Walle, who resided there some time, and had leagues. See French edition, vol. ii. p. 165.

the next, we actually hear that the commander of the diffrict, upon the arrival of the fleet, flew up to the camp to anticipate the intelligence of its arrival. The feat of empire is subject to the caprice of the monarch in the east, and has frequently been changed; but in the provinces 47, or fubdivision of provinces, the principal town having generally rifen from local convenience, is not fo much exposed to fluctuation: this induces me to think, that a place like Mina was the ancient capital, as well as the modern. We are, then, to look for Alexander in Karmania, at fome convenient fpot three days' journey from this town.

We left him at Poora in Gadrofia, which d'Anville 48 confiders justly as the Pureg or Phoreg of the Nubian Geographer, and Arrian calls the capital of the province. The modern capital, according to Cheref-eddin, is Kidge "; and d'Anville has another Pohreg 50, or Forg, on the western side of Karmania, in which he is justified by the Nubian Geographer, if I understand him right,

47 In Hindostan, Palibothra, Canouge, tinued unchangeably the head of a province. ceded in Persia to Ispahan; but, Candahar, Herat, Balk, Lar, &c. are still principal places.

48 Geog. Ancienne, vol. ii. p. 283. written Fahrag, Fohreg, Pohreg, Puhreg, Puregh, Pureh. In all Perfian words, P and F are interchangeable. Fars is Perfis. G, GH, and H, are all final aspirates, and hardly diffinguifhable. See Nub. Geog. p. 129.

49 Vol. ii. p. 417.

Kidge becomes Kudj; from whence the Kutch of Europeans, and the Kutch Mekran of the Ayeen Akbari; and is fometimes confounded with Tidge, which is won the

coast. Petis de la Croix, from the historians Agra, and Dehli, have been the feats of em- of Gingis Khan, mentions that the army of pire in different ages : but Lahor has con- that prince of ravagers almost perished in this province. Pet. de la Croix's Hift, of Gingis, Ecbatana, Persepolis, and Susa, have all p. 337. Tiz is a place on the coast in the bay of Churbar, and possibly Petis de la Croix has confounded the two.

Otter fays, Kie or Guie, vol. i. p. 408.

50 Called Purg or Furg by Pietro de la Vallé, vol. v. p. 361. Less difference would appear in all these names if they were writtenwith the PH instead of the F, which letter, in other Oriental tongues as well as the Hebrew, is the fame. D or D, with no other diftinction but the point. Phorg, Phoorg, Phooreg, Phooreh, pals eafily into Poora, the Greek pronunciation of House by this method of writing.

and by Pietro della Vallé, who was upon the fpot. At Poora he was joined by Stafanor and Phrataphernes from the upper provinces, who, divining the difficulties he must have encountered, hastened to his relief with provisions, and a convoy of camels and other beafts; the whole was distributed among the officers and their different troops as far as the fupply would extend, and the army proceeded to Karmania as foon as it was recovered from its fatigues. The march was probably a procession of joy and triumph, for the army was not only crowned with victory, but delivered from famine; but that it was a pomp of licence, revelry, and voluptuousness, as painted by Plutarch and Q. Curtius, is a fiction, as Arrian affures us, not supported by Ptolemy, Aristobulus, or any other historian of authority. They both mention the exhibition of games and a folemn facrifice in gratitude for the deliverance experienced. were easily magnified into a Bacchanalian procession, by a fertile imagination, and exaggerated on the fide of exultation, as much as the diffresses in Gadrosia had been amplified by terror. That their fufferings were less than they are reported to be, appears from their future transactions; for there is no evidence of extraordinary weakness or diminution, the expeditions proceed as usual, and the future plans daily increase in the magnitude of their object.

If now, therefore, we cast an eye to the map, and consider the situation of Mina " and the Gadrosian Fohregh, we can hardly be mistaken in drawing a line through Girost ", a town of Karmania, which will stand as a point of union between the sleet and the army. My reason for sixing upon Girost, or some place in its neighbour-

ording to Pietro della Vallé, vol. v. p. 397.

Sign Mina lies in 26° 35' north latitude, active two castles.

Sign Mina lies in 26° 35' north latitude, active two castles.

Sign Mina lies in 26° 35' north latitude, active two castles.

hood lying on the fame line, is, because of its agreement with the distance of an hundred and twenty-five miles almost to a fraction", if d'Anville's map is correct. There is no town in Karmania, either upon this route or near it, except Valafe-gerd " or Valafe-cherd, which possibly has a better title to antiquity, if we may judge by its termination, for its final fyllable is the fame, though differently written, with that of Tigrano-certa and Pafa-garda ", both ancient cities; the objection to Valafe-cherd is, its too great proximity to the coaft. Now, it is remarkable that Arrian, Strabo, Plutarch, and Curtius, none of them affign any name to the town where the interview took place, but Diodorus Siculus fixes it at Salmus, and adds, that Nearchus arriving when the king was in the theatre and exhibiting games to the army, he was introduced upon the stage, and requested to relate the account of his voyage to the assembly. Salmus is a name fo void of any collateral support, that the learned commentator 50 of Diodorus abandons it in despair, and I have fearched every authority in my possession without finding the most distant fimilarity of name to fix it. In a case of despair, I offer the following conjecture as a mere speculation (without building in the least upon it) for the amusement, I hope, not for the contempt of the reader:

opening of the compasses will give, one hundred and twenty-five miles Roman, of seventy-five to a degree; and this, compared with the road distance, would amount to one hundred and twenty-five miles British, as near as precision itself could demand.

Geographer; where observe, -gerd preferves the relation with Pasa-garda, and -cherd with Tigrano-certa. This termination fignifies Fort, Town, or City, like

the modern terms -abad, -patam, -poor, &c. Fat-abad, Jehann-abad, Melia-poor, Mafuli-patam, &c.

⁵⁵ Pafa, written Phefa and Befa, which fignifies the north-east wind; because it is cooled by that wind in a hot climate. Gol. ad Alfragan, 114.

⁵⁶ Wesseling. ad Diodor. lib. xvii. p. 243. Σαλρώστι. Urbis nomen quam in Carmania fuisse ex Arriano consicias, lib. vi. 28. Ab aliis negligitur.

The Nubian Geographer 37 mentions MAAUN, a fmall city, but much frequented by merchants, at one station, or five and twenty miles, distance from Valase-cherd; and it is, I conclude, the same as d'Anville's De-Maum which stands between that town and Giroft. Is it, then, too much to fay, that, in the SAL-MOUN-TI of Diodorus, we discover MAAUN? I know not the origin of d'Anville's DE- more than the SAL- of Diodorus; but Sal in Hebrew, and, if I am rightly informed, in Arabic or Perfic, has two fignifications; by one it imports the shelter of a tent so or house; by the other, a rampart. Would it not then, in either fenfe, apply? as first, the camp at Maaun, and fecondly, Fort Maaun; or, if it should be faid I take advantage of a Greek 59 inflexion to obtain Moun-, I must observe, that words of this form, though they have not the letter N in their first appearance, always assume it by inflexion, and have it conftantly implied. I give this merely as a speculation, without pretention to Oriental learning; but I am perfuaded that an Orientalift who would purfue inquiries of this fort would find his curiofity amply repaid. I shall draw no consequence from it, though I prefer Maaun on this account, but fix the interview at Giroft, in which I adhere to the corresponding distance, and the opinion of d'Anville. If it should hereafter appear that Diodorus has, under fuch a difguife, preferved the name of this place, he has one offence the less in his barren account of this expedition. Giroft is styled the capital of Karmania by Petis de la Croix in his commentary on Cheref-eddin; which however it is not, for Seirdgian is the ca-

הצל מל a rampart, from אל מל to shade or shelter, as a house or tent. Parkhurst in voce. 60 The Nubian Geographer. Giroft autem magna est habetque in longitudine duo fere

milliaria, p. 129.

⁵⁷ P. 130. Canat-Alfciam, hinc ad MAAUN urbem parvam fed commerciis minime infrequentem, statio. Ab hac ad urbem Valasegerd, que et Valasecherd dicitur, statio.

⁵⁹ ΣΑΛΜΟΥΣ, pronounced SALMOOS, and formed like Peffinus Peffinuntis, Selinus Selinuntis; written in Latin originally, Peffinuns, Selinuns, and fo Σαλμώνς Σαλμώντος.

pital: he adds, that it is four days' journey from Ormuz, and lies in latitude " 27° 30'. It is noticed by Golius as a large and pleafant place, abounding in corn, fine fruits, and good water, and much frequented by the caravans; it is a place also of such importance, that when Mirza Mehemet, the fon of Timour, invaded the kingdom of Ormuz, he made it a post 62 for his brother, who commanded one of the divisions of the army. According to the Nubian Geographer. there is an inland Hormoz-regis, or Hauz, lying between Phoreg and Giroft 63, which would induce a conjecture that, at the time of Mirza Mehemet's invasion, the kingdom of Ormuz extended inland, or originated beyond the mountains, which line the coast; and that the name passed in the first instance from the inland town to the coast, and then from the coast to the island. If this conjecture be founded, it corresponds admirably with Arrian, for Nearchus found no city, but a diffrict called the Harmozeian country, and probably the feat of government was at that period the inland Hormoz, existing as a kingdom or province of Ormuz, nearly in the same manner as in the age of Timour. The march of Mirza Mehemet's army in four divisions, for the invasion of this kingdom, throws " much light on this subject, if it were necessary to pursue it farther. One circumstance, however, must not be omitted, which is, that the position of Giroft depending on the Gadrosian Poora, or Phoreg. it is remarkable that the Nubian Geographer 63 places Phoreg at the commencement of the great defert which extends to Segestan, and

61 I believe Petis de la Croix's latitudes are tween Phoreg and Giroft, and afterwards that from Abu'lfeda. See Cheref-eddin, vol. ii. it is to the west of Giroft, which is impossible. D'Anville has placed Hormoz between the two, and therefore probably read Orientem for Occidentem, the east for the west.

⁶² Golias ad Alfraganum, not. p. 118. Distant one day from Harmuz; if so, it is the inland Ormuz.

¹⁸ There is an error in the Nubian Geographer, who fays, first, that Hormoz is be-

⁶⁴ Cheref-eddin, vol. ii. p. 417.

⁶⁵ P. 129.

at two hundred and ten miles 66 distance from the capital of that province. It is the lower part of that desert which Alexander had just passed; and this furnishes an additional proof to the direction of his march, and a stronger reason for conducting it to Girost instead of Seirdgian the capital, because, if he had inclined to the north, his course would still have been through the same desert.

Upon the arrival of the army in Karmania, intelligence was received that Philip, the new-appointed fatrap of India, had been affaffinated by the native troops in his pay, and his death revenged by the Macedonians. Eudemus and Taxiles were ordered to take charge of the province till a new fatrap should be appointed. Stafanor, the fatrap of Aria and Drangiana; Pharasmanes, the son of Phrataphernes, fatrap of Parthia and Hyrcania; Cleander, Sitalces, and Heracon, with a confiderable force, and the army of Parmenio out of Media, all joined Alexander in Karmania, where Cleander and Sitalces, being accused of oppression and sacrilege, were tried and executed. Craterus also arrived with the elephants and heavy baggage, having experienced none of the difficulties in his march through Arachofia and Drangiana 67, which Alexander had encountered in Gadrofia; and yet by a view of the map, and a reference to the geographers, we can hardly discover the means of his avoiding some part of that desert on the east of Karmania, which the Nubian Geographer fays ", is the largest in the world. All these circumstances, though foreign to the voyage itself, are neeeffary to be mentioned at least, because they account for the delay of Alexander in the province, where so much business of appears to

⁶⁵ His account is not clear.
69 At Poora there was also the appointment
67 See d'Anville Geog. Anc. p. 287. of Siburtius to the satrapy of Apollophanes,
vol. ii.
68 P. 128.

have been transacted, besides the recovery of his troops after the fatigue and distress of their march.

Thus having confidered the march of the army and its prefent pofition, I shall next examine the dates. Nearchus reached the Anamis on the twentieth of December, and it is no matter of difficulty to shew the correspondence of that date with the movements of the army. It has already been proved that Alexander left Pattala in the end of July, or beginning of August; and before the conclusion of that month, there is fufficient evidence to shew, that he had passed the country of the Arabies and Oritæ, and had entered Gadrolia. The proof of this is, a circumstance mentioned of his encamping in that province, after a diftressful march upon the bank of a torrent, which swelled suddenly from rain that had fallen in the mountains, and fwept away all the baggage of those who, for the convenience of water, had pitched their tents too near the course of the stream. This fact is recorded both by Strabo and Arrian; and it proves that, though no rain falls in Gadrofia, the folfitial rains were not vet over in the mountains which encircle that province on the north. Now Strabo fays, that the rains end about the rifing of Arcturus" that is, the fecond of September; and confequently the army must have been in Gadrosia, and suffered this calamity, in the latter end of August. If, therefore, we add another fact to this, upon the authority of Arrian, that the army was fixty days in passing Gadrofia, we bring its arrival at Poora to the end of October. The business transacted here and in Karmania may reasonably be supposed to have occupied fix weeks, to which an additional circum-

⁷º Strabo, p. 691. Usher, from Euclemon, says on the fifth of September. See Ephemeris de Anno Solar. Maced.

stance, not noticed by the historians, must be added, that is, the remounting of the cavalry; for all the horses had perished in the defert. Thus far a comparison of facts would authorise the fixing of a date to the first or second week in December; but we have a positive proof of the season much stronger; for when Alexander, after receiving Nearchus, recommenced his march to the northward, he dispatched Hephæstion, with the greater part of the army, the baggage, and the elephants, to proceed along the fea-coast of Karmania, because it was now WINTER 71, and the climate was there milder 72, and fupplies 73 were more eafily to be procured: that is, Hephæstion passed the mountains, and traversed the modern Moghostan⁷⁴ and Laristan, or Kermesir, while Alexander, with the remainder of the forces, proceeded inland to the northward of the mountains, and directed his course to Pasagarda. The direct mention of winter in this passage corresponds so precisely with the twentieth of December, which the narrative of the journal produces, that there cannot possibly be an error of more than a few days. Such an error, I have before intimated, must lie on the side of excess; and I am disposed to take off the ten days and fix

the hot country, by the Persians. Vol. ii. p. 143. English edition. Pietro de la Vallé confirms this, by mentioning that it seldom rains at Lar, except a little in May. May is the coldest month. Vol. vi. p. 20. et seq. Strabo is very precise in his agreement with Niebuhr, p. 727; for he says, the sea coast along the gulph, as far as the river Oroates, is barren, hot, and exposed to violent winds for three hundred or sour hundred stadia inland: from thence, a sine country to the north, for eight thousand stadia!

⁷¹ Arrian, p. 270.

⁷² ἀλιικά τι ἢτ. See a very long and angry note of Gronobius's upon this word, because Facius and some others had read, iλιικά τι ἢτ, ibid.

⁷³ If we suppose Hephæssion to have passed the mountains at Mina, which is probable, he marched to Lar the same road by which Pietro de la Vallé was carried sick in a litter to the same town. See vol. v. sub sine.

⁷⁴ Niebuhr fays, from Bender Abbassi to from thence, a fine of Delam; it is an arid plain called Kermesir, or eight thousand stadia!

Nearchus's arrival at the Anamis on the tenth of December, in the year fix hundred and twenty-fix before the Christian æra, in the eleventh year of the reign of Alexander.

The pleasure of being once more on land, after all the diffresses they had experienced, is painted in strong colours by Nearchus 25; and as they were now in a friendly country, without apprehension either of famine or danger, the people were foon dispersed over the neighbouring tract, either from curiofity, or a defire of fupplying their feveral wants. One of these parties accidentally fell in with a straggler, whose dress and language discovered him to be a Greek; tears" burst from their eyes upon seeing once more a native of their own country, and hearing once more the found of their own language. Inquiries commenced with the eagerness natural to their distress, when they learnt that he had not long left the army, and that the camp was at no great distance. They instantly hurried the stranger with all the tumult of joy to Nearchus; in his presence, the same happy discovery was repeated, with affurances that the king was within five days' journey, and that the governor of the province was upon the fpot, from whom farther intelligence might be obtained.

How welcome was that found !

⁷⁵ P. 348.

⁷⁶ χλαμές.

⁷⁷ The claffical reader will call to mind the fame natural fentiments attributed to Philocletes by Sophocles, 1. 222.

Ποίας σάτρας ύμας αν ή γίνους σοτὶ Τύχοιμ αν ίντων ; σχήμα μὸν γὰς Ελλάδος Στολός ὑπάρχει σροσφιλισώτης ίμεὶ. Φανής δ' ἀκῶσαι βάλομαι.

Of what clime? what race?
Who are ye? Speak; if I may trust that garb,
Familiar once to me, ye are of Greece,

My much-loved country: let me hear the found

Of your long-wished for voice.

FRANCKLIN.

And afterwards, Ω φίλτατο φώνημα. Φιο το κο λαθείο Πρόσφθεγμα τουθ δ΄ ανδρός lo χρόνω μακεώ. Oh happiness to hear! After so many years of dreadful silence,

ERANCKLIN.

This circumstance of good fortune occured on the day of their arrival. Nearchus inftantly determined to undertake the journey, and the next day ordered the ships to be drawn on shore, and the camp to be fortified. While he was engaged in these transactions, the governor, who was not unacquainted with the anxiety of Alexander on account of the fleet, and thinking to recommend himfelf by carrying the first intelligence of its arrival, hurried up to the camp by the shortest route, and gaining admittance to the king, informed him that the fleet was fafe, and that Nearchus himfelf was coming up in a few days. The joy of Alexander may be readily conceived, notwithstanding he could scarcely allow himself to give full credit to the report. Impatience fucceeded to his doubts; day paffed after day without confirmation of the fact; and at length when due allowance had been made, and calculation was exhaufted, he dispatched parties different ways in fearch of Nearchus, either to find him out if he were upon his road, or, if found, to protect him from the natives: but when feveral of these parties returned without fuccess, concluding the governor's information was a delufion, he ordered him into confinement, not without the severest reproaches for rendering his vexation more acute from the difappointment of his hopes.

In this state of suspense he continued for several days, manifesting by his outward deportment the anguish he suffered in his heart. Nearchus, however, was actually on the road; and, while he was proceeding with Archias and sive or six others in his company, fortunately fell in with a party from the army, which had been sent out with horses and carriages for his accommodation. The admiral and his attendants, from their appearance, might have been passed unnoticed. Their hair long and neglected, their garments decayed, their countenance pale and weather-worn, and their persons emaciated

by famine and fatigue, fcarcely rouzed the attention of the friends they had encountered. They were Greeks, however, and of Greeks it was natural to inquire after the army, and where it was now encamped. An answer was given to their inquiry; but still they were neither recognised by the party, nor was any question asked in return. Just as they were separating from each other, " Affuredly," fays Archias, "this must be a party sent out for our " relief; for on what other account can they be wandering about " the defert? There is nothing strange in their passing us without " notice, for our very appearance is a difguife. Let us address them " once more, and inform them who we are, and learn from them " on what fervice they are at prefent employed." Nearchus approved of this advice, and, approaching them again, inquired which way they were directing their course? " We are in fearch of " Nearchus and his people," replied the officer ;- and " I am "Nearchus," faid the admiral; "and this is Archias; take us " under your conduct, and we will ourselves report our history to "the king." They were accordingly placed in the carriages, and conducted towards the army without delay. While they were upon their progress, some of the horsemen, impatient to carry the news of this happy event, fet off for the camp to inform the king, that Nearchus and Archias were arrived, with five or fix attendants, but of the rest they had no intelligence. This suggested to Alexander, that perhaps these only were preserved, and that the rest of the people had perished, either by famine or shipwreck; nor did he feel fo much pleasure in the preservation of the few, as distress for the loss of the remainder. During this interval, Nearchus and his attendants arrived. It was not without difficulty that the king difcovered who they were, under the difguise of their appearance; and this SS

this circumstance contributed to confirm him in his mistake, imagining that both their persons and their dress bespoke shipwreck, and the destruction of the fleet. He held out his hand however to Nearchus, and led him afide from his guards and attendants, without being able to utter a word; as foon as they were alone, he burst into tears, and continued weeping for a confiderable time; till at length recovering, in fome degree, his composure, "Nearchus," fays he, " I feel fome fatisfaction in finding that you and Archias have " escaped; but tell me where, and in what manner, did my fleet and " my people perish?" "Your fleet," replied Nearchus, "is all safe, " your people are fafe, and we are come to bring you the account " of their preservation." Tears, but from a different source, now fell much faster from his eyes; "Where, then, are my ships?" fays he. "At the Anamis," replied Nearchus: "all fafe on shore, and " preparing for the completion of their voyage." " By the Libyan " Ammon, and the Jupiter of Greece, I fwear to you," rejoined the king, "that I am more happy at receiving this intelligence, than in " being the conqueror of all Asia; for I should have considered " the lofs of my fleet, and the failure of this expedition, as a " counterbalance to all the glory I have acquired."-Such was the reception of the admiral, while the governor, who was the first bearer of the glad tidings, was still in bonds: upon the fight of Nearchus, he fell at his feet and implored his intercession. It may be well imagined that his pardon was as readily granted as it was afked.

The joy was now univerfal through the army; a folemn facrifice was proclaimed in honour of Jupiter the preferver, of Hercules, of Apollo the averter of destruction, of Neptune, and every deity of the ocean: the games were celebrated, and a splendid procession exhibited,

exhibited, in which Nearchus was the principal ornament of the pomp, and the object which claimed the attention of every eye. Flowers and chaplets were wreathed for his head, and showered upon him by the grateful multitude, while the fuccess of his enterprife was proclaimed by their acclamations, and celebrated in their fongs. At the conclusion of the festival, the king informed Nearchus, that he should no longer expose him to the hazard of the fea, but fend down fome other officer to conduct the fleet to Sufa. "I am bound to obey you," replied the admiral, " as my king, " and I take a pleasure in my obedience; but if you wish to gra-" tify me in return, fuffer me to retain my command, till I have " completed the expedition. I shall feel it as an injustice, if, after " having struggled through all the difficulties of the voyage, another " shall finish the remainder almost without an effort, and yet reap " the honour of completing what I have begun." Alexander, fcarcely permitting him to conclude his request, granted all that he defired, and fent him down again to the coast, with a small escort; not fuppofing that there was any danger in the neighbourhood of the army, or in a country which feemed to be fufficiently fubdued: but in this he was mistaken; the Karmanians refented the depofition78 of their fatrap, and had in confequence taken up arms, and feized fome of the strong places in the province; while Tlepolemus the new-appointed governor had not yet had time to establish his authority. It happened, therefore, that Nearchus encountered two or three parties of the infurgents on his march, and reached his destination at last, not without considerable diffi-

⁷⁸ See a note of Gronovius's upon τετελευ- does not mean " put to death," but " de-

culty. Upon joining again the companions of his voyage, he facrificed to Jupiter the preferver, and exhibited the usual games 79 for his fuccefs.

The interview of Alexander and Nearchus needs no comment; but I cannot fet the fleet afloat again till I have observed, that there is nothing in the original to contradict the conjecture I have made, that Nearchus took the route of Mina to cross the mountains, in his way to Giroft; that he had passed them, and was on his fifth day's journey, when he met with the party which conducted him to the army; and that the enemy he encountered on his return were probably ftraggling bodies who had fecured themselves in the passes above Mina ; it appears likewise that the strong posts they had feized were in the fame part of the country, and perhaps occupied with a view of intercepting the communication between the army and the coast.

By rescinding ten days from the journal, I brought the fleet to the Anamis on the tenth of December; and if we allow Nearchus to have fet out on the thirteenth for the camp, ten days for his journey, and three days for his continuance there, brings our account to the twenty-fixth: he did not, however, fail immediately on his return; his facrifice and his games occupied one day at least; the

79 The king celebrated an ayuna passistor to have made a part of Alexander's games; the younger, that is, the trial of bodily ftrength, or address, was suitable to the fituation of Nearchus; he had probably no medico, bards, orators, or muficians in his

80 Niebuhr writes this name Minau; and fays it is fome leagues from the coaft. He did not visit it; and therefore his distance

must be from report. Vol. ii. p. 142. Eng. a γυμπκό; Nearchus's was only γυμπκό. The edition. But I have no direct authority for musico, or trial of mental talents, feems always fixing either Mina or the Anamis precifely. If d'Anville is correct, the fite I give for the river is too much towards the fouth; and if I am mistaken, the measures of Arrian missead me. His error, if proved, must lie between Neoptana and the Anamis. Some of our English officers who have been at Gomeroon must be able to determine the position of the river Ibrahim.

launching of his veffels and preparation for failing may be fupposed to employ two more; so that there can be no material error in affuming a date of fome importance, the first of January in the year three hundred and twenty-five A.C. for his departure from the Anamis. We may conclude, also, that Alexander and Hephæstion proceeded on their feparate routes" a few days previous to this date; and this supposition will be sufficient to justify Arrian's affertion, that the march of Hephæstion commenced in WINTER.

The fleet is now to take a new departure with the commencement of the new year; and the first day's progress is nearly nineteen miles, to the island of Oaracta; in the course of which, a a defert island was feen called Organa, the celebrated Ormuz of mo- First station. dern geography. Slight as the mention of this place is in the journal, it would be inexcufable to pass in silence one of the most extraordinary marts of commerce in the world. Oaracta is the modern Kismis 52; between which and the Mina river, or Anamis, lie two fmall islands called Ormuz and Arek: the latter is usually written L'Arek 83, with the article; it is not mentioned by Arrian; and, upon confulting the map, it will immediately appear that the course of a Greek fleet would necessarily lead to Organa, or Ormuz, which is nearest the coast, rather than to L'Arek, which is the more distant. They are all three mentioned by Ptolemy; but with fo much confusion, that some ingenuity is requisite to develope them. Mercator's chart st exhibits a Tylos and Arathos towards the entrance of

OARACTA ISLAND. January 1. A. 325.

⁵² Thefe two routes join again, according to Pietro della Vallé, within a short distance from the modern Schiraz. Vol. v. p. 351.

⁸² Dsjifm, Dsjes, Dras, of Niebuhr. Kifmis, Khefem, written Queixomo of the Portuguefe.

⁸³ Larefdsj of Niebuhr.

⁸⁴ Tab. vi. Afia.

⁸⁵ The Tyrus and Aradus of other authors. Dionyfius Per. They are in reality the islands of Bahrein, however misplaced.

the gulph, intended for two small islands, but transposed to the coast of Arabia *6; and an Aracca, or Island of Alexander, far to the north. I shall first account for this variation of names. Salmasius *7 says, that Arrian is mistaken in placing the tomb of Erythras, a king who gave name to the Erythræan Sea, in Oaracta; for other authors allot it to Ogyris, the smaller island; and Ogyris, he informs us, is the Organa of Arrian.

Unfortunately, modern scepticism has destroyed the credit of King Erythras. It is now an opinion generally received, that the Red Sea is the Idumæan Sea, or Gulph of Arabia, taking its name from Edom⁵⁵, or Esau, the Arabian patriarch; and Edom signifies red⁵⁹. The Arabians were doubtless the first navigators of the Indian ocean, and as they entered that sea by passing the straits of Bab-elmandeb⁹⁹, they carried the name of the Red Sea, from whence they commenced⁹¹ their course to the utmost extent of their discoveries. Hence the Indian Ocean received the title of Red; and the Greeks,

86 The error is not Mercator's. He places them according to the longitude and latitude of Ptolemy.

87 Plin. Exercit. p. 1180. et feq.

Edom Hebraicè rubrum fignificat ut testatur Moses. Genes. xxv. 30. Nec vero est absimile quod hodie docti contendunt mare Rubrum inde esse dictum. Nam à mari Rubro allui terram Edom vel ex Scriptura compertum. Vid. i. Reg. ix. 26. Sanguis ab per aphæresin. Bochart, vol. i. p. 769.

King Solomon made a navy of ships in Ezion Geber, which is beside Eloth, on the shore of the Red Sea, in the land of Edom.

Dip Di. The nweedy Sea is the term here used to express the Red Sea, and appears properly applied by the account of other authors. See Parkhurst in voce. But there is another

derivation, fignifying an end or extremity; and perhaps, therefore, Im-fuph may mean one of the heads or bays of the Red Sea, as divided into two parts at its northern extremity. See Questions of Michaelis. Niebuhr.

light in these appellations. Thus, the Euxine is the Black Sea, the Propontis is the White Sea, the Mediterranean is the Blue Sea, and the Indian Ocean the Green Sea.

90 The gate of death, or mourning. Cosmas Indicopleuses, though he gives an account of Ceylon, seems never to have passed this streight.

or I cannot cite my authority, but I know there is evidence to prove, that the vast country of Siberia derives its name from a village called Siberia; near which the Russians first entered that country.

who translated every thing rather than introduce a foreign word, made it the Erythræan Sea. Not contented, however, with this, they usually found a god, a hero, or a king, whose name or story must be connected with the derivation; and hence we have Erythras for the present purpose. But neither Arrian nor his countrymen ever confidered that Erythras, in order to give his name to the Erythræan Sea, ought " to have reigned, or to have been buried, fomewhere on the Gulph of Arabia; for that is the original Red Sea, and the fource of that name, which was afterwards applied to fo large an extent. Without respect, therefore, to Erythras, the utmost we can suppose is, that there was a tomb on this defert island vifited by the natives of the coaft; a fuperstition prevalent all over the East from the earliest ages, and still in full vigour, as well among the Mahometans as the other casts. Ogyris, therefore, we will assume, as one of the names of Organa, from Dionysius 92 Periegetes; Tyrine as a fecond, from Strabo, Pliny, and Philostratus94; and Turun as a third, which is a title of the moderns. Now it is remarkable, that Voffius propofes to read the Tyrine of Strabo either O-Gyrine 25, or Gyrine fimply, to make out a correspondence between the two; and I have before ventured a conjecture, that the Organa of Arrian should have its syllables transposed, by reading

of Persia is not meant to affert, that the Gulph of Persia is not comprehended in the general title Erythræan.

⁹³ D'Anville Differt. p. 147.

⁹⁴ Philostratus is here quoted from d'Anville; but he has not been neglected, though little was obtainable from his account. Whoever will take the trouble to refer to that work,

will find that Apollonius, or his historian, has built that part of his novel which relates to India, entirely on the accounts of the Macedonians. He enters India by the same route, and returns by the same; and from this line the author did not dare to depart.

²⁵ νησον Ω'-Γυρίνη, or, Γυρίνην, for TYPINHN. See d'Anville, ibid.

O-G'rana⁹⁶, or O-Gerana. Thus it is evident that Gerun, the name of the island previous to its taking the name of Ormuz, is a native title as early as the days of Alexander; presenting, under one form, Gyrine and O-Gerana, and under another, that of Djerun, Tyrine, and Turun⁹⁷, by the change of D into T. The palace of the kings of Ormuz on this island was called Turun-baque, as d'Anville informs us; which, if written Turun-bach or Turun-bah, might be rendered the garden of Turun⁹⁸; and Turun is no more than the name of the prince, derived⁹⁹ from the place of his residence, Turun, Tyrine, Djerun, Gerun; a practice universal in the East. Salmasius does not appear to know any thing of the modern Arek, and therefore confounds it with Oaracta; and the same prevalent confusion among authors has turned Tyrine into Tyros and Tylos ¹⁰⁹, Aracca into Aradus and Arathos: hence it is, that the names of Tyrus and Aradus have been transplanted from Phœnicia ¹⁰¹, on the

pear to a classical eye, the reality of them is universal almost in Oriental names; whether from the ignorance of the natives, or the mistake of inquirers, is dubious. Astrakan is by the inhabitants pronounced Asctarchan, by the Perfians Agitarcan. P. della Vallé, tom. iii. p.205.

97 So Tfor, Turus, Tyrus; and Sor, Sour, Sarr-anus; fee infra Tarsia. See Michaelis's

Extract from Niebuhr, p. 34.

98 D'Anville mentions a Turun Shah, who was an historian. Turun Shah is king of Djerun. He wrote a history of Ormus, translated by Texeira into Portuguese; by him called Torunda. Dalrymple.

99 Thus Taxiles from Taxila, Porus from Lo-Pore.

Tylos, in Arrian, p. 301. is the modern Bahrein, where the pearl-fishery is established on the Arabian side of the gulph, and as such d'Anville considers it in his ancient geography: but Ptolemy's Tylos is in the latitude of Ormus; and, though carried to the Arabian side, manifestly consounded with Tyrine, or Gerun. If he has any thing like Bahrain, it is Ichara.

days' fail from Teredon, and one from Macæ. Mr. Goffelin makes a pleafant supposition, that they are ten days' fail from Macæ and one from Gerra. Geog. des Grecs, p. 28. This is not a mistake, but an hypothesis. See another equally bold, p. 53.

Mediterranean

Mediterranean, into the Gulph 102 of Persia, as if mariners 103 brought from thence had carried the names of their country with them. There is, in fact, a double error, for the Tylos of Arrian 104 is undoubtedly the largest of the Pearl islands, now called Bahrein "s, and one of the smaller is named Arâd by Niebuhr 106 at the present hour. This Tylos and this Arâd give the Tyrus "7 and Aradus of Strabo, the Tylos and Arathus of Ptolemy however misplaced, and both feem to have been brought down to the mouth of the Gulph by an accumulated confusion with Tyrine and Aracca 108, the modern Ormuz and L'Arek. The fite affigned by Strabo, and the latitudes of Ptolemy, will prove this affertion as clearly as the difforted map of Mercator, and the error of Strabo in deducing the Tyrians 109 and Aradians of the Mediterranean from these islands in the Gulph of Persia, is consonant to the perpetual vanity of the Greeks who reduce every thing unknown to the standard of their own fabulous history.

The island of Ormuz is a barren rock, evidently formed by a volcano, the vestiges of which still remain on a mountain, which ex-

these two islands by different positions assigned to these two islands by different authors, Eustathius, &c.: but a view of Mercator's map, tab. vi. Asia, shews at one view the source of the error. Aracca, Ptol. p. 149. Tylus, Aradus, p. 156. in the margin, Tyrus, Arathos, islands in the Gulph of Persia. If farther information is required, I refer to Salmasius, p. 1180:—a very long and uninteresting differtation, with much learning and many errors: he consulted every thing but modern authority; and that alone could have set him right.

p. 766. and p. 784.

104 See Arrian, p. 301.

105 Bahrein is the Ichara of Ptolemy. Oforins, vol. ii. p. 329.

106 See his map of the Gulph.

107 Liquidas R et L omnes sciunt esse maxime permutabiles. Bochart. Phal. p. 689.

Ptolemy's Aracca is near Busheer, and is possibly the Ara or L'Ara of d'Anville, the Schitwar of the English charts, still misplaced.

Michaelis's Extract from Niebuhr, p. 34. fays, Niebuhr found a Tor in the Gulph of Persia, of importance to geography. I cannot find it in Niebuhr, as Michaelis quotes from the German edition.

tends from one end of the island to the other; the foil is a white falt, hard enough to be used for building; the fort and the houses were conftructed of no other materials; there is no fpring or water but fuch as is faved from rain, and rain falls feldom; no plant or vegetable, but a few at the king's palace ", fet in earth, brought from the continent; and the Portuguese, to secure a supply of water, were constrained to maintain a fort on Kismis; the heat is intolerable; in summer the inhabitants lie plunged in water, for many hours; in winter they fleep on the terrace of the house in the open air. Yet even here could commerce fix her feat, and the Portuguese who took it under Albuquerque, in the year one thousand five hundred and seven, kept possession till one thousand fix hundred and twenty-two, when it was again reduced under the power of Persia by Abbas the Great, with the affistance of the English fleet. It had, from the convenience of its fituation, become, in the hands of the Portuguese, an emporium fecond to none but Goa; and it is remarkable that they preferved the race of native kings from the fame policy which has made the English support the nominal princes in Bengal, and on the coast of Coromandel. When the place was taken, the last king was conveyed as a prisoner up to Isparhan through Lar, at the time Pietro della Vallé was refident in that city. He had the generofity to communicate his kind wishes to the unfortunate prince, and visiting Ormuz himself a few months afterwards, bears testimony to the bravery of the Portuguese in its defence. Abbas intended to annihilate the city, and transplant the commerce to Gomeroon, which

The king's palace was on the fouth-west historian. His history, I understand, has been

fide of the island with the garden Turun-bach, translated into Portuguese by Texeira. Dalnoticed before. D'Anville mentions a rymple. Turun-Shah, or king of Ormus, who was an

he thenceforth flyled Bender-Abbassi, the port of Abbas; but he broke his faith with the English, who were to have had half the produce of the duties for their affiftance, and Bender-Abbaffi foon became deferted from the usual oppression of the government. While Ormuz was the feat of commerce, it invigorated all that part of the Persian empire which borders on the Gulph; and however its fall impaired the power of the Portuguese, its conquerors gained nothing by their fuccess: the English commerce declined till they almost abandoned it from disgust, and the neighbouring provinces of Perfia funk under their natural aridity. A few veffels still continue to frequent the Gulph from the fettlements in India, but the trade is of no very great importance. In the ruin of Persia, since the death of Nadir, a Persian, with the title of Mulla Ali Shah, is master of Ormuz, as Niebuhr informs us; but his residence seems to be at Gomeroon, as I collect from the journal of the Houghton Indiaman, which mentions a fimilar name at that city ". This is the last account I find of this once celebrated spot; and in this situation it is likely to continue, unless the Persian empire should again revive, of which there feems no immediate prospect.

Ormuz has two fafe ports, one on the east and the other on the west fide; it is three leagues from the coast of Persia, and three or four in circuit. Mr. d'Anville fays it is less than L'Arek "; but all our English charts represent it larger; and as M'Cluer visited both, his testimony has great weight. According to Dalrymple "3, its

[&]quot;" That journal is dated one thousand seven hundred and fifty-five; and Niebuhr was in Ormuz. Cutler, p. 85. Dalrymple's Col-Persia nine or ten years afterwards. If it is lection. the fame man, he has had a long reign, confidering the time he lived in.

L'Arek is one league and a half from

¹¹³ P. 38.

latitude is 27° 4' 22" north. The best "4 passage is between Ormuz and the main, and by this I conclude Nearchus failed, not only from its fafety, but because he kept the shore in view. In his time Ormuz was without inhabitants as L'Arek" is at prefent, unless when frequented by parties of Arabs, who make it a station both for fishing and piracy. Here also, among other places of sepulture, the tomb of Erythras is fometimes fixed; and however the island itself may be displaced, the name of Aracha and Arakia" is preferved by Pliny and Ptolemy. It is a little strange that Pietro della Valle ", who made a tour to this spot, mentions sepultures, not indeed of kings but former inhabitants; and all these islands being fubject to the depredations of Arabs from one shore, or Persians from the other, it is highly probable, as they afford also afylums for any chief or tribe oppressed on either side, that they are both occupied and deferted occasionally. The tombs also of most eastern nations being built of materials more durable than their houses, places of fepulture would of course present themselves to all who landed on a deferted fpot. Such may be the origin of the mythology concerning the tomb of Erythras; and the fight of tombs in various islands may have caused different voyagers to attribute it to different places. I should indeed carry Erythras and the tradition concerning him to the westward of Oaracta, instead of the east; for there are two islets there called to this day Great Tomb " and Little Tomb, and if these are Portuguese names, there will be reason to suppose,

314 Cutler, p. 85.

goats on the defert islets of the Gulph.

Captain of the English vessel on board which he sailed, sent his boat ashore at L'Arek with dogs, which returned loaded with game and goats. We shall find Arrian mention

names into Oaracta. 1180. Plin. Exer.

¹¹⁷ Tom. vi. p. 232.

buhr writes Tunb.

that the tradition of a tomb erected to some hero, king, or faint, continued down to the age of the Portuguese discoveries.

By viewing the island L'Arek in the different charts, sufficient reason appears why it is not noticed by Arrian; for as the course of the fleet is directed round Ormuz, and confined to somewhat less than nineteen miles, it necessarily terminates at the eastern point of Kismis, without notice of L'Arek. Mr. d'Anville supposes two anchorages, including one at Bender-Ser, previous to the arrival at Kismis; but the distance in his own map requires no great allowance to be made, and the general measure specified by the others is more favourable to the estimation I have assumed.

OARACTA,
Ninetyfecond day,
January 1.
Anno 625:

The Oaracta of Arrian is written Ouoroctha or Woroctha by Ptolemy, being thus united with the Wroct or Vroct "9 of the moderns; and Oracla 20, which is the older reading in Pliny, is as manifestly a corruption of the same, as the Doracta 21 of Strabo, however distorted from a different cause. The modern name is Kismis, varied by a multiplicity 22 of orthography, and deriving its meaning possibly from the Persic, in which language Kismis signifies small grapes 22 without stones, for the island is mentioned by Arrian as affording the fruit of the vine, and vessels from different parts of the Gulph still lade raisins in its ports. Niebuhr has added a name that throws every other at a distance, Dsjesiret

I do not find d'Anville's authority for the modern name, but suppose it to be Oriental.

Oracla corrected it Organa, which was known; but never was a more unfortunate addition than what follows in Pliny. Organa habitatur

tantum, aquofa. See d'Anville.

¹²¹ See Strabo, 767. Salmaf. 1180.

Driental.

122 Kefem, P. della Vallé; Kishmee, Kish120 The commentators who knew nothing of ma, Kishmich, Queixomo. Portug. &c. &c.

Their officinal name in England is Sultana, or Sultanie grapes.

Drâs "4; and though we fee that he expresses Kismee by Dsjesme, we are at a loss for the final Drâs, and should have been obliged to the Oriental scholar for an etymology.

The point of Kismis, which we suppose the fleet to have reached, cannot be far distant from a fort occupied by the Portuguese while masters of Ormuz, which was necessary for supplying them with water, and which they defended bravely, under the command of Rui Freira, against the forces of Persia, till the English '25' joined in the attack with their artillery. The officer in command here, when Nearchus arrived, was Mazenes '26', a Persian, who offered himself voluntarily to take charge of the pilotage, and upon the acceptance of his services he came on board, and did not quit the fleet till after its arrival at the Pasitigris.

OARACTA.
Second
Anchorage.
Ninety-third
day.
January 2.
Day allowed.

No distance suits less than the following course from this point to a second anchorage in the same island, which from mention of an islet in the offing must be the Angar or Angan of our modern charts, and requires a course of almost thirty miles, while the journal allows but twelve and a half; and this is the more extraordinary, as the measure of two miles and a half given for the distance between Angar and the coast, is as correct as the corrected chart of M'Cluer. This islet, as the journal informs us, was inaccessible, and sacred to Neptune; inaccessible, perhaps, from some native superstition, like

Dsjesîret Drâs is the Persian name. Dsjesîret Tauîle, Arabian. It is called Loft or Left by some Europeans, from a town of that name; and Kismee by others, from Dsjisme, another town. Niebuhr, vol. ii. p. 185. French. ed. Amsterd. ed. Arabie, p. 268.

and twenty-one, and when P. della Vallé was

Dsjessret Drâs is the Persian name. here the following year, he was well received sjessret Tauîle, Arabian. It is called Loft by the English, who caroused all night, and Left by some Europeans, from a town of formed a hunting party for him the next day, at name; and Kismee by others, from on the island of L'Arek.

fufficiently confuting his own affertion, p. 767. further he makes Nearchus fay, he had no guide: but the passage is suspected.

that

that attending the retreat of the Nereid in the Indian Ocean, and facred to Neptune in a fense we do not understand. The Greeks attributed the names of their own deities to those of other nations, adorned with fimilar fymbols; and as there is a pagoda" on this fpot at prefent, it is by no means impossible that the representations on its walls, if antique, might still unravel the superstition alluded to in the Greek Neptune 128.

Nearchus makes the island of Oaracta fifty " miles long, which Mr. d'Anville confiders as specifying that part of the coast only which was passed by the fleet; but this folution is not justified by the text, and in reality no great allowance is necessary, the charts make it short of a degree, and a circumstance which occurred on departing from Angar, prevented the western extremity from being noticed: we might rather have expected, perhaps, that the fleet should have navigated the channel between Kifmis and the main, than fland out to the fouthward of the island in the open sea; and such a course as this we have seen preferred upon approaching the river Arabis; but by making the eaftern point of Kismis, it appears as if Nearchus was in doubt which route he should prefer, and was determined in his choice by procuring the affiftance of Mazenes.

There is still a passage open between Kismis and the main, though little used, and between Angar and Kismis. Angar '30 has good water, with plenty of wild sheep and goats, as several of these islets feem to have, for the supply of mariners, fishermen, and pirates. We shall hereafter find one specified by Arrian, under the protection of Mercury and Venus, and possibly both the goddess

¹²⁷ M'Cluer, Lieut. Cant.

Italian deity.

¹¹⁹ Eight hundred stadia.

¹²⁸ In reality Poseidon; for Neptune is an 120 M'Cluer, p. 17. Dalrymple's Presace, p. 11. The isle is a league in length.

and Neptune were prefiding deities, who preferved the animals landed on these spots, till the breed was established. Both the bay in which Angar lies, and the isle itself, are vaguely defined; but the fecond chart of M'Cluer is probably correct.

No day is specified before their departure from the anchorage at Angar, but I allow one here, as in the former part of the voyage, and leave the correction, if any error should arise, to the conclusion of the narrative.

An ISLAND. January 3. Ninetyfourth day. GREAT Томво.

Weighing from Angar, the fleet proceeded, apparently, with an intention to double the western end of Kismis, and return upon the coast of the main; but having failed too late on the tide of ebb, three of the gallies grounded on a shoal of Bassidu, which runs out from the western point of Kismis, and were fo long detained, that they did not join the rest of the fleet till two days after. In consequence of this accident, fuch of the veffels as were not fo near the shore, or fo far involved in the difficulty, drew off to the fouth-westward, and extricating 131 themselves from the shoal with great exertion, got once more into deep water.

A glance at the chart will prove the correctness of the journal in this inflance better than discussion; for they got on shore by standing too much to the north-east, and escaped by hawling off in an opposite direction. This brought them, contrary to their intention to the isle at present called Great Tomb, or Tumbo, after a course of

locis enavigantes ; potius, è brevibus.

tual error of the translators in regard to prixias. ground.

χαλιπώς διαπλώνσαι τὰς P'HXI'AΣ, is It is evidently in this instance opposed to τὰ βάθια διαπισώθησαν, p. 353; è rupicosis βάθια; and, what is still a greater confirmation, we have this shoal laid down in all our charts I have already sufficiently noticed the perpe- as a sand, and not as rocky or broken forty miles, which marks the distance '32 as nearly just as it could be fixed by observation.

Another distance is given of about nineteen miles from the continent, which does not correspond; for the nearest part of the main measures thirty-five miles; but if we take the space between the western end of Kismis and Great Tumbo, it is as exactly nineteen miles as the opening of the compasses will give; and it is reasonable to estimate Kismis as continent in respect to such an islet as Tumbo.

The two islets called Tumbo "", if the appellation is Portuguese, have doubtless some allusion to a sepulture, either ancient or modern, and possibly some Marabout, or Imam, is reverenced here, as a successor either to an Hindoo saint or deity, or even Erythras himself. Such successors to the deities of Rome and Greece we find in the Roman catholic countries; and such, as it is said, are not unfrequent in the East.

The Great Tumbo is described as an isle one league in length, from east to west, with half that extent in breadth; it is resorted to by Arabs who come to fish, and has a fandy bay to the eastward, where the landing is convenient. Water, and probably goats, may be procured here; but it is uninhabited, and remarkable for a shoal running out six or seven miles to the southward; its latitude is 26° 12′ 134, or, as corrected by Mr. Dalrymple, 26° 24′ 17″.

The following morning the fleet, after weighing, directed its course towards the main; and a view of the shoal off Kismis on

133 It is to be understood that I speak hypo- Cant, p. 40.

fecond is Nabgion, Nabgian, Nabejou, &c. them Tunb.

Namin by Niebuhr.

*34 Lieutenant M*Cluer, from Lieutenant

the right, with the island Polior on the left, direct us evidently into the bay formed by Cape Sertes on the east, and Cape Bustion on the

is applicable.

west, in the first chart of M'Cluer. Other charts transpose these capes, as Mr. d'Anville has done, for his Bustion, both town and cape are on the eastern point of the bay, and his Gherd [the Certes or Sertes of our English charts is on the western extremity. A variety of the authorities before me place a town on the eastern promontory, and, whatever its name be, here I place the Sidodone of the journal. In this I am directed principally by the shoal off Basidu, or Bassadore, at the western extremity of Kismis; for if it is natural that a Greek fleet should feek the coast again as soon as it was clear of the island, and had pursued a course the day before for that purpose, till deterred by the shoal; it is plain, the same object was in view upon departing from Tumbo, and that the course pointed as directly to the main as the extremity of the shoal would allow. On this shoal there is one observation worth recording; which is, that according to the instructions given to the English officers who navigate the gulph, "the shoal" off " Baffadore, though it stretches out a great way to sea, is a bank of " fand, and not dangerous." This accords perfectly with the accident which befell the fleet, as well as the escape from it, and confirms the affertion made all along, that the Greek term rendered

January 4.
Ninety-fifth
day.
SISIDONE
of Gronovius.

SIDODONE.

The island Pylora "6", seen in this day's course to the left, fortunately retains still its ancient name, and is written Peloro, Polior,

rocky ground, is every where mistaken; for wherever there is shallow water, a rippling, or a furf, there only, in this journal, it

p. 52.

Niebuhr, in Dalrymple's Collection,

M'Cluer, p. 19.

Belior,

Belior, in the feveral charts; it is defcribed as fix miles long, and three in breadth, with a reef of rocks on the north-west side, lying in latitude 26° 22' 7". The fleet did not anchor at it, as it was faid to be defert, but passed on to Sidodone, where no supply was found but fish and water; the country being poor, and the people living like Icthyophagi. Strabo, who finds a Tyrus and Aradus in the gulph, is faid by Gronovius and Ortelius to turn Sidodone also into a city of the Sidonians, for fuch was the fashion of Greeks to reduce every found 137 to a relation with fomething within their own knowledge. The position of Sidodone is not difficult to determine, if our charts are correct, for many of them place a town at the point called Sertes by M'Cluer, and the distance from hence to the western point of the bay answers to Arrian's measure of nineteen miles to Tarfia 135. I have already noticed the difagreement of d'Anville and M'Cluer, in the transposition of the two capes, which is well worthy of confideration; for though Sidodone is an obfcure place, and the difficulties minute, the fixing of a position is material, as an error at the beginning might vitiate the whole feries. To prevent deception, therefore, I must first state, that M'Cluer ">9 mentions Suráss, or Saráss, as a place he anchored at to the eastward of his Certes; this answers nearly to the Sannás of d'Anville, which he makes the termination of a range of mountains; and here there is a town, for fuch M'Cluer marks; and here he procured flock for his voyage. The next point westward he calls Certes, and adds that it is visible from the Tombs, on leaving which you are to steer

west

^{*37} Thus Nysa and Meros, or Merou, were names they found in India, and immediately in one of Thornton's charts.

made out a connexion with Bacchus.

*38 P. 18.

west for the isle of Polior. If, therefore, we observe that Nearchus was at Tumbo, we have here his course pointed out to the cape, and his island Pylora on the left, as distinctly as if M'Cluer had been on board the fleet. M'Cluer next points out a fecond cape twenty miles to the westward of Certes, which he styles Bestion (the Tarsia of Nearchus); and between these two capes, he says, there is a town called Charrack. Now M'Cluer may have misnamed Certes. Bestion, and Charrack; but the geography is precise, and this town, whatever name it bears, is placed at his Cape Certes by all the other charts, and by d'Anville himself. Whatever error, therefore, we may find in names, there is none in fact; for a very small distance allowed, in placing the town a little to the westward of this Certes. will give the nineteen miles of Arrian from Sidodone to Tarfia; and in this part the journal is peculiarly correct. In regard to names, I do suspect M'Cluer of mistake, but I am not qualified to decide. Charrack 40, for instance, I doubt, because Charrack Hill, the most conspicuous feature on the coast, is seen to the westward of his Bestion; and therefore I do not discover a reason for placing a town of that name between the capes, or rather at his Certes, which is above forty geographical miles from Charrack. This town, however, is called Buftion by d'Anville; and the Certes of M'Cluer. Cape Buftion: and now, though I am certain I have my geography right, I find it impossible to harmonise the names to any one system '4'. I shall therefore give the authorities on both sides, and leave the decision to future navigators on the spot.

²⁴⁰ Charrack (pronounced according to the chariot) is the 'Tsjarrac of Niebuhr, ple's Collection, tab. v. and the fite fixed west of Tarsia.

TWO CHARTS.

Eastern Point.			Western Point.		
Certes, or	Sertes,	M'Cluer.	Bestion,	-	M'Cluer.
Sertifs,	-	Harvey.	Girde '42?	-	Harvey.
Sertes,	-	Cant.	Buftion,	-	Cant.
Sertes,	-	Mafcall, 1773.	Bustian,	-	Mascall, 1773.
Serte	-	Van Keulen.	Batanas,	-	Van Keulen.
Eastern Point. Western Point.					
Bustion,		D'Anville.	Gherd,	-	D'Anville.
Bistana,	-	Bellin.	Gueldre,	-	Bellin.
Bastion,	-	Holmes.	Sertis?	-	Holmes.
Bistana,	12-01	D'Apres, 1745.	Gueldre,	-	D'Apres, 1745.
Bistana,	01-15	D'Apres, 1776.	Gueldre,	-	
Ràs-el-He	ti 143 ?	Niebuhr.	Râs-el-Dsi	erd.	Niebuhr.

In determining this question, therefore, the French authorities agree on one fide, and the English and Dutch on the other; and here a question arises, whether all the French geographers do not follow Thevenot, as d'Anville confessedly does. Thevenot's words are these: "We were got off of the other end of Keis, and then " the wind flackened much. Half an hour after we came off, and " on a place of the main land, where the shore opens towards the " east, and forms a gulph in shape of a half circle, and the outmost " point of that circle is called Gherd." I have not the French

and Sertifs, which are evidently the same. that his Dsjerd gives by the s, Sertes

143 Niebuhr is not perspicuous. Râs el Certes, and by the p, Derd and Tarsia. that his Dsjerd gives by the s, Sertes and

¹⁴² Harvey has made two points of Girde coast ill defined; but there can be little doubt

Heti is too close to Ras-el-Dsjerd, and his

edition; but d'Anville, who quotes it, writes, La terre où finit ce demicircle est appellée Gherd. Now, though this is not definite, for a femicircle has two terminations, still d'Anville determines on Gherd for the western cape, in which he is supported by Niebuhr, whose testimony is of great weight, and his Dsjerd is evidently the western cape and Tarsia ". Upon the whole, therefore, I incline to think M'Cluer's topography right, and his names wrong; and as his mistake in affixing the name of Bombareek to the wrong cape has been noticed before, there is less scruple in supposing him liable to a fimilar error in regard to the whole of this bay.

TARSIA CAPE. January 5. Ninety-fixth KATAIA

day.

ISLAND.

At Sidodone water was procured for the fleet, which, after weighing in the morning, proceeded fomewhat lefs than nineteen miles to a cape named Tarsia", and the same distance from that point to Kataia, an island at the western limit of Karmania. These distances agree fo nearly with our nautical authorities, and the intervention of the cape marks fo precifely the nature of the coaft, that it is impossible there should be any error of consequence in fixing the position of Sidodone. Kataia still retains some resemblance to its ancient name in the various forms of Kaish, Keish, Guess, Queche 146, Qas 147, Ken, or the Zeits of the Dutch maps. It is an island evidently more marked by navigators than others in its neighbourhood; and yet, as it lies twelve '48 miles from the coast, there is no apparent

144 The classical reader will be more easily fame analogy, Tserd-Tarsia, Serd-Sertes, Certes, Gherd, Sjerd.

convinced of this fluctuation by reference to the writing of Tyrus. The Phænician word is Tfor, with the two intials Ts, correspondent to Niebuhr's Dsj; and Tfor becomes by the T, Top-oc, Tyrus; by the s, Sor or Sar, the root of Sour Souria; Spia, Syria; and found in Virgil,-Sarrano indormiat offro; where Thevenot. the scholia write, a Saro murice. By the

¹⁴⁵ I conceive that Tarfia is preserved in the Ras-el-Dsjerd of Niebuhr.

¹⁴⁶ With the French pronunciation.

¹⁴⁷ Niebuhr.

¹⁴⁸ Eight by M'Cluer's chart; nine by

reason for its attraction of Nearchus, unless it were the hope of procuring there a fupply of goats for the fleet.

Kataia, fays Arrian, is a low " defert island; and Thevenot " mentions it as about five leagues in circuit, very low and flat. M'Cluer adds, it is a very beautiful island, better planted with trees than any in the gulph, and about the fize of Polior, but not fo high. This is farther confirmed also by Lieutenant Cant, who calls it a low fruitful island "". Nearchus found it uninhabited; but frequented by visitors from the continent, who annually brought goats here, and, confecrating them to Venus and Mercury, left them to run wild. What deities of the Perfian or Arabian mythology are alluded to by these titles is not easy to determine, but the practice indicates the navigation of the gulph in that age; and if the gods were to protect the breed for a time, we must suppose it was ultimately intended for the use of man, upon the same principle that Juan Fernandez was flocked by the Spaniards in the South Seas. Nearchus has not informed us whether he violated the afylum of these animals, but this appears the natural inducement for his leaving the coast to make this island, as he had obtained no supply either at Tumbo or Sidodone; and we do not read that the facrilege, if committed, was revenged by Mercury or Venus in fo fevere a manner, as the companions of Ulysses were punished for feasting on the oxen of Apollo.

Keish was at one period possessed of a flourishing commerce, and great influence in the gulph; for d'Anville informs us from Texeira, that even Gerun itself was part of its territory, and granted to the

its diftance from Kifmis.

Hormofians

¹⁴⁰ αλιτινία.

¹⁵⁰ Part ii. p. 173.

²⁵¹ Al-Edrifi, p. 56. mentions Kis alfo.

D'Anville. But without any attributes except

Hormofians of the continent when they were oppressed by the invaders '52 on the main, and transported to Gerun their treasures and their name, as to a place of refuge. The information of Niebuhr respecting this practice of the natives on both sides the gulph, flying from oppression to the islands, throws great light upon this subject; fuch emigrations feem to have existed in all ages, and fome appear to have taken root and flourished, like those in Keish, Ormuz, and Karack, till they were involved in the revolutions of the continent; while others ferved only for a temporary retreat, abandoned again as foon as the florm had blown over. Keish retains still some superiority in the account of our English navigators who have visited it, by whom it is described as flourishing, well planted, and capable of fupplying refreshments to the vessels which frequent this fea. Its latitude is fixed by Mr. Dalrymple at 26° 34 52".

A line drawn from Kataia to the main, feparates the provinces of Karmania and Persis; and that this line is not merely imaginary, may be concluded from a remarkable hill on the main, called Charrack in our English charts, which is probably the termination of a range running inland, and forming a natural boundary. Somewhere at the foot of Charrack, and nearly opposite to Keish, stood the town of Siraff, noticed by Al-Edrisi as a feat of commerce in his time, and connected with Keish, as Gomeroon was afterwards with Ormuz. In the ninth century Siraff'53 was a port of importance; for it feems in that early

mour's fons, about the year fourteen hundred. coast the best point for taking the advantage ssi See the voyage of two Arabians from of the monfoons. Alfragani mentions its de-Renandot, in Harris's Collection, vol. i. cay in his time, Gol. p. 116; but perhaps p. 523. The thips of Siraff went to Mascat to Golius himself, and not Alfragani.

¹⁵² Most probably upon the inroad of Ti- take their departure, i.e. they found that

age to have been in the possession of the Arabians, and the centre of an Oriental commerce which extended to China; both Kataia and Siraff fell into decay, as Ormuz rose into consequence long before the Portuguese were masters of that island; and though Siraff is now in ruins according to d'Anville, Charrack (the Tsjærâk of Niebuhr) exists very nearly in the same site '5', and is still the residence of an Arab Sheik. The measures upon this coast proving as erroneous from desiciency, as those on the coast of the Ichyophagi from excess, it becomes necessary to specify the default, for which no better excuse can be given than the situation of Nearchus in both instances. If distress magnified the length of his former measures, ease and security appear to have diminished these on the coast of Karmania. The detail stands thus:

British Miles deduced from Arrian's Stadia.	From BADIS	Stadia.	N. Miles by Chart.
50 to	an open shore, Armozoi	1, 800	43
$43\frac{1}{6}$ 50	Neoptana, -	700 }	69
6453	Anamis, -	100 }	09
121	Oaracta, -	300	34
183	Oaracta, second statio	n, 200	32
25	Tumbo, -	400	36
37 =	Sidodone, 600 (allow	ed)	36
37 2	Tarsia and Kataia,	600	46
2311		3100	296
	Allowed at Sidodone,	600	
		3700	

Saraf, or Siraf. See the account of this town and its commerce in Renaudot and Harris; and the circumstance of houses built with the bones of whales. Renaud. p.95. Eng. edit.

XX

Thefe

These three thousand seven hundred stadia agree with the total both of Strabo and Arrian; and the diftance allowed at Sidodone not only makes the fum accord, but corresponds with the measures of the former days. Unfortunately, however, three thousand seven hundred stadia produce only two hundred and thirty-one miles British, and the opening of the compasses gives two hundred and ninety-fix nautic miles, or about three hundred and thirty-nine British; we have, therefore, a balance against Arrian of one hundred and eight miles which he has not accounted for, and no compenfation is at hand to which we can have recourfe, for the distance omitted at Badis cannot amount to ten miles 155. The great error lies between Badis and the Anamis, or round the coast of Oaracta, for some of the latter measures are sufficiently correct; and as Arrian has allowed only fifty miles for the length of that island, which is in reality little short of seventy, this, with the other mistakes dependent on it, though it will not compensate, may contribute to reconcile the difference. It is not, however, my intention to justify the stadium of d'Anville in particular instances; but having shewn its general correspondence with the course of the whole voyage, I state facts upon the present occasion as they appear. Some advantages156 might have been taken in measuring with the compasses, of which, though I availed myself in detailing particular flations, I have avoided in collecting the total. One circumstance may be mentioned in Arrian's favour, which is, that all his numbers are hundreds without regard to inferior denominations, and this proves

255 It is, I imagine, from Cape Jask only island to island, I have sometimes taken from the nearest fide of each. This makes some 156 In measuring the total, I necessarily distances correct in detail, but discordant in the

to the centre of the bay.

took from point to point. In measuring from total.

that he speaks generally, thinking little of modern accuracy, which divides to a minute or a second.

The coast of Karmania or Kerman, next the sea, is generally a low and narrow stripe below the mountains '57, arid, and hot in the extreme; this tract is called Kermesir, and compared by Niebuhr to the Tehama of Arabia, a specific term among that people also, to diftinguish the margin bordering on the fea, from the mountainous region inland. Kermesir, however, is not confined to Kerman, but prevails as applied to a territory of the fame character, tending much farther to the westward, through the maritime part of Persis. This whole coast, from Gomeroon to Cape Bardistan, is now, he informs us, under the power of a tribe of Arabs called Beni Houle, divided into little principalities under Sheiks, independent of each other, and all weak by perpetual diffension. There is little agriculture among them, as they depend for support on fishing and hunting, and export little except wood, or fuch commodities as the country yields without cultivation. The Sheiks '58 he specifies are those of Seer 159, Mogo, Tsjærack, Nachelo, Nabend, Asloe, Tæhrie, Schilu, and Konkoun, which are all places on the coast, with a territory not worth defining; and the inhabitants of which live, like our ancient Ichhyophagi, principally upon fish, either fresh or preferved. Just such a town Arrian represents Sidodone 160 to have been in the age of Alexander; and though the decline of the Perfian power had not been of fufficient continuance to allow of

Arabian

μή οδατος η ίχθύων, Ρ. 353.

^{*57} Sannas and C. Nabon are the termination of ranges at the fea, coming from the
c. 25.
chain which runs parallel with the coaft.

¹⁵⁸ Schiech. Niebuhr.

¹⁵⁹ See also Otter, who relates the trans-

Arabian intruders, as is the case in the present desolation of that empire, the manners of the people are very fimilar to those of the modern inhabitants, and their connexion with Arabs, I am perfuaded, might be traced, by analyfing "the names preferved in our classical historians. That part of the province called Moghostan, towards the mouth of the gulph, with the island of Kismis, and those in its neighbourhood, derived infinite advantage from the fettlement of the Portuguese at Ormuz, and foresaw the ruin of their own happiness in the preparations of Abbas for the siege; they were confequently difaffected, and incurred the fuspicion of their fovereign as ftrongly as the Portuguese provoked his hatred. The confequences have proved the justice of their reasoning; agriculture is loft when commerce produces no demand, and manufactures perish where there is no protection. Before the capture of Ormuz, the English loaded silk, both raw and manufactured; they find nothing there at prefent but falt 162, fulphur, Kerman wool, and copper; native commodities, but not wrought. The nature of this country from Gomeroon to Lar, the capital of Laristan, which is the district next to Moghostan, cannot be described better than it is by Pietro della Vallé 163; he insists much on the total want of rain, a circumstance similar to that on the coast of Mekran 164, and mentions, that at Lar itself, where there is neither stream nor spring, it sometimes does not rain for feveral years following. I suspect that Laristan terminates west upon the coast, near Kataia, as did the ancient limit

this analysis to some of Ptolemy's names in the Red Sea, Orneon, Portus Albus, &c. vol. i.

Journal of Houghton Indiaman, 1755.
Wol, v. fub fine.

¹⁶⁴ The correspondence of the modern accounts with the ancient is worthy of remark. Strabo fays, it never rains in Mekran below the mountains. Lieutenant Porter writes, that when he was at Churbar there had been no rain for fix years.

of Karmania; or, perhaps, at Sanás: but I find no authority to determine this point with precision. Both these districts are visibly comprehended in Kerman, and are, as I conjecture, confined to the tract below the mountains.

Both Ptolemy and Marcian fix the limits of Karmania at the river Bagrada; but as they difagree with Arrian in carrying the eastern boundary to Mosarna, and this river on the western border is not very clearly determined by modern geography, it will, if not essential, be some gratification to curiosity at least, to examine Ptolemy's list of rivers, and try if any light can be derived from the order he has given them. There is no river on the main opposite to Keish, or Kataia, in any of our charts, and this proves that the limit assigned by Arrian and Ptolemy is not the same; in looking, therefore, to the west, we find a conspicuous point at Cape Nabon '65, and a river which falls into the gulph close to it; here I six the Bagrada of Ptolemy; and, by reckoning from Anamis to this stream, I can discover sive rivers out of his seven, if not more.

Marcian	Ptolemy.	Arrian.	Modern.
r. Saganus,	Andanis,	Anamis,	Mina.
2. Addanius 166,	Saganus,		Bender-Ser?
3. Akhiadama, Agedana Island,	Akhidana,	Si	Nagana Guda?
4. Korius,	Karius,	and offer	Rud Shiur.
5. Kathrapus,	Atapus, Araps,		Sarafs?
6. Dora,	Dara,		Dara-bin.
7. Bagrada,	Bagrada,		Nabon.

1. The Saganus of Marcian is evidently transposed, which justifies the liberty I have before taken with this author, in rectifying his

166 Tuanes, MS.

¹⁶⁵ The Nabon river is a very large stream, and consequently sitter for a boundary. Mr. Jones.

transpositions, and reducing them to the order of Arrian; for in this instance, though he is the professed copyist of Ptolemy, he deferts his original; I assume, therefore, his Addanius for the Andanis of Ptolemy, the Anamis of Arrian, and the Mina river, or Ibrahemi, of our modern charts.

2, 3. Saganus 167 fucceeds therefore according to Ptolemy, and either at this river, or Achindana the next in order, I place the stream which comes in very near Gomeroon at Bender-Ser. I cannot find two 168 rivers, or even torrents, at this place in any chart; but in Resende's " manuscript delineation of the coast I see two streams, one opposite to Ormuz and a second more to the south; these may be the two of Ptolemy, but more likely the Bender-Ser and Ibrahemi which Ressende mentions, in another part of his work, by the name of Obremi. D'Anville has a river in this position which he names Nagana-Guda, bearing fome diftant refemblance to Saganus, and Akhiadama, or Akhidana; or both perhaps, have a relation to Marcian's Agedana, which he calls an island. It is not impossible, fince Marcian mentions nothing correspondent to Ormuz, that his A-Gedana is the O-Gerana of Arrian, the Gerun so often corrupted; and if fo, his own Akhiadana and Ptolemy's Akhidana are the correspondent river on the main, opposite to Ormuz, where the stream of d'Anville lies. Upon this supposition, we account for one stream at least out of the two.

4. In Karius '7°, or Korius, we may trace fome refemblance to the Rud-chiur '7' of our modern maps; a stream of some importance,

¹⁶⁷ Saganos. Pliny, lib. vi. 25. 168 Pietro della Vallé passed one small stream in his road from Mina to Rudshiur. Vol. v. p. 419.

¹⁶⁹ Brit. Muf. 170 Corius P. Mela.

P. 373. See Pietro della Vallé, vol. v.

Moghostan and Laristan, and falls into the Kishmis Channel, not far from Kunk or Kongo, a town, from its healthiness, much fitter to have become a mart than Gomeroon, if it had not been situated in the Straits. Chiour, Kiour, or Schiur '7, signifies salt, and Rud-Chiur the Salt River; if, therefore, we observe that the Greeks had no sound like Sch '7, it will be readily allowed that they could not approach nearer the Oriental name than Koor-ius, or Kor-ius, and this consideration; united with the order and locality of this river, ought to establish its identity. If farther confirmation is wanted, we find in Pliny '74, that he mentions it by the very name of Salsos '75.

- 5. Kathraps, Kathrapus, or Kathrapis, corresponds with the Araps, or Arapis, of Ptolemy; but as no stream of modern geography connects with it, it serves only to justify the liberty we may take with names; or, if it has a modern representative, it is possibly a torrent from Mount Sannass, or Saráss; and Saraps is not a greater variation from Araps than the Kathraps of Marcian.
- 6. Dora 176, or Dara, prefents a fimilarity of found with the Dara-bin, or Derrabin, of our prefent charts, laid down almost op-

the composition of many names of rivers; for many are falt in Persia, Karmania, and the Mekran.

Otter has a Roud-guird in his route from Hamadan to Ispahan. Vol. i. p. 192. And Guird, he says, signifies environs. It is possibly Guird for Kiour; but, if otherwise, Guird, environs, is from Gerd, Gherd, or Certa; and signifies a town, not a river. The place, however, where he was, was called Guerdge, the town; and, if so, Roud Guird is only the river of the town.

173 Pietro della Vallé, when he writes Chiur, naturally suggests the Italian pronunciation, answering to Kiur in English.

174 Lib. vi. cap. 25. He perverts the order. See Salmas. Plin. Ex. 1181.

to Sitacus; but if we observe that it is joined with others evidently in Karmania and at the eastern part of the gulph, why should it be transported into Persis, and so far to the west-ward? See Mem. p. 159.

176 Daras of Pliny, ibid.

posite to the islands Busheab "77 and Schitwar. Here I must confess I looked for the fite of Ptolemy's Bagrada, as lying nearest to the Kataia of Arrian; but the refemblance of found induces me to fix Dara at Dara-bin, and if fo, Bagrada must be carried to the next stream westward, which is at Cape Nabon. The Darabin is in the neighbourhood of Arrian's Mount Okhus, and afforded a fafe anchorage to the fleet, apparently in the mouth of the river. That mountain extends along the coast from this river to Cape Nabon, and is called Dahhr-Afban by Niebuhr 178; Dahhr is as evidently, therefore, the Dara of Ptolemy as Dahhr-Afban is the Darabin of the moderns.

7. Bagrada 179 I place at Cape Nabon, or Nabend, for the reafons already specified; and if I find no modern name to correspond with it, it must be considered that navigators do not give us the native names of rivers in the gulph, but denominate them from the places where they difembogue. The Bafra river is known to every ordinary mariner; the Schat-el-Arab is a name that we must search for only in the map of the geographer, or the chart of the enlightened navigator. It is not improbable, therefore, that if the question were put to the natives, their name of the Nabon river might still retain the traces of Bagrada.

This disquisition on the rivers of Karmania ought not to be confidered as foreign to this work, for one great object of it, is, to recon-

*77 See M'Cluer's chart, Harvey's, d'Apres, and not on the fea coast. By the name of

278 And Capper, who follows Niebuhr's orthography.

Agradat of Strabo in Cole-Perfis; but xoin implies the country between the mountains,

Dara, which precedes, and which I confider as demonstrably fixed, from its relation to Dahhr-Afban, I am fully persuaded that Na-279 D'Anville carries the Bagrada to the bon is the Bagrada. See d'Anville's Mem. p. 159.

cile ancient geography with modern; and if a monument is by these means raised to the correctness of Ptolemy on the coast, it is some compensation for the charge of error imputed to him in regard to the islands, a just distribution of these was, till within the last century, a desideratum in geography; and if they are now disposed with precision, the world is indebted to the attention of English navigators, and to no one more than M'Cluer 15°.

I shall close this account of Karmania with noticing, that Arrian informs us the Karmanians had the same manners, habits, and customs as their neighbours in Persis, and resembled them likewise both in arming and forming the troops they contributed to the service of the empire. The modern Persians consider them as a people, acute, subtle, and prone to rebellion; and their province was the last retreat within the empire for the ancient Parsees, or worshippers of sire. This unhappy cast, under the name of Guebres, Abbas endeavoured to exterminate, when the residue was dispersed over India, and a numerous tribe of them are now settled at Bombay, where they build those celebrated ships which, in construction and durability, prove the service they might have rendered their own country. Never, since the world began, did any government gain by persecution.

II. PERSIS.

In conducting the fleet from its entrance into the gulph, it has been no difficult task to ascertain every station at which it anchored; the affistance I have derived from d'Anville, and the correctness of our English charts, I have acknowledged at every step, and it is a

180 See infra, Inderabia.

YY

pleafure

pleafure to add, that the more correct they are, the more clear is the correspondence of the journal with the actual state of the coast at the prefent day. We are now to enter upon the province of Persis, and though I cannot promise equal perspicuity in regard to fome stations of little importance, the general description of the coast is perfect, and the principal harbours as fully ascertained as they are in modern geography. One instance of this will be more particularly apparent in the station which immediately fucceeds.

MA PORT. KAIKAN-DROS ISLAND. January 6. Ninety-

The fleet weighing from Kataia arrived, after a course of twentyfive miles, at Ila, an anchorage on the coast covered by the island The name which M'Cluer gives to a place very Kaikandros. nearly correspondent is Gillam 181, from which if we subtract the seventh day, initial letter, which is the representative of an aspirate, we find Illam fufficiently allied to Ila; and if the antiquity of Gillam could be afcertained, the identity would be complete. In Kaik-ANDROS also the modern name of Andarvia may be discovered, which is one out of a multiplicity of titles bestowed upon an island in this fituation, ftyled Inderabia by M'Cluer, Inderabi's by Niebuhr, Angarvia, Indernea, and Indernore, by the other charts: and perhaps when we reflect that the Greeks have no sh, we may be induced to suspect that the Kaik-Andros of Nearchus is equivalent to 183 Keish-

> 18 It is the fame as Lieutenant Cant's Gella, which approaches nearer to Illa, or-Ila; but Cant's Gella is ill placed. Illa becomes Hilla and Gilla, like Han, Khan, Cawn. Hendoo Gentoo.

182 Anderipe, Inderuca, Hinderabi, &c. It is possibly also the Lameth of Al-Edrisi, as Keish. Gol. ad Alfrag. 117. he mentions Siraf and Tsafac, i. e. Tsjarack,

in its neighbourhood, p. 120.

183 Kili Kiavus is likewise mentioned by Otter, vol. ii. p. 213. but fabulous.

After making this conjecture, I found in Golius, that Caicavus is divus Cavus, who obtained water and milk in this island or

Andarvia;

Andarvia 184; an additional title this island might have obtained from its proximity to Keish, or its dependence on it. From the eastern point of Keish to Andarvia, fays d'Anville, it is nearly fix leagues; and he affumes '85 the eastern point as a spot where the fleet might have anchored, in order to acquire a distance approaching to the twenty-five miles of Arrian: but d'Anville would have been better pleafed to find that M'Cluer, in his fecond chart, has extended the distance from twelve to twenty geographical miles between Keish and Inderabia, and twenty geopraphical miles fupplying upwards of twenty-three "66 miles British, make an agreement with Arrian sufficiently correct. M'Cluer writes to Mr. Dalrymple 187: "I have " altered the fituation of Inderabia, as I found it too near Kenn "88." And in this testimony we have a satisfaction in observing, that the more correct the modern chart is, the better it corresponds with Arrian. M'Cluer has rendered a fecond fervice in laying down this isle nearer to the main than it appears in most of the other charts, for fo Arrian describes it, as covering the road and making the anchorage fecure. Inderabia, according to Lieutenant Cant 189, is a low island, not inhabited, but affording fresh water; "the channel " between it and the main is about a mile broad, with water from

opinion by observing in Golius, p. 117. which I have been enabled to interpret by the affistance of my friend Dr. Russell, that Keis is the proper name of a man; and that the Arabs, fabulously perhaps, like the Greeks, derive the name of the island Keis from Keis chn Ameerat, Keis the son of Ameerat. In this manner, Keis might be easily made an accessary to Andarvia also. Andarvia, written so many ways, approaches the Greek more nearly in Portuguese, Anderoya; for so it appears in Ressende.

coincidence can be obtained by it; and I use it freely when occasion requires, because the point of anchorage is never ascertained by the journal in the several islands.

treme points nearest; fo that by taking an anchorage in Kenn, you may have twenty-five miles exact.

¹⁸⁷ P. 13. Pref. to Dalrymple's Collection.
188 Keish, written Kenn in feveral charts,
but I believe always improperly.

¹⁸⁹ P. 44.

" feven to fifteen fathoms, nearest the island:" its mean latitude is 26° 49' 37".

OKHUS Moun-TAIN. An ISLAND. A PORT. January 7. Ninetyeighth day.

From Kaikandros to a fecond island, no distance is given, and only two miles and a half to an anchorage on the coaft; from this anchorage again, to a harbour under a mountain called Okhus, no measure is specified. The island, Mr. d'Anville complains, was laid down incorrectly; but he read in the old Portuguese charts, Ilha de L'Ara, or Lara, and fo I find it in Ressende and Thevenot '90'. We have now, however, two islands accurately placed in M'Cluer's second chart, which agrees better with Arrian than his first, and by the position of these we must determine the course. Taking, therefore, a measure proportionate to the correctness of the journal for some days past, I allow, from the centre of Inderabia to Mount Okhus, about three hundred or three hundred and fifty stadia, that is, from eighteen to twenty-one miles, and I include the whole course in one day. The two islands are called Schitwar's and Busheab, and the latter is written Schech-Schaiib by Niebuhr, equivalent to Abu-Schaiib or Bu-Sheab; for Schech is old, and Abu, father, and both are titles of respect, as we use Seigneur, or Sir, in Europe. Schitwar, the smallest of the two, and the one directly in the course of the fleet, is the island which Arrian means, and which he fays was inhabited, and possessed of a fishery for pearl; a circumstance not unworthy of remark, as feveral travellers inform us, that pearls were formerly taken at Karak 192 and other places on the eastern fide of the gulph, as well as on the celebrated bank of Bahr-ein. If I

and fo M'Cluer fays the trees on Schitwar feem is possibly the Araka of Ptolemy, to be on Busheab. It is seventy leagues 191 Capper writes this name Shudwan. from Karak, according to Thevenot, Part ii.

¹⁹⁰ Thevenot saw the two islands at a p. 173. Thevenot mentions likewise that it is distance, and therefore brought them into one; very near the coast, and a passage within. It

¹⁹² Thevenot, ibid.

am right, therefore, in affuming Schitwar for Arrian's nameless island, the remainder of this day's course is clear; for the forty fladia he allots for croffing from hence to the main, is nearly equal to the breadth of the channel beween Schitwar and the eastern point of the river Darabin, where I suppose the first anchorage to be; and the fecond, only by croffing the river to the western point, or fome convenient bay adjoining. This is the apparent reason why no distance is mentioned here, while the measure between Inderabia and Schitwar is an omiffion. M'Cluer marks an anchorage in a bay, and a town called Schitwar '93, just to the westward of the mouth; here '94 I conclude the station of the fleet was, and here we can find a mountain to correspond with Okhus. That the town on the main should bear the same title as the island is a circumstance fimilar to that which takes place at Ormuz, and is founded probably on the practice recorded by Niebuhr, already noticed, of the inhabitants on the coast flying to the islands, in their neighbourhood, or the island receiving its name from a town on the main. This is the fecond inftance, and two more will occur, with a third, that possibly may be accounted for upon the same principle.

The mountain Okhus '55 is nothing more than the termination of an high range of coast extending from Cape Nabon to the river Darabin, called Dahhr-Afban by Niebuhr, as already noticed, and diffinctly specified in M'Cluer's first chart; I have not been able to trace the connexion of this range inland with the great chain, which runs parallel to the coast; but there can be little doubt of the fact,

Harvey 1778.

²⁹³ Chetwar.

¹⁹⁴ Harvey's chart places Schitwar point on town where M'Cluer's Schitwar or Chetwar is. D'Apres 1776. Harvey 1778.

¹⁹⁵ See M'Cluer's first chart. Two of the eastward of the river, but marks a small Claude Russel. Kæmpser. Van Keulen,

as the two rivers Darabin and Nabon at the two extremities ought to be the produce of this mountain, throwing off its waters on both fides, and forming two ftreams, which appear to have fome preeminence above the torrents to the westward. In Dahhr-Asban "06 we have the Dar-abin of our charts, and the Dara of Ptolemy, which he places indeed in latitude 28° 40'; but as he has given a more northerly direction to the gulph than it really has, this is readily accounted for.

At the mouth of this river, and on the westward fide then I fix the ftation under Mount Okhus 197; and I must observe that M'Cluer's fecond, or corrected chart, coincides with the feveral circumftances in Arrian more nearly than any of the others, or even than that which is inferted in the prefent work.

Of the two islands, Schitwar lies nearer to the coast on the foutheast of Busheab, and the channel between Schitwar and the main was not passed either by Cant or M'Cluer; but they both intimate, from the information of their pilots, that the paffage is clear, as well as the other between this ifle and Busheab, which is less than a mile broad. Busheab is the largest island in the gulph except Kishmis '93; it is low as well as Schitwar, but has fome high land at the back; it is well planted and inhabited, four leagues long, and four or five miles broad, and lies in latitude 27° 1' 30". Schitwar is said to be still more fruitful, which is a fufficient reason why it was found inhabited by Nearchus, and possibly why a pearl-fishery was established in its neighbourhood. The narrowness of the channel reduced to less

197 Ochus is the name of a river which falls into the Oxus, and I doubt not contains fome

*96 See Niebuhr, vol. ii. p. 192. French relation to a river here. See Salmaf. Plin. Ex. p. 216.

198 And I suppose Bahrein.

than three miles by Arrian, makes me adhere to M'Cluer rather than any other authority; and as he lessens '99 the usual distance specified between Busheab and the main, there is great reason to believe that he is near the truth in laying down Schitwar, though he was not through the channel himself.

Niebuhr places Nachelo, the residence of a Sheik, in the river Darabin; and if I had found any resemblance in this name 200 to Okhus, I should have looked to this place for a station; but in the position taken there can be no error of consequence to the journal, except that an addition to the distance Arrian gives between the Darabin and Cape Nabon would be convenient, as his account is at present somewhat in excess.

From Okhus to Apostani the course was twenty-eight miles, which carries the anchorage rather more than half way from the Darabin to Nabon; and here we are to find a road, as several vessels were seen at anchor, and there was said to be a village at the distance of near four miles up the country. A more hopeless cause for research has not yet occurred, for the high land upon the coast promises little for the site of a village, and the nature of the shore presents no appearance of shelter. D'Anville sinds a bay called Estornadi at the foot of the mountain, from what authority does not appear, and from want of good charts has no river either at Darabin or Nabon. He places Assels 2011 and Apostanos 2012 in the same place, which is evidently incorrect, as Assels 2013 or Asso, is fixed by all the best charts to the north-westward or Nabon, while Apostani is evidently

APOSTANA.
January 8.
Ninety-ninth
day.
A day
allowed.

¹⁹⁹ Memoir, p. 20.

oco Okhus, N'-Okhe-lo?

Has he not confounded Affelo with the Affetow of our charts?

²⁰² So d'Anville writes, and Anamin, Ilan, &c. from the Latin authorities, he follows.

²⁰³ See Niebuhr. M'Cluer writes Aftola, like the ifland on the coast of Guadel.

twenty-five miles to the east. But before we can determine upon a fite, we must dispose of a town called Chewra, Chetow, or Sherouw, which takes a variety of positions from the eastward of the Darabin, almost to Cape Nabon.

The refemblance of these names, however written, would induce a fupposition that they all relate to the same place; but Sherouw, or Sherouve, in the Dutch charts placed eastward of the Darabin, is the Shiray, or Siraf, of the Eastern geographers, opposite to Keish, and formerly a place of great commerce; and Chetow is the place written Chetwar by M'Cluer evidently related to the island Schitwar, and placed by him with an anchorage just to the westward of the Darabin. The fame fite is given to Affetow, in Lieutenant Harvey's 204 chart 1778, and Af-Setow is Setowar and Chetwar in another form. This fame chart, which marks a village here, marks a fecond without a name half way between the Darabin and Cape Nabon; and this fecond is the place called Shevoo by Captain Simmons 205. "About half way from hence [the Darabin] to Cape "Nabon is Shevoo 206, where good water may be got." These are his own words, and here, unless Shevoo 207 is misapplied, we get a fituation from Harvey, and a name from Simmons. The position of this village, be its name what it may, answers to the Apostani of Arrian, and the facility of obtaining good water here, is a fufficient reason for finding it frequented by the country vessels in the age of Nearchus, or at the present hour. The general distance given from

264 In a chart comparing Harvey with Cant, and C. Ruffell by Dalrymple.

be misapplied is its resemblance to Sherouw and Chetow, at Sherouw below Darabin. Van Keulen writes,—bier is water wan kuylen, in pits or tanks.

to Nabon, as a fmall fishing-town. His account is not distinct.

see Dalrymple's Preface, p. 13, note.

Mount Okhus to Nabon by the journal is fifty-three miles divided into two courses, one of four hundred and fifty 200, the other of four hundred stadia, and agrees with M'Cluer's corrected chart within three miles; we cannot, therefore, commit any error that affects the feries, in placing Apostani by the measure given, or reducing it to the Shevoo of Captain Simmons. The name itself has a Greek appearance, but is undoubtedly not Greek; nothing, therefore, forbids us to suppose it may be Abu-stan 209, like Abuschaib, Abu-shahhr, and other similar compounds on the coast; or to affume a corruption justified by its locality, and derive it from Afban. My own opinion inclines to the latter; and if this should meet with the approbation of Oriental readers, we are obliged to Mr. Niebuhr for first producing the name of this range, which solves three problems at once; the Dara of Ptolemy, the Darabin of modern geography. and the Apostani of Arrian, all from Dahhr-Asban ".

From Apostani the fleet weighed at night, and proceeded twentyfive miles to a bay, on the borders of which were feen fcattered villages, adorned with palm-trees, and others yielding fruits "" fimilar to those of Greece. Here Nearchus anchored, under the projection of a cape which rose to a considerable height. The cape is manifestly Nabon, and the bay is formed by the mouth of the

A Bay at CAPE NABON. January 9. Hundredth day.

²⁰³ Twenty-eight and twenty five miles.

²⁰⁹ The Sheiks' country. Abu and Sheck are equivalent in Abu-Schaib, Schech-Schaib.

In addition to what has been already faid upon Bah and Dah, it appears from Ludolphus, that they have an opposition in the Abyffinian language; as Bahr, the fea; Bahr-Nagash, the governor or king of the sea coaft; and Dahr is in the same dialect Daber, or Dabra, a mountain; both, by that author, phrastus: auxilius & rahha auxidites, ibid.

supposed to be connected with the Arabic, In my own opinion, the primary fense of Dahr is bead; and thence, Dara or Darius, a king. Dar, a bead officer; Dahr, the fummit of a mountain. See Ludolphus Abyffinia, book i. c. 4. book iii. c. 4. And Bruce passim.

²¹¹ angodova. Salmafius fays, only nuts, almonds, and fuch as have a shell without and fruit within, p. 108, et feq. But fee Theo-

river which bears the same title. The point of this cape" is very remarkable, being flat table land, which extends a confiderable way, and then breaks off to a sharp sloping point, which makes the table land appear lower than it is; the river which comes in here runs parallel with the coast, and is at present the residence of an Arab Sheik, who is mafter of a few small vessels, which he employs in piracy. 'Thevenot'" mentions it as a place still abounding in palmtrees, with a village on a low bank of the river; and the high land commencing near the cape extends far inland. The term used by Arrian expresses the anchorage of the fleet under cover of the table land at the foot of the mountain; which, with the circumstances of a bay, villages, and fruit-trees "4, makes the correspondence exact. It has been observed already, that here is the Bagrada of Ptolemy, which he places in latitude 28° 4', and the head of it in 30° 6', but by its course at the cape it ought to incline in the contrary direction, though I can find no information either in travellers or voyagers to give it any fixed position. That the coast is little frequented appears by the discordance of the charts, and the routes inland tend to Bendereek, Lar, or Gomeroon, either on the east or west, with little attraction even for merchants either to Nachelo "5 or Nabon. latitude of Nabon is fixed by Dalrymple for 27° 27' 26".

213 D'Anville; but I have not found the

passage in Thevenot.

212 Lieutenant M'Cluer, p. 21. Lieute- inhospitable rocks and deserts, capable of affording the kind production of vegetables, &c. &c. Ives, p. 205. In the river, a ship of nine hundred tons may ride. The Portuguese had once a settlement here, ibid.

215 Pietro della Vallé mentions some Armenians who intended to land at Nachelo in order to go to Schiras. Vol. viii. p. 20. This route same circumstance, p. 205. Here Providence falls into the ancient road to Siraff. Nub.

nant Cant, p. 22. In Mr. Dalrymple's Col-

²¹⁴ Mr. Jones mentions the Nabon as a large river; and fuch it ought to be from the extent of the mountains. Ives notices the feems to have allotted a spot of ground amidst Geo. p. 125.

Upon departing from Nabon, the fleet proceeded upwards of thirty-feven miles to Gogana, a distance which answers within a mile to the position of the modern Konkûn or Congoon, remarked Hundred and by M'Cluer for a high ground over it called Barn-hill from its ap- Day allowed. pearance, and as being the northernmost town in the bay 216, which curves to Verdistan. Between Nabon and Konkûn lie Asselo and Tahrie; whence, he fays, this bay runs deep up to Konkûn. The whole of this day's course is sheltered from the north-west blasts by the projection of Cape Verdistan, and the foul ground in its neighbourhood. This ground is noticed by the journal, as lying round the anchorage in a circle, and discovering itself with a dangerous appearance at low water. Gogana is described as a place inhabited upon the fide of a winter torrent called Areon, in the mouth of which the fleet anchored with great difficulty, both on account of the narrowness of the entrance, and the dangerous shoals which almost preclude an approach to it. This torrent does not appear in any chart or map, except d'Anville's, in which it is doubtless placed from the authority of the journal, and probably exists in reality, though, from the little knowledge we have of this tract 217, or the infignificance of the ftream, it has not drawn the attention of our English navigators. It is some satisfaction, however, to find a name refembling Konkûn fo nearly as Gogana; and as Niebuhr makes it the refidence of an Arab Sheik, it is perhaps of more estimation with the natives than with those who frequent the gulph, and whose only object is commerce.

GOGANA. January 10.

²¹⁶ Aftola, Taurie, M'Cluer, p. 22. See Niebuhr alfo, who fays it is the most dan-217 " A veffel must be cautious of standing gerous part of the gulph. " up too far in this bay." M'Cluer, p. 22.

SITAKUS RIVER. January II. Hundred and fecond day. Day allowed.

The course of the following day was fifty miles to the Sitakus, which it would be well if the journal had increased confiderably, for the coast itself measures that distance, without allowing for the circle that must be taken round the shoal off Cape Verdistan. It is not probable that an English vessel should ever determine whether there is a paffage within the breakers; but within, undoubtedly, Nearchus must have failed, to make the stadia consistent : and though M'Cluer makes an anchorage almost in the centre of them, a passage close to shore must be dubious, unless it could be proved that it is still practicable for native vessels. There is an island called Mongella 218, lying to the eastward of Verdistan, only three miles from the main, within which if there be a passage, it must have been feen by the fleet: but that it is passed in silence, or the cape itself. is no proof that Nearchus stood out to sea; for omissions of this fort are frequent. It is only meant to argue, that if there is a passage within " the shoal, the measure of Arrian is correct; if there is no paffage, it is the first on this coast which has been deficient. Mongella is the Palmeira of the Portuguese, the Om-en-chale 200 of Niebuhr, though he marks no island, and his Raf-el-chân, or Cape Chân, is the Kenn of our English charts, the Kaneh-Sitan of d'Anville, remarkable for the hummocks over it, which form a landmark to veffels upon their approach to Verdistan: here is the anchorage of the journal at the Sitakus, a stream which d'Anville calls Sita-Reghian; and I shall conclude my observations on the course with noticing, that as the tide rifes 221 ten feet here, it is possible that Nearchus found his way through the

²¹⁸ Om-en-chale of Niebuhr.

[&]quot; in by Kenn, I never have examined in any

ss veffel." M'Cluer, p. 25.

²²⁰ Rather an island. Om-en-chale, an-219 66 From Mongella northward to the bay, fwering to an Om-en-châle on the continent. Nieb. vol. ii. p. 168. French edit.

²²¹ M'Cluer.

breakers", shoals, and oozy channels, he fo graphically describes: fuch, he fays, was the nature of the coast, and such it appears in the charts at the distance of two thousand years: but if the approach to this station was difficult, the anchorage was indifferent; the fleet, however, wanted repair, the veffels were confequently drawn on shore, and the time employed in refitting and careening was no less than one-and-twenty days; during which interval, they received a large fupply of corn, fent down by the command of Alexander. From this circumstance we may conclude, that the detachment under Hephæstion was in the neighbourhood; and, (as I collect from Alfragani23, Golius, d'Anville, and Otter 24,) at Giouar, or Firouzabad, an inland city, the capital of the diffrict Ardeshir, celebrated for its gardens, vineyards, and rofes, as pre-eminent in Persia as those of Pæstum in Italy. I fix upon this place, because I learn from Otter, that the river of Giouar receives a stream called Sita Rhegian 225, which may be interpreted the fandy Sita, and, with a final aspirate, becomes Sitahh, or the Sitak of Nearchus. The Eastern writers mention, that Alexander took this city by inundating it with the waters of the river; this could not happen; for Alexander himself was on the other side of the mountains; but his army under Hephæstion might have taken it by this method; and the permanence of the tradition affords fome fort of proof, that Hephæstion was at this city, as I have stated. The roads which branch out from this centre evidently mark it as a capital; and when

²²² Beaxia, shoals; enzias, broken water; city. Gour signifies a sepulchre. Tudyta, shoals with coze or mud.

Ardexir, fon of Babec, fon of Sasun. An Elburz, or fire-tower of the Parfees, was in this

²²⁴ Otter, vol. i. p. 191. I found this ac-223 Gol. ad Alfragan, p. 114. Founded by count by accident in Otter, flrangely placed in a route from Hamadan to Ispahan.

²²⁵ Raiguian. Otter.

we reflect that Siraff and Keish were formerly the Gomeroon and Ormus of the gulph, we fee the necessity of the communications extending from this centre to the coast at Siraff, and inland to Shiras; to Lar on the east, and to Reghian on the north-west; in this latter line it is evident that Hephæstion, with his division of the army, moved. We have before attended him across the mountains from Giroft to Lar, and we have here a route from Lar through Giouar 226 and Kazeron to Ragian on the river Tab or Endian, which is the boundary between Persis and Susiana. In Susiana Hephæstion rejoined the main army under Alexander, who feems to have moved by the route of Velaz-Gherd, the western Phoreg Pafagardæ, and Perfepolis, till he fell into the march by which Timur came from Sufiana to Shiraz, and trod this ground in a contrary direction, till he reached Sufa or Shufter, the ancient as well as the modern capital of the province. These marches of the two divisions will be farther considered hereafter upon the arrival of the fleet at Susa; at present they are only noticed, in order to connect the motions of the fleet and army, upon occasion of the supply received at Sitakus. The time which the fleet continued here is longer than any interval hitherto employed upon the refitting of the vessels; and we ought for this reason to suppose that they waited for the approach of the army, or the collection of the fupply. The reason of this must evidently be, that the distance from Giroft to Giouar is upwards of three hundred miles, a march which, in this climate, could hardly require less than four or five and twenty days, even if Hephæstion moved on the same day with Nearchus;

In the route of Al-Edrisi, from Shiras Giouar, though Lar is on the left, and not to Siraff, we discover the road from Lar to mentioned. See infra.

eleven "7 days' navigation, therefore, and twenty-one days in port, give a period almost necessary for the service required; and this allowance combines the motion of the fleet and army in a manner agreeably to reason, and not contradictory to the history of the transactions.

Cape Verdistan 228, with its shoal tending out to Kenn, is one of the most prominent features in the gulph: English vessels, however, which are generally bound to Busheer, or Basra, having no other business but to avoid 239 it, we have no right to expect any immediate account of the coast itself at this point: but the anchorage at Sitakus, d'Anville has elucidated "" with particular attention; Kaneh Sitan, he informs us, fignifies the habitation of Satan; and the river Sita-Reghian 21 has evidently an allusion to the fame prince of darkness; an extraordinary instance of his early influence in this country, and the duration of his empire. Whether Nearchus found the territory of Satan an agreeable residence for one-and-twenty days, I pretend not to determine; but, from the good-will I bear him, I regret to find him in a place with a name of fuch ill omen. Reghian is not quite perspicuous, as there is another Reghian on the Tab or Endian, and a Bender-Regh, which is the Rhogonis of Arrian. It is probable that the etymology of the word, which fignifies fand, will explain all three; but I have looked in vain for more Reghians than one in the Nubian Geo-

²²⁷ Twelve days inclusive.

Babestan, D'Apres, 1745. Burdistan, Cap- the river Jareu. per; who calls it a mountain.

rections are how to avoid it with fafety.

²¹⁰ Lieutenant Cant gives a bay here, and 228 Bardestan, Bardestrand, Van Keulen, Harvey, a river. Claud Ruesfel's chart calls

^{23.} The Sitiagogus of Pliny, p. 136. lib. vi. See M. Cluer, p. 24, 25. All his di- 22. deserves no notice; he says it is navigable up to Pafagarda.

The Giouar of that author on this river " throws great light on the march of Hephæstion, and the supply received by the fleet, because the measures taken from Shiras, Kazeron, Siraff, and Reghian on the Tab, all correspond with some degree of correctness, and the use Mr. d'Anville has made of these in his first map of Afia bears the highest testimony to his judgment and penetration. It is upon this occasion that he introduces his remarks upon the rivers of Persis, demonstrating that none of them beyond the mountains ever find their way to the fea; and shewing that those which have occurred in Arrian bear the characteristic mark of torrents, as he describes them, never rising beyond the great range, and fed only by the rains which fall there too periodically to support a perennial stream. When we see the face of nature painted so justly, who shall affert that the journal before us is the production of a Greek fophist in his closet? One circumstance only surprises me in d'Anville, which is, that he should mistake the Bagrada of Ptolemy, for as he has himself placed the Taoké of that author, with great apparent propriety, at Gennaba, and his Cherfonefus at Busheer, or Bender-Rischer, his Brisoana ought to be the river at Kierazin, to which it bears a relation, however corrupted; his Aufinza 233 naturally becomes Aufizan, or Verdi-stan, and Bagrada of course is the next river 234 at Cape Nabon. In tracing Ptolemy's catalogue thus from Cape Jasques to the termination of Persis, I persuade myself that I not only add perfpicuity to this immediate work, but perform a fervice useful to geography, and acceptable to every lover of the fcience.

Nabon but the torrent Areon, too minute for all our charts and maps to notice.

²³² Al Edrifi does not mention the river.

²³³ Written Staufinda by Marcian, p. 19.

²³⁴ There is no other between Verdiffan and

An interval of one-and-twenty days passed at Sitakus, brings our account to the first of February, and on this day I fix the departure of the fleet for Hieratis. The course is nearly forty-seven miles, which terminates at the Gilla or Halilah of M'Cluer, with a fufficient degree of correctness, and where d'Anville finds the Kierazin "15 of the Turkish Geographer. The fleet anchored in the mouth of a canal called Heratemis, cut from a larger river at no great distance, which is doubtless the stream that comes from Kazeron 236; and Kazeron as undoubtedly is the root of all the corruptions which appear under the form of Kierazin, Hieratis, and the Zezarine of the English charts. The stream "itself, in its source at least, which is near the foot of the mountains, is possibly that called Abghine 238 by Thevenot, and was passed by him in the neighbourhood of Karzerum 239 (as he writes it), in his route from Schiras to Bender-Regh. The variations occurring in this name flow two different ways from the same source, for Kaseroon 40 first becomes Kazerene, Kezarene, Zezarene, Brizoene 241; and fecondly, Kerazene, Kierazin, Kierad-sin, Hierat-sin, Hierat-is, and perhaps Heraten-is, or Heratemis: but I do not maintain that both are the

HIERATIS. February 1. Hundred and twenty-third day.

Gilla is a town. Halilah, or Halilat, a hill, which ferves as a direction for entering Busheer harbour. It takes its name from the town marked Halila in Niebuhr.

marked Halila in Niebuhr.

236 See Kousher of Thevenot, Niebuhr, &c.

237 Kazeron has an additional title, the

country of Sapor; and is the head of that division of Persis called Sabur, or Sapor, by d'Anville. Gol. ad Alfragan, p. 115. not. It is not, however, the capital, for that he calls Sabura.

^{*38} Nothing certain can be fixed on the interior course of these rivers.

within a mile and a half of the town, and was apparently passed by a bridge about fix miles lower. The town is large, but ill built.

^{24°} Written Kazarun by Al-Edrisi, p. 125.
241 This is, I conjecture, the relation which
Ptolemy's and Marcian's Brisoana has with
Kezarene; but it is mere conjecture.

fame, for Kazeroon 242 is upwards of fifty miles inland, and the Kierazin of the Turkish Geographer is on the coast; but I suppose both to be connected by means of the diffrict or the river. D'Anville has observed, that Kierazin on the coast appears not in the modern maps, but that the name exists in our English charts under the form of Zezarine, applied to an iflet nearly fifty miles out at fea. This is true; but at the time he wrote, neither this iffe, nor another called Kenn, were laid down with any degree of correctness. We have fince obtained their position, from an observation of Captain Moore; Kenn 243 in latitude 27° 54', and Zezarine in 28° 8'. Kenn is a round bank of fand scarcely half a mile in. length, and Zezarine " fomething larger, with a rock in the middle; both are fixteen or seventeen leagues from the coast. Kenn is likewife called the Cock, or Persia, and Zezarine, Arabia, by the native pilots. And here is a circumstance worthy of remark, which, though. it escaped the notice of d'Anville, speaks highly for the penetration manifested in his reference; for Zezarine, the isle, is as certainly connected with a Zezarine on the main, as Kenn is with his Kaneh-Sitan, the Kenn of our English charts. There is another solitary isle called May, upwards of fixty leagues from the coaft, in latitude: 25° 50', which I mention, in order to shew the perpetual connexion of these little spots with the main; for Al-Edrisi fixes a Mai in the road from Shiras to Siraff, to which this iflet is nearly opposite, and

gratified in finding a demonstration of it in Otter, vol. i. p. 310. where he writes Kiaziran, Kiaziroun, as the firict Oriental orthography of Kazerun. This, at the same time it proves the perpetual transposition of syllables (so often noticed), as of Kiaziran for d'Anville's Kie-

²⁴² After making this conjecture, I was razin, unites it with Kezareen and Zezareen, most perfectly. The connexion, therefore, of the town with the river and the shoal is established.

²⁴³ Dalrymple's Collection, p. 46.

^{244.} Keyn and Zazareen, McCluer.

to which it is probably related. I expected to find a Kierazin also in Al-Edrifi, but his routes are always the journals of the caravans, and we feldom have any delineation of the coast.

Arrian has no particulars of Hieratis; but that it was on an island formed by a channel from a river in the neighbourhood, and that an island of this fort, resembling the delta of a river, should not appear in our English charts is not extraordinary, because it would naturally be confounded with the coast; but Mr. d'Anville places an island here, which he writes Cousher, and which is the Coucher of Thevenot. He did not land here; but he fays it is a pretty large island, and enables us to form a conjecture of its distance from Busheer, by mentioning that he passed that port between two or three o'clock in morning, and was off Coucher at half an hour after feven. I trace an account which corresponds with this in Niebuhr, who upon his arrival at Kormudsch, in his route from Busheer to Schiras, mentions an arm that runs up from Busheer 245 into the interior of the country, then turns itself to the south, and falls again into the gulph lower down towards the east. At the place where this stream ought to fall in, his map prefents us with Khôre-Esseri, and as Khôre signifies a channel, or division, I have little doubt but this is the Heratemis of Arrian, and that Khor-effer 246 is the Koucher of Thevenot. It is true that Niebuhr is not accurate in his account of the arm which comes 247 from Busheer, for there is no such arm, as Mr. Jones affures me, who refided at Busheer many years; and it is extraordinary that Niebuhr should infert this arm in his own chart2+8.

²⁴⁵ Niebuhr, vol. ii. p. 81.

²⁴⁶ Khôre-Esseri is literally the channel of Busheer Bay. See his map. Effer, and Effer doubtless has a relative fense.

²⁴⁷ I use his own term, but it is more pro-

perly a large arm which he makes fall into

²⁴⁸ Vol. ii. p. 97. Amft. edit.

and yet give us Captain Simmons's chart249, in which no river larger than a brook is to be found. As Niebuhr never faw this Khôre-Efferi therefore all that we can collect, is, that he gained intelligence from inquiry among the natives, that the circumstance of a river inclosing a delta between two of its mouths existed, and that the eastern channel was called Khôre-Esseri. This, for want of further information, he was obliged to lay down with uncertainty; but that fome stream, attended with these circumstances, does fall into the gulph, within the distance of from ten to twenty miles eastward of Busheer, I make little doubt, and such a stream will answer to the Hieratis and Heratemis of Arrian. Mr. Jones is acquainted with a fhallow arm of the fea running inland near Halila; and though he doubts the circumstances here attributed to it, it is not impossible. that this arm should fend off a channel to the eastward.

MESAM-BRIA Town. PADARGUS. PADAGRUS River. February 2. Hundred and day.

From Hieratis the fleet proceeded the following morning to Mefambria, and anchored at the mouth of the torrent called Padargus. The whole place, fays Arrian, is a peninfula, which points out Busheer or Bender Rischer most correctly; and here there is no distance given, a circumstance 250 recurring constantly whenever the twenty-fourth fleet passes a cape, and anchors immediately under the shelter it affords. I should conclude, therefore, if d'Anville does not stand in my way, that Hieratis was at no great distance from the back of this cape to the eastward; that they had anchored there only because they could not double the cape the preceding evening, and had failed into port as foon as they had day-light. These circumstances do not greatly difagree with the fituation Thevenot gives to Koucher, and

²⁴⁹ Vol. ii. p. 75.

^{*50} See anchorages after passing Mount Eirus, Jask, and Tarsia.

contribute to relieve the obscurity attendant upon this part of the coast.

Busheer varies as much in its orthography as any place 251 within the gulph, for it is written Rusheer and Rischer, now generally applied to the old town, or a fort, which, with the addition of Bender, or port, gives it all the different forms it has in the charts; but last of all comes Niebuhr, who writes it Abu-Shâhhr 252, with Rischâhhr at a greater distance than it ought to be; and thus, probably from his better knowledge of the language, we have the proper name at last.

Whence the Mesambria of Arrian is deduced does not immediately appear, for though the word is expressive of noon in Greek, we may be assured its origin is not from that language. Arrian describes it as a Chersonese, and Ptolemy and Marcian use that term only without the addition of a name; this induces me to conjecture that both merely translated the native term Mesambria. Now it will appear hereaster that Mesen signifies an island, and is applied as such to a Mesene on the Schat-el-Arab, to another in Mesopotamia, and to a Muçan in the Sinus Mesanius of Ptolemy. This word, therefore, with the addition of Bar, a continent which we obtain from Montsaucon, produces Mesen-bar-ia, corresponding literally with the Greek term Cherso-nese state. I give this only as a conjecture, though the circumstances of the place persuade me that it is something more; and, in support of this opinion, I refer to Captain Simmons's plan state of Busheer, by whose assistance I can

²⁵³ Reixel by the Portuguese, who had a fort here. Abbeseer, Van Keulen.

²⁵² Or Abu-Schæhhr.

²³³ See Supra, p. 248.

²⁵⁴ From xigooc, a continent; mooc, an island, a peninsula.

²⁵⁵ Published by Mr. Dalrymple, and copied in Niebuhr. Voyage, tom. ii.

carry Nearchus to his moorings in the port, as readily as if I were upon the fpot; for in that plan there is a place marked as the watering village, within a mile of an infignificant stream corresponding with the Padargus of Arrian, and in the interval between these two points I suppose the fleet to anchor.

Busheer has been latterly much more frequented by the English than Gomeroon, or any port in the gulph except Bafra, for they had a factory here as late as the year one thousand seven hundred and fixty-five, and I know not that it is yet abandoned. The town occupies the triangle at the cape, with a fort usually called the Old Town, and fometimes Rischer, at the back of the cape, near five miles distance. The cape is joined to the main by a neck, the narrowest part of which is at the torrent Padargus, forming the Cherfonese mentioned by Ptolemy and Arrian; but Niebuhr 256 obferves, that the country is fometimes overflowed, fo that the town is fituated alternately on the continent and on an island "57; but it is not a little remarkable, that out of three witnesses who have been on the fpot, two 258 should affert that the town is walled, as it appears in Captain Simmons's drawing; and a third, M'Cluer, maintain, that there are not the least marks of defence about the place. It ought not to be omitted that the gardens or plantations which decorate Captain Simmons's chart are noticed by Arrian'259 in a pointed manner, as if the goodness of the soil had produced the fame cultivation fo many ages ago, as cheers the country in the present declining state of Persia. This, however, is denied by

p. 172.

250 Thevenot calls it an island, Part ii.
p. 172.

257 Dalrymple's Preface, p. xviii.

²⁵⁸ Captain Simmons and Niebuhr. 259 ει αυτώ κύποι τι ωολλει, κή ακρόδουα ωαιτδία έφοιτο, p. 354.

M'Cluer, who calls the neck a fandy defert, and never cultivated, which is a fecond inftance of contradiction in two eye-witneffes, and respecting the same place. Mr. Jones also confirms the testimony of M'Cluer, and contradicts the affertion of Niebuhr, where he mentions that the neck is overflowed. The country as far as Busheer is still called Kermesir by Niebuhr, that is, the low land, though we fee in the drawings here the high land of Halila, as we do at feveral other points along the coast, at Kenn, Nabon, &c. but which are not fufficient to invalidate the title, or perhaps worthy to compare with the grand 260 ridge which runs inland in a line with the coast. This district, Niebuhr informs us, is inhabited by Arabs, not of the tribe of Beni-Houle, which prevails from Gomeroon to Konkun, but by two clans of long standing, and a third which has intruded itself into the government, named Matarisch, the head of which was in his time Sheik Naser, a chief who had degraded himfelf by marrying a Perfian, and profesfing himfelf of the fect of Ali. He possessed a large territory in Kermesir and the island Bahrein, but was a feudatory of Kerim Khan, the master of Shiras. The harbour 261 is commodious, and veffels ride close to the houses, which induced Nadir Shah 262 to have a fleet here in the latter end of his reign, when he had quarrelled with the Sheiks on this fide of the gulph, and wanted to interfere with those of Oman and Mascat on the opposite coast.

The mean latitude of Busheer is given by Mr. Dalrymple at 28° 38' 20", which perhaps ought to be read 28° 58' 20", for

²⁶⁰ Every route and journal bears testimony M'Cluer does not speak so well of it. to the course of this ridge, and the branches from it. Confult Thevenot, Tavernier, Francklin, Cheref-eddin, and Al-Edrifi, Rasal-Acbé, fummitatem montis, p. 125.

²⁶¹ Niebuhr, Eng. edit. vol. ii. p. 145.

²⁶² See Otter, vol. ii. and J. Hanway's Nadir Shah; but he had no better fuccess against the Arabs than others who have attacked them.

M'Cluer carries it above 20° as well as d'Anville, and d'Anville has shewn as much judgment in correcting this position with bad information to work upon, as in any part of his valuable memoir.

TAOKE Town. GRANIS River. Hundred and day.

When the fleet left Mefambria it proceeded only twelve miles and a half to Taoké, for which I do not allow a day, nor do I think one due. Neither will the distance to Taoké agree, though the February 3. double distance of twice twelve miles and a half to Rhogonis, or twenty fifth Bender-Regh, approaches very nearly to correctness; for the bay of Busheer is fourteen or fifteen miles across to the northern point called Rowhla and Rohilla by M'Cluer; and the river Granis, for which he allots a place, is not five miles from Bender-Regh. If, however, the two distances agree, though neither of them fingly is correct, we may account for it from the circumstance of their employment in the former part of their course, which was the examination of a dead whale, that feems apparently to have floated up to Rohilla point, and to have grounded on the fands in its neighbourhood. Some of the people approached near enough to measure this monster, and reported it to be fifty cubits long, with a hide 263 a cubit in thickness, befet with shell-fish, barnacles 264, and fea-weeds, and attended by dolphins larger than are ever feen in the Mediterranean. As this is the fecond appearance of the whale in these seas. I have not thought myself authorised to omit the circumstance; but as this animal was feen dead, and in a state of decay, he might be deemed rather an inhabitant of the ocean driven up the gulph by the wind or currents. 'The condition in which he was found I leave to the discussion of the natural historians, or those acquainted with the appearance of the animal in his native regions.

²⁶⁴ λοπάδας. Patellæ genus. Limpets per-263 diena posidurios. Scaly, in common acceptation, but I have not dared to admit it. haps.

The mouth of the river at which the fleet first anchored is noticed in our English charts, and fixed by d'Anville for the Boschavir, down the borders of which Thevenot travelled in his route from Shiraz to Bender-Regh; and Taoké answers to the Tauag of the Nubian Geographer, who places it not upon the coaft, but, as Arrian 265 does, a few miles up the stream, thirty-fix miles from Kazeron, and the fame distance from Gennaba, on the river 166 of that name. Ptolemy has a Taoké, which is farther to the north; and Strabo mentions a palace of the kings of Persia on the sea-coast of Persis, by the name of Oké 267, which is either a corruption or an integral part of Ta-oké. Thevenot268 describes the river as large, broad, and deep, and adds, that it falls into the gulph near Bender-Regh; but that its mouth is to the fouthward of that town, and correspondent to the Granis of Arrian, appears from the circumstance of Thevenot's croffing it to the right for the last time, in his way to that town, after having travelled on its bank at intervals for fome time, and croffing it repeatedly in the higher part of its courfe: in winter, he fays, it is not fordable 269.

This river is marked with great precision in M'Cluer's small chart of the head of the gulph, with a place called Nuchlat 270 at its entrance, and here, allowing for the error of half the course, there

miles.

diftance corresponds not at all.

D'Anville.

²⁶⁸ Part ii. p. 148. Eng. edit.

²⁶⁹ Colonel Capper's journal mentions a 270 We do not find the title of Bender mountains of Bang, which the natives fay any of our English charts.

²⁶⁵ Two hundred stadia, almost thirteen was built by the Greeks, and formerly impregnable. Greeks or Persians are to them 266 Called Ab-Shirin by d'Anville. The alike, and it is, possible here may be the remains of Taoké feen from Bang, which is 267 To RATE THE ORDE. Lib. XV. p. 728. Ptolemy's Taoké, and yet approachable by the river, agreeable to Arrian's account. Capper, 232.

ruin still visible from the sea, inland on the Boschavir, which d'Anville gives to this road in

can be no mistake in fixing the Granis of Arrian. Whether the Granis is the fame stream as the Boschavir of d'Anville and Thevenot I cannot positively determine, but that it is the river that comes from Grâ, and takes its name from that place, I have the testimony of Niebuhr 271. " On the fecond of March," he fays, " we passed a " river which joins feveral others, then takes its course towards "Grâ, and discharges itself into the Gulph of Persia, between " Abu-Sehahr and Bender-Regh." This is the river M'Cluer marks by Nuchlat; it is the only one between Busheer and Bender-Regh, and it can be no other than the Granis of Arrian. So far as concerns the mouth of this stream I have no hesitation, but a great difficulty arises from the position of Gra and Kazeron inland. By their fite, the river 272 at Kazeron ought to come to the westward of Busheer, and the river at Gra to the eastward, but I carry the Kazeron stream to Hieratis, and that of Gra to Taoké or Nuchlat; and this I am persuaded is their course; but I dare not affert it in opposition to d'Anville, Niebuhr, and other evidence. It must, therefore, remain a problem in geography till the interior of the country is better known, for I can find no route that croffes these feveral streams at right angles; and, till that shall be accomplished, their relative fituation cannot be determined.

RHOGONIS. February 3. Hundred and twenty- fifth day.

From Taoké, I make the fleet proceed the fame day to Rhogonis, the modern Bender-Regh 273, and the Bundereek of our charts; its name implies the Sandy Port or Harbour, for fuch it is, and the foil-

This passage is totally inconsistent with his map, where he brings the river from Gra into the bay of Busheer.

¹⁷³ This is true only if Niebuhr's map is

²⁷¹ Niebuhr, vol. ii. p. 91. Amft. edit. correct; for d'Anville places Kazeron, as I do, at the head of the stream Hieratis. Niebuhr's map is so incorrect on the coast, that there is reason to doubt its precision inland.

²⁷³ Bender Rigk. Niebuhr.

about it is all fand. Thevenot, who came down from Shiraz to embark here for Bafra, informs us, that the town is built along the fea fide, at a place where it runs into a narrow channel, long and winding, but is not deep; and if he had wished to describe a circumftance in conformity with Arrian, he could not have fucceeded better, for here the journal indicates a winter torrent and a fafe road ", which in our charts is protected by an island in the form of a shuttle. On this head, the journal is filent. It is remarkable that Thevenot should add, that it is a day's fail from Bender-Risher, or Busheer, as I have made it; and though I allow that four hundred stadia, or twenty-five miles, is a short day's work, yet it should feem that, as it is from port to port, the natives confider it as fuch in the present age, as well as in the time of Nearchus. In the term Regh 275, or fandy, we discover the Rhog-onis of Arrian, and a river called Rhog-omanis by Ptolemy, which d'Anville supposes to be the Ab-Shirin of Cheref-eddin, a stream that enters the gulph about twenty miles to the north of Bender-Regh, marked Gunowah by M'Cluer, and from which d'Anville derives a branch, that is to correspond with the torrent of Arrian at this station. On what authority this is built I know not, and the testimony of Thevenot without it is complete.

Bender-Regh was apparently the port of communication between Shiraz and Bafra, but was always out of the way of ships bound up the gulph, which took their pilot at Busheer, or Karack; besides this, there has been another reason of late years for their not fre-

²⁷⁴ The road is formed by an island, and nant Mascal's in Mr. Dalrymple's possession. covers a narrow winding channel as Thevenot describes. The river falls in as near as possi- ba-reek, Bom-ba-regh, Sable delié of Pietro ble to the fouth-west angle of the town. Thus della Valle; and this name is usually written it is described in a manuscript draft of Lieute- Bendereek, like Bombareek.

²⁷⁵ It is the same term as occurs in Bom-

quenting it, for it was subject to a petty tyrant Mir Mahenna 176, whose hands were imbrued in the blood of a father, a brother, of two fifters, and of his own children, and who wanted nothing but extent of dominion to make him as great a murderer as Zingis Khan or Nadir Shah. It was this Arab who took Karack from the Dutch in the year one thousand seven hundred and fixty-five, after they had been in possession of it about eleven years 217. The Dutch appear never to have found the advantage of holding this island equal to the expence of maintaining it; or elfe we may well suppose it would have been better fortified than to permit fuch a chief as Mir Mahenna to wrest it from them. There was, indeed, some trade here, and fome confluence of the natives from both fides of the gulph; for they are willing to fettle wherever they can find protection; but the reduced condition of Persia, and the perpetual fluctuation of authority at Basra, must, as long as they shall continue, keep the commerce of the gulph in a precarious state, and prevent the rifing of any establishment, either here or on the other islands, to the dignity or rank of Ormuz. Karack 278 is the larger of two islands which lie between latitude 29° 10' and 29° 22', off the headland between Busheer and Bender-Regh, abounding in fish and dates, but without corn 279; and here it has long been the practice of the gulph to take a pilot for Bafra. The fmaller of the two is named Corgo in our charts, and Khouéri 250 by Niebuhr; at the north end is the watering place, where forty English were cut off by Mir

279 M'Cluer. But Thevenot fays it pro-

²⁷⁶ Niebuhr says, he did not kill his fa- in Foskat's Vocabulary, signifies au debors, ther, but suffered him to be killed in his pre- the off island.

²⁷⁷ See the detail of this in Niebuhr, French duces corn. edition of Amsterdam, p. 149. vol. ii.

²⁸⁰ Khouéri means division or district; the 278 Charedich of Niebuhr; and Charedich ifle, perhaps, feparated from Karak.

Mahenna in the year one thousand seven hundred and sixty-eight. They were however enemies, and do not so much inflame the account of his cruelties, as his domestic tragedies. Tyrant as he was, with all this blood upon his head, he was not yet thirty years old in the year one thousand seven hundred and sixty-sive, when Niebuhr was at Karack; but this monster was afterwards obliged to fly from Bender-Regh to Basra, on account of his cruelties, where his head was cut off by the Mutasillim, and sent to Bagdat show. Mr. Dalrymple has published a plan of both these islands from a French manuscript, taken in the year one thousand seven hundred and eighty-seven.

From Rhogonis, the next day's course was twenty-five miles to Brizana, a winter torrent, where it was difficult to find anchorage, on account of the breakers, shoals, and surf upon the coast. These, however, were surmounted upon the tide of flood, but upon the ebb the vessels were all left dry. If, therefore, we should be curious to investigate the question here, what might be the draft of a Greek penteconterus, or vessel of sifty oars, there are some data for determining it, for the flood rises in the upper part of the gulph nine or ten feet; and if this rise carried them over the breakers, we can hardly allow the largest vessel in the fleet to have drawn more than from six 252 to eight feet water.

At Brizana I anticipate the objections which will be made to my fixing the Brifoana of Ptolemy at Kierazin, which, from its fimilarity of name to the Brizana of Arrian, demands a position here; and one part of the objection will be very strong, for neither Pto-

BRIZANA River. February 4. Hundred and twenty-fixth day.

²⁸¹ Niebuhr, vol. ii. Voyage. French 282 They could not draw more, but might edition of Amsterdam, p. 161. note; prodraw less, and that I believe is the truth. bably about 1770.

iemy, nor Marcian his copyist, take any notice of a Brizana here, but have only one name bearing a resemblance to it, and that not in this place. Before I attempt an answer, I must premise that I built nothing on the similarity of sound, which I derived from Kesareen, and I will now state the question on both sides as fairly as circumstances permit.

If the Brisoana of Ptolemy is to be the Brizana of Arrian, Ptolemy has misplaced it, and not Arrian; a kind of transposition which I have before suspected on the coast of the Ichyophagi; and the reason why a preference is to be given to Arrian is self-evident, because a journal kept, and a course described from day to day, is much less liable to error than the account of a geographer residing at Alexandria, and reducing the relations which he received from written journals, or the oral information of navigators: but I do not think this transposition took place; for if d'Anville be mistaken in placing Ptolemy's Taoké at Cape Banc, though even that is hardly credible; neither he nor I can be mistaken in his Chersonese, for that is the very term used by Arrian, and there is but one Chersonese on the coast, which is at Busheer: and I now say that, on the authority of Ptolemy himfelf, his Brifoana fucceeds Busheer, or the Chersonese, and not the Chersonese, Brisoana. His order stands thus:

Taoké, - Cape Banc. Rhogomanis, - Bender-Regh. Cherfonesus Prom. Busheer.

Ionaca, -

Brifoana, - which ought to be Kierazin.

The latitudes, it is true, do not answer, but they are remarkably corrupt in this series, for the mouth of the Bragada, the last name

on his list, is in 21° 54', and the source in 35° 15'. What stream can there be in the Kermesir, the source of which is sourceen degrees from the mouth? I rely, therefore, on the order, and not on the latitude; and in this I am justified by Marcian, for he measures from Taoké to Rhogomania, from Rhogomania to the Chersonese, from the Chersonese to Brisoana, six hundred and sifty stadia. Another circumstance confirms this; for the Brizana of Arrian lies between the Arosis and Rhogonis, and Marcian, in the space between Taoké and Rhogomania, mentions the island Sophath, the Sophtha of Ptolemy, which island is Karack; this therefore must prove, that the Rhogonis of Arrian and Rhogomanis of Ptolemy are the same; and if we are right as far as Rhogonis, we are hardly wrong in the remainder of the series. These are the reasons which induce me still to place Brisoana at Kierazin 155, or Hieratis; and if I err, it is from my desire to make Ptolemy consistent with himself.

In fettling the extent of this day's course by the journal, I should be happy to find a nearer correspondence than I do; Arrian calls it twenty-five miles, but the distance to Bender Delem, where d'Anville places Brizana, is upwards of thirty-five miles, and the distance to the Gunowah of our English charts is not twenty ***, so that one is in excess, and the other too short to determine this position with certainty. Two rivers evidently fall into the gulph, one to the south and one to the north of Cape Banc, the Taoké of Ptolemy. That on the south d'Anville is surprised to find written Guenara; What would he think of our English Gunowah? And yet this is a corruption more to the fight than the ear; for Guenowa is Gennaba, with the w for the Persian B or v, and the open sound of the vowels

284 Not fifteen in d'Anville's map.

²⁸³ D'Anville has not discussed this point, but he assigns Brisoana to Kierazin.

produced the infertion of R in Guenara, in whatever chart it appeared. Gennaba makes a confpicuous appearance in Al-Edrifi, Cheref-eddin, and Alfragani; I should prefer it therefore, if other circumstances agreed, to Bender Delem; and as there is no distance given for the next day's course, we may be the more at liberty to place Brizana either at the one or the other. There is a fecond confideration of more weight, which is, that our charts are less to be depended upon on this part of the coast than the lower; for as vessels now always go from Karack to Basra, and always did go either from this island, Busheer, or Bender-Regh, they have rarely touched upon the tract now before us, and, unless the wind is foul, do not make it. This is noticed by M'Cluer 285, and he adds, in a letter 286 to Mr. Dalrymple, that he found it necessary to shorten the distance between Karack and Basra Bar, ten miles. I mention this as a ground of uncertainty in respect to this coast: but M'Cluer affures us, that Bender Delem is still a place of refort for the country veffels, which favours d'Anville's opinion; and though M'Cluer does not place it upon the river north of Cape Banc, still that river must be the Brizana of Arrian, though we cannot reconcile the distance. The best proof of this is, the position of Taoke 287 by Ptolemy, for he ends the province of Susiana with Oroatis, the Arofis of Arrian; and the commences Persis with this promontory, which, though not prominent, is the first characteristic feature on the soaft: this is the Cape Banc of Niebuhr, the Bang of our English charts; and though Ptolemy omits both the rivers Delem and Guenowa, which fall in on different fides of it, a circumstance not usual,

²⁸⁵ Memoir, p. 31.

²⁵⁶ Preface, p. 16.

²⁸⁷ The route in Al-Edrisi is Kazerun, Rozaic, Taug, Gennaba, p. 125.

still his Rhogomanis and Chersonese following, leave no doubt upon the propriety of fixing his Taoké at this cape, as there is no other till we come to Busheer; and as we have not in any account, ancient or modern, notice of any flation between Delem and the Arofis, there can be little hefitation in affigning this for the Brizana of Arrian.

Mr. d'Anville supposes Bender Delem to be at the mouth of the river, which its name implies, but our English charts carry it seventeen miles to the northward of it: and that Bender Delem is an object in the navigation of the gulph, I conclude from Thevenot, who, failing in a country ship from Bender-Regh to Bafra, undoubtedly purfued the fame course as that by which Mazenes carried Nearchus; but as Thevenot notices Bender Delem while he passes Gennaba 288, or Guenowah, in silence; the former is to be preferred for Arrian's Brizana, however the distance may The river called Guenowah in our charts is supposed by d'Anville to be the Ab-Chirin 289 of Cheref-eddin 290; and fuch, by the march of Timour, it appears; but the names of all these rivers are loft to Europeans, because our navigators name them all from the town they are near, in the fame manner as Gunowah receives its title from Gennaba. It is in this respect that the geography of Cheref-eddin is valuable; for whatfoever river is passed in the route of the army may be depended upon at the point where it is passed, however he may be mistaken in the report of its course above or

¹⁸⁸ Giannaba of Al-Edrifi.

non multum diffita.

In the word Ab-Chirin there is fomething to call in question all our reasoning on this point; for if Brizana is a corruption of Ab-Chirin, by dropping the A, as in Busheer, Busheab, &c; and if Ab Chirin be really the viver of Gennaba, or Guenowah, then this anchorage must be fouth of Cape Banc, and not north; that Brizana is a resemblance of

Ab Chirin, the river Chirin, I think for this 289 Sciniz of Al-Edrifi, 125. A mari reason: Chirin would be written Dejirin in Perfic, and the DSJ paffes generally into z; by transposition we should then find Zirin or Rizin, and from the latter Ab-Rizin; from this again, Brizina or Brizana. I do not dare to infift upon this; but if the course of the Ab-Chirin should hereaster be fixed, I should certainly assume Brizana as its representative.

below; and this circumstance makes his work preferable to that of Al-Edrisi, who gives the towns on the route, but usually neglects the rivers. If rivers are the veins of the earth, they are the finews of geography. I leave this station unwillingly without fatisfactory elucidation; but, all circumstances considered, I at present subscribe to d'Anville's settlement of it at the river Delem.

AROSIS River. February 5. Hundred and twentyfeventh day.

From Brizana, the next day's course is to the Arosis, a river sufficiently conspicuous, as being the boundary between Susiana and Persis; a privilege it maintains in modern geography as well as ancient; and Arrian adds, that it was the largest of all the rivers which Nearchus had yet met with in the Gulph of Persia. It is called the Endian in our modern charts, from a town at no great distance from its mouth; and Ab-Argoun by Cheref-eddin; out of the component parts of which, Ar-ofis preferves but a fingle fyllable, and that perhaps not legitimately, for Ab-Argoun is 291, as I suspect, Ab-Ragoun, the river of Ragoun or Ragian, a town of confiderable importance on this stream, near five-and-thirty miles from the sea. In its lower part it is called Tab 292 by the Oriental writers, who always speak of it as a stream of consequence, and Ab in this word is apparently the river, pre-eminently above others on the coast. Endian is a village, or rather a knot of villages, fifteen or fixteen miles from the sea, from whence this stream derives the name by which it is known to the Europeans. The course and nature of the Arofis 293 will be confidered hereafter, with the other rivers of Sufiana, when we come to treat of that province; at prefent our concern is with the coast, and as no distance is given from

²⁹¹ Araghian. D'Anville. On the Tab abounds in dates, grain, fruits, fugar, &c. there is a bridge a bow-shot from the town. Al-Edrifi. Ragian terminat Fares et Churestan estque urbs pulchra, p. 123.

Khousistan. Otter, vol. ii. p. 49. Who non procul ab arce Mohdi. Geog. Nub. p. 123. adds, that the province is very hot, but

²⁹³ Ex parte meridionali Churestan fluitamnis 'Pab, dividens ipsam Churestan a Fares, et omnes aquæ Churestan in unum confluentes-292 The Tab receives several rivers out of exonerant sese in mare prope urbem Mahruian,

Brizana to the Arofis, and one much too short from Rhogonis to Brizana, an obscurity rests upon this part of the course, which is not fufficiently elucidated by our modern charts. It is however neceffary, as we are arrived at the termination of the province, to confider the total of Arrian's stadia, and examine how far they agree with, or differ from, the actual extent of the coaft. numbers, fuch as we have them in the journal, stand thus:

From the Centre of KATAIA, or KEISH

	3				
Ancient Name.	Modern Name.	Stadia.	Miles English.	Stadia allowed.	Miles Eng-
To Ila or Kaikandros,	Inderabia,	400	25		dilonea
To an island 294,	Schitwar,	-	-	320	20
To the main 295,		40	2 1/2	1 2 1	
To Ochus 296,	Darabin,	-	-	40	21
To Apostani,	Afban. Shevoo?	450	28	4	
To a bay,	Nabon River,	400	25		
To Gogana,	Kenkûn,	600	37 =	A No be	
To Sitakus,	Kenn,	800	50		
To Hieratis,	Kierazin,	750	46‡	400	
To Mefambria 297,	Busheer,	-	×05	400	25
To Taoké,	Nuchlat, Bender-Regh,	200	125		
To Rhogonis, To Brizana 298,	Delem,	400	25		
To the Arofis 299,	Endian,	400	-5	800	50
Lo the Mons ,	Lindian,				
		4240	2644	1560	971
	Stadia allowed,	1560			
market in the state of the	distribute the same				
	Total of stadia,	5800			
A STATE OF THE PARTY OF THE PAR		-			
a little and the second	Miles allowed,	-	971		
	m . c .:				
nin sun diligantani	Total of miles,	-	3624		

294 Diftance by the chart.

295 From the point of Schitwar (axen) to the eaflern fide of the Darabin.

256 From the eastern side of the mouth of the Darabin to the western.

Kousher, but dubious.

298 If Brizana is Delem, this day's course is too fhort by ten miles, compensating for half the difference on the coast of Persis,

between Arrian and the charts.

299 The diffance allowed is taken from the charts between the Endian and Delem, and is one reason for supposing Brizana to be at Delem; for if it is to be referred to Gunowah, 297 Allowed from the eastern fide of it measures eleven hundred stadia, - a day's course never occurring in the gulph, or in any part of the voyage except on the coast of the Isthyophagi, in cafes of extreme distress.

From this table we are first to observe, that 362; miles English amount to 5800 stadia within a quarter of a mile, and yet, with the allowance made from the measure given by the English charts, I am not enabled to bring the total up to the actual extent of the coast; for the mere opening of the compasses gives five degrees and an half, equal to 382 miles English, fo that there is still a deficiency of twenty miles, without allowing for the course of the fleet. The total of Arrian is 4400 stadia, disagreeing, as usual, with his particulars; neither can his omissions be compensated by 160 stadia; for the omissions taken from the chart, and reduced into stadia, amount to 1560. These I have measured carefully, but precision is unattainable; and though fome advantages may be taken in meafuring fingle intervals, in order to obtain a nearer correspondence, I shall not force it upon the total, but trust to the indulgence of the reader; hoping that twenty miles upon the 382 will be deemed a minute error, in comparison of those we usually meet with in ancient geography. Strabo300 accords with Arrian, or at the utmost within 100 stadia; but Pliny makes the coast 550 miles, an excess which causes this single province to transcend 301 the measure of the whole gulph. I shall do a pleasure to those who have not feen d'Anville's Memoir, in producing here a specimen of that geographer's penetration. "Doubtless, (he fays102,) Pliny drew from " the same source as Arrian and Strabo, for he read 4400 stadia, " and then converting these into Roman miles of eight stadia, the " divifor produced exactly 550 miles, as it stands in his text." If Pliny had calculated the omissions, and found the whole amounting

dred fladia.

³⁰¹ He makes the whole gulph eleven hun-

³⁰⁰ Strabo, p. 727. There is an error in dred and twenty-five miles. According tothe reading, but it feems to indicate four thou- d'Anville's method, he must have read nine and four hundred or four thousand three hun- thousand stadia, equal to five hundred and fixty two miles, in reality.

³⁰² Lib. vi. c. 25.

to 5800 stadia, as I have proved they do, his produce must have been 725 miles; an enormity equal to his measure of the Indus.

In regard to the rivers of this province, I cannot pronounce any thing certain on their course inland. I trust to every traveller for the stream he passes in his route, but there are great difficulties in giving them the course found in their works, and which they must usually derive from the information of the natives. The nature of the country will naturally produce temporary torrents from every valley between the mountains; but how these are afterwards combined, and under what name they reach the fea, must be dubious, till travelling shall be more safe and frequent than it is at present. Of the Darabin and Nabon rivers we know nothing but their mouths. The Sitakus feems well arranged by d'Anville, as the stream that comes from Giauar, and collects all the torrents in the district; but the Kierazin is subject to all the difficulties which have been already stated.

The Boshavir of Thevenot is elucidated with great attention in his route, but it falls into the fea just to the north of Busheer, as d'Anville gives it. I still suspect it is joined 303 by the river from Grâ, and becomes the Granis of Arrian: it is by Thevenot's account no ordinary stream. The Ab-Chirin of d'Anville, which he brings in at the Guenowa of our charts, is not, as far as I can. judge, correct; it feems to be the stream of Delem, the Brizana of Arrian. Of the Arofis more hereafter. Almost all these streams. Arrian calls Winter 304 Torrents; and, fo far as they all rife from the range of mountains inland, fuch they are: but the rains fall in this range, as far as can be collected from the variety of materials before me, in April, May, and the early part of June; there is little rain in

³⁰³ See Niebuhr's map, vol. ii. Amft. edit. another name for Busheer, the Busheer River. Where, however, this junction is not verified. I fometimes suspect that the Boschavir is only

the Kermesir, or hot country next the sea, and some years none at all. These circumstances seem to give a common characteristic to all these rivers, and to qualify them with the name of Winter Torrents, though their rise is in spring, and consequently Nearchus, who was upon the coast in February before the rise commences, speaks agreeably to the nature of the country, when he mentions some of them as too low and shallow to float even a Greek vessel in that season.

Nearchus has preserved likewise most admirably the general features of the province, which he divides 305 into three parts; that division which lies along the fide of the gulph, he fays, is fandy, parched, and sterile 306, bearing little else but palm-trees, which corresponds exactly with the Kermesir, and the accounts of all our modern travellers; but as you advance to the north or north-east, and pass the range of mountains, you find a country enjoying an excellent temperature of air and pleasant seasons, where the herbage is abundant, and the meadows well watered, where the vine flourishes, and every kind of fruit except the olive 307. Here the kings and nobles have their parks 308 and gardens; the streams are pure and limpid, iffuing into lakes which are stored with aquatic fowls, of all the different species. The pasture is excellent for horses and domestic cattle, while the woods supply an ample variety both for the support of man and for the chace. Such is the picture 309 fet before us, and fuch ever was this country while it was under the

⁵⁰⁵ The same division is made by Strabo and Dionysius Perieg.

³⁰⁶ Strabo, p. 727.

³⁰⁷ This minute circumstance, noticed by Arrian, is mentioned also by Le Bruyn.

Noubendgian, is one of the four Eastern paradifes. D'Anville, p. 176.

³⁰⁹ Even in the present decline, the country is so beautiful, that Francklin, after passing the last ascent, and obtaining a view of this part of the province, bursts out into a vein of poetry, the effect of his sudden transition from the parched level of Kermesir, and the rudeness of the mountains.

protection of a regular government. The lakes alluded to are doubtless the Lake Baktegian and a smaller one near Schiraz; and the ftreams which terminate in these, and never find their way to the fea, are as evidently the pure and brilliant waters he describes with the same luxuriant fancy a poet of Schiraz310 might have painted them at the happiest period of the empire. But how is this picture now reverfed! War and tyranny has spread desolation all around: It is not the destruction of Persepolis 311 we lament over in surveying the ruins of Chelminar, or Estakar, while we accuse either the ebriety or insolence of a conqueror; it is not the tomb of Cyrus at Pafagardæ plundered and overthrown by an avarice natural to foldiers. in the hour of victory, or natives in despair; but it is the fate of a province we deplore, which once furnished the bravest troops of Asia, which abounded in every gift that agriculture and industry could produce, which rose above the barbarism of the East, and was celebrated for its poets, its philosophers, its beauteous race of women, its men, as comely in their persons, as polite 312 and elegant in their manners; its merchants, who trafficked to the extremities of the East; and its superior culture of the vine, the only excellence which despotism has not annihilated. At the present moment, the villages have ceased, and there are no travellers in the highways. The capital is in the possession of a Kurd 313, a robber both by birth and profession;

310 Schiraz is famous for the best Persian poets.

burnt it in revenge for the burning of the Greek temples: but it is hardly a better cause for turning incendiary than the suggestion of a courtezan. Strabo says nothing of Thais, but accords with Arrian, p. 730.

312 At the present hour I cannot find that, in comparison with other Asiatics, the Persians have declined from this pre-eminence, except that they are accused of fraud and dissimulation. Two vices, the natural produce of despotism, and polite manners in a state of decadence.

year one thousand seven hundred and sixtysive. Francklin describes Kerim Khan as a
benefactor to Persia, and in a better light
than Niebuhr; but Francklin was at Schiraz
in the year one thousand seven hundred
and eighty seven, after the death of Kerim,
and the tyranny of his successors made him
regretted.

and of the distraction consequent upon the death of Nadir Shah there seems to be no end.

There is still a third division of Persis towards the north, comprehending the mountainous country, which is wild, rugged, and inhabited by barbarous tribes, where the air is cold, and the fummits covered with fnow 314. The barbarians are the ancient Uxii, or modern Afciacs; and the range called Louristan divides Persis from what the ancient historians in a large fense called Media. Isphahan, the modern capital of the empire, is just to the north of this chain, and not in Persis. These mountains extend equally on the north of Susiana 315, and fend down those streams which pass through that province either into the Tigris or the Gulph of Persia; while the more eaftern part furnishes the torrents which water Persis, and all fink into lakes, or are exhausted by derivations for the purposes of agriculture. One of the largest of these streams, called Bend-Emir 3.6, flows near Persepolis, and corresponds with the river paffed3" by Alexander in his approach to that city, when he came from Sufiana, as the fort Kalaa Sefid, taken by Timour, answers to the fortress where Alexander 318 defeated Ariobarzanes in his approach to that river. Arrian, in his third book, has unfortunately confounded Persepolis 319 with Pasagardæ 320; but the former was the

314 Κύςτιοι κή Μαςαοί λητεικοί. Strabo, p.729. Ελυμαιοι κή Παςαιτακτιοί. P. 732.

315 Strabo has fometimes confounded Sufiana with Persis, as p. 727; but he distinguishes, p. 728.

316 The Araxes of Strabo, p. 729; but he errs flrangely about the course of it. See d'Anville's Memoir.

Tavernier, vol. i. p. 726.

318 See Arrian, p. 130. Cheref-eddin, vol. ii. p. 189. Alexander feems to have

marched more to the north than Timour, in order to attack the Uxii, Afciacs.

319 The archives, and a great part of the treasure, were kept at Persepolis. Strabo, p. 730; and so it appears, from Alexander's haste to reach it before the treasury should be plundered, or conveyed away. Arr. lib. iii.

Perse-polis, literally translated. The Persepolis fixed at Estakar is determined by Alexander's march. residence of the Persian monarchs, and the latter apparently their place of burial. It is near fixty miles distant from Persepolis, in the tract called Koilé-Persis [Persis between the mountains] by Strabo, which ought to produce other torrents and another lake 321 for their reception, by the nature of the country; and such may possibly be found if we obtain a better knowledge of the interior. This town is supposed still to exist under the name of Phasa, or Phasa-gerd, which Golius interprets the city of the north-east, because it is cooled by the refreshing gales from that quarter, which is implied in Phasa.

SUSIS, or SUSIANA.

To delineate the province and rivers of Susiana is a task of no ordinary difficulty. The ancient geographers are at variance, and the moderns do not appear to have obtained a sufficient knowledge of its present state, to correct the errors, or reconcile the contradictions of their predecessors: in regard to the interior, the following discussion must labour under similar obscurity, but our knowledge of the coast has been much enlarged since the publication of Mr. d'Anville's Memoir; and if for this reason I am enabled to correct his missakes, and to explain difficulties for which he had no clue, I shall be thought less adventurous in combating Cellarius and Salmasius, who have inveloped the question in erudition, and neglected modern authority altogether.

The fact is, however, that the ancient geographers cannot be understood or reconciled, without reference to the actual state of the

There is something like this in d'Anwhich was changed into Cyros, p. 729. This ville's maps, Asie premiere partie, &c. Strabo is noted by d'Anville, and refuted. mentions an Agradatus, or Agradates, here,

country; for they have applied different names to the same rivers, and the same name to different rivers; and the same writer has varied his appellations as often as he has copied different authorities. Of this I shall produce proof in regard to Arrian himself; and though I might have reduced what is necessary for elucidating the paffage of Nearchus into a less compass, I trust that the length of the following discussion will be acceptable to such as think the reconciliation of claffical geography an object of importance.

After the whole business was completed, I was informed by Major Rennell that he had been long engaged in difentangling the fame intricacies, and treading the fame ground; a cause of no small apprehension to me, if his conclusions should appear upon publication to differ from mine; of no fmall gratification, if they should be found to coincide. I shall at least have a generous adversary to encounter; and as I have no predilection for any fyftem, I can, upon better information, retract as freely as I have afferted. Truth alone ought to be the object of refearch; and those, who are not fo fortunate as to attain it, ought to fubscribe 322 to those who do.

Sufiana is fometimes regarded as a diffrict of Persis, and sometimes enumerated as a diffinct province. We can hardly trace a time in which it had an independent fovereign of its own, unless it be in the mythology of the Greeks 323; and nature feems to have connected it with Persis, by a variety of local circumstances, as

322 I subscribe to the fentiment of the modest and ingenious Niebuhr:

Il n'y a point de description de voyage sans sterd. défaut, n'y aucun voyageur exempt de tout préjugé, ainsi le parti le plus sage c'est de Tithonus, was the founder of Susa.

ne pas défendre ses opinions avec opiniâtreté, Niebuhr, tom. 1. p. 85. Arabic edit. Am-

323 In their accounts, Memnon, fon of

much as by vicinity. It is separated on the north from Media by a range of mountains common also to Persis, of which the general appellation is Louristan; possessed in all ages by independent tribes, which were confined within their own limits, when the government was ftrong; and, when it was weak, returned with increased avidity to a life of rapine. So far as can be collected from the transactions of Alexander, the Uxii and Parataceni were upon the fouthern face of these mountains; the Cossai and Elymaitæ 324 on the north; the Uxii lie on the left, between Susa and the Arosis; the Parataceni, on a part where the mountains have a much greater breadth, on the north of Persis. This range, where it rises on the west, approaches, but does not touch 323, the Tigris. In this interval, Mr. d'Anville brings down the Gunedhi, which is the Gyndes 326 of Herodotus fo much humiliated by Cyrus, and which he conducts into the Tigris just above its junction with the Euphrates at Gorno. The rivers or canals of Susiana are connected with this stream, and in this sense it forms the boundary of the province on the Tigris; but as foon as the mountains rife, they run in one uninterrupted chain, covering not only Susiana and Persis, but extending much farther towards the east. This chain fends down all the numerous streams which water the fertile plains below; and there is an error common to Strabo, Al-Edrifi, and Cheref-eddin, that all these rivers join the Eulæus, and communicate, by means of that junction, with the Tigris. This opinion, however, is in one fense true; for all the

Gyndes to Opis; there are supposed to be two cities of this name, but neither answers. In his fifth book, p. 397. where he gives the postroad from Sardis to Sufa, and where he feems to fay there are four Stathmi from Opis to Kissia, [the mountains of Suss,] it seems to 326 Herodotus, in his first book, brings the agree with Gorno, or some place near it.

³²⁴ Elymiotæ, the Elam of the Scriptures. Uxii, Asciacs. Parataceni, Bactiari. Koffiei, Kiffii, Cofs's.

³²⁵ Otter, coming down from Bagdat, marks them at a distance, where they first begin to thew themselves between Amara and Gorno.

rivers are united inland by canals, and the policy of the government in all ages, while there was a government, appears to have paid as much attention to this object, and to agriculture, as Egypt itself. The fact admits of proof under the later dynasties, and the journal of Nearchus will furnish some evidence of its antiquity. It is not unreasonable to suppose, that this communication was extended to the Arofis also, and by that stream to Persis; and if this were true, the intercourse between Persis and Mesopotamia, by an inland courfe, was complete.

The AROSIS.

THE Arofis, which is the Oroatis of Strabo, Pliny, and Ptolemy, and which Cellarius supposes to be properly the Arois, Ares 327, or Araxis 128, is the boundary between Perfis and Sufiana; its modern names are almost as numerous. T'Ab, or the river, is the title it takes by way of pre-eminence among the Perfians, for it is the largest river 329 of the province, a circumstance peculiarly noticed by Nearchus. It is styled Ab-Ar-goun by the historian of Timour; whether from a town of that name upon the higher part of its course, or whether by corruption from Rhegian 330, fometimes written Ar-Rhegian, I cannot trace: and Endian 331 is the name it bears in our

327 Who shall give us the etymology of Cyrus, and so into the Caspian Sea, is the most rivers? Bruce found a Skelti, and an Arvon, or Avon, in Abyssinia. Aar is a river in France, Arno in Italy. What language shall be found that shall furnish names common to Abyffinia, Media, Italy, France, England, and Scotland? I have an obscure reason for thinking that Ar, or Aar, usually denotes confluence.

328 Araxis is a name common to a variety of rivers in different provinces of the Eaft. The Armenian Aras, which falls into the

celebrated. This is the pontem indignatus Araxis.

329 όσοι is τὸν ίξω τούντον ίμβαλλικοι is the expression of Arrian, not very accurate.

330 Argoun I find as the proper name of a man. Otter, vol. i. p. 189. Ergoun, fon of Ibka, fortified Kafvin : but it must be obferved that the termination ain paffes into oun; for Otter writes Kiefirain for Kaferoun, and thus Arreghian may become Argoun.

331 Niebuhr writes it Hindian.

modern

modern charts, from a town upon its banks, a few miles diftant from the fea.

This river is formed from a variety of fources, which fpring out of the mountains of Louristan; and as the chain is of greater breadth in that part of its range, the river feems to be large in proportion. Alexander and Timour, in their march from Sufa to Perfis, both inclined to the mountains, in order to attack the Uxii, or Afciacs, who lie in that direction; and they both passed the sources of this stream, at a considerable distance 312 from the sea. In the march of Timour, I can discover several sources on the west of this river, which the commentator upon Cheref-eddin carries into the Eulæus 333, but which, I agree with d'Anville, ought to be carried into the Arofis. Alexander and Timour both proceeded across this river, to attack a fortress in the mountains, which formed the northern frontier of Persis, and which is called Calaa-sesid 334 by Cheref-eddin. This fortress corresponds with the post Ariobarzanes 335 defended against Alexander; but at the same time Alexander marched through the mountains on the north, he detached Parmenio, with the grofs of the army, by the ordinary 336 road to Perfis. This is the road which continues to this day, if there be any road, which Al-Edrifi describes as cutting the Arosis at Ragian, about thirty miles from its mouth, and where, he fays, there is a bridge called Baccar, at a bowshot's 337 distance from the town. He gives a variety of routes

through

the mouth, according to d'Anville. See Cheref-eddin, vol. ii. p. 185.

Ab-Zal; in which d'Anville fays he is miftaken.

³³⁴ Calla-al-Sefid, the canal or cut of Sefid;

alluding to the dyke upon the Bend-Emir. Otter, vol. ii 51.

³³⁵ Le Bruyn mentions a tradition of this fiege fill existing among the natives.

³³⁶ κατά την αμαζιτόν την ἰς Πίςσας φίρυσαν. Arr. lib. iii. p. 130.

³³⁷ Nub. Geog. p. 126.

through Persis, all verging to this point; and, from the size of the stream, here probably was the first place where it would admit of a bridge.

The mountains which give birth to the Arofis do not approach the fea, nearer than the neighbourhood of Rhegian; but feem to leave a low country on the coast, corresponding with the Kermesir This must have always left Susiana open to the Peron the gulph. fians, and have been the means of keeping it in dependence, as was its constant state; but on the north the range sweeps round till it unites with that chain which forms the back ground of the Kermesir, and this chain, according to d'Anville, no river passes. The sources, therefore, which Alexander and Timour found in the neighbourhood of Calaa-fefid, all contribute to form, not the Arofis, but the Bend-Emir, or Noble River, which passes on in the vicinity of Schiraz and Persepolis till it is lost in the lake Baghteghian, or exhausted in adorning and fertilising the beautiful country of Koilé-Perfis 338. We have now the Arofis diffinct, according to d'Anville, and I have found nothing in ancient or modern history to contradict his fystem; nor do I think that any future discovery will invalidate it, farther than perhaps to find a different iffue for fome of his minuter fources. This Arofis is the eaftern boundary of Sufiana, where Nearchus is now anchored; and deferring the intermediate streams for the present, I shall proceed to consider the Euphrates and the Tigris united in the Schat-el-Arab, which forms the western limit.

³⁸ Colé-Persis, like Colé-Syria, Persis between the mountains.

SCHAT-EL-ARAB, or MOUTH of the EUPHRATES and TIGRIS united.

The Euphrates and the Tigris both preferve to this day, among the natives, the same appellation assigned to them by Moses in the book of Genesis, for he styles the one Hu-Pherát, or Pherát, and the other Hid-Dekhel of two names which are still preserved in the country with no greater variation than Ph'rat and Deghel, or Dejel. These two rivers, like the Ganges and Burrhampooter, rise at no great distance from each other in Armenia; and, after separating to embrace the great tract called Mesopotamia, unite again, like those two streams, at Gorno or Khorna, about an hundred and thirty miles distant from the Gulph of Persia. D'Anville has strangely curtailed this distance; for in his map of Asia he makes

in Scripture with the pronoun, as MID NITHU-Pherat, The Pherat, or that Pherat, by way of pre-eminence; and is derived by the commentators from MID to produce fruit, on account of its fertilifing the country by canals, &c. from MD and MID to burst or spread, because it overstows its banks, and from MID DID to divide, because it separates or bounds the desert. The Greeks, as Hossman justly says, more suo, derive Euphrates from integrance.

Arrow. It is remarkable that the pronoun Hu should preserve itself in the Greek Eu-Phrates, which it certainly does, unless Eu is

from Ab, Av, Au, water or river; and that none of the authorities should suffer us to write Hi-Dekhel, fo as to fearch for a primitive of Dekbel rather than Khalal. [See Bochart. Phaleg. 119. Dikla, urbs palmarum, Chald. Deut. xxxiv. 3. Quære annon Mesopotamia regio Palmarum? Dekhel is affuredly the Deghel of the Arabs, the Diglath of Jofephus, and Diglito of Pliny; and from Degel (according to Bochart) the Greeks made Deger, Teger, and Tigris.] An idea occurred to my own mind, that as Hu expressed the male, and Hi the female, (NIT ille, NIT illa,) there might have been some allusion to the confluence, or the marriage of the rivers, or that Deghel was marked by the feminine pronoun, as Pherat is by the masculine; but I am forced to abandon this fuggestion by authority that I ought not to dispute.

341 From the mouth to Baffora 100 miles,

to Khorna 75

175. Ives, p. 227. it less than seventy miles, and in his two latter maps has extended it to fomething less than an hundred: but M'Cluer can hardly be mistaken in making it seventy 342 up to Basra only; for he navigated this channel more than once, and has given directions for the course up to that city. Khorna fignifies an horn 343 in Arabic, evidently marking its connexion with the Greek, Latin, and English; and here the river divides upwards in that form. From Khorna, down to the division of the stream again which embraces the Delta, is the part properly called the Schat-el-Arab, or river of the Arabs. From that division downwards, the western, or direct channel, still navigated by European veffels, is called Coffifa-Bony, or Bouna, in opposition, as I conceive, to the farthest channel eastward, called Deree-Bouna 344, from Deree, an island, at its mouth; and in treating of this western stream, I shall be obliged, for the sake of perfpicuity, to call the whole channel from Khorna to the fea by the name of Schat-el-Arab. The junction formed at Khorna was certainly known to Ptolemy, and, I am perfuaded, was the grand confluence in all ages; but Pliny and Arrian as certainly give two mouths, one to the Tigris and another to the Euphrates; the latter, I shall hereafter shew, was the Khore-Abdillah with which d'Anville feems unacquainted; and hence he has been led into a variety of

ters; but Achelous loft an horn by Hercules, that is, as mythology informs us, had one of his fources intercepted, and other rivers are ftyled Tauri formes.

³⁴² He makes it ninety from point to point, that is by the windings, p. 33. Ives, p. 227, makes it 100.

³⁴³ The æra of Dil-kharnim, or Alexander, from his figure with the borns of Hammon, as is supposed by some, is well known in Asia; Kharna, or Khorna.

a bull, as fome imagine from the roar of wa-

³⁴⁴ Bouna, or Bourna, I suspect to fignify a fream. Bournabaschi is the bead of the and in this compound we find the plural of fream, in Chevalier's account of the Troas. Whence is the connexion with our English-The Greeks and Latins described rivers by Bourne? which fignifies a fream, or a bound-

errors, which disfigure his learned Memoir upon the Mouths of these two Rivers. I shall, however, first consider the great Delta, and afterwards return to treat of these difficulties.

The Delta of Sufiana is much more properly than the Delta of Egypt inclosed and divided by feven 345 streams 346, which are called, 1. The Coffisa-Bony 347; 2. The 348 Bamishere 349; 3. The Caroon, or Karûn; 4. The Selege; 5. The Mohilla; 6. The Gaban; and, 7. The Deree-Bouna. These are names which I obtain from a very curious anonymous chart of Mr. Dalrymple's, and are apparently the titles by which these channels are known to the Karack pilots. This chart explains the journal of Nearchus as perfectly as if it had been composed by a person on board his fleet. Three of these streams, after cutting the Delta, pass through a shoal which is called the Ali-Meidán, (the race-ground of Ali,) as is supposed from its level furface, extending out twelve, and in some places seventeen miles, from the coast of the Delta. The Meidan is rarely 350 or never dry, even at the time of ebb; but the channels which pass between it have a confiderable depth of water; thefe are ftyled Khores, that is, limits or divisions of the fand; and thus Khore Gufgah is the iffue of the Bamishere channel, Khore Musah of the Karûn, and Khore Wastah of the Selege. The general name of the land they

purpofes of communication or agriculture; but they vary with the fluctuation of the government. These are natural channels.

³⁴⁶ Ten streams according to Pliny, lib. vi. £. 27.

³⁴⁷ Khôre Hälte. Niebuhr.

³⁴⁸ Niebuhr writes this Backmeschir, which is done by adding k to the guttural in Bahmifer, the natural confequence of a deep

³⁴⁵ Small channels are fometimes cut for found in the throat; fo Han, Khan, Cawn. Shufhan, Hufan, Khufan, or Khoofan, shewing the relation between the ancient Sufa and modern Khoofistan.

²⁴⁹ The Backmefchir of Niebuhr, as next in order to his Khore Sable ought to be the Karûn: but of this, from Mr. Jones's intelligence, I have reason to doubt.

³⁵⁰ Only dry in part, that is where the water is less than two fathoms. Mr. Jones.

separate on the Delta is called Gaban, of which I am not able to give the limits; but the tract between the Coffifa-Bony and the Bamishere351 is particularly called Meuan and Muçan352, corresponding with the Mesene of Xiphilinus, and Khore Musah, with Ptolemy's river Mofæus 353, which none of the modern geographers know where to place. At the head of this Mesene, near the Hassar Cut, was placed the Spafini Charax, or fort of Spafinus. Mr. Dalrymple's anonymous chart has a fort there at prefent called Old Haffar Fort, with another on the opposite shore; both existing when Thevenot went by this course up to Basra, and both intended by Spafinus 354, and all his fucceffors in power, either to guard the channel or to exact a tribute. I mention this place for two reasons; first, because Alexander is said to be the original occupier of this fite; and, fecondly, because Cellarius is at a loss, and d'Anville is

it, that Babh-Mishere is related to Bahh-Mesene, which extended perhaps to the Karun.

352 See M'Cluer, p. 30. with Dalrymple's query, Mucan or Musan? and see p. 32. note. Marcian writes Mayous for Ptolemy's Mwoais, fee p. 17.; fo that the difference between Mugan and Musan is ancient as well as modern. Salmafius reads Mayair.

353 See Cellarius in Sufiana, and d'Anville's Differtation. To make Khore Musah exactly correspond with the Mosæus of Ptolemy, it must be the issue of the Karûn, as it is in M'Cluer's chart. The Orientals write Moufa, pronounced Moofa, for Mofes; the Greeks wrote Mavon;, Mooules, and in this form we eafily find the Mofæus of Ptolemy. Mufah, or Musa, is pronounced, as we should utter Moofa, and not Musa, or Muse. An Arab would doubtless attribute Moosa to Mo-

25: I suspect, but have no means to prove fes, and the name of the prophet was sufficiently current in the East to fix his title here, even previous to the age of Ptolemy, but it is a name common to many places, as well as one specified by Niebuhr in Yemen. It will be proved hereafter, that Ptolemy reckoned the Dorack channel as the mouth of the Eulæus ; and then as he mentions but three [the Tigris, Mofæus, and Eulæus]. The Mofæus would regularly be the Karûn, and so answer individually to Khore Moofa; a proof of this is, that his Oroatis, or Arofis, fucceeds next to his Eulæus.

> 35+ Pafinus, Pafines, &c. &c. It is the name of an Arab before the time of Pliny, like a Sheik Soleiman of the prefent day.

> It is not necessary to fix on this identical spot for the fort; by Pliny's account it ought to be nearer the fea.

not without his doubts; but before I enter into this question, I must digest the course and order of the channels. The Schat-el-Arab would naturally have but two, which are the two western ones, the Cossis-Bony and the Bamishere. The Bamishere was a channel frequently navigated by the country vessels till within these few years; when it was obstructed by an Arab Sheik, with a view of drowning the country on the Cossis-Bony; but operated contrary to his expectation, in clearing that channel, and removing the sands at its mouth. This transaction took place while Mr. Jones was resident at Basra, and is recorded by Niebuhr as happening to the Khore Sable 355, which is perhaps his name for the Bamishere.

The five western channels seem to derive their origin from the Eulæus, or river of Susa; this stream divides in the interior of the province; at what point is difficult to determine: but I can discover clearly, that on approaching the Delta the western branch takes its title from Karûn, a town ten or twelve miles above the Delta, as the eastern channel does from Deurak, Dorak, or Deree, another inland town, that extends the influence of its name down to the coast. The western branch, upon its approach to the Delta, subdivides into four; the first carries its name of Karûn through the Delta to the sea. This was the channel navigated by the country vessels in Thevenot's time, from Bender-Regh to Basra; and the three others are the Selege, the Mohilla, and the Gaban. The Dorack stream of the Eulæus, after separating inland, comes to the east, and, as it touches the Delta, joins on one side with the Gaban river, and with another arm, which we may call a fixth channel,

355 Sable feems an European term, and French.

encircles an island named Deree, from this Deree, or Dorack ftream; and there is a tract within land ftyled Dorac-Stan, or Dorghestan, from the same origin. Now it is remarkable that Ptolemy notices a Dera inland, which Cellarius knows not how to fix; wherever it is, it gives a title to this river, as Karûn does to the western branch; it communicates its name also to Deree, the island, where we are to look for the Kata-Derbis of Arrian, which d'Anville has mistaken; and in Dorghestan I find the Margastan of Arrian, which he calls an ifland at Kata-Derbis. The Dorack river is no very confiderable stream, and according to Mr. Dalrymple's chart, dry at low water; it was probably of more importance formerly, either by natural or artificial means, when the navigation of the province was the object of government. Between the mouth of this channel and the Khore Wastah there is a shoal, corresponding with the Ali-Meidan, called Carabah, or broken 356 ground, because the foundings vary in an inftant. The native pilots fay, there is a town funk under water here, and that the lead is fometimes dropt upon the tops of houses, and sometimes into the streets, which makes the difference fo immediate. This is a circumstance connected with the passage of Nearchus, either through or over this shoal, as will be noticed in its proper place. And again to the eastward of the Dorack, there is another shoal named Barcan 357, extending to the mouth of the Arofis. The extent of all these shoals naturally obliges veffels to be careful how they approach the coaft, and the ground of the Delta being proportionably low and level, is rarely visible except by the rushes which grow upon it. When Thevenot went up the Karûn, he compares the country to Holland:

³⁵⁶ Mr. Jones. 357 The Sinus Arenosus of Ptolemy, or that part of it nearest Deree.

and a Holland it would be, with industry and a good government; for a foil, which is the accumulation of flime, ought naturally to be fertile. In his time, there were only a few mean villages dispersed here and there, with a fmall quantity of cattle and fome plantations of the date tree, which is the staple of the country. Within these few years, it was possessed by the Arab tribe of Kaab 358, under a Sheik called Soleiman; he feems to have bettered the cultivation, and, by the poffession of a piratical fleet, to have rendered himself formidable to the Turkish government of Basra on the one hand, and to the Vakeel of Schiraz on the other 359. He was afterwards involved in a quarrel with the English, on account of two considerable veffels which he had taken, but at last fell by the hands of his own people 360. Such is the nature, and fuch are the inhabitants of the Delta, and fuch are the branches of the Tigris and the Eulæus There may have been a time when thefe two rivers which form it. flowed into the fea without farther connexion than their vicinity; but there is now a canal which joins them, called the Haffar, which comes out of the Schat-el-Arab, about eight-and-twenty miles below Bafra, and runs eastward till it touches the Eulæus, or Karûn, just at the point where it approaches the Delta. This canal is older than the time of Alexander, for Nearchus mentions that part of the fleet paffed through it into the Tigris, when Alexander came down the Eulæus to the fea. I shall treat more of this hereafter; but I must remark at present, that inland navigation is the characteristic of the province; and that neither Cellarius or d'Anville have sufficiently attended to this object. Cellarius, who allows that the Mofæus of Ptolemy must be

358 Kiaab of Otter, and Kiab. 359 Niebuhr. 360 Mr. Jones.

between

between the Tigris and Eulæus 361, cannot comprehend how this canal of Haffar could pass between these two rivers, without exhausting itself into the Mosæus; but he might now see, by a glance at Mr. Dalrymple's chart, that we have 362 a Tigris 363 and Eulæus 364, with the Mosæus 365 between them, and the Haffar canal passing at the head of the Delta from the Tigris to the Eulæus.

Mr. d'Anville 366 has been led into a greater error; for he places the Mesene west of the Schat-el-Arab, instead of east. And what induced him to adopt this system is by no means apparent, as he knew well that the ancient geographers place the fort of Spasinus in Mesene, and he has himself placed this fort eastward of the Schat-el-Arab, though he places Mesene on the west. Upon considering this opinion, I am induced to think that Mr. d'Anville is misled by Ptolemy's Sinus Mesanius; and if that can be accounted for, the whole coast may be adjusted, and all the ancient geographers made consistent with each other.

D'Anville's Mesene is the Gezirat Khader of Thevenot, the Dauasir of Niebuhr, lying between the Schat-el-Arab and the Khore Abdillah; but Ptolemy's Sinus Mesanius is certainly not the coast of this tract; for his two mouths of the Tigris are mani-

Eulæum, ostium quoque ejus, si in mari est, ut tradit Ptolemæus, propius utique ad Tigrim accedit, quam Eulæi. Quòd vero fossa illa ex Tigri in Eulæum haud longè supra ostia, uti ex Arriani verbis apparet, ducta suit, dubites quì sossa per aliud slumen, Mosæum puta, transversa duci potuerit, ut non essuere sum sullud: niss supra sossa vel

261 Et quia Mosæus intervenit Tigrim et Tigri vel Eulæo se adfuderit. Cellar. lib. iii. Eulæum, oslium quoque ejus, si in mari est, c. 19. Susiana, p. 483.

364 Ptolemy notices only three of these mouths, which correspond.

363 Coffifa-Bony.

- 364 Dorack is the Eulæus of Ptolemy.
- 365 Karûn.
- 366 Memoir, p. 180.

festly the Schat-el-Arab and the Khore Abdillah, as appears by his placing Terédon between them; and his Sinus Mesanius as manifestly commences not between them, but at the mouth of the Khore, and extends down the western side of the gulph. On looking down the gulph in this direction, I find the bay of Grane 367, with three islands at the entrance; one of these nearest the shore is called Muchan; this, I apprehend, gives name to the Sinus Mesanius; and when I look into Ptolemy for the termination of this on the north, I find the longitude assigned to it is 79°, specifically the same as his western mouth of the Tigris, that is, the Khore Abdillah.

Thus Mercator interprets the text, and thus the longitudes and latitudes appear in Ptolemy:

A TOTAL DE LA COMPANION DE LA		i rouse in chaoe in	Lo	ng.		Lat.		
p.	144.	Sinus Mefanius, -	5 79°	o'	-	30° 10′		
p.	154.	Sinus Mefanites, -	179°	o'	-	30° 10′		
p.	149.	Ostium Tigris Occident	tale, 79°	o'	_	30° 34′		
p.	145.	Teredon, -	- 80°	o'		31° 10′		
p.	149.	Oftium Tigris Orientale	e, 80°	30'	-	31° 0′		
p.	149.	Vallum Pafini, -	81°	0'	-	31° 0		
p.	149.	Mofæus, -	- 82°	o'	-	30° 40′		

The error of these longitudes is foreign to the inquiry; but their relation and congruity prove that the termination of the Sinus Mesanius is at the western mouth of the Tigris; that Terédon is between the western and eastern mouth, consequently that the Khore Abdillah is Ptolemy's western, the Schat-el-Arab his

³⁶⁷ There is a Graan noticed by Ptolemy, of Susiana; it can have no relation to this but in long. 82. which brings it to the middle Grane. See p. 157.

eastern Tigris; and that the fort of Pasinus is between the Schat-el-Arab and Mosæus or Karûn.

This bay, consequently, cannot be on the coast of d'Anville's Mesene, for it is south-west of the Khore instead of north-east; and if we could obtain the interpretation of Muçan 368, we should probably find the reason why it is attributed both to this island at the bay of Grane, and to that tract which is inclosed between the Schat-el-Arab and the Karûn, which is the Mosæus of Ptolemy, and which gives name to the Mesene of Xiphilinus, Josephus, and other historians.

With the Khore Abdillah d'Anville was not properly acquainted; he supposes it the ancient mouth of the Euphrates; and such it is according to Pliny and Arrian, but no ancient author of estimation except Ptolemy ever made it a mouth of the Tigris. This is the first source of his mistake, and he now makes this a mouth of the Tigris, which in another part he labours to prove the Euphrates. The Mesene 369 of Pliny is so confused, that I should be thankful for a construction of the passage. Mr. d'Anville says, he carries it above Seleucia; if so, it is another region with which we have no

D'Anv. Geog. Anc. tom. ii. p. 201. If this be true, it accounts for both, and for the Mefene of Pliny.

dyæorum circa Apamiam Mesenes oppidum, citra Seleuciam, Babyloniam, cxxv. M. pass. divisus in alveos duos, altero Meridiem ac Seleuciam petit, Mesenem perfundens: altero ad Septentrionem slexus ejusdem gentis tergo Cauchas secat. Ubi remeavere aquæ Pasitigris appellatur. Possea recipit ex Media Choaspem.

In the course of sour lines here is a desuktory step from the Curd mountains to the mouth; but d'Anville, by the help of Apamia, finds out this Mesene. See Geog. Anc. tom. ii. p. 200. Cellarius, vol. ii. p. 46z. See Ammian. Marcel. lib. xxiv. p. 399; where Mesene evidently means a tract between the two rivers: but this Mesene is above Babylon, unless, by joining it with Mare Magnum, we should prefer the lower. By ubi remeavere aquæ, he seems to mean as high as the tide slows, in which he is not correct, for the tide slows above Khorna.

concern. But let us confider next the Mesene of Xiphilinus. These are his words: " After Trajan " had taken Ctefiphon, he deter-" mined to navigate " the Red Sea, that is, the Gulph of Persia. ".... There is an island there formed by the Tigris, called Mes-" fana, under the government of Athambilus; this Trajan reduced " without difficulty, but was himfelf brought into great hazard from " the feafon of the year, the violence of the stream, and the inun-" dation of the tide. The inhabitants of the fortress of Tospasinus " relieved him, however, by their friendly reception of him into " the place. This fortress is under 372 the government of Atham-" bilus." D'Anville places the fort of Spasinus where I do, but the diffrict of Mesene on the other 373 side of the Schat-el-Arab. This passage proves that the fort is in Mesene, and the Mesene between the mouths of the Tigris; that is, between the Tigris and the Mofæus. It is possible I may be mistaken in assigning a position to the fort. But there is no error in replacing the Mesene 374 east of

flatuit mare rubrum trajicere appellant Messanam quoque insulam Tigris in qua Athambilus regnabat, nullo labore cepit atque iis in locis propter vim hyemis et rapidum Tigrum æstumque maris in magnum periculum venit. Qui vallum Tospasini habitabant (nam ita ab incolis appellabatur eradtque in ditione Athambili) Trajanum amice receperunt. Xiphilin. Traj. p. 55. Ed. Basil.

Tofpasini is, I conclude, a corruption from the Greek το Σπασίνε χώμα; for, we learn, that the fort was erected upon a mound of raised earth, to give it security both from an enemy and inundation; for the whole of the Delta is a level. See Cellarius, vol. ii. 448; who reads τὸι Τοσπασίνε contrary to my supposition.

371 Trajicere.

372 Rather in the territory of Athambilus, in ditione.

373 See the map to his Memoir, and that of the Tigris and Euphrates.

374 See Josephus, lib. i. Antiq. c. 7. Stephan. Σπασίου χώραξ σόλις ἐν τῆ μέση τῶ Τίγερτος Μισίου, &c. all adduced by Cellarius, vol. ii. 488. but he is not contented to be right. He adds, Aberrat autem in eo quod in mediâ Mesenâ illà, quam Tigridis ostia constituunt, posuit.

I build much upon the modern name of Muçan, and the Khore Moofa, and perhaps it ought always to have been written Mofena, or Moofena, from Muçan, which the Greeks made Mesene, because they had a Messene of their own. It is their practice in a thousand instances. I have, however, found reason to suppose that Mesen signifies an island, or perhaps more properly land surrounded by the arms of a river. See note 368.

the

the Schat-el-Arab instead of west. The just estimation of Mr. d'Anville's name has led me into this discussion. I have now done with the Delta of the Tigris, and proceed to the Euphrates.

KHORE ABDILLAH, Supposed MOUTH of the EUPHRATES.

THE Euphrates appears always to have formed its principal junction with the Tigris at Gorno, or Khorna; but as, from the most early ages, it sent off canals on both sides, for the purposes of agriculture or communication, so it has happened that one of these which paffed by Old Bafra, and fell into the Khore Abdillah, has been mistaken by Pliny and Arrian for the real mouth. Arrian is fo perfuaded of this, that when Nearchus anchors at Diridotis, or Terédon, in the Khore Abdillah, he calls it anchoring in the Euphrates: and he fays in another part of his work, that this mouth, or khore, is almost choked in consequence of the derivations which drain the stream above. The Khore Abdillah, upon the English charts, appears larger than any khore of the Tigris; and this circumstance, with which d'Anville was unacquainted, would have confirmed him, if he had known it, in his fystem, that it is the original mouth of the Euphrates. It is remarkable that Ptolemy gives no mouth to the Euphrates; his western issue of the Tigris, that is, the Schat-el-Arab, is in 325 latitude 30° 34', and his junction of the Euphrates with the Tigris is in latitude 34° 20', making a difference of 3° 46'; evidently much too large; but as evidently pointing out the confluence 376 inland, as Khorna does at this day. Strabo doubtless thought the Khore Abdillah to be the mouth of the Euphrates, by placing Terédon 377 on its bank; but Solinus 378 afferts, that the

³⁷⁵ P. 149.

³⁷⁶ So Mercator understands it, as appears by his distorted map.

³⁷⁷ P. So.

³⁷⁸ P. 66. Sol. Tigris Euphratem defert in finum Perficum.

Tigris carries the Euphrates into the Persian Gulph, and Pliny, who joins it to the Pasitigris, (by which he means the Schat-el-Arab,) evidently alludes to the original mouth at the Khore Abdillah, which the Orchoeni 379 had obstructed; and so long had it been obstructed in his time, that he no longer places Teredon on the Euphrates, but says it lies below the confluence of the two rivers 380.

Let us now advert to the Khore Abdillah itself, which will afford a clue to unravel all these difficulties. The ancient kings of Assyria, Chaldea, and Babylon understood the value of inland canals, as well as the Egyptians, Indians, Chinese, or the modern commercial states of Europe. In Egypt, and on the side of the Euphrates, all that was gained out of the desert was just so much added to the empire; and thus, as we find a cut parallel to the Nile for near four hundred miles, so Niebuhr is of opinion, that there was a canal running westward of the Euphrates from Het state more than six days journey above Babylon state, till it fell into the sea at the Khore Abdillah. This is an extent of more than sive hundred miles; and, however great, is not superior to the magnificent designs of the age state which it is attributed. It is countenanced, likewise, by

Orchoeni, nec nifi Pasitigri defertur in mare.

380 C. 28.

Kunaxa, where the ten thousand fought Artaxerxes, according to d'Anville.

182 The language of Al-Edrifi is very flrong in confirmation of this opinion. After bringing down the Euphrates to Het and Enbar, he adds,

Reliqua vero pars Eufratis fluens e Rahaba Thebes, Babylon, Tiryns, and Orchor a tergo deferti in varia dividitur brachia quorum unum perget ad Tfarfar aliud ad Alcatír rious parts of the world. Were the [al Khader], aliud etiam ad Sura quartum effect of numbers or mechanic powers?

denique ad Kufam [juxta Pallacopam], et omnia ista brachia varios in lacus sese immergunt, p. 197.

If we can interpret this as a canal commencing at Rahaba, that place is not far from Thapfacus, two hundred and fifty miles higher up than Niebuhr carries his canal.

Bryant flyles them, produced the Pyramids, the Lake Mæris, the Obelifks, the walls of Thebes, Babylon, Tiryns, and Orchomenus, with other monuments of magnificence in various parts of the world. Were these the effect of numbers or mechanic powers?

the accounts we have in Herodotus and Diodorus, of the refervoirsformed above Babylon, to withdraw or feed the stream at pleasure; by the existence of the two lakes below Babylon, near Mesched-Hoffein and Mesched Ali 384, the Pallacopas of Arrian; and by a variety of cuts, fome of which remain to this day, and still fertilize the defert; the remains of towns 385 also noticed by almost every traveller in the caravans between Bafra and Aleppo, all contribute to the probability of the fact. They flourished while the canals flowed, they have perished by the devastation of the Arabs, and the neglect or inability of the government to maintain the supply of waters. If fuch a canal as this existed, it communicated with the parent ftream at various points; and fuch a communication as this, d'Anville has pointed out at Nahar Saleh, about five-and-thirty miles above Khorna; he brings this down parallel to the Schat-el-Arab, gives it another communication 386 with that channel, near Bafra, and afterwards conducts it into the Persian Gulph, in the direction of the Khore Abdillah; this is the stream he concludes to be the ancient course of the Euphrates, and such it was in the estimation of Pliny, Strabo, and Arrian. D'Anville, with the affiftance of Texeira, finds this channel now dry, and styles it the Choabedeh 387, which I fuspect to be only a corruption of Khore Abdillah, and this dry channel certainly exists, for Mr. Jones, when resident at Basra, has ridden along it many miles.

Khore Abdillah takes its modern title from a name of no little importance in Mahometan mythology, for Abdillah is the fon of

Obolla, fufficiently noticed in Oriental geography.

387 Which he derives from Bedeh, a tent of the Bedouins.

³⁸⁴ Bahr-nedsjef is the name of this lake. Niebuhr, vol. ii. 184. Amst. edit.

³⁰⁵ See Niebuhr, ibid. El Khader, ten or twelve leagues from Mesched Ali.

³⁸⁶ By means of a cut called Oboleh, or

Annas ", who was porter to the prophet himfelf; his tomb is in the neighbourhood of Zobeir, and this Khore is a Criffæan Gulph 389 for fuch votaries as come to pay their devotions to his relicks. At Zobeir, or Ghibel 390 Senâm, in its neighbourhood, d'Anville places Orchoe, because Pliny says, the Orchoeni diverted the stream of the Euphrates; but Pliny only adds their name to the fame circumstance mentioned by Arrian, in the neighbourhood of Pallacopas, or Bahr-Nedsjef, and every ancient testimony whatsoever, except Ptolemy, places Orchoe in the fame fituation 191. Ptolemy fays, it is near the gulph; but this affertion feems fo indefinite to Mercator, that he has carried it up to the lakes; and there, the latitude 392 affigned to it authorifes him to place it: but d'Anville is not content with bringing Orchoe here, unless he annihilates Old Basra. Basra 393, Bozra, and Bofara, is a name applicable to any town in the defert, it fignifies rough or stony ground; and thus we have a Bosara in Ptolemy near Maskat, and a Bozra familiar in Scripture, denoting an Arabian town in the neighbourhood of Judea, taken by the Maccabees. Such a Bafra, Niebuhr not only supposes in the fite of Zobeir, ten or twelve miles west of the present Basra, but confirms it by the common belief and tradition of the country; he adds, what amounts

³⁸⁸ Niebuhr, vol. ii. p. 182.

³⁸⁹ It brings them within fifteen miles.

a mountain. Thus Ætna still preserves its Saracen name Ghibello. It is, therefore, a solecism in reality to say Monte Ghibello, but this solecism pervades all countries; the unknown language gives a name, which signifies mountain, and the language in use adds another mountain to it.

³⁹¹ See Salmasius, p. 703. Cellarius, the Bursa of Carthage is allied.

Hondins, &c. &c.

^{392 32° 40&#}x27;, p. 145.

³⁹³ Gol. ad Alfrag. p. 120. Terra crassaet lapidosa. But see MTYI, under TYI. Botfrath desertum a Batzar clausit, quia clauduntur aquæ.

Bozra is mentioned as early as the age of Abraham. Gen. xxxvi. 33. If. lxiii. 1. &c. &c. From hence Bazar for an emporium, and urbs munita, quia circumclauditur; to which the Bursa of Carthage is allied.

to proof, that Haffan, Zobeir 394, and Tella, are buried here, and their tombs vifited, who are all mentioned in Oriental writers as interred at Bafra. Zobeir gives his name to the present town 395, and his tomb is still frequented. This, then, is the ancient city by which the channel paffed, which is still called Dsjarri Záade, and Haffé Záade, by the natives; and this is the channel which, entering the head of the Khore Abdillah, was the mouth of the Euphrates, in the opinion of Strabo, Arrian, and Pliny. Where it left the Euphrates above, whether at Nahar Saleh, as d'Anville supposes, or whether it was a continuation of the grand canal Niebuhr describes, is a problem still to be resolved. I am myself persuaded that it was a canal, and not the natural course of the river; for though Nahar 396 does fignify a river, its fense in this country is usually restrained to works of art; thus the great canal is distinguished, which joined the Euphrates and Tigris in Mesopotamia, called Nah'r Malcha, the Royal Canal; and a great number of others which branch out of the Euphrates on both fides. To what degree this stream was choked in the age of Pliny or Arrian, is not eafy to afcertain; it might only have ceafed to be navigable; for that it continued to convey water to Old Bafra, as late as the beginning of the Mahometan æra, is evident; as that place was still inhabited, and still a city. When the fupply failed, the defert was no longer habitable, and another Bafra rose on the banks of the Schat-el-Arab, the foundation of this new city is attributed to

³⁹⁴ Niebuhr, vol. ii. p. 181.

³⁹⁵ Tavernier confounds Zobeir, or Old Texeira. Bafra, with Teredon, and mentions a canal to d'Anville, or the canal of New Bafra con- i. 4. and Gen. xv. 18.

The fame canal is mentioned by tinued.

³⁵⁶ I fay ufually restrained; because Nahar it in his time, which is either the Oboleh of is applied to the Euphrates itself, in Joshua,

Omar, the fecond khalif in the fourteeenth year of the Mahometan æra 397.

From the respect due to Mr. d'Anville, this subject has been treated at large, but the real object is to illustrate the Khore Abdillah, which is intimately connected with the course of Nearchus, and the two lakes above, which concern the voyage of Alexander on the Euphrates, down to Pallacopas; and I must now request the reader to take a view of that tongue of land between the Khore Abdillah, and the Schat-el-Arab, called the Daûasir, the lower part of which I must sink under water, to find the lake Nearchus sailed through in his return to the Pasitigris.

Nearchus, according to the journal, anchored at Diridotis in the mouth of the Euphrates, the Teredon 398 of other authors; that is, at the entrance of the Khore Abdillah, which they confider as the Euphrates. From hence he returned back, across a lake into the Pafitigris, to a town called Aginis. The length of this lake is thirty-feven miles, according to d'Anville; but this will be confidered hereafter. I now observe that the Daûasir must be curtailed, or at least carried back so far as to give the waters the appearance of a lake rather than a river; and for this defalcation we shall find abundant evidence in the account of later writers. These proofs I reserve till Nearchus arrives at the spot; but I must now examine the Tigris and the streams of Susiana inland.

Πιεσίδος iις αλός διόμα θούν απιεεύγεται άχετο Υεατίης ωροχοήσι Τιρηδόκος ίγγος όδιύων. Dionys. Per. 980:

³⁹⁷ Gol. ad Alf. p. 120.

³⁹⁸ Έυφεήτης "Αντήνημλίοιο μέσην Βαθυλώνα σερήσας

The TIGRIS and PASITIGRIS Inland.

THE name given to the Tigris by Oriental authors is Degela "". which Bochart 400 informs us they would write almost indifferently Degel, or Deger; and from hence fprung the Greek Teger, or Tigris *01, by their usual affimilation of found to sense. Al-Edriss does not change this title upon the junction of the two rivers at Khorna, but makes it prevail quite to the iffue of the Schat-el-Arab into the Perfian Gulph. The breadth of this river at Bafra is near a mile, according to Niebuhr 402, but M'Cluer's chart makes it almost double that breadth, and, in fome parts of its descent, still more. It is extremely rapid 403 in its course, particularly when the waters come down fwelling from Armenia; and the tide, which rifes about nine feet, prevails *04 confiderably above Khorna. The junction of this river, by means of the Haffar canal, with the Eulæus, I have noticed, and d'Anville supposes the Aphle of Pliny to be a correspondent title, which is highly dubious; for Pliny finds the Chaldean lake higher up, and contracts the stream again into a channel before it reaches the fea; consequently, if his Aphle is Haffar, it must be at the lower end of the lake instead of the upper; but if we are not instructed by his position, we may be by his usage of a name; and that obligation we owe him also for preferving

³⁹⁹ Didsjile. Niebuhr.

⁴⁰⁰ And, from him, Cellarius.

⁴⁰¹ They knew that Tigris, or its root, fignified an arrow; but as they had got a Lycus, or welf, higher up, they were fome of them not displeased to find a Tiger in this stream.

quarter.

⁴⁰³ Pietro della Vallé does not esteem it so rapid as the Euphrates.

⁴⁰⁴ According to Niebuhr, much higher in the Euphrates than the Tigris, which feems extraordinary, as the Euphrates ought to have the higher level, for all the irrigations are de-402 Capper states it at a mile and a rived from the Euphrates, and none from the Tigris, by Arrian's account.

Diglito as an appellation of the Tigris. This canal of the Haffar, Arrian afferts, is artificial, and fuch the natives efteem it at this day, as appears by its title Kallá-el-Haffar 405, the Haffar cut. At the point where this cut leaves the Schat-el-Arab, about eight-andtwenty miles below Bafra, d'Anville makes Nearchus enter the Pafitigris, but Arrian knows nothing of a Pasitigris equivalent to the Schat-el-Arab, which is the Pasitigris of Pliny 406. Strabo mentions that fome had applied this term in the fame way as Pliny, to the union of all the streams, but he does not countenance this opinion himfelf 407. This is a fource of great error, and arose from the Greeks affimilating all founds to their own language, and thinking to find a Persian term explained by an etymology of their own, in which they interpreted it all: but Pafi-Tigris is compounded like Pafa-Gardæ, and Pafa, Phafa, Phefa, or Befa 408, as Golius informs us, fignifies north-east. If this is a derivation we may rely on, Pafi-Tigris is the north-eaftern Tigris, the channel or fource from that quarter. Such it is in respect to the Schat-el-Arab, as will appear hereafter; but Arrian's Pasitigris is the Karûn, while the Pafi-tigris of other authors is the Schat-el-Arab 409. This variation has led Salmasius into a mistake, unworthy of his erudition; for he finds a Pasitigris inland, in the neighbourhood of Susa, and not knowing how to account for it, attributes this title to the Arofis, and gives two rivers of the fame name, as boundaries of Sufiana, though it has but one, and that no boundary, but central. Cellarius " certainly faw a difficulty in acceding to this opinion, and

⁴⁰⁵ Herodotus, lib. vi. p. 447. mentions Ampe as the place where the Tigris falls into the gulph. Whether this has any relation to

⁴⁰⁶ Euphrates non nifi Pasitigri defertur in mare. Lib. vi.

⁴⁰⁷ Strabo, p. 718.

⁴⁰⁸ B and V in Perfic are equivalent.

Befa dicitur quod nomen alias, hifce Boream Aphle, Abadan, or Haffar, may well be notat, ventum ibidem gratissimum. Gol.ad Alfrag. p. 114.

⁴⁰⁹ See Indic. Hift. p. 357. Lib. vii. p. 282. 410 See vol. ii. p. 484.

yet has not ventured to depart from it. D'Anville 4" has fanctified this error by his fuffrage.

An attentive review of the passages which give rise to this opinion will reconcile all the historians to one another, and to truth. Let us first consider the Eulæus in its source. Geographers are generally agreed that the Choaspes and Eulæus are the same. It is probable they are; but it is probable also they are from two sources 412, united either at or above Susa, which pass close to the city in one stream, on its western side. Daniel 413 mentions his being at the gate of Shushan on the Uhlai, or Eulæus, where the expression is Oubal 414 Ulai, which the LXX and Jerom translate, at the gate of Ulai; but the letters are Aubal Aulai, and Aub-al-Aulai is the Aub 415, or river, of Aulai, Eulai-us. I produce this as a testimony that the Eulæus was close to Susa, but the Pasitigris was at some distance to the east. On this Eulæus, Alexander embarked in his descent to the sea; on this river west, Timour encamped in his march from Dez-soul 416, in view of the city;

412 Oroatis. Quint-Curce décrit ce fleuve fons le nom de Pasitigris. Mem. p. 166.

413 Cap. viii. 2.

[the city of Dechet, or Dedsj]. This bridge, he fays, was built to raife the water a mile high! in order to farnish Tuster. This account is too Oriental; but it proves at leaft the connexion of the fiream at Dez with the stream at Tostar, and confirms the opinion, that one is the Eulaus and the other Choaspes, uniting at Toftar. The bridge at Haviza was, in the fame manner, both bridge and dyke. Otter, vol. ii. p. 50. But Otter evidently does not understand his authorities. He makes Ehv-az and Haviza two distinct places; and this bridge he carries both over the river Dechet-abad and Abi-desek, see p. 50. and p. 54. Now Dechet-abad is the city of Dechet, and Abi-defek is the river of Defek; and Defek and Dechet are both Dez, or Dedsj. Dez

At 2 Otter brings the Eulæus from Kiouhi-Zerd, Khoo-Zerd, the green mountain. It is the same which, I apprehend, Al-Edriss calls Adervan: and as he says this mountain, or this part of the range, is thirty miles north of Susa, here is consequently a length of course sufficient to render this river navigable. Otter, vol. ii. p. 54.

על־אובל אולֵי ייי

⁴¹⁵ So, in India, Gen-Aub is one method of writing Chen-ab.

Dedsj, I conclude, was crected on the stream that Otter calls the river of Dechet abad

and if I interpret my author right, this river is the Ab-zal, which, according to d'Anville, takes its course west, and falls into the Tigris, just below Khorna "; but with Cheref-eddin it is constantly the river of Susa "; and on his authority there is reason to conclude that this is one source of the Eulæus, and comes into that river close to Susa, conferring its name at the same time it contributes its waters; and that the river it joins, is, in its source, the Kho-aspes. Kho-aspes, according to Mr. d'Anville, signifies the Mountain of the Horse; which name the river takes from passing under a mountain so called; but I interpret Kho-aspes by Kho-ab, the mountain stream; and I find the river on which Timour encamped in view of the city is called "Tchar-Danké; Danké, as being common to several other streams, seems an adjunct

Dez Phoul* is a celebrated bridge, twenty miles or more west of Susa, constructed on the Ab-Zal by Sapor Zulectas, who is to the Persians the same as Solomon to the Jews, the author of all their great works; it is built on twenty-eight tarches, each accompanied with a smaller.

417 See infra. By communication with the Gyndes above Khorna, by another cut below it.

418 By a reference to Ofter, vol. ii. p. 54. it will be equally dubious; but there is still proof, that the communication is open one way to the gulph, and the other to the Schatel-Arab.

in Ludolfus or Bruce, but cannot now recover it. Is it not the Hebrew 75, Tfar, a rock?

^{*} Phoul, or Poule, is a bridge conflantly in the writings of Le Bruyn and Thevenot.

[†] Sapor Zulectaf is the Sapor of the native Persian dynasty restored by Ardeshir, or Artaxerxes, anno 228; which dynasty continued above 400 years, and which the Persians reverence more than any other, as re-establishing their power after the usurpation of Alexander, the Seleucidæ and the Parthian race. It is much to be questioned if they have any authentic annals prior to this family. Ardeshir, Kobad, Sapor, Darab, occur in this list, who give name to the four districts of Persis, and Hormisdas

to a fifth in Karmania. Only it is to be observed, that Harmozon and Armozeia are names prior to the whole

[†] There is another of these bridges at Haviza. They serve as dams, bridges, and roads at the same time; and there is a third on twenty boats, at Asker Mocram, Askier Mukierrem. See Otter, vol. ii. p. 52. All prove the great breadth of the rivers, at no great distance from their leaving the mountains.

[&]amp; Cheref-eddin, vol. ii. p. 170.

like Ab, and Roud; and Tchar is Dsjar, or Dâhr, a mountain; I conceive, therefore, that Tchar-Danké and Kho-aspes are synonymous, and both signify the mountain stream. If it were certain that the Ab-Zal of Cheref-eddin comes to Susa, as he afferts, I should consider this proof as decisive.

Upon Timour's departure from Susa on the second day, he passed the river Dou-danké, and on the fourth another stream called Couroucan-kendé; in these two streams I find the Kopratas and Pasitigris de of Diodorus, who reckons them as the two rivers immediately east from the Eulæus; and in one place says, the Pasitigris de was four days' march from that river. Dou-danké I am not able to interpret, but Courou-Khan-Kendé de is the river of Khan Koorus, or Cyrus de another it. This is the river Cyrus de of the ancient geographers, so often mentioned with the Eulæus and Khoaspes, and sometimes consounded with them.

420 Diodorus calls it the Tigris in every inflance but one.

421 Lib. xix.

422 Kendé, and Denké or Danké, I conclude are the fame word, each by a different process, from Dsjienk, a river. See supra, Talmena. Otter, in enumerating the rivers of Mekran, vol. i. 408. gives them all the adjunct Kienk, or Chienk; which form paffes into Denké, Danké, and Tanké, a stream noticed in that province by all the geographers; while the Kand-riakes of Ptolemy preserves the other form, Kendé, or Kandé. I will not deny what Mr. d'Anville afferts, that Kand is an adjunct expressing a fortress, as Samar-kand, Kand-ahar, Mara-kanda; but I should look to the river in all those sites, For the paffing of Chienk into Dienk I appeal to Ptolemy, who writes Jumna, Diamuna, p. 170.

423 Always Kor by the Orientals, like the

Kopos of Dionyfius.

424 Χωρίς μὲν ΚΟΡΟΣ ἐστὶ μέγας, χωρὶς δὲ Χόασπις

Ελκων Ιτδον ύδως παρά τε ρέίων χθόνα Σύσων.

Dionyf. Per. 1073. Salmasius reads Mndo odwe for Isda; and it is remarkable that Ptolemy gives two fources to the Eulæus, i. e. Khoaspes, one within the mountains of Louristan, and one beyond them, in Media, with no less than three degrees of latitude difference. This is what is meant by Dionysius, that the original spring of Khoaspes is beyond the mountains, for which he uses Indo "Towe (if it is his reading)" very improperly, and this has an allufion to the river passing under the mountain Kho-asp. Cellarius uses this passage to prove that the Korus and Khoaspes are different rivers, but they are only different fources of one river, which joins the Eulæus.

I shall now take the passages adduced by Salmasius415, and shew that they all apply to the Pasitigris, as a source joining the Eulæus, and cannot be applied to the Arosis. Diodorus 426, in the march of Alexander from Sufa to Perfepolis, places the [Pafi-] Tigris at the distance of four days' march from Susa. Q. Curtius, who evidently follows the fame authorities, gives us almost a translation of this passage, and agrees in the distance; both unite in deriving this ftream from the mountains of the Uxii, both correspond with Cherefeddin's distance of the Koorus, and with the progress of Timour when he proceeded to attack the Asciacs 427, who are the Uxii that Alexander invaded by the fame identical course; but Diodorus in another paffage 418, where he gives an account of the war between Antigonus and Eumenes, mentions this [Pasi-] Tigris as only one day's distance from Susa; which Cellarius explains, by supposing that an army without incumbrance, or a traveller, might pass in one day, what took up four days for a royal army, with all its baggage and attendants. The truth is, Diodorus followed his authorities without noticing their difcordance. Strabo's testimony agrees with Diodorus in naming the two rivers immediately east of the Khoaspes 429, Kopratas, and Pasitigris, and he every where marks the navigation of Nearchus up the stream by the title of Pasitigris; he adds, likewise, a manifest distinction between the Pasitigris and Arosis 430, by stating that they are two thousand stadia a-part; by which he means, at their iffue into the gulph.

⁴²⁵ Plin. Exer. p. 701.

⁴²⁶ Lib. xvii. vol. ii. p. 211. Ed. Wessel.

⁴²⁷ A an U are interchanged in the Perfic.
Usciucs approaches nearer to Unii.

⁴²⁸ Lib. xix. vol. ii. p. 330. Ed. Weff. '

⁴²⁹ Diodorus calls it Eulæus; a proof that. Eulæus and Khoaspes, at Susa, are the united stream, and that both are west of Susa.

⁴³⁰ Strabo writes Oroatis,

Let us next advert to Arrian. After the battle of Arbela, he brings Alexander first to Babylon, and from thence, after a march of twenty days, to Sufa. From Sufa, he conducts him across the Pasitigris 431, in his way to enter the country of the Uxii. This progress is in perfect correspondence with Cheref-eddin's march of Timour; and this passage is parallel to those of Diodorus and Q. Curtius already produced, except that the Kopratas of Diodorus and Strabo is omitted, which, as it is a stream of less notoriety, might naturally happen. At this Pasitigris, we find Alexander again upon his return from the East, in his route from Persepolis to Susa; he had thrown a bridge of boats over it, or possibly such a bridge was the common passage of travellers; for it lies in the direct road from Ragian, on the Arofis, to Sufa; and these bridges are the ordinary communication of the country. To this point Nearchus came up with the fleet; which the direction of the road from Ragian to Sufa will enable me to fix within a few miles, when I come to treat of this subject: and the passage over this river to arrive at the capital evidently proves its locality east of Susa, in correspondence with Alexander's departure from it. This renders both the passages of Arrian confiftent, and reconciles his account with those of Strabo, Diodorus, Q. Curtius, and Cheref-eddin. And fo far is it impossible to confound this river with the Arosis, that Cheref-eddin 432 mentions two others between this and the Arofis-the rivers of Ram-Hermez and Fei; both which his commentator carries into the Al-Zal, or Eulæus, but d'Anville directs them to the Arofis. With this question I have no concern: but as Nearchus failed up the Pasi-Tigris, I am not displeased to find in Diodorus a proof that it

431 Lib. iii. p. 128.

432 Vol. ii. p. 185.

is navigable. The Kopratas 433, he fays, rifing in the mountains [of Louristan] falls into the Pasitigris 434, and the Pasitigris is impassable without a bridge; it is four hundred feet wide435, and as deep as the height of an elephant; all these circumstances are so perfectly confistent with the transactions which are to follow, that the omission of them would be inexcusable; and if I have unravelled a geographical difficulty, in which Salmafius, Cellarius, and d'Anville have been entangled, I have done a fervice to the science.

SUSA. SHUSHAN. TUSTER.

The state of the state of the same of the	Latitude.						
Longitude	0	,	11		0	,	11
from Ferro, by Ptolemy,	84	0	0		34	15	0
from Ferro, by D'Anville, -	66	31	0				
D'Anville, by Chart: Orb. Vet. notus,	66	10	0				
Ptolemy corrected by Gosselin, -	60	0	0				
Otter, p. 50, vol. ii. Oriental, -	86	10	0		OY	20	~
		-				-	
Ibid. Etvals,	74	20	0	-	31	30	0

This longitude operates strongly against Mr. Gosselin's system, (and there are many fimilar ones,) because, if Ptolemy's error is always in excefs, the error ought to increase in proportion to the distance from Alexandria; but here the error is in default, and not in excess.

434 This is the only passage where Diodorus p. 581.

quifite, I conjecture that it is to be found in fore he names it Tigris. Lib. xix. p. 33 F. Kho-Perat, or P'rat, the mountain that limits vol. ii. or divides : the boundary of the Uxii.

⁴³³ If a derivation of Ko-pratas were re- uses the term Pasitigris. Immediately be-

⁴²⁵ Troodear whilear. See Salm. Pl. Ex.

Sufa is the Shushan 436 of Dantel, the Shuster, or Tostar, of the Oriental writers, and Susiana is their Chusistan 417, the country of Chusis, or Susis, more commonly written Kourestan and Chorestan. This appellation is now almost obsolete in the East, for in Persis and at Basra it is styled Ahwaz, or Haviza, from a town now become the capital. Sufa is faid by the Oriental writers to be the first city founded after the flood by a prince called Husheng438, who is the grandson of Caiumaras, the first name in their mythology. The Greeks call the founder Memnon, fon of Tithonus, which amounts nearly to the fame, implying that it existed before there was any real history to appeal to. Its name is faid to fignify a lilly, from the abundance of that flower in the neighbourhood; but I cannot help noticing that Hoo-chenk 139, the founder, is related to Tchar-danké, meaning the Mountain River; and Kou-restan, Kho-restan, and Khu-sistan, all relate to a country

436 The Greeks have no sH or CH, as it is wfed in our pronunciation of church, and confequently Sufa, Sufiana, was written by them for Shushan. By a change similar to one in our own language, Church, Kirk: Choufistan becomes Khoufistan.

437 Khouzistan, so called from the Khouz, a nation which inhabited it. Otter, vol. ii. 49. But Khouz fignifies mountains, or mountaineers; and Sufii, Kissii, and Kossai are no doubt originally the fame. Strabo, p. 728. quotes Æschylus to prove this of Susii and Kissii, and the passage is in point :

"Οι τε τὸ Σέσων η δ' Εκθατάνων Και τὸ φαλαιὸι Κίσσιιον έρκος Perf. fub initio. HEODINGSTES &Gav.

Between Kissii and Kossai the resemblance will hardly be doubted. Thefe may be

the Khouz of Otter, if he chooses it; for the whole only goes to prove, that the inhabitants of the mountains occupied the plains, and carried their name with them over the whole province of Khoufistan; and those who still remained in the mountains were still called Khouz and Koffæi. Khusis, in Greek letters, is Khyfis, and hence Kiffii.

438 Sir William Jones's Nadir Shah, p. 39. -439 Khoo-Kienk, Tchar-Kienk, or Chienk, are fynonymous. I confider also Hucheng and Shushan as the same word identically. Hoochenk, however, must be a fabulous personage, for he is reputed founder of Babylon as well as Sufa. Otter, vol. ii. p. 209. There are not wanting those who rather deduce Romulus from Roma, than Roma from Romulus.

furrounded

furrounded with mountains ⁴⁴⁰. These mountains, on the north of this province, throw down rivers from almost every bosom of the range; and the junction of these, causes all the consustion of names already noticed. Many of them seem to be streams of importance in an early part of their course, by the bridges we find constructed upon them; and their capacity of navigation, by means either natural or artificial, is the distinguishing feature of the province. The nature of the country below the mountains, which is a level ⁴⁴¹, furnishes a convenience for this improvement; and there is a canal, called Mefercan by Al-Edrisi, which united the Eulæus with the river that passes by Askar-Mokram ⁴⁴² and Haviza, and joins the Tigris a little below Khorna. Inland as this is, there is reason to suppose it affected by the tide, for Al-Edrisi mentions that it is more navigable at one time of the month ⁴⁴³ than another, and then carries vessels of a considerable size. This canal d'Anville conducts into

440 In afferting this, I always suppose that Sufis and Sufiana are foftened forms of Khufiftan, in which Koo, or mountain, is the root. But if they are from su or soo, that word means water or river, as Kara-Sou, the Black River, &c. &c. The name is Khorestan, Khozestan, Cuzistan, and Curistan, for the Arabic) without a point is R, with a point j is z; fo that the confusion in orthography is Oriental. See a very judicious discussion of these difficulties in a note by the English translator of Renaudot's account of two Arabian travellers in the ninth century. Preface, p. xxxii. This work was fearched in confequence of the report made of it by Dr. Campbell in his extract inferted in Harris's Voyages, and hopes were conceived that fomething might have been found relative to

the Mekran and the Indus: but it appears that the Arabs, in the ninth century, followed the route marked out by Hippalus; that is, they came down the Gulph of Perfia from Siraf to Mascat, and then shood over to the coast of Malabar with the monsoon. This is the general course at the present hour from the gulph to the coast, and almost constantly from the coast to the gulph.

441 Susa itself seems to be on an eminence.
442 Askier Mukierrem, ten leagues from
Ehwaz, eight from Tuster. Otter, vol. ii.
p. 52.

443 Et vero cum aqua in incremento est, quod evenit initio mensis, naves illic transcunt; cum autem in decremento, transire ne quaquam possunt. Nub. Geog. p. 123. He adds in another place: Grandibus sulcatur navigiis.

the river which he calls the Ab-Zal, or, more strangely, the Mosæus. The Ab-Zal he unites with the Gyndes, and fo conveys it into the Tigris above Khorna, while he opens another communication with a stream he calls Sahaab, or Soweib, which comes into the Tigris below Khorna. This is the mouth *** of Niebuhr's Su-ab, which he calls the port of Ahwaz445, or Haviza, the modern capital; and it feems to maintain its ancient title, as Su-ab is the river of Su⁴⁴⁶, or Susiana. It may not now be navigable to Toftar, for Toftar is a village; although there cannot be a doubt but that it is the original iffue of the communication formed by the Mesercan; and I have great reason to suppose that there was a fimilar union of the Eulæus eastward with the Arofis, and that this is the ground of the affertion common to Strabo, Al-Edrifi, and Cheref-eddin; that all the rivers of Sufiana communicate with the Tigris. That Sufiana was a favoured province under the early dynasties we have sufficient evidence in the fortification of Susa, and in finding that it was the principal treasury of the empire: out of this, Alexander paid the debts of his army at the expence of twenty thousand talents, celebrated the nuptial feast of the Macedonian officers with their Persian brides, and rewarded the fervices of all that had a particular claim to distinction; out of this, he made the donation to the veterans he discharged at Opis, under-

In the collection of voyages by Melchisedeck Thevenot, (Paris 1663,) a map of the territory of Basra is inserted, from the authority of a native, intended to shew the numbers and situation of the Sabæans, or Christians of St. John. This map, which is without proportion of any kind, gives the relative situation of the rivers and places here mentioned, in persect conformity to what I had previously collected from other authors.

This conformity gave me no little satisfaction. The only difference is, it places Howeiza (Haviza) on the upper stream of d'Anville, rather than on the Suab of Niebuhr, which is written Soweib; but Haviza is connected with both. See Thevenot, in fine Persepolis, vol. i. p. 24.

445 He feems to make them two towns.

446 Another mountain river.

took the support of all the children born to his followers in Asia, and found supplies for upwards of fifty "thousand native troops raifed in Persia; and yet this treasure was not exhausted at the time of his death, for the war between Antigonus and Eumenes was caused by a contention for this capital, which was still the richest in the empire. We are not, however, to suppose that this accumulation arose from the revenue of a fingle province, though the province itself was productive above all others. Strabo fays, that the return of the crop was an hundred or even two hundred fold. Cotton, fugar 448, dates, rice, and every grain of the finest species are enumerated amongst its natural productions; damasked steel, filk, cotton 449, linens, and cloth of gold, amongst its manufactures. Such was Sufiana in the early ages, and fuch it continued to the time of Sapor, and almost to the dissolution of the empire by the Agwhans. It is now a prey to every Arab invader, haraffed by the Turkish arms from Basra on the west, and by the Persians from Schiraz on the east: a fettled despotism protected the provinces it oppressed; the transient usurpations of the present day ravish not only the produce, but destroy the stock.

If I have dwelt longer upon the description of this province than the following short narrative of Nearchus's transactions may require, those who esteem geography as a science will pardon me. One object of my work is to elucidate ancient geography, and there is no portion of it more involved by erudition than this under contemplation. If I have made this consistent, and rendered it applicable to the voyage

⁴⁴⁷ Thirty thousand came out of Persis only, under Peucestas.

⁴⁴⁸ See Otter, vol. ii. p. 50. Who fays the country is hot in the extreme, and unhealthy to foreigners. The natives are tawny; bafanés.

the Linteum virgatum Corcubæum, striped linen of Corcub, is mentioned by Al-Edriss, p. 123. Corcub is upon the Gyndes. See Otter, vol. ii. p. 51.

I have undertaken to comment, I shall not easily recede from the ground I have taken by reference to ancient authorities, but appeal to those who may visit this country hereafter. Of that, indeed, there is little hope; for what merchant, what traveller, unless he be a BRUCE, will jeopardy his life to refolve questions of curiofity?

PASSAGE of NEARCHUS from the AROSIS to SUSA.

WE left Nearchus at anchor in the mouth of the Arofis 450, preparing to enter upon the navigation along the coast of Susiana; a course which, he informs us, he considered as attended with the greatest hazard and difficulty. Three shoals have been already noticed; one between the Arofis and Kataderbis, called Barcan; a fecond between Kataderbis and Khore Moofa451, called Karabah452; and a third between Khore Moofa and the Khore Abdillah, named Ali-Meidan. These three shoals give exactly the three days' course of the fleet along the coast of the Delta, which, without a previous information of this kind, must have been in some degree unintelligible.

The fleet left the Arofis on the fixth of February, after taking on board a supply of water for five days, as the pilots informed them they were not certain of procuring any, while they were croffing the mouths of the streams which divide the Delta 453; for the coast

χυσαν for εσίχυσαν; and I now advert to enxinou for the last time; which the translation gives, as usual, vadosum ac scopulosum; -on a " When the pilot first makes the banks, coast where a stone is not to be found. but uiya is the worter inixeous, expresses the breadth of the Ali-Meidan, which extends 453 χώςην · · · ¿ηχίησιν ini μέγα is τὸν σώτον out fifteen or fixteen miles in the widest

⁴⁵⁰ Oroatis, Tab, or Endian.

⁴⁵¹ Query, Whether Khore Wastah ?

^{*52} See Supra, and M'Cluer, p. 30.

se they are called Karabah on the East, and

[&]quot; towards the West Ali-Meidan."

iπίχεσαν. So I read with Gronovius, iπί part.

was low, as they faid, and the course along it in no great depth of water, on account of shoals which extended far out into the sea. This circumstance would consequently oblige them to stand off; and, when they came to an anchor, to anchor at a great distance 454 from shore. The first day's course, indeed, partook not of these dangers, for the shoal Barcan 455, between the Arosis and Kataderbis, is not of fo great extent from the coast as those that succeed on the west, and the mouth of the river is sufficiently open, even in its appearance at the prefent day 456. The shoal, however, seems to be noticed by the expression of Arrian upon the conclusion of the course; for he says, after a passage of about thirty miles they came to anchor at the mouth of a lake 457, rather than an harbour, where there was abundance of fish. This may be confidered as marking the nature of a fhoaly coast, but the point is not material to infift on. The place was called Kataderbis, and an island which lay at the mouth, Margastana. In these two words there seems an evident allusion to an island still called Deree, and a tract called Dorghestan; but of the Bender Madjour which d'Anville, from the Turkish Geographer, allots to this flation, I find no traces in any English chart. One-and-thirty miles, meafured upon M'Cluer's chart, brings Nearchus to an anchor between the two islands Deree and Dereebouna, and one-and-thirty English miles end between Dereebouna and the main. In either position, Nearchus might have but one island in contemplation, and confequently have no cause to mention

KATADER-BIS LAKE. MARGAS-TANA ISLAND. February 6. One hundred and twentyeighth day.

⁴⁵⁴ See the note of Gronovius in Ioco, where he shews that the translators were as bad interpreters as they were seamen.

⁴⁵⁵ The Tenagos Arenosum of Ptolemy is the shoal Barcan in this very position between

the Eulæus and the Arofis.

⁴³⁶ See M'Cluer's chart, three fathom on the bar.

⁴⁵⁷ imi sépare Alpens (x De wideos.

more. Their modern names are fuch as they have from the pilots; but, however applied, certainly relate to the inland Dera of Ptolemy, which gives name to the eastern channel of the Eulæus, evident in Deurak, still existing, and in the tract Dorghestan, allied, if I may vary the orthogrophy, to the Morghestan 458 of Arrian.

The river Dorack, I have already marked as the eastern branch of the Eulæus separating from the Karûn channel inland, falling in nearest to the Tab, or Endian, and embracing, not only one island, but several in its channel. Upon a review of Ptolemy at this place, observing that he mentions the mouth of the Eulæus immediately next to the Arosis, and has the Mosæus only, without noticing the other channels between the Eulæus and the Tigris, I am more confirmed in my opinion, that his Mosæus is the branch we now call the Karûn, with Khore Moosa at its issue; and that the Mesene comprehends, not only the strip between the Bamishere and Cossisa-Bony, but perhaps as far as the Karûn also.

The two islands at the mouth of the Dorack are not accurately named, for Bouna is apparently a channel rather than an island, and seems to correspond in contradistinction to the Cossisa-Bony, either as such, or as a boundary and termination of the Delta. The Oriental geographers place a fort here, called Medhi and Modhi sperhaps in the situation of Moshure, in Mr. Dalrymple's chart; and it is not impossible that somewhere in the bay, formed by the mouths of the Dorack, d'Anville's Bender Madjour may be discovered; it cannot be where the map of his Memoir places it; for

⁴⁵⁸ I do not fearch for an error in the initial
459 Hisn-Modhi, Arx-Modhi, Hisn-Arx,
letter; for I believe the change to arise from
fome Oriental orthography, which I cannot idem.
discover.

the coast there is covered with the shoal Barcan, and d'Anville's three 400 maps are all particularly incorrect on this part of the coast. I make the less scruple of afferting this, because M'Cluer has not only laid down this coast totally different, but all our English charts; these have at least the authority of the native pilots, and M'Cluer, I conclude, his own observation; for he has added the foundings, and that he would hardly have ventured to do without fufficient authority, on a coast where the land cannot be approached near enough to be feen, and where the course must principally, if not wholly, be directed by foundings.

I am now to conduct the fleet across the shoals which fringe the Delta; and in this course I discover the Karabah and the Ali-Meidan as manifestly as in a modern map. On the first day they failed as foon as it was light; and, forming a line by fingle ships, each followed in order, without deviating to the right or left, through a channel marked out with stakes in the same manner as the passage 468 between Leukas and Akarnania, in Greece: but, fays Arrian, at Leukas there is a firm fand, and if a veffel grounds she is easily got off again; but in this paffage it was a deep mud on both fides, fo that a staff could find neither support or resistance; or if, when the veffel grounded, the people got overboard to ease her off, they found no footing, but funk in higher than the waift. Now it is true that a muddy shore, and the staking out a dangerous passage, is not peculiarly characteristic of one coast more than another, for the practice is fufficiently general; but it is very extraordinary that this

SHOAL. First day's courfe. February 7-One hundred and twentyninth day.

460 Map of Asia, first part. Tigris and Hampshire. And in the year 1786, I saw the Elephant man of war just launched at Bussle-469 And many other passages in different ton, brought down the creek marked out in

circumstance

Euphrates. Memoir.

parts of the world. Lymington river in the same manner.

circumstance should be so decidedly noticed on this part of the coast by Arrian, Ptolemy, Pliny, Marcian, Al-Edrisi, and Thevenot, with little variation. There is a bay between 462 the Mofæus 462 and the Eulæus called Sinus 464 Pelodes in Ptolemy, and Sinus Steloas in Marcian. Salmafius 465 and Hudfon will not allow Marcian to retain his own reading, but reduce him to the standard of Ptolemy. The truth is, however, that he has preferved one feature and Ptolemy another, both belonging to the fame face of the coast; for these two terms translated are nothing more than Muddy Bay and Stake Bay; proving that Marcian is not a mere copyist of Ptolemy, but fometimes also a commentator. Pliny bears testimony to the former circumstance, and Thevenot 466 mentions the entrance of the Karûn as still marked by a stake of palm wood, when he arrived at the mouth. Let us now confider the nature of the Karabah, as it has been already noticed, and we shall discover the cause that gives rise . to this circumstance. The term of broken ground 467 applied to this shoal arises from the irregularity of the soundings and overfalls on it. and the fiction of a city funk here is noticed by feveral authors. The foundings, according to M'Cluer, vary from twelve to feven and eight,-to ten, feven, and five fathoms. As foon as the modern pilot finds thefe, he keeps away west for the Ali-Meidan; but the course of Nearchus feems to have been acrofs this bank, and, as nearer shore, naturally with shallower water; but the inequality of the bottom as naturally offered the means of exploring a channel across. This is the channel that we may conclude was marked out by the

⁴⁶² An additional proof that Ptolemy's Eulæus is the Dorack channel. His Moræus, the Karûn.

⁴⁶³ Between the Karûn and the Dorack.

⁴⁶⁴ Στηλώαν κόλπος, Πηλώδη κόλπος. Marcian.

⁴⁶⁵ In alterutro mendum esse necesse est. Sal. Plin. Ex. p. 701.

⁴⁶⁵ ln p. 16.

⁴⁶⁷ Karabah, broken; from the Persian root Karab, to break. Mr. Jones.

natives. An attention of this kind is perfectly confistent with the commercial spirit of the province, and proceeds upon the same grounds as the navigation inland. A passage over or through the shoal is necessarily implied in the account of the journal; the accomplishment of it is reconciled to reason by the method I have pursued, and in whatever state the coast may now be, it can hardly afford a ground of objection to my statement of what it might have been at the distance of so many centuries. Amidst all disadvantages of ancient navigators, they had one advantage arising from the little depth of water the construction of their vessels required.

Through a passage, then, of this fort, Nearchus conducted his sleet thirty-seven miles, and then came to an anchor without being able to approach the shore. Here they took their repast on board, and gave the people some time for refreshment. I have no hesitation to six this anchorage in the Khore Wastah, the issue of the Selege stream stream stream to terminate the Karabah. It is a minute circumstance, but worth noticing, that both Ptolemy and Marcian agree in making the eastern commencement of the bay, Pelodes, at some distance from the Eulæus, or Dorack, and their termination of it is at the Mosæus, or Karûn, which would naturally happen, as they take no notice of the intermediate channel, or Khore Wastah.

From this anchorage the fleet weighed in the night, after allowing a short respite from fatigue, but they had no longer a shoal to cross; they sailed in deep 469 water, says Arrian, manifestly marking

SHOAL.
Second day's
course to
Disiporis.
February 3.
One hundred
and thirtieth
day.

⁴⁶⁸ It amounts to thirty-two geographical 469 κατά βάθια, four fathoms, would be miles, equal very nearly to thirty-seven miles κατά βάθια to a Greek flost.

English.

the course along the border 47° of the Ali-Meidan, which every veffel bound for the Bafra Channel still purfues. They failed all night and the whole of the following day till past noon, when they finished their course at Diridotis, a village in the mouth of the EUPHRATES.

The distance assigned for this passage across the Ali-Meidan is nine hundred stadia, or upwards of fifty-fix miles, a measure which is very dubious, as Nearchus informs us he was able to keep no regular account, and the statement of the moderns is so various, that I prefer giving their own distances to fixing any determinate meafure of my own.

D'Anville. Geog. Miles. C	G. M.				
Memoir 471. Measure from the Karûn to Khore?					
Abdillah, } 30. add 7 -	- 37				
Map of Asia, first part, - 33. add 7 -	- 40				
Map of Tigris and Euphrates, - 30. add 7 -	- 37				
M'Cluer.					
Large Sheet from Wastah to Khore Abdillah, -					
Small Sheet from Wastah to Khore Abdillah,	34				
DALRYMPLE.					
Anonymous Chart from Karûn to Khore Abdillah, 46					
from Wastah to Khore Abdillah,	62				
NIEBUHR.					
From Karûn to Khore Abdillah (dubious), 40. add 7 -	- 4.7				

470 Upon this flat there are fix fathoms on " shore," and this part is dry at low water. the fouthern edge, five fathoms on the midgoes under five, or five and an half.

M'Cluer, p. 30. "When you come within 45 two fathoms, you are still near ten miles from

⁴⁷¹ I have eighteen draughts to confult, dle, four at the upper end. The pilot feldom but these are all worth specifying. Seven miles are added for the difference between the Karûn and Wastah; but some of the charts make it ten.

If fuch are the fluctuations of the moderns, how are we to reduce a journal of the age of Alexander? M'Cluer's small sheet is a corrected draught, and his corrections usually promote a coincidence with Arrian; but how are we to reconcile his estimate with that of Mr. Dalrymple's chart? It is true that I esteem Mr. Dalrymple's, in point of disposition, as the best of any which I have seen; but I have reason to consider all its measures as too large; this will appear more fully when I come to treat of the coast in general.

Diridotis, or Terédon, is the termination of the voyage by fea, and evidently both forms mark its connexion with the Diglito of Pliny, and the Tigris of the Greeks, as they are both related to the Oriental Degela, or Didsjile 472. Diglidoth 473, intimating a town fituated near the Degela, will give the two forms of Diridotis and Terédon, with the usual interchange between R and L, which appears in many other instances. This place Arrian calls a village, where there was a mart established for the importation of the incenses of Arabia, and its situation fits it for the conveyance of them up to Mesopotamia, either by the old canal at the Khore Abdillah, or by the Schat-el-Arab to Susiana, or Persis; and this circumstance has recommended it to the notice of all the ancient geographers. I have already mentioned that Ptolemy places Terédon between the two mouths of the Tigris, which evidently proves that he confidered d'Anville's Choabedeh, as a mouth of the Tigris, and not of the Euphrates. And as I have before accounted for Pto-

Pliny means by Diglito, the upper part of

⁴⁷² Niebuhr writes, D'dsjile.

Pliny is Diglath, equivalent to Degelah.

the Tigris - qua tardior fluit; and gives Tigris 473 One reading of Diglito in the MSS, of as a second name, where the course is as swife as an arrow.

lemy's Sinus Mesanius, the whole of ancient geography is thus rendered consistent with itself, and with our modern charts.

It will feem extraordinary that, when the course of Nearchus lay up the Tigris, or Schat-el-Arab, he should pass the mouth of that channel, and bring his sleet to an anchor in the Khore Abdillah, which he calls the mouth of the Euphrates. This, according to Pliny's account, was just going twenty-sive miles out of his way, and causing a necessity of re-measuring his course back again the same distance. Pliny's estimate, computed by d'Anville's method, is reduced to twelve miles and an half; and the real distance, taken largely, may be about ten. If, therefore, it is asked why this happened, the answer will exhibit one of those minute coincidences which nothing but truth could suggest. It is a circumstance connected with the nature of the navigation, and it continues to be the practice of the pilots to the present hour, for thus M'Cluer describes the course:

"After *** these soundings in Khore Gusgah, you will quickly shoalen to sour one-half fathoms, and this the pilot calls "Mucan ***; and from that, three one-half or three fathoms to Bussorah Bar ***. With these soundings, he still stands across [the mouth of the Schat-el-Arab], west or west by north, till he deepens to sive fathoms in Khore Abdillah, and there he anchors till the next slood tide; or, if he has sufficient tide to carry him over, he stands away to clear a bank between Khore Abdillah and the Bussorah river."

I now beg leave to notice, that the pilot on board Nearchus fleered exactly the same course as M'Cluer's Karack pilot two

⁴⁷⁴ M'Cluer's Memoir, p. 30.

⁴⁷⁵ The Mesene.

A76 The bar at the mouth of the Coffifa-Bony, or Schat-el-Arab, as I ufe it.

thousand years afterwards; so durable is the stamp that Nature has set upon this coast. The reason of this is obvious; for the projection of the Ali-Meidan throws the vessel off the coast till she is opposite to the Khore Abdillah, and the level of the land is so low at the mouth of the Schat-el-Arab, that it is much safer for her to make land in the Khore, than to stand up the Schat-el-Arab at once, when the coast on either hand is too low to be visible.

While Nearchus lay at anchor in this Khore, which he calls the Mouth of the Euphrates, intelligence was received that Alexander was on his march to Sufa. He determined, therefore, to return back⁴⁷⁷; and then, by purfuing his course up the Pasi-Tigris, to join him in the neighbourhood of the capital.

Here it is that, in my endeavour to explain the following day's course, I am obliged to differ totally from d'Anville, I appeal to the candour of the reader, that no captious love of opposition may be imputed to me, for I have too great a deference to that great geographer's opinion, ever to depart from it without sufficient grounds.

The passage is only six hundred stadia from Diridotis to Aginis. d'Anville places Aginis at Zeiné, in the Schat-el-Arab. I say that Nearchus never entered the Schat-el-Arab, and I place Aginis at the mouth of the Karûn, or Khore Moosa. This is the difference between us. D'Anville's best argument is the similarity between Aginis and Zeiné; and, when the local circumstances are first sixed, I hold similarity of names to be one of the best of proofs; but to derive the locality from the sound, is commencing the argument at the wrong end.

AGINIS, February 9. One hundred and thirtyfirst day. My reasons for assuming a different course are these:

1st, Pliny's Chaldean Lake, and Arrian's Lake at the mouth of the Tigris, are not the fame.

2dly, Arrian's Pasitigris is never the Schat-el-Arab, and in this he is supported by Strabo.

3dly, In the passage of Nearchus up the river, no notice is taken of the canal of Haffar, but only upon Alexander's course down to the gulph.

4thly, Nearchus is faid to go up the Pasitigris, Alexander is said to come down the Eulæus.

5thly, Nearchus, in his course from Diridotis to Aginis, sailed with Susiana on his left.

ift, The CHALDEAN LAKE.

NEARCHUS failed 478 across a lake into which the Tigris falls at its iffue into the gulph; but if this lake exists, or ever did exist, it must have been at the mouth of the Schat-el-Arab, and could not be the fame as Pliny's Chaldean Lake; for that commences below Ctefiphon, and ends at Aphle; and he adds afterwards, that the waters, after fpreading in this form, are again collected into a stream, and in that shape take their course to the sea. His 479 Chaldean Lake,

ανάπλυς τάδιοι ίζακόσιοι, Για κ΄ κώμη της Συσίδος ήν *axison "Ayun. Ar. 357.

479 Susa a Persico mari absunt cct. M. paff. qua subiit ad eam [ea] classis Alexandri Pafitigri. Vicus ad Chaldaicum Lacum voeatur Aphle; unde Susa navigatione LXV. M. paff. abfunt.

This Pasitigris is the Schat-el-Arab, and Pliny supports d'Anville in supposing the passage up that stream; but his Lacus Chalgris inter Seleuciam et Ctefiphontem vectus in Sufa. (Lege) inde Pafi Tigri, Sufa.

478 and & The Aluene is author the moraphe Lacus Chaldaicos se fundit. Eosque LXX. M. paff. amplitudine implet. Now LXX. miles will not reach from Cteliphon to Aphle by two hundred, and still Aphle is at the lower end of this lake. See lib. vi. c. 27.

But Pliny, lib. vi. c. 23. followed a different authority. He there is giving an account of this passage of the fleet from the historians of Alexander, and there we find (not the Chaldean lake) but a lake at the mouth of the river. Oftium Euphratis. Lacus quem faciunt Eudaicus will not accord with d'Anville. Ti- læus et Tigris juxta Characem, inde Tigri,

therefore,

therefore, is not at the mouth of the Schat-el-Arab, but inland, and its termination at Aphle; which, if Aphle and Haffar are the fame, is upwards of fixty ** miles from the mouth. This, I conceive, is the first source of d'Anville's mistake, and Pliny's error in assuming Pasitigris, as the appellation of the Tigris and Euphrates united in the Schat-el-Arab, is the ground of his making the sleet go up that channel, instead of the Karûn, or real Pasitigris. D'Anville sollows him in this assertion, and here is his second mistake

For, 2dly, Arrian's Palitigris is always that stream which, flowing east of Susa, joins the Eulæus at some distance below that capital. I have proved this by the concurrent testimony of Strabo, Diodorus, Q. Curtius, and Cheref-eddin, all according with Arrian. It did not approach the city; it was a broad, deep, and navigable river: it croffed the road from Perfis; and, after its junction with the Eulæus, the united stream separated again, sending off one branch eastward, now called the Dorack 481, and another westward, which is the Karûn; and, finally, its characteristic distinction is the title of Pafi, or North Eastern Tigris, in opposition to the great ftream of that name, which is now ftyled the Schat-el-Arab 45%. This is manifeltly the fystem of Arrian; and Strabo, in explaining the error of some historians who attributed this appellation to the Schat-el-Arab as the general channel which received all the different rivers, as manifeftly confirms the fystem of Arrian, and proves the concurrent opinion of all the authors in the age of Alexander.

Bony, or Bafra Channel.

 ⁴⁸² The Schat-el-Arab is always flyled Degela, or the Tigris, by Al-Edrifi.

3dly, If Nearchus had gone up the Schat-el-Arab, he could have entered the Eulæus, or Pasitigris, only by the Hassar Canal; is it then not remarkable that, when at Aginis, he specifies the progress of the following day as up the Pasitigris453, and not up a canal? but if Nearchus had failed up this canal, there is much more reason to conclude it would have been specified in a course he performed himfelf, (where it is not specified,) than in the descent of Alexander, where it is mentioned, and in which he was not fo immediately or personally concerned. This, confidering the tenor of the journal, is one of the strongest evidences which can be produced; for an artificial cut was no common object to a Greek, and a fimilar circumstance is preserved at Heratemis, though the passage was neither explored, or made any part of the navigation. An omiffion, it is true, is only a negative proof, but in an instance of this kind it must have considerable weight.

4thly, There is no inconfiftence in mentioning Alexander's descent by the Eulæus, and Nearchus's ascent by the Pasitigris, for Nearchus entered the river from the fea where it bore this appellation in contradiftinction to the Tigris, and Alexander embarked at Sufa, where that fource, which passes the capital, is called the Eulæus. The various heads 484 of this stream cause confusion in the interior; the various arms, as it approaches the fea, create diforder upon the coast. It is thus that the Eulæus and Choaspes are transmutable, and that the Eulæus of Ptolemy is not the fame as Arrian's at its mouth, but the Dorack. If Alexander embarked at

Arr. p. 357.

meme riviere prend le nom de toutes les villes edit.

⁴⁸³ islinde zará ros Πασιτίγριο άνω έπλειο. et villages ou elle paffe, et ainfi il est mal aifé que les voyageurs s'accordent bien pour 484 En Turquie en Perfe et aux Indes une ces noms. Tavernier, lib. v. p. 733. Amft.

Sufa, the stream was necessarily the Eulæus till it joined the Pasitigris, and the name was easily continued after the junction. If Nearchus entered the Pasitigris, the preservation of the same title in his course upwards, obviated ambiguity; and when he reached the junction, his progress up the eastern source distinguishes again the Pasitigris from the Eulæus. By the latter he would have reached Susa, by the former he effected his junction with the army.

5thly, The expression of Arrian is precise, when he afferts that Nearchus failed back again from Diridotis to Aginis, if Aginis is in the Delta on the Khore Moofa; but it is not equally apposite, if he returned only to the Schat-el-Arab. It appears evident that he had intended to go up the Schat by the course he held, but that the account he received at Diridotis informed him that the king was directing his course to Susa; this intelligence carried him back to the Pasitigris, as the shortest passage to the capital, for such it is; while the navigation up the Schat-el-Arab and through the Haffar canal was either unknown to him at that time, or not in his contemplation. But this is not all; he passed from Diridotis back to Aginis with Susiana on his left. Could this be true, if he had failed up the Schat-el-Arab? Let any advocate of Mr. d'Anville inform me, if ever the tract on the west of the Schat-el-Arab was called Susiana by any geographer, ancient or modern? Whether it was possible for Arrian to terminate that province west, at the Euphrates 485 instead of the Tigris? No. It was always styled Arabia, by the concurrent testimony of historians and geographers, as it is to the prefent day, and it was always possessed by Arabs, whose influence reaches to the very walls of Bafra.

^{*85} The Khore Abdillah is the Euphrates of Arrian.

If, however, it can be supposed that Nearchus made his 456 Euphrates the boundary of Sufiana, the difficulty will be increased; for then, in failing up the Schat-el-Arab, the expression ought to have been, that he proceeded up the Schat-el-Arab through Sufiana, not with Sufiana on bis left; for, if the Tigris is the boundary, in going up it, Susiana must be on the right.

The whole of this error originates 487 with Pliny; he knew, from the historians of Alexander, that the fleet went up the Pasitigris; but his Pasitigris is the Schat-el-Arab, and theirs is the river connected with the Eulæus. If this error had not misled so great a geographer as d'Anville, all that has been faid would be superfluous.

These are my reasons for adopting the following system; and it will now be easy to conduct Nearchus from Diridotis to Aginis by the course which is here assumed. These are the words of Arrian: " At Diridotis 458, intelligence was received that Alexander was ad-" vancing to Susa; the fleet, therefore, returned back again from " Diridotis, in order to proceed up the Pasitigris, and join the " army. They failed accordingly on their return, with Sufiana on

486 The Khore Abdillah.

writers whom Strabo reproves for the same mistake.

488 Επαίθα αγγέλλεται Αλέξαιδρου έπε Σύσων είλλισθαι είθεν κ) άυτοι ΤΟ ΟΠΙΣΩ έπλευν, ως κατὰ τὸν Πασιτίγρην ποταμόν ἀναπλώσαντις συμμίξαι 'Αλιξάιδρφ. "Επλιον δή ΤΟ ΕΜΠΑΛΙΝ ίν ΑΡΙΣΤΕΡΑ το γου του Συσίδα ίχωτες η παραπλίυσι λίμουν ές δυ à Τίγρης ἐσδάλλει συταμός. από δε της λίμνης ές αυτόν τον φοταμόν αναπλυς σάδιοι έξακόσιοι δια κ΄ κώμη της Συσίδος ήν καλίθσην "Ayuu. Arr. p. 357.

up the Tigris, or Schat. and Mi The Moune is Palitigris, and not the Tigris.

airds Tos worageds must be rendered, from the 487 It orininates actually with those Greek lake UP the river; but ED cannot be so rendered. It is TO the river. And againαυτόν τον παταμόν must then be a different river from that which is expressly declared to be their object before, xara rio Hactriyens worandr.

The refutation of any fuch construction, and the confirmation of that which I adopt, is contained in a following paffage. That is, when the fleet proceeded the next day from Aginis: inθείδε κατά τον Πασπίγχου άνω έπλενι. From thence, [from Aginis,] they failed up To make these words accord with a passage the Pasitigris. The river, therefore, is the

" the

" the left. The first part of their course was across a lake into

" which the Tigris disembogues itself ; and from this lake

" to the mouth of the river [Pasitigris], the distance was fix hun-

" dred stadia: at the termination of their course was a village of

" Sufiana, called Aginis."

In commenting on this passage, Mr. d'Anville commits two errors; for he calls the lake, the Chaldean Lake, which it has been proved not to be; and he then adds, that the extent of the lake is six hundred fadia, though the text says directly the reverse. "They passed the lake, and from the lake to the river the distance was fix hundred stadia." He adduces the testimony of Strabo to prove this, but Strabo does not mention the extent of the lake at all.

The existence of this lake at the mouth of the Tigris, or Schatel-Arab, must now be sought for; and, if we take a view of the map, we find a tract on the west of that stream called Dauasir by Niebuhr, the extreme point of which between the Khore Abdillah and the Schat-el-Arab we must sink, to find room for this lake at the mouth of the Tigris; and that this was really under water in the age of Alexander, and rose gradually to its present appearance, either by accumulation or artificial means, we have abundant evidence to prove. The very name '9', if I am not mistaken, implies inundation; and Niebuhr supposes the whole level as high as Hasseinad, the burial-place of Hassan-ben-Hanesie, to have been under water, and even that it would be so at this day, if the inun-

d'Alexandre fut de six cens stades. Mem.

Alexandre fut de six cens stades. Mem.

Alexandre fut de six cens stades. Mem.

But?

dation were not prevented by dykes. " Every where, (he fays ",) " canals are cut to convey water to the date grounds; and as the " water of the river is faturated with flime, the land here must, in " a fucceffion of ages, have been raifed confiderably to have ob-"tained its proper level." This supposition of Niebuhr's is in perfect harmony with an affertion 493 of Pliny's, that the inundation of the waters is no where so extensive as in this part of the river. Another circumstance is the rifing of Abadan, a town at the mouth of the Schat-el-Arab, at the extremity of the Dauasir; for it seems possible to trace this from its emersion; first, in the form of an island, and afterwards as part of the main occasioned by the departure of the waters. I looked for it in two Apphadanas of Ptolemy, but the position of neither answers. Marcian 494, however, expresses himself thus: "Near this part 493 of Susiana lies an island " called Apphadana 496, which fome attribute to Arabia." This feems to shew the emersion of land at the point of the Dauasir, between the age of Alexander and the time of Marcian. The connexion of this island with the main, or rather the withdrawing of the waters which feparated it, feems to have taken place in a later period; for that it was united in the time of Al-Edrifi is evident. " Abadan, (he fays497,) is a fmall fort, but still in good condition,

Syrian Greeks possessed the mouths of the 493 Non alio loco plus profecere aquæ terris Euphrates, this word would read Eswedene, not far removed from Apphadana.

⁴⁹² Vol. ii. p. 169. Amft. edit.

invectæ. Plin. lib. vi. c. 27.

⁴⁹⁴ Marc. Heracl. p. 17. Geog. Min. Hudson.

⁴⁹⁵ The Pafini Charax.

⁴⁹⁶ The translation reads Apphana. There is a coin in the possession of Mr. Cracherode, and in Dr. Hunter's Museum, inscribed EΣFEAHNE, which is by fome imputed to Al-Edrifi, p. 121. Aspendus; but if it should appear that the

⁴⁹⁷ Est autem Abadan Arx parva quidem, fed integra, ad litus maris appofita, quæ infervit ad observandos atque protegendos eos, qui subeant mare prædictum jacetque Abadan ab occidentali parte Degelæ [Tigris] amnis qui eo in loco maximè diffunditur super terram.

" fituated near the fea, which is intended for watching and pro-" tecting those who frequent this part of the coast, it lies on the " western bank of the Degela [Tigris], in a part where that river " particularly spreads itself over the land 498." The same author adds a remarkable circumstance, which, though not connected with the inundation, is fo uncommonly local, that it is worth inferting. " Six miles below Abadan lies Al-chafciabat, which fignifies a stage " raifed upon piles in the fea, where there is a watch kept, and " those who are appointed for that fervice repair to the stage in " boats, and return by the same conveyance." This fact is so connected with the navigation of the Schat-el-Arab, that whether the duty of this watch was for the purpose of giving fignals, or affording pilotage; it marks ftrongly the attention paid to the fecurity either of the country or of the navigators, and that, no more than the lowness of the coast demanded. This stage seems evidently on the point of the shoal, between the Khore Abdillah and the Schat-el-Arab.

Such is the nature of the Dauasir at its termination, and such is the evidence to prove that there was a lake in the age of Nearchus 499, where there is now land; that the land had emerged in the form of an island in the time of Marcian; and that, before Al-Edrisi wrote, it was united to the main. This is a fact of no small importance to ascertain. As the want of a lake at present forms one ground of objection to the authenticity of the journal. The

498 Tout le pais est si bas que sans une digue in the lowness of the land. In p. 245 he men-

409 Anno 326 A. C. 400 post Ch. 1100 post Ch.

name

qui regne le long de la mer il seroit souvent en tions the breaking of this dyke, and that then danger d'estre submergé. Tavernier, lib. ii. the waters came up to Basra. p. 243. I find nothing of this dyke in other authors, unless it be the dyke in the river mentioned by Niebuhr. But the passage concurs

name of Abadan still exists at the mouth of the river, in the Tschabde and Tschwabde of Niebuhr soo, which he makes two villages, possibly out of one. McCluer has also an Abadan, but too high up the river, and on the eastern instead of the western side.

I have been the more particular in stating all the circumstances relating to this point of the Dauasir, on account of the numerous errors attending it; and I must now observe that I am not bound by the text of Arrian to six upon any particular extent of the lake; for he mentions only that the sleet crossed it, and that, from the lake to the Pasitigris, the distance was thirty-seven miles and an half. The extent of it up the Tigris I am not concerned with, but I should not carry it, with Niebuhr, thirty miles up to Hasseinad; for Mr. Jones, who has passed frequently up the channel and down, seems to think, that the western bank is every where too high to admit of inundation, till within eight or ten miles of the mouth; but that part, he says, has undoubtedly been under water, and thus does the testimony of a living witness consirm all our written evidence.

The map will now conduct us, after passing the lake, across the Ali-Meidán, back again to the Karûn, which I consider as the Pasitigris, and Aginis as a village at its mouth. The general depth of water on the Meidán, nearest to the coast, is two fathoms at high water; and consequently, if Nearchus sailed upon the slood, there is ample allowance for the draught of his vessels, which was certainly not more than nine feet, and probably less than six: and

here, at Aginis, I make him anchor with the view of pursuing his course up the Karûn the succeeding day.

Here a greater difficulty occurs than that which I have been endeavouring to unravel; for, according to the journal, the extent of the coast from the Arosis to the Pasitigris is two thousand stadia, while the three days' course makes it two thousand to Diridotis; and if Nearchus came back to the Karûn, as I state, fix or feven hundred stadia ought to be subtracted from the two thousand. This difficulty is not lessened by adopting Mr. d'Anville's system, for then it must be added instead of subtracted, so that the difference is equal, either in excess or default: for this there is no better solution than what the journal itself affords, that Nearchus himself confesses he kept a very uncertain account in this passage; and I am forry to add, that the difagreement of our modern charts enables me to produce nothing certain upon the fubject. Mr. Dalrymple's anonymous chart so, is the only one that gives thirty-feven miles between the Schat-el-Arab and the Karûn, agreeable to Nearchus. The others vary fo much, that I prefer a statement of the whole to any explication of my own, and I am conftrained to take the measure from the Arofis to Diridotis according to the daily course, rather than to the Pasitigris, as Arrian reckons, because in one instance I have particulars specified, and in the other only a general sum. My reckoning may be reduced to Arrian's, by taking off from thirty-feven to forty-feven miles, the supposed distance between Diridotis and Aginis.

With much diffidence, then, I fubmit the following statement

⁵⁰¹ I always suppose the measure of this chart to be too large.

to the reader; for greater disagreement, in so small a space, is hardly to be found:

o be round.	Stadia.	Miles Eng.
From the Arofis to Kataderbis,	500	
to Khore Wastah,	600	
to Diridotis,	900	
	2000	125
	Nautic Mile	s. Miles Eng.
Arrian from the Arofis to Diridotis,		125
D'Anville's Map of Afia, -	105	nearly 122
D'Anville's Memoir,	- 75	- 87
M'Cluer's large fheet, -	- 80	 93
M'Cluer's fmall fheet corrected,	- 90	- 105
D'Apres	80	- 93
Gough's chart,	18	- 94
Niebuhr 502,	- 90	- 105
Dalrymple's anonymous chart,	- 137	160
Pliny,	-	265
Pliny, by another estimate, -	-	- 250
Pliny, halved by d'Anville, -	-	125
Marcian of Heraclea, 3430 stadia,	-	214
Marcian, by Salmafius, 1830 stadia,	-	- 114
Ptolemy, fix 503 degrees -	- 360	- 417

Such is the fluctuation of this estimate, and perhaps, out of the whole lift, M'Cluer is the only one who formed his statement from

soz Niebuhr possibly saw M'Cluer's papers at Basra.

Soz In reality six one-half. Terédon, 80°. Oroatis, 86° 30'.

Observation,

observation, or the account of the native pilots. Arrian differs from him only twenty miles, and on a coast where, he informs us, Nearchus could keep no true reckoning; it is extraordinary that his deviation should be no greater. Pliny had evidently found the same number of stadia, but doubled the distance by using the Olympian stadium in his reduction. Mr. Dalrymple's anonymous chart exceeds in reality all but Ptolemy; and it is a great disappointment to find that a chart, upon which depends the best information for elucidating Arrian, should be so defective in its measurement. It is, however, by no means ascertained that the head of the gulph is correct in any chart; on the eastern part, even McCluer may be deemed dependent upon the information of his pilots, and though their estimate is sufficiently just to answer their purpose, it is far inferior to the observation of an English navigator.

From Aginis, Arrian reckons it only five hundred stadia, or thirty-one miles, to Susa, in which there is evidently an error either in the estimate or in the manuscripts. D'Anville supposes that the letter expressive of a thousand has been lost, and Greek numerals, as single letters, are easily omitted: to his opinion, therefore, I should have no objection to subscribe, if sisteen hundred stadia would carry Nearchus to Susa; but that sum is still too small, and Susa so must be the termination according to the text; otherwise I would have fixed the measure to the bridge where the fleet joined the army.

D'Anville's distance from Aginis to Susa is something short of an hundred and thirty miles, which Pliny states at two hundred and

so4 Mr. Dalrymple is never accountable for is anonymous.

the accuracy of the charts he publishes. The so5 "Aγους . . . αυτη δι απίχει Σύσων ςαδίως author is alone responsible; and in this case he is πειτακοσίως.

fifty; this, by the usual reduction, is an hundred and twenty-five, agreeing sufficiently with some comparative measures of Al-Edrisison, who has no direct route between these two points; but Strabo has evidently copied the fame authorities as Arrian, and his account is not only equally deficient, but his numbers more confused. He reckons an hundred and fifty stadia to the bridge, and from the bridge fixty to Sufa. This is out of all proportion; but it is immediately followed by an estimate of five hundred stadia from the Susian 507 village to Susa, by which village, if he means Aginis, it is evident that he read five hundred in the copies as well as Arrian, and not fifteen hundred, as d'Anville requires. I have before me the means of giving the real distance within a very few miles. which I shall produce upon bringing the fleet up to the bridge; and, to that distance, all the discordance of our authors must be obliged to fubmit. I shall now carry the fleet up the Karûn, which Arrian calls the Pasitigris 508.

A VILLAGE in the Pasitigris. February 10. and thirtyfecond day.

One day only is allowed at Diridotis, though possibly it ought to be more, and one day at Aginis. From Aginis the fleet entered the Pasitigris, and proceeded little more than nine miles to a village, One hundred where Nearchus waited till he should receive intelligence that the army was approaching, which was to determine his progrefs, in order to effect a junction. The measures of the journal totally fail me here; for the hundred and fifty stadia attributed to this day's course lead to nothing, and are fully as disproportionate as the five hundred affigned to the distance between Aginis and Susa. This is

³⁰⁵ He has one from Askar Mokram to Do- d'Anville's to Aginis. rack of four stations, equal to about one hundred miles; and, by comparison, this would

⁵⁰⁷ Lib, xvii. p. 729.

⁵⁰⁸ On leaving Aginis, his words are, give nearly the same measure as Pliny's and 'Endinds κατά τὸν Πασιτίχεν ἄνω ἐωλιοι, P. 357.

not more peculiar to my fystem than to Mr. d'Anville's; for if they entered the Haffar from the Tigris, as he supposes, the passage through that canal is thirty-five 509 miles; and if they passed through the Delta, which is my supposition, the course is forty-five miles. instead of nine. I never abandon the measures of the journal without regret, as I find their general correspondence of the utmost utility; but I wish, upon the present occasion, to make the day's course terminate at the head of the Delta, where would be the natural position of the fleet while waiting for intelligence. affuming the Karûn for the Pasitigris of Arrian, no error can be incurred but fuch as has already been discussed "; and, in carrying the fleet up this channel, I adopt a course pursued by all the vessels of the country, till within these few years, which came from Bender-Regh, Busheer, or any of the ports on the eastern side of the gulph. Thevenot and Pietro della Vallé both paffed this way; and though Thevenot describes the country of the Delta as almost depopulated, and little cultivated, the natural property of the foil must be fertile, as consisting of slime accumulated by the rivers; and this fertility must have been turned to advantage, and improved, while the government was good, as it evidently was, under the early dynasties. In this state Nearchus found it, and describes it as populous and flourishing; and the village they reached, as capable of fupplying, not only their wants, but of administering to their gratification. One choice, therefore, only is left, to fix this village in the Delta on the banks of the Karûn, at nine miles from its

509 These measures are taken from Mr. been always navigated by the native vessels in apparently too long.

archus might have failed up the Bamishere used, the Bamishere, lying between the two, Channel, instead of the Karûn. My ob- least of all. jection to it is, that the Karan branch has

Dalrymple's anonymous chart, and are both preference to the others. It is only fince European traders have gone to Bafra, that the 510 It has been fuggested to me, that Ne- Cossisa-bony or Schat-el-Arab has been much mouth, if we adhere to the hundred and fifty stadia of the journal; or, if we abandon them, to carry the sleet through the whole level to the head of the Delta, at the point where the Karûn crosses the Hassar canal. The latter supposition seems preferable, on account of convenience; but there is nothing in the journal inconsistent with the former; for no distances are specified from this point upwards, as they are all concluded in the five hundred stadia from Aginis to Susa, however erroneous that estimate may be.

At this village Nearchus performed facrifices to the gods for the preservation of the fleet, and the success of his expedition. These were attended with games as usual; and the sestivity natural to plenty and security succeeded to the fatigues of the voyage.

Having brought Nearchus to this village, I shall leave him in the enjoyment of his repose, till I have conducted the two armies under the command of Alexander and Hephæstion on their march to Susiana. The line of their progress is easily discernible; but, as there were no enemies to subdue, and the whole was the return of a victorious army, we have no geographical particulars from our classical historians; it is a bare outline, which, if necessary to be silled up, can only be effected by recourse to modern authorities: it shall, therefore, no longer be dwelt upon, than is necessary to combine the movements of the separate divisions, to establish dates, and to render the whole consistent in all its parts.

We left Alexander at Giroft in the latter end of December, preparing for his progress by an inland route eastward of the mountains, while he detached Hephæstion with the elephants and gross of the army, with orders to cross the mountains, and proceed along the coast of the gulph, through that level which is called the Kermesir. I ought not to know more than my director, and he says, that Hephæstion was ordered to take this route because it was winter. winter, and the winter was milder on the coast than inland. This is too true, for the mildness extends to heat, putridity, and unwholefomness. It appears to me that Arrian has not preserved the real cause of this order, for Alexander seems to have acted upon this occasion, as upon all others, from the time he had no more enemies to fubdue; that is, because he was desirous of obtaining a knowledge of his empire; and he detached Hephæstion through the Kermesir for the same reason he had ordered Craterus to proceed through Arachofia from the Indus, and Nearchus to furvey the coaft.

However this may be, Alexander himself appears to have moved from Giroft before the conclusion of the year, some days previous to the failing of Nearchus, and the first place to which we trace him is Pafagardæ "; for at Pafagardæ is the tomb of Cyrus, whether he

A barren lift of names will afford little Ragian. It has probably been the common information; but I subjoin the route from road in all ages; for the principal places men-Girost to Pasagardæ, extracted from Al-Edriss, and shall continue it afterwards to existed in the age of Alexander.

-				1	Miles.
	From	Giroft	to	Canat Alfciam,	20
Malifilm waters			to	Maaun*,	20
KARMANIA.			to	Valafe-gerd,	20
BAKMANIA.			to	Adhercan,	20
A THE STANDARD			to	Giaraman,	20
Sales Inches			to	Kescensian,	3
1			to	Rostack-Arrostack,	40-143
12 15			to	Zamm Al-modhi,	15
			to	Darbe-gerd,	15
			to	Seban,	3
miles it do no			to	Bercan,	12
PERSIA.			to	Narecan,	12
3 2 2 2 2 3			to	Fasihan,	13
Marie San			to	Tamfan,	18
			to	Fafa or Pafa-gardæ	, 1 Z
					242
IN. B. The names	s in Ital	ics alone	e ar	e found in the mod	ern maps.

^{*} Maaun is the town, perhaps, where Alexander received Nearchus; the Sal-Moun of Diodorus.

perished in the war with the Massagetæ, or was gathered to his fathers with the Euthanasia so beautifully described by Xenophon: and at Pasagardæ we find Alexander punishing Orsines for embezzlement, and plundering the tomb of a native sovereign. It is foreign to my purpose to enter into this transaction, still I cannot help noticing that the aspersions thrown upon the conduct of Alexander on this occasion by Q. Curtius are neither consistent with his character, nor countenanced by Strabo, Arrian, or any writer of estimation; but Q. Curtius debases the vices of the Conqueror with as little judgment as he extols his virtues. In both instances, it is the language of exaggeration without restraint, in which the author facrifices truth, not to the love of falsehood, but to warmth of imagination and brilliancy of expression.

Pasagardæ siz is consounded with Persepolis by Arrian, upon Alexander's first visit to the province, when he burnt the palace in that city, of which, says Arrian, he now repented; and whether it was the effect of inebriated phrensy, revenge for the injuries of Greece, or the insolence of victory, any one of these inducements was sufficient cause of regret. Pasa, or Phasa-gardæ, was mistaken by many of the Greek writers, and the deception is natural; for the translation of Phassa-gerd would regularly be Persepolis, and Phassa-gerd differs from Phasa-gerd by a single letter. The former, however, signifies the city or capital of Phass; the latter a city, as Golius siz informs us, cooled by the north-eastern gales.

On the prefent occasion, Arrian distinguishes this city from Perfepolis; for we trace the progress of the army regularly from Pasagardæ to the capital; and it would be well if we had any characters to

the head of the district Darab, (so named But Niebuhr says this distinction is now from Darius,) one of the four into which the 'lost.

province is divided; the other three are Ko-

mark the route, but thefe will be fearched for in vain: we learn only that Alexander was there, by the circumstance at his arrival of his constituting Peucestas satrap of the province, who had saved his life in India, and who was now fo prudent a courtier as to assume the habit, and learn the language of the country. He had before been raifed to the rank of Guard514 of the Royal Person, and afterwards conducted to Babylon a body of twenty" thousand native troops, raifed in his province, and armed in the Macedonian manner. This is a circumstance which developes the future designs of Alexander more than all the conjectures of his historians.

Persepolis, in its Greek form, evidently marks Pharsa-gerd as its Persian original; but the name was not preserved even in the middle ages, nor does any other name appear but Istakhr, or Estakhar, which declined into a village as Schiraz 516 rose into a capital, under the auspices of the Mahometan conquerors. The name of Estakhar itself seems now almost to have perished, for there is not even a village "7 at the ruins, now called Chel-minar or the Forty Pillars, or at Naxi-Ruftam in the neighbourhood, both which befpeak the magnificence of the ancient capital, and the workmanship of that age 518, which is discoverable in the Egyptian ruins. The confequence is, that Al-Edrisi has no route to Estakhar, but to Schiraz 519

514 The Σωματοφύλακις, or body guard, were Orestis, Ptolemy and Python of Eordæa. To these Peucestas was added when Alexander was in Karmania. Arr. lib. vi. p. 269.

515 Others fay thirty thousand.

516 Written Zjiraes, Xiras, Dsjiraus, Chiraz, &c. founded anno 336 of the Hejra. Gol. p. 116.

517 Niebuhr refided at a village in the neighbourhood.

518 The building of Perfepolis is imputed originally only feven: Leonnatus, Hephæstion, to Caiumaras, the first name in Persan my-Lyfimachus, Ariftonous of Pella, Perdiccas of thology. The ruins of Chel-minar are given in Le Bruyn, Niebuhr, &c. &c.

519 Route from Phafa	to Schi	ras. Al-
Edrifi, p. 127:		Miles.
From Phafa to Kar,		15
to Rebat,	-	12
to Haramim,		12
to Schiraz,	-	21
		-
		60
		only,

only, and Estakhar lies thirty-six miles " fouth-east of Schiraz. The route, therefore, which I insert serves only to shew a comparative distance, and the difference between Schiraz and Estakhar is just so much out of the direct modern road.

From Persepolis nothing intermediate appears till the arrival of the army at Susa, except the junction of the sleet at the Pasitigris; the route, however, is evidently the same as the modern one, which enters Susiana at the bridge on the Tab or Arosis, called Baccar, within a small distance set from Ragian. At Ragian a variety of routes terminate which come on the one hand through Persis, and on the other through Susiana; for here seems to be the point where the Tab will first admit of a bridge, and consequently it is the centre of communication between the two provinces. Hither we may bring Hephæstion, who came along the coast; and by this road Parmenio must have entered Persis from Susiana, when Alexander passed higher north, upon his original invasion of the province.

Let us then suppose Alexander on his progress from Persepolis to Ragian, his march cannot lie out of the route which I have given from Schiraz 323; and at Ragian let his army halt, till I have brought up Hephæstion to a junction.

If it were necessary to trace the whole progress of this division from the time it left the army in Karmania, there are routes by

gives the fame distance, but makes it northeast.

521 See Al-Edriff, p. 126. He fays a bowshot.

522 Arrian, lib. iii. p. 130. κατὰ τὴ άμαζετὸν τὴν ἰς Πέρσας φέρυσαν.

523 Route	from Schiraz	to Ray	gian. A	AI-
Edrifi, p. 126			Miles.	
From Schiraz	to Giouan,	-	15	
	to Chalan,		12	
	to Charrara,	~	15	
	to Korchemam,		15	
	to Horaidan,		12	
	to Rafain,	-	22	
	to Ragian,	-	21-1	12
			which	ch

which it is not impossible to mark the greatest part of its general direction; and if the work of Beton and Diognetus were extant, it would be no little gratification to compare it with our modern journals: but, as the matter stands, I have little more than a barren list of names to present, without interest or information, and therefore refer it to the margin. Pietro della Vallé 524 travelled from Mina to Lar, but labouring under illness, and in a litter; and Le Bruyn 524 has a route from Gomeroon to Lar. From Lar, the route to Giouar falls into a journal 525 of Al-Edrisi's, probably at Mai.

Paffing

524 Route from Mina to Lar. Pietro della 524 Route from Gomeroon to Lar. Le Vallé, vol. v. p. 418: Bruyn, vol. ii. p. 70: From Mina to Ciuciululion, Gomeroon +. Bandalie. to Illin, to Kufciar, perhaps* Rudfciour, Gesje. to Kaharistan, Koreston. to Guri-bizirgon, Goer-bafer-goen: to Tenghi-dalan, Tang-boe-dalon. to Khormud, Gormoet. A Caravanferai. to Boadini, a Caravanferai, Bafiele. to Bafili, to Lar,

The route from Mina and that from Gomeroon join at Kaharistan, which Le Bruyn writes Koreston, and from thence to Lar, the names, however disfigured, are the same. This course consequently continued unchanged from 1620 to 1693. In Al-Edris, p. 131. we can only discover that the route went to Sciura, that is, Rud-sciour, the salt river of Pietro della Vallé, the Karius or Korius of Ptolemy, the Salsos of Pliny.

525	Route from Siraf to (Siraf is near Keish,				, p. 125: Miles.	
From Siraf	to Borcana,			-	21	
	to Adhercan, or Ras-Al-acbe,				} 12	
	to May,	a less in	-		18	
	to Kabrend, -				18	
	to Chan-Arademerd,	-	11.	-	18	
	to Giar, -		-	-	18	
	to Daft-Surab,	- 1	-		9	
	to Giouar, -	-	-	-	15-129	

^{*} Because he mentions a falt river here.

⁺ Tavernier, lib. v. p. 747. &c. has the fame route as Le Bruyn, and with equal variation in the orthography.

Paffing from hence to Giouar, in the road to Schiraz. From Giouar there are two routes to the Tab, or Arofis; one along the coaft noticed by Al-Edrifi, through Gennaba 526, and another inland, as I conceive, by Kaferon. It is apparently the latter that was purfued by Hephæstion; for at Sitakus, where the fleet lay for one-andtwenty days, we have intelligence that this army was not very near the coast, and there can be no reason for its approach towards the sea afterwards. I find no route from Kaseron to Ragian, but a view of the map will shew, that it must soon fall in with the road from Schiraz to that town, which has in all ages been the direct communication between Perfepolis and Sufa, as it is at this day between Schiraz- and Toftar, if it exifts; and, from the bridge at Ragian to Susa or Tostar, it is short of an hundred and forty miles. I give this whole account subject to the correction of any traveller,

The route from Lar to Giouar ought to fall miles upon the whole; fo that the march of into this at Adhercan, or Ras-Al-acbe, which Hephæstion from Mina to Ragian would be, are the same; for Ras-Al-acbe fignifies the top or passage of the mountains. These mountains are the chain, which I suppose to run inland from Dahr Afban, and to produce both the Nabon and Darabin rivers.

526 Route from Giouar to Giannaba. Al-Edrifi, p. 125:

From	Giouar	to	Kazeron (Kazarun)		iles.
		to	Rofaic,			12
		to	Tauag,		2	24
		to	Giannaba,	-	3	36
					-	-

From Giannaba o to Ragian by estimation, 38

The road inland, from Giouar to Ragian, may be thirty miles shorter, or about 130

			Miles.
by estimation,		-	145
	to Giouar,		129
	to Ragian,		130
			-
			404

And as he took the interior circle along the coast, this bears a due proportion to the march of Alexander. Whether these extracts are worth the trouble, I cannot fay; they come out in proportion, but are not entirely to be depended on; for I cannot difcover Al-Edrisi's mile. I have tried it by feveral known diftances, but it exceeds fometimes, and fometimes falls short. I once faw an estimate of this mile in Mr. Howe's papers, communicated to me by the Bishop of Rochefter, but could not find it upon a fecond reference to them.

158

^{*} Giannaba is the Gennaba of d'Anville, the Gunowah of M'Cluer.

who is acquainted with the actual state of the country at the present hour, having no living authority to consult; and I am sufficiently persuaded, without correction, that the desolation of these provinces has removed the land-marks which the ancient or early writers have enabled me to point out. With due allowance for this natural obscurity, I submit the whole to the judgment of the reader, and shall conduct the army, once more united, to the Pasitigris, and to a bridge on that river where Nearchus is to conclude his expedition.

The Pasitigris is evidently a river which the army passed before it could reach Sufa: this appears, by fomething more than con-- jecture, to be the Kouroucan-Kendé of Timour, the fecond stream east of the Eulæus. And if the Kopratas of Strabo and Diodorus answers to the Dou-danké of Timour, as I conclude, that stream joins the Pasitigris previous to the junction of the Pasitigris with the Eulæus. This will afford the means of ascertaining the position of the bridge, if ever the interior geography of Susiana shall be obtained; but there is a still more correct method of arriving at the fame end, which is by drawing a line from Ragian to Sufa, and fixing the bridge where this line interfects the Pafitigris; in this, there can hardly be an error of more than a few miles either way, and this is the position I shall assume. There is no route in Al-Edrisi from Ragian to Tostar, but d'Anville makes the distance about an hundred and forty-five geographical miles, and this, from other comparative measures 527 in the province, is apparently

Diodorus, lib. xix. p. 334. fays, it is twenty-four days' march from the Pasitigris to Persepolis. This seems too long, unless he means that the army of Eumenes were so many days in performing it. The distance is, from the Pasitigris to Ragian, 100 miles, to Schiraz, 112 to Persepolis, 36-248

parently just. From this fum, if we deduct forty or fifty miles, to give the diffance from the bridge to the capital, we obtain a geographical reduction as nearly the truth as our information will enable us to hope.

I shall next consider the whole distance from Girost to Susa, which stands thus:

				Miles Geog.
From Giroft to	Phafa,	-	-	242
From Phafa to S	Schiraz,	-	-	60
From Schiraz to	Ragian,		-	112
HAR STANKE STANK				414
Allowed diffance	e from Ragia	an to Sufa,		145
				559

In the fame space, d'Anville allows eight degrees, or four hundred and eighty miles, which, with a feventh added for road distance, makes a total of near five hundred and forty-nine miles, a difference not worth regarding; but it ought to be remarked, that Alexander departed from this route, by going to Persepolis, which adds fifty or fixty miles to the fum. This we compensate, however, by taking the measure, not to the Pasitigris, but to Susa; so that if we fix the total at five hundred and fixty geographical miles, equal to fix hundred and fifty-four miles English, there can be no error of importance.

Let us now refer to the dates. If the army moved from Giroft on the twenty-fifth of December, as I have proved it might have done, and Nearchus arrived at the village on the Pasitigris the 10th of February, the interval is forty-feven 528 days; and then the num-

Eumenes moved, therefore, at the rate of fummer, and the heats intolerable. little more than ten miles a-day; but Diodorus mentions that it was in the height of

528 Forty-eight inclusive.

ber of miles, divided by the number of the days, gives nearly fourteen miles a-day for the march of the army. This rate is evidently too high", because it makes no allowance for the time Alexander staid at Phasa-gardæ and Persepolis, where he had business to transact, or for the necessary halts of the army; but we are to confider that Nearchus staid at the village till he heard of the approach of the troops, and, therefore, any interval that will coincide with their arrival may be affigned to his delay. Fourteen days will answer every purpose that is requisite; and if we bring Alexander to the bridge on the Pasitigris upon the twenty-fourth of February, we have at least a confistent date, if not the true one; and as no real day is affigned in any author530 that is now extant, this is the only kind of precision that can be expected.

This bridge on the Pasitigris is described as a bridge of boats, which had been thrown over the river for the accommodation of the troops; but as bridges of this kind are the ordinary means of communication throughout the empire, and the route was by the common road from Persis, it is reasonable to suppose that there was always a bridge nearly in the fame place. Neither ought I to omit a circumstance accidentally preserved in Diodorus, which at the same time indicates the necessity of a bridge, and the possibility of navigating the Pasitigris: for this river, he informs us, was from three 311 to four stadia broad, and its depth correspondent.

529 A Macedonian army, upon occasion, a-day; but the marches of the ten thousand reduced, amount to thirteen or fourteen miles; and this is a fair estimation for the march of a Macedonian army, when no particular object was in view. Alexander was twenty days in marching from Babylon to Sufa, three hundred miles; forty days consequently give fix See p. 331. compared with p. 330. and p. 211.

hundred miles; but he then moved to feize marched from twenty to twenty-five miles the treasure : he had now no particular object

530 Pliny fays feven months.

531 According to the stadia of Arrian, onefourth of a mile. See Jupra, p. 415. Where I have faid the breadth was 400 feet; perhaps Diodorus affigns this breadth to the Kopratas.

To this bridge I conduct Alexander; and hither, upon hearing of his approach, Nearchus proceeded from the village, up the stream, to join him. No space of time is allotted by the journal for this navigation; but as the paffage could not be less than from an hundred to an hundred and twenty miles, it would fcarcely require less than three days, and poffibly more, notwithstanding they might have the advantage of the tide at the commencement of their progress. The fleet feems to have reached its destination before 532 the army; but no fooner did Alexander arrive, than he embraced Nearchus with the affection of a friend, and the acknowledgments of a fovereign. One object of his ambition was to conquer difficulties unattempted by others, and one aim of his policy was to obtain a knowledge of his empire; both these purposes were effected by the accomplishment of this expedition; his fatisfaction was complete. The reception of Nearchus among his countrymen was as honourable as that which he experienced from the king; wherever he appeared in the camp, he was faluted with acclamations; while gratitude and admiration united in weaving the wreath and the chaplet to crown him for his fuccefs. Sacrifices, games, and univerfal festivity, closed the scene of this happy union. Thus have I conducted the feveral divisions of the forces and the fleet from Nicæa on the Indus, to the termination of their labours in Sufiana: and I conclude the expedition on the twenty-fourth of February, in the year three hundred and twenty-five before the Chaistian æra.

The time employed in accomplishing this voyage from the mouth of the Indus is an hundred and forty-fix days, or somewhat short

⁵³² Πρὸς τη χεδιη δερμίζονται εφ' ή το εράτευμα διαθιθάσειν ΕΜΕΛΛΕΝ Αλέξαιδρος ές Σέσα. Arr. p. 358.

of five months, which Pliny has extended to feven many, and in which he is neither confiftent with the departure from Nicæa, or from the mouth of the Indus. A modern vessel, it is true, may perform the same course in three weeks which employed Nearchus twenty-one; but we are not for that reason to undervalue the merit of the first attempt. Within the memory of man, a voyage to India required eight or nine months; but Dr. Robertson mentions, that, in the year one thousand seven hundred and eighty-eight, the Boddam East Indiaman reached Madras in an hundred and eight days, and it has since been performed in ninety-six.

Here the narrative ought to close; but I trust the reader will have no objection to accompany Nearchus to Susa, where he is to receive the reward of his labours. To Susa, after crossing the Pasitigris, Alexander proceeded with all his forces, and in that capital, where the principal treasure of the empire was deposited, he prepared to distribute that remuneration which had been earned by the faithful services of his army, and those honours which are due to merits of distinction.

The first instance of his liberality was exhibited in discharging '16 the debts of the army, which are estimated, not perhaps without exaggeration, at twenty thousand talents, equal to three millions eight hundred and seventy-sive thousand pounds sterling; an enormous sum! But if we suppose the Macedonians alone to partake of this savour, and estimate them at forty thousand '37, it amounts to

⁵³³ Five lunar months and fix days.

⁵¹⁴ Lib. vi. p. 136.

⁵³⁵ Difquif. Ind. p. 207.

⁵³⁶ Diodorus places this transaction at the time of dismissing the veterans, mentions their debts only, and estimates them at ten thousand talents. Vol. ii. p. 246.

⁵³⁷ Notwithstanding the reduction by war, infirmity, and the march through Gedrosia, it may be calculated from the reinforcements which had joined, and the services of the army immediately upon the death of Alexander, that the number was greater rather than less.

less than an hundred 538 pounds a man: we must observe moreover, that the debts of the officers were included in this estimate, and the excess of their proportion must subtract from the quota of the private soldier. Many of them had lived with the luxury of Oriental 539 satraps, and possibly Antigenes was not the only one who gave in his debts above their real amount. If, therefore, proper deduction be made on these several accounts, the proportion to the individual will not appear so extravagant as the gross sum.

A fecond scene of magnificence was presented upon the marriage of Alexander, and that of his principal officers, who were induced by his example, or influenced by his favour, to receive the daughters of the noblest Persian families at his hands. Alexander himself had before married Roxana, the daughter of Oxyartes, satrap of Bactria; and he now gave his hand to Barsine "", the daughter of Darius; to whom Aristobulus adds a third, who was Parysatis, the daughter of Ochus. Eighty marriages of this fort were celebrated in the same nuptial feast; and among the number was that of Nearchus, with the daughter of Mentor and Barsine. The king bore the whole expence of the solemnity, and furnished the marriage portion "" for every bride.

Next succeeded the distribution of honours, and the reward of services. All the officers, who had obtained the rank of Guards of the Royal Person, received crowns of gold, including Leonnatus for his victory over the Oritæ, and Peucestas for his service in preserving the life of his sovereign. In this honour Nearchus alone 542 partook as admiral, and Onesicritus as the navigator of

⁵³⁸ Ninety-feven pounds, all but a fraction.

⁵³⁹ See Athenæus, lib. xii. p. 539.

⁵⁴⁰ Statira.

⁵⁴¹ Πεοικας. 10,500 talents. Athenæus.

⁵⁴² At least no others are mentioned by name.

the fleet. Nearchus was likewise continued in his command, and deftined to a future fervice of greater importance than the voyage he had already performed, that is, the circumnavigation of Arabia to the Red Sea. This was intended as the completion of the great defign that Alexander had conceived of opening the communication between India and Egypt, and by means of Egypt with Europe: of this commerce, Alexandria was to be the center. Such, by the natural course of events, it afterwards became, and such it continued for eighteen centuries; but this plan was defeated by the unexpected death of the monarch; and the fate of Nearchus in the enfuing struggle for empire is no farther discoverable, than that he was, made governor of Lycia 543 and Pamphylia 544, and that he attached himself to the fortunes of Antigonus. We find him with that general croffing the mountains of Louristan 545, out of Sufiana, after his contest with Eumenes, and two years afterwards as one of the advisers 546 Antigonus had given to his son Demetrius, whom he left in Syria. I have looked for the conclusion of his life in vain 547; but this event possibly took place at the battle of Ipfus,

543 The first mention of Nearchus, as governor of Lycia and Pamphylia, occurs in Justin. This, however, does not greatly interfere with the divisions of the empire given in Photius, p. 230; for both these provinces are affigned to Antigonus; and Nearchus, as being high in his favour and confidence, was probably appointed by him to these provinces. It is remarkable, that in Photius's extract from the ten books of Arrian, (Ta pera Axigard, or,) concerning the transactions after the death of Alexander, the name of Nearchus is not once mentioned.

lib. iii. c. ult. See Q. Curtius, Snakenborck : Diviño Imperii.

545 Diodor. lib xix. p. 333.

546 Diodor. lib. xix. p. 372. ed. Wef.

547 I dare not pronounce that nothing is to be found relating to Nearchus after the battle of Ipfus, but I have fearched Diodorus, Plutarch, Arrian in the extracts of Photius, Justin, Q. Curtius, and the indefatigable commentators of that author, Freinshem and Snakenborck, without fuccefs. Neither have I found any anecdotes relating to his life previous to the expedition, except what the Baron 544 Justin, lib. xiii. cap. 4. Orosius, de Sante Croix has anticipated, Exam. p. 250.

Ipfus, where Antigonus fell; or, after the battle 145, by the command of the four kings who obtained the victory. In whatever manner he closed the scene of life, and by whatever means he was prevented from completing his voyage into the Red Sea, that part of it which he had performed must be the monument of his glory.

His best encomium is comprised by his historian in a single sentence. Thus was the fleet of Alexander conducted in SAFETY from the Indus to its destination.

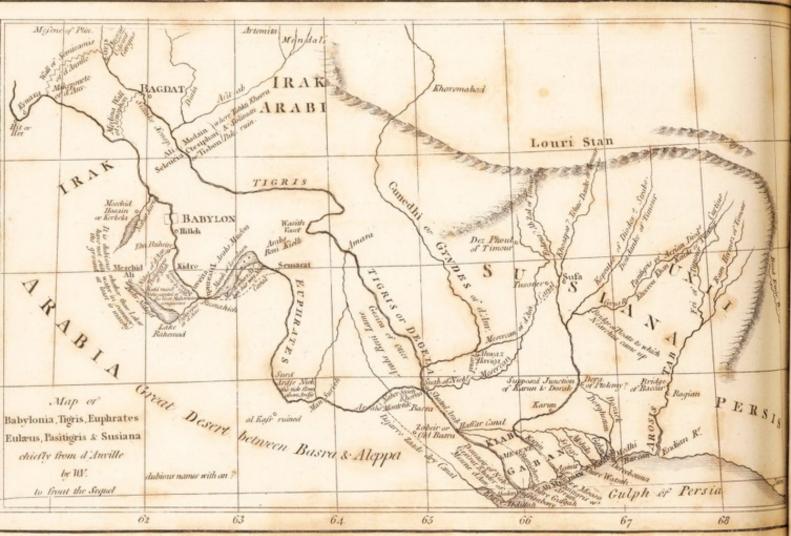
ΟΥΤΩ ΜΕΝ ΑΠΕΣΩΘΗ ΑΛΕΞΑΝΔΡΩ; ΕΚ ΤΟΥ ΙΝΔΟΥ ΤΩΝ ΕΚΒΟΛΕΩΝ ΟΡΜΗΘΕΙΣ Ο ΣΤΡΑΤΟΣ.

by which it appears, that he was a native of the daughter of Pexodorus, fatrap of Caria, Crete, and enrolled a citizen of Amphipolis, having taken that city from the Athenians, was collecting inhabitants, in order to establish it as the mart of his new conquests in Thrace. He did not continue at Amphipolis, but came up to the court of Philip; and had fo ingratiated himself with Alexander, that in the cession of Olympias, and some secret transactions of her fon in regard to a marriage with

Philip banished Nearchus, with others whom as we may conclude, at the time when Philip, he supposed too much attached to the interests of Alexander. Upon the death of Philip he was recalled, and his fufferings in the caufe naturally secured the affections of his sovereign. See Plutarch in Vita Alex. p. 669. edit. Franckfort, 1599.

548 This battle ought to have been found infamily diffensions which arose upon the se- the 21st book of Diodorus, but the extract only is extant.





Ribbished according to Act of Rediament Jan? 2. 1797, by D. Vincent

SEQUEL

TO THE

VOYAGE OF NEARCHUS.

HE military character of Alexander dazzles the mind fo powerfully with its splendour, that it is not without an effort the attention is directed to the plans of his policy, and the arrangement of his empire. To excite this attention has been the endeavour of the preceding pages; and, if the subsequent narrative contributes to the same design, it will be no uninteresting appendage to the work.

Having conducted the united forces of the Macedonians to Susa, in the latter end of February 625 A.C. we may allot something more than a month to the transactions which took place in that capital, and fix the time for the departure of the army at the beginning of April.

The main' body of the troops was put under the command of Hephæstion, with orders to proceed towards the Tigris; but

Arrian fays, to the Gulph of Perfia; but them again on the Tigris.

Alexander

^{*} Arrian, lib. vii. p. 281. it will immediately appear that Alexander met

Alexander himself determined to take a view of the Gulph of Persia; and, for that purpose, embarked on board the fleet with the Hypaspists', the first troop of horse, and a small body of the Companions'. He embarked, fays Arrian, on the Eulæus; and, if this be true, the fleet must have been brought down the Pasitigris to the junction of that river with the Eulæus, or even from that junction up the Eulæus, to Sufa. This supposition is not contradictory to any thing which appears in Arrian; and, if it is allowed, folves the objection arising from calling the same river by two names; for Alexander undoubtedly fell down the same stream which Nearchus had navigated upwards from the fea. The annexed map will render this more perspicuous than any explanation which can be added, but the cause of variation in the names requires some notice.

It has been observed already, that Nearchus entered that channel which he calls the Pasi [or eastern] Tigris: this, at its issue, is styled the Khore Moofa, (the Mofæus of Ptolemy,) and above the Delta, Karûn: but Nearchus, having entered the Pasitigris, carries that name up with him, through the Karûn, to the confluence of two streams inland; one of which, leading on the west to Susa, is the Eulæus, and the other on the east, preferves its title to Pasitigris'. Nearchus navigated this eastern branch up to the bridge; and Arrian, copying Nearchus only in the journal, of necessity uses the same appellation as the authority he follows.

The Hypaspists are Macedonian infantry weil as Arrian. in contradifinction to the Greek Hoplitæ,

4 τὸ άγημα.

³ N. B. The Hypaspists alone are three foot heavy-armed. thousand. Arrian apud Photium, p. 610. Diod. lib. xviii. and xix. p. 339.; but the Argyraspides are mentioned separately.

⁵ Companions. "Erangon. Macedonian horfe. 6 In Strabo, Diodorus, and Q Curtius, as

But upon the embarkation of the troops the case is changed, for here he follows Ptolemy and Aristobulus; and Ptolemy, who was by office about the person of the king, was almost necessarily a partaker in the expedition. Ptolemy, therefore, embarked at Susa, if the fleet came up to the capital, or, if it came no higher than the confluence, he marched down by the Eulæus, with the troops which were to embark there, and naturally called that stream the Eulæus, the course of which he had followed from the city. This brief recapitulation explains the reason of attributing two names to the same river, and reconciles two passages of Arrian which at first sight appear not a little discordant. I shall only add, that, in the History, the name of the Eulæus being once admitted, never varies; and in the Journal, the Passigris being adopted, there is no mention of the Eulæus.

Down this stream, the fleet descended to the head of the Delta; and here, where the Haffar' canal comes in from the Tigris, a new arrangement was made; the vessels which had suffered most in the voyage, were ordered to proceed, with the troops they had on board, through that cut into the Tigris; and it is remarkable that Arrian mentions it expressly, not as a natural stream, but an artiscial canal. What can precision require more? It is not my intention in this Sequel to dwell minutely upon particulars; but I cannot help noticing that this is still the usual passage for the country vessels,

⁷ Σωματοθύλαξ.

⁸⁻ Lib. vii. p. 281.

^{9&#}x27; D' Anville conjectures Haffar may be the Aphlé of Pliny. May they not both be the the Ampé of Herod. lib. vi. p. 447. edit. Wes.; for the fituation of Herodotus's Ampé, at the mouth of the Tigris, is more precise than Pliay's Aphlé?

¹⁰ αί δὶ άλλαι ἀυτῷ τῆς ἀιαπομισθίσαι κατὰ τὸν Ἐυλᾶιον ἔς ἐπὰ ΔΙΩΡΥΧΑ Η ΤΕΤΜΗΤΑΙ ἐκ τὰ Τίγεντος ἐς τὸν Ευλᾶιος, τά τη δικομίσθησαν ἐς τὸν Τίγεντα.

The modern expression is equivalent. Kallael-Haffar; the Haffar cut.

Thevenot and P della Valle went up it. The Khore Bamishere has been fince navigated.

and that we find the eastern entrance of it guarded by a fort, with two others at its issue into the Tigris. The lower one of these is in the Delta, and that part of the Delta called the Mesene, on the site of which we ought to look for the Spasini Charax, as the most convenient spot: but if it cannot be found there, it is possibly still discoverable '', for it was a mound of earth collected from the neighbourhood, which, upon a level like the Muçan, is perhaps visible to the present hour. Tumuli of this kind are more eternal than walls of stone.

Alexander, after dispatching the greater part of his fleet by this passage, proceeded with the lightest and best sailing vessels apparently by the Karûn branch, or Khore Moosa, through the Delta to the sea. From this khore, his passage to the Tigris [Schat-el-Arab] would naturally be across the Ali-Meidán, for this shoal would be no obstacle to vessels like those in which he had embarked. But of this passage we have no other account, except the mention of the intervening space which Nearchus had navigated twice before. The separate narrative, in fact, is so brief, that it employs only sour lines to conduct him into the Tigris, to convey him up to the camp of Hephæstion, and from the camp to Opis, where the expedition closes.

Concerning the navigation of the Tigris little can be added from modern information; the passage between Basra and Bagdat, we learn from Hackluit, requires forty-four' days against the stream, with fourteen men to draw the boat; and, from Bagdat downwards, may be performed in nine, eighteen, or twenty-eight days, accord-

done is not to be calculated; otherwise, if times fixty days, as Tavernier and P. della this fite were searched for, it would indubitably be found.

ing to the state of the river. Otter '*, who performed this voyage himself, has sew materials to supply; he embarked in June's, when the river ought to be full; and he mentions little, but that he found no cultivation between Bagdat and Al-Modain, and that he saw at Amara the mountains which bound Susiana on the north, beginning to rise at some distance on his left. He notices besides a canal from Amara to the Euphrates, which forms a Dgesiré, or island, inhabited by the Arabs Beni Lamé. To this barren account Colonel Campbell' adds, that the river itself is grand, but the country surnishes scarcely an object for reslection. "I do not remember (he says) to have ever passed through such a vast extent of country, so uniformly dull and uninteresting, or to have spent eight or ten days with so little to give birth to a new idea".

Alexander, at the feafon he navigated this stream, probably employed as many days as are now requisite; so that he could hardly reach Opis, which is above Bagdat, till the middle of June, more especially as he had the dykes to remove, with which the Persian monarchs had obstructed the stream. His historians delight in attributing these obstructions to the timidity of the Persians, and the removal of them to the magnanimity of the Conqueror; but Niebuhr's, who found similar dykes's both in the Euphrates and Tigris still

¹⁴ Tom. ii. p. 39. et feq.

Amara June 17th, at Bagdat. June 14th, at Amara June 17th, at Khorna. June 18th, at Bafra. Nine days, agreeable to Hackluit.

¹⁶ Journey of Donald Campbell, Efq. 1795. Part iii. p. 10.

¹⁷ He notices the heat as intolerable.

This is mentioned at Lemloun, on the Euphrates; at Higré, Hogkne, and Eski

Moful, on the Tigris. Niebuhr, vol. ii. p. 307. Edit. Amst. Travels. He supposes the mound at Higré to be in the very place of that demolished by Alexander.

Tavernier mentions one of these dykes one hundred and twenty seet high in the fall, between Mosul and the great Zab. Vol. i. p. 227.

existing, observes, that they are constructed for the purpose of keeping up the waters to inundate the contiguous level; if so, the demolition is as derogatory from the policy and sagacity of the monarch, as it is flattering to his intrepidity.

Opis was the principal city on the Tigris, in the age of Xenophon and Alexander; it rose probably on the decline of Ninive, and the other Assyrian cities after the Persian conquest, most of which Xenophon found in a state of decay and desolation; but the situation of Opis 20 is much doubted by geographers. There is no apparent reason indeed why the position assigned to it by d'Anville should not be admitted; but having examined the question for my own satisfaction, I have subjoined the result of my inquiries for such readers as may find a pleasure in geographical discussion.

After conducting Alexander to Opis about the middle of June, the military transactions which succeeded are foreign to the purpose of the present work. It will be sufficient barely to mention the mutiny of the army which took place at this city, and the discharge of the veteran soldiers, who were sent home under the command of Craterus. The latter end of the summer was employed in an excursion into Media; and at Ecbatana, the capital of that province, the death of Hephæstion was the principal circumstance which occurred. Paroxisms of grief occupied the Conqueror during the autumn; in the indulgence of which, like another Achilles, he dishonoured himself, while he intended to honour the memory of his Patroclus. Upon the commencement of winter, he is faid to have resumed his arms in order to sooth his forrow; and the con-

²º In hoc Chaldworum tractu fuit Opis, em- ordine respectu oppidorum a Ptolemwo memoporium ad Tigrim, sed incertum quo loco et ratorum. Cellarius, vol. ii. p. 462.

quest of the Kossæi was completed in forty days. They are the fame tribe still called Kouz", or Cosses, inhabiting the mountains of Louristan; and, by the invasion of them from the north, ought to be on the northern22 face of that range which incloses Susiana. Upon the conclusion of this expedition, Alexander returned towards Mesopotamia, with an intention of proceeding to Babylon; and, upon this march, we are again informed of a renewed attention to his marine: for Heraclides was now fent into Hyrcania [Mazanderan], with orders to cut timber and prepare a fleet of veffels built after the Grecian manner, for the purpose of exploring the Caspian" Sea. It feems extraordinary, that in the age of Alexander it was still doubted whether this fea was a vast lake, or communicated with the Northern Ocean; but the information of Herodotus, as it appears, had not been fufficient to convince the Greeks of its real state. The folution of this doubt was a fufficient motive to influence the conduct of Alexander; and the defire of obtaining a knowledge of his own empire, or the fituation of the nations on his confines, had always been an inducement to the boldest of his undertakings.

After croffing the Tigris, he proceeded to Babylon 4, and entered the city much against 25 the inclination of the priests of Belus.

and hence Kiffii. Alexander, p. 704.

²² As the Uxii are on the fouthern. Thos γροςου τῷ Ουξίωι. Arr. lib. vii. p. 294.

²³ It is remarkable that Nadir Shah was building a fleet on the Caspian, and forming one on the Gulph of Persia, a few months before his death, as well as Alexander. The transporting of timber and vessels into the provinces which were not supplied with either danger.

²¹ Plutarch writes this name Kyooan, Kuffai; is likewife noticed by Hanway, Otter, and Sir William Jones, &c.

²⁴ Babylon is four German miles from Hilleh. Niebuhr, p. 235. The Euphrates, at Hilleh, is four hundred-yards wide, with a bridge of thirty-two boats, p. 234.

^{*5} Omens occur as ufual, and Nearchus is mentioned by Plutarch as the officer who came out to meet the king, and forewarn him of his

They had embezzled the revenues allotted for the restoration of the temple 26 demolished by Xerxes, and wished to avoid the day of account. The fituation of Babylon is too well known to require much disquisition on the subject; it stood twenty miles above the modern Hilleh, the town where all travellers land who come up the Euphrates from Bafra, and whence they have a journey of only three or four days 27 across Mesopotamia to Bagdat. The remains of this capital are not fo obliterated as fome travellers would make us believe; they are, however, mountains of rubbish 28 rather than ruins, with caverns and hollow ground extending over a space of fifteen or fixteen miles; while there is hardly a town, a village, or a building within many leagues of its neighbourhood, which does not exhibit the bricks plundered 29 from this once magnificent metropolis of the East.

At Babylon, Alexander found part of his fleet, which had proceeded up the Euphrates while he was conducting the other part

according to Strabo, but a pyramid of brick, a stadium in height, and a stadium square at its base. Ten thousand men were employed for two months, but the death of the king put a flop to the progress of the work. Lib. xvi. p. 738.

27 It is little more than fifty miles. Ives. The boat which carries dispatches is only ten days between Bafra and Hilleh. The ordinary passage about twenty-one days. Niebuhr. Voyage, vol. ii. p. 197. et feq. The tide ferves to Ardsje, feventy miles above Khorna, p. 198. i. e. fourteen German miles.

28 Niebuhr trod the ground of Babylon almost without knowing it; he mentions hollow tumuli for three or four miles, and fome trees still growing there not natives of Baby-

26 It was not the temple or tomb of Belus, Ionia; vol. ii. p. 235, 236. Hilleh is in lat. 32° 28' 30'. Babylon near twenty miles to the north. See P. della Valle, tom. ii. p. 250. Hilleh is fifty miles from Bagdat by common estimation, but I find it by a combination of routes fifty-five, in the late Mr. Howe's papers, communicated to me by the Bishop of Rochester.

> 29 A Caravanferai at Hilleh was built within these few years with bricks from Babylon, about the thickness of our's, but a foot fquare, and very well baked. Niebuhr. p. 235. The reason why there are so few remains of Babylon, is, that the ordinary buildings confifted of bricks baked in the fun. The bricks of the walls and public buildings have been conveyed to other towns.

up the Tigris; and, by the language of Arrian, it should appear that Nearchus 20 had taken charge of this division. Hither also had been brought from Phœnicia feven-and-forty veffels, which had been taken to pieces, and fo conveyed overland to Thapfacus. Two of these were of five banks, three of four, twelve of three, and thirty rowed with fifteen oars on a fide. Others likewife were ordered to be built upon the spot, of cypress, the only wood which Babylonia afforded; while mariners were collected from Phænicia, and a dock was directed to be cut, capable of containing a thousand vessels, with buildings and arfenals in proportion to the establishment. To effect this defign, Mikkalus had been fent down to Phænicia with five 31 hundred talents, and a commission to take all mariners into pay, or to buy flaves who had been trained to the oar.

Extensive as these preparations may feem, they were not too large for the defigns of Alexander; he had conceived the idea of conquering Arabia33, and colonifing both fides of the Perfian Gulph.

30 Κατέλαδε δε is Βαθυλώνι το καυτικόν το μέν κατά τὸν Ευφράτην ποταμόν άναπεπλευκός από θαλάσσης της Περσικής ό, τι τις σύν Νεάρχω ήν. Arr. lib. vii. p. 299. This does not amount

31 One hundred and fix thousand eight hun-

dred and thirty pounds.

32 An immense country without cities, property, or cultivation, deferts without water, and an enemy always flying and hovering at the same time, render the conquest of Arabia almost impracticable : but their armies are not formidable in the field; the feuds of their tribes, all independent by nature and habit, prevent coalition: and no point of union has yet been found, either in ancient times or modern, sufficient to bring a numerous body to act in concert, except during the warmth of Mahometism, and in the three or four first centuries after its propagation. Weak as the Turkish government is, the Pashas of Bagdat, Bafra, Aleppo, &c. if foldiers, never hefitate to meet them in the field, or, if politicians, never fail to divide tribe from tribe, or family from family. The celebrated Ahmed, Patha of Bagdat, employed arms, money, or treachery, as best fuited the moment, and was master of all the Arabs round his Pashalic. Whether Yemen, which has both cities and cultivation, is exempt from conquest, is still problematical. The Abystinians succeeded; Ælius Gallus was repulsed.

The conquest, perhaps, might have been as precarious as all other attempts which have been made against that fingular nation; but a fleet on the Euphrates in the fummer, while the stream " is full, and another on the gulph, might have restrained the piracies and incursions of their plundering tribes; and in the field they have never been formidable, except during the short period that fanaticifm enabled them to act in concert.

It 34 was either with a view to this expedition 35, or, as the hiftorians rather intimate with a defign of re-establishing the canals, and benefiting the country by irrigation, that he now undertook a voyage down the Euphrates to Pallacopas. A voyage not without its difficulties; but they are such as the refearches of d'Anville, and the vifit paid by Niebuhr to the fpot, enable us to remove. In the neighbourhood of Babylon, there are still the remains of two lakes, more celebrated by the names of Ali and his fon Hofein than by any appellation of their own. The upper lake lies nearly on the parallel of Babylon; and at its northern extremity stands the

those just mentioned, could never have been employed on the Euphrates. They might have been floated down during the increase of the river, but must have been intended for fervice either in the gulph, or to attend the army on the proposed expedition to Arabia. They could hardly have been useful to Ne-

34 Gronovius, in a very long and angry differtation, defends the fenfe which Vulcanius has given to this paffage of Arrian, in oppofition to the perversion of it by Isaac Vossius; thort of the scurrility of his antagonist. The fosses,

33 Gallies of five banks of cars, fuch as criticism of Gronovius on the word anospeops, in which he proves it to mean the turning of the water back again from the canal into the channel of the river, removes all the real obfcurity which enveloped this paffage. Thediffertation accompanies Gronovius's edition. of Arrian.

35 Gronovius, with great vehemence, rearchus, in his circumnavigation to the Red jects all confideration of Arabia, or Arabians, from the account; but there is fome intimation in Arrian, that the city built by Alexander near the lake had a respect to this nation; and Strabo, p. 741, mentions it in express terms. Strabo does not notice Pallacopas, and Vosfius seems to deserve every reproof, but only the voyage and the clearing of the

town of Kerbelai36, containing Meschid Hosein, or the tomb of Hosein 37, grandson of Mahomet. From the southern extremity of this lake to the northern point of the lower, or Bahr Nedsjef, the distance is about five-and-twenty miles, with Meschid Ali a little to the east. Kufa, where Ali was murdered, is not more than fix miles from this fpot. It flood in a fouth-east direction between Bahr Nedsjef and the Euphrates; but is now totally ruined 38, and without inhabitants. It is this lower lake into which the Euphrates was diverted by the cut at Pallacopas, in the feafon of its inundation; and the opening or closing of this canal was committed to the fatrap of Babylon, as a part of his office. In a tract like that on both fides of the Euphrates, where all is defert that cannot be watered, and every fpot is fertile that can be flooded or drained at the proper season, this office must have ever been of the highest importance. While Babylon was the capital of the East, the controul of the waters invigorated all the contiguous districts; but when the Persian conquerors dwelt on the other side of the

beautiful Arabian narrative of his death in Ockley almost makes amends for the deficiency of historic matter in this and almost every other Oriental work. See Ockley, vol. ii. p. 210. et seq. Meschid means the tomb of Ali, Hosein, &c.

It is the death of Hosein which gave riseto one of the most celebrated fasts of the Persians, and the murder of this family, which
makes the distinction between the Schiites and
Sonnites, the two great sects of Mahometiss. The Persians curse Omar Abubecr
and Ommawiah. Nadir Shah, notwithstanding his attempt to introduce the Sonnite tenets into Persia, adorned these two Meschids
p. 183.

of the Schiites at the expence (as Niebuhr fays) of 66,666 German crowns for the roof only of Meschid Ali, and 13,333 for the service of Meschid Hosein; and yet neither of these Meschids is in his own kingdom, but both under the Turkish government. See Niebuhr, vol. ii. p. 206. Amst. edit:

37 Meschid. Hosein, or Kerbelai, is five. German miles from Hilleh and five from Meschid Ali. Niebuhr, vol. it. p. 217. The canal from the Euphrates is still preserved.

³⁸ Niebuhr mentions a dry canal at Kufa, (Dsjarré Zaade,) which would answer very well to the cut of Pallacopas, as I wish to fix it. Niebuhr himself calls it Pallacopas, volvii, p. 183.

Tigris, at Echatana, Sufa, or Perfepolis, as the due attention was difcontinued, Mesopotamia, Chaldaa, and the capital declined together. The Parthian dynasty encouraged the increase of a desert between their own and the Roman frontier, and, in the latter viciflitudes of power, despotism and neglect have completed what policy might have commenced. Still it happened in every age, and under every government, that the neglect was not universal: the grand canals, it is true, have failed; but a partial distribution of the waters has conftantly been preferved; and, even under the defolating empire of the Turks, is to this hour an object of comparative " importance.

If Alexander, then, had fixed upon Babylon for the future capital of his empire, (and here the fovereigns of the East ever ought to have fixed, if they had not rather wished to shrink from their European frontier, than to maintain it,) the first step necessary was to restore the country round it to the state it had enjoyed in its primitive splendour under the Babylonian monarchy. This had been effected by managing the fuperfluous waters of the Euphrates, by withholding them at one feafon and difpenfing them at another, and by making the abundance of the fummer fubfervient to the deficiency of the winter.

To these views we may attribute the expedition to Pallacopas, which was a canal iffuing into a lake or marsh on the Arabian side of the river, fifty miles below Babylon. This lake is the Bahr

39 While Ives was on his passage up, he a commander of 30,000 men; and as we may

met a Pasha coming down, with commission to conclude that under the Turkish government, direct the places where the bank was to be every drop of water is paid for, though the opened, or the outlets closed, p. 255. This fervice will be performed badly, it will still be is fill an office of dignity, for this Pasha was performed.

Nedsjef of Niebuhr, the Rahemah of d'Anville; it is now dry, in the winter feafon at least wholly, for Niebuhr 4° feems almost to have passed through the centre of it, and found nothing like a lake, though feveral cuts and channels now totally neglected": if the water ever enters them at the height of the increase, it is not from the attention of the government, but from the natural level of the ground, and from the remains of ancient industry, policy, and discernment. Niebuhr is of opinion, that a canal ran parallel with the Euphrates from Hit, above Babylon, through the whole length of the defert, till it iffued at the Khore Abdillah into the Gulph of Persia. I have already subscribed to this opinion; and though proof is wanting to identify the continuity of this channel through its whole extent, yet it is hardly possible to follow the march of armies, and the route of travellers in any age, without finding fomething to confirm this idea. From a view of the two lakes at Meschid Hosein and Meschid Ali, there is every reason to suppose that there was formerly a communication between them; and from Meschid Ali, or Bahr Nedsjef, to the sea, the existence of the channel is indubitable 42. One proof of this is still existing, for no

western bank, a little above Lemloon, and went by land to Meschid Ali. He must either it, if it existed. He was here in December. Vol. ii. p. 183. P. 209, he fays, the lake was dry. Another name he mentions, El-Buheire.

41 Dejarré Zaade.

42 Arrian's testimony is express. 'Ex 8 78, ές θάλασσαν κατά συλλά το κή μάλιςα άφανή τώματα ixdiduos. Lib. 7. p. 303.

The reason why these mouths were undiscoverable [apasi] to Arrian, was, because he had conceived the mouth of the Euphrates to be where we now find the Khore Abdillah;

4º Niebuhr landed at Mäschwira, on the and when we read in Pliny that the stream no longer flowed through this khore into the fear because the inhabitants of Orchoe had stopped have gone along the bed of the fea, or have feen its courfe, we ought to conclude, that, between the age of Alexander and Pliny, the Arabs of the defert in the neighbourhood of the Bahr Nedsjef had diverted its waters in the time of the inundation, to irrigate their own lands, and confequently exhausted them inflead of permitting them to follow their former course to the Khore Abdillah .. If d'Anville's supposition were true, that there was another derivation from the Khore Abdillah to Bahrain, the extent of Niebuhr's canal would be increased to eight hundred miles.

traveller.

traveller passes the great desert between Basra and Aleppo, without encountering the remains of towns 43, buildings, and traces of habitation. These relics are hardly Arabian, for it is not the country where the Arabs live in towns; they are probably Chaldean, Syrian, or Macedonian, they must all have possessed water as the primary means of existence, and they have ceased to exist, because the Euphrates has ceased to convey to them the means 44 of fertilising the desert.

At what period we are to fix the failure of water in the two lakes is uncertain; neither have I hitherto found the means of investigating whether they are yet absolutely dry in summer. There is, however, still an aquæduct 's to Kerbelai, and d'Anville marks two canals running into the Bahr Nedsjef, one at each extremity; the lower one he considers as Pallacopas, and the distance of fifty miles from Babylon corresponds better with this than that which he calls the Nilus, and brings in at the northern angle; but there is respectable authority to appeal to, that the higher one 's is more suitable to the circumstances of the navigation; for it is evident that Alexander did not return out of the lake by the same channel that he entered it. Arrian mentions, that upon his return he steered his own vessel, with Babylon on his left: this cannot be true, if he

⁴³ Niebuhr, vol. ii. p. 307.

⁴⁴ Some springs or pools may have supported a few scattered villages, and some sources may have maintained a Palmyra: but the few waters sound in the desert are usually brackish, as the soil is salt.

⁴⁵ Mentioned by Niebuhr, and Ockley calls it the river of Kerbelai. Hosein had been cut off from this water, in order to reduce him by thirst; but he died with arms in his hand, like a true descendant of the prophet. Ockley,

vol. ii. p. 222.

⁴⁶ The canal into the upper part of the lake, d'Anville calls Nilus; it passes by Ebn-Hubeira, and the lake itself sometimes takes that name. This is the Pallacopas of Niebuhr, and with great reason; for Al-Edriss fays, p. 204, "A castello Ebn-Hobaira profundit sese Eustrates in universam ditionem Kusæ, residuis ejus aquis in lacus insluentibus." No character can suit Pallacopas better than this. Mr. Howe's Papers.

entered at the bottom, and failed north; but if we suppose him to enter from the north, to fail fouthward, and then come out at the lower end, this course brings him very nearly to the marshes of Lemloon, in which Niebuhr 17 fuppofes him to be involved, and where all the peculiarities attendant upon his fituation naturally take place.

But the immediate object of this expedition was a furvey of the canal itself; it feems to have been a work of the Babylonian kings, and to have been neglected by the Persian sovereigns after the Conquest. It had been cut in a part of the bank where the foil was foft, yielding, and oozy; the difficulty, therefore, was enhanced, when the feafon arrived for clofing it, and the fatrap of Babylon, whose duty it was, employed thirty thousand men for three months before the stream could be restored to its course, and the mouth of the canal fecured. By a furvey of the ground it appeared, that at the distance of two miles lower down, the bank was firmer and the foil a rock, if the opening were made here, and a channel carried from this point into the original cut, it appeared eafy to effect the stoppage of the waters when requisite, as the folidity of the bank would hinder the ravages 48 of the inundation in the first instance,

the north of bis plane of the earth is higher than the fouth, which is the reason that the Nile flows fo flowly up bill! while the Tigris and Euphrates run rapidly down bill to the fouth. All that Cofmas faw he reports truly, though ignorantly; but he faw little except Abyffinia, and was never beyond the straits of Babel-Mandeb. (See p. 132. and 337.) It is a pity that his hypothesis and his theology violence of both. Cosmas Indicopleustes has had not perished, and his topograghy been a pleasant solution of this; for he asserts that preserved; the reverse unfortunately is the truth.

⁴⁷ Niebuhr, vol. ii. p. 202. Ives, p. 251. Ives himself lost his way in the marsh of Lemloon, p. 255. The river, he fays, still overflows a great way into the defert, p. 251. Banks to confine it, p. 258.

⁴⁸ The rapidity of the Tigris is noticed by all travellers, and its name derived from that quality by the Greeks. Pietro della Vallé thinks the Euphrates swifter, which proves the

and afford a foundation for the works which were to obstruct it, after the increase of the river was passed.

Directions to this purpose Alexander gave on the spot; he then entered the canal, steering his own galley, and continued his survey through the whole extent of the lake. On the Arabian side he ordered a city to be built, which he intended manifestly as a frontier to Babylon in this quarter, or as a place of arms if he should commence his operations against the Arabians in this direction. D'Anville has placed this Alexandria at the northern point of the lake, at no great distance from Meschid Ali; but, so far as may be collected from Arrian, we should rather have looked for it at the opposite extremity; for there is nothing to make us suppose he returned out of the lake by the same passage he entered it; neither is it possible, if, as Arrian asserts, he sailed with Babylon on his left. On the contrary, if we subscribe to Niebuhr's opinion, and carry him into the marshes of Lemloon 49, he had actually deviated from his course,

truth. See Cosmas, p. 133. edit. Mont-faucon.

There is a very odd connexion between the Christian Cosmas and the Mahometan Al-Edriss (if he was a Mahometan). See Zocotora, p. 178. and the account of Christians sent there by the Ptolemies.

The Euphrates rifes twelve feet perpendicular. The difference of its breadth at Bir is from 630 yards to 214. Pocock, p. 164. Howe's Papers. It rifes fometimes in march, but the feason is uncertain: it is always low in September.

49 If the authority of Diodorus has any weight, he accords fully with the idea of Alexander's wandering at Lemloon rather than in the Bahr Nedsjef; for he fays, the

fleet lost its course for three days and three nights. This could hardly happen in the Bahr Nedsjef, which is not fifty miles in extent. Vol. ii. p. 252.

Texeira makes it thirty-five or forty leagues in circuit, and fix broad, as I learn from Mr. Howe's Papers. If he faw it himfelf, it is a proof that its existence has ceased between his age and Niebuhr's: it seems also to have been a lake in Pietro della Vallé's time; on his route from Basra to Aleppo he notices marshes on his lest, nearly in this tract. I am not convinced but that it is still a lake, or at least a marsh in summer, though Niebuhr, who was there in winter, saw it not. Tavernier seems to have found the canal dried up. M. Howe.

and Babylon was on his left; and this marsh still continues very intricate to navigate, full of islands, and these islands still decorated with tombs so. In winter, there are a variety of channels very narrow, where even the boats of Basra hardly find water; and in summer the course of the stream is so indistinct, that the men who draw the vessels are oftener in the water than on the bank: all these circumstances are correspondent to the difficulties Alexander encountered; and, if we may assume this supposition, he had actually lost his course and was going down the river, till the native pilots put him into the proper channel, and conducted him back again to Babylon.

The fituation of Pallacopas is perhaps still capable of discovery, for the banks of the Euphrates are no where, as far as my information goes, noticed as consisting of stony ground, or rock; if, therefore, an appearance of this quality should occur, it may still be singular enough to attract the attention of our India travellers, some of whom come up every year from Basra to Hilleh and Bagdat, and the extent of country where they should direct their observations cannot exceed twenty or thirty miles, which must be on the left of their course, as they are going up between Rumahieh and Assca.

build tombs on islands in rivers, or in the sea, or in sequestered spots in the desert. There is, perhaps, hardly the Meschid of an Imam now, where there has not formerly been the tomb, the temple, or the shrine of some ancient hero, king, or sabulous deity. It is a prostable superstition to the natives, because religious visitants are attracted to desert spots, where there is no trade to allure merchants; and, consequently, though the religion of the East

has changed, the superstition has continued.

Ives mentions tombs of Imams, or faints, as still visited in the neighbourhood of Lemloon. Haleb, Hosein, Imam Kasai.

Lemloon lies in lat. 31° 40', better than half way between Bafra and Hilléh. See Ives, p. 256. et feq. The whole is a low wet country, the fides of the river full of fedge, and very distressing to the trackers; p. 257. See also Howel's Journal, p. 48.

51 See Niebuhr, p. 198. ut supra.

This is the last public service in which Alexander was engaged; his death took place not long after his return to Babylon, when all his plans of government, policy, discovery, or conquest, were annihilated by the diffensions of the great officers, which commenced upon his decease.

With his defigns of conquest this work is not concerned; but at the head of his native forces, which had constantly been recruited, and possessed of treasures sufficient to allure the last man out of Macedonia and Greece itself, with the accession of the Asiatic levies which he was forming and disciplining on his own model, with the attachment of all his followers to his good fortune and his person, with the reputation he had acquired and deferved, of being the greatest captain of his age, wherever he had directed his arms the invalion must have been formidable, and his success far from dubious.

As to the omens 52 also that preceded his departure, or the immediate cause of his death, I shall be filent; one thing only seems evident, that the poisoned cup is a fiction, his diary, still preserved, which records the progress of his disease, proves the gradual course of a fever rather than the ravages 53 of poison; the violence of his passions, the perpetual application of his mind, the constant exertion of his faculties, and the excesses of the table, are fully sufficient to furnish causes of dissolution, without having recourse to treason and confpiracy.

history is as sparing upon this subject as profane history is profuse.

No man of importance met his last fate, according to the ancient historians, without omens; and this superstition is so prevalent, that hardly a family at the present hour is without omens in regard to feme favourite member or other. I neither ridicule or believe them; but must observe, that facred family of Antipater odious.

⁵³ Plutarch, who generally believes enough, does not believe the story of this poisoned cup. He fays it was not heard of till fome years after, when Olympias wished to render the

But while I decline all inquiry on these subjects, I must glean the few remaining facts that characterise the disposition of this extraordinary man to the objects of discovery, as part of the scheme of empire which he had conceived, and which he never abandoned but with his latest breath. .

The remains of the fleet which Nearchus had brought up the Euphrates, and the veffels which had been conveyed overland to Thapfacus, were still at Babylon, the profecution of the discovery commenced at the Indus was still one of the principal designs in meditation; and the extension of the navigation round the continent of Arabia into the Red Sea was already anticipated. To prepare the way for Nearchus, three fingle vessels had been dispatched at different times down the Arabian fide of the Gulph of Persia, and the report of their commanders had probably given better information to Alexander concerning this obscure coast, than our modern charts furnish at the present54 moment.

The first of these vessels had been commanded by Archias, who proceeded no farther than Tylos or Bahr-ein, the centre of the modern pearl-fishery. Archias reported that he had found two islands, one at the distance of an hundred and twenty stadia from the mouth of the Euphrates [the Khore Abdillah], which was facred to Diana 55, where a breed of goats and sheep was preserved, and

Oman, but from oral information only. Alexander doubtless received a better account from his officers than the historians have preferved. He had established an office for these not generally divulged.

rians, in attributing the deities of their own Lib. vi. c. 17.

54 See d'Anville's chart of the Gulph of country to the superstitions of Asia, is as Persia. Niebuhr has since supplied a map of conspicuous in Arrian as in Herodotus and Xenophon. We must suppose that Archias found on this island some rites similar to those appropriate to the Grecian Diana, and adopted her name inflead of inquiring for that records, and the accounts they contained were of the Parfee or Arabian mythology. Thus Cæsar attributes Mercury, Mars, &c. to the 55 The perpetual error of the Greek histo- Celts, now known to be Woden and Thor.

never molested but for the purpose of procuring victims for the To this island Alexander gave the name of Icarus, and it ought to be one of those at the bay of Grane, but the distance by no means corresponds; for an hundred and twenty of Arrian's stadia are only feven miles and a half, while the real diffance is near thirty. Equally disproportionate is the position assigned to Tylos, the other island seen by Archias, which is stated to be at the distance of a day and night's fail in a light veffel, and with a fair wind. This, indeed, is a vague estimate; but ancient geographers consider a day's fail as five hundred Olympian stadia, and if we double this we obtain only a thousand of such stadia, or an hundred and twenty-five miles, while the real diffance is upwards of two hundred: but that thefe are the two islands feen by Archias, notwithstanding the defect of the estimate, can hardly be doubted; for Tylos is described as large, well-wooded 56, and productive, circumstances which suit no other island on the western side of the gulph but Bahr-ein.

A fecond veffel had been fent out under the command of Androsthenes, who is said to have proceeded some way round the coast of Arabia; but Hiero of Soli extended his course far beyond the two former, for he appears to have doubled Cape Mussendon, or Makæ, seen by Nearchus and Onesicritus upon their approach to the Gulph of Persia. The orders he had received from Alexander were, to circumnavigate Arabia, to go up the Red Sea, and make the bay of Heroopolis⁵⁷, on the Egyptian coast; by which is implied,

Klysma, or Klusma, from which the Orientals still call this sea, the Sea of Kolsum, by a transposition congenial to all their corruptions of foreign terms. Heroopolis was inland from Suez, and capital of a Nome from which the sea of Suez was named the Bay of Heroopolis;

⁵⁶ Whether it has now wood I cannot difcover.

⁵⁷ Suez is supposed to occupy nearly the site of Arsinoe, built at the western extremity of the Gulph of Arabia by the Ptolemies, at a later period. The actual bay was styled

plied, that he was actually to go to Suez, the extreme point of the Red Sea nearest Alexandria. These orders develope the whole plan of communication which Alexander had matured in his mind, and which, if he had lived a few months longer, he might have had the satisfaction to see completed. Hiero, however, was not able to execute his orders; but he seems to have gone down the coast below Maskat, and to have come in sight of Cape Ras-el-Had s, the Syagros of the ancients: for his report when he returned was, that he had advanced to a great promontory which he did not dare to double, and that the continent of Arabia was of much greater extent than had been conceived.

Such were the previous steps taken to ensure the success of Nearchus; these vessels had failed at different times in the interval since Alexander's first arrival at Babylon; they were all gallies of only thirty oars, and little adapted to the service in which they were employed. What was effected must be attributed to the skill and courage of the officers 59, who had possibly sailed with Nearchus; and, what they could not effect, to the deficiency of their vessels, and the state of the science in that age.

At the time the expedition was frustrated by the death of Alexander, Nearchus had received his orders to take the command of

polis; one proof that no city had been yet built like Suez at the extreme angle; that no trade had hitherto been carried up fo high in the Red Sea; and that Alexander viewed this point of communication with Alexandria with the eye of a mafter. The fea of Suez is not very practicable, and the Ptolemies afterwards fixed upon Myos Hormus, from which point there was a caravan road to Ghinna on the Nile, which Bruce travelled, and has described most admirably with all that relates to Myos

polis; one proof that no city had been yet Hormus, Cosseir, Portus Albus, and Orneon. built like Suez at the extreme angle; that no There is a beautiful map of the Red Sea by trade had hitherto been carried up so high in Mr. de la Rochette.

58 The Raffelgate of our charts.

59 Archias only is known to be one of Nearchus's officers. Nearchus has not done justice to his followers, or, if he had done, Arrian has neglected them. Androsthenes is confidered as an officer under Nearchus by Plutarch.

the fleet; and, if he had profecuted the object of his commission, he must have fallen down the Euphrates before the season that the increase of the river is passed: it was, perhaps, his intention to have waited at the mouth of the Tigris, or made his paffage good to Makæ during the latter part of the fummer; and the experience he had obtained would naturally fuggest to him the expectation of the monfoon from the north-east in November and December. With the affiftance of this he might have hoped to get round the coast of Arabia, as he had already performed his voyage from the Indus, but the circumstances are far different; the coast of Arabia is highly dangerous from Mussendon to Raf-el-Had; the winds fluctuate near shore; and, except Maskat, there is hardly an inlet which a veffel can enter without hazard of shipwreck, when the wind is boisterous. From this experiment, Nearchus was relieved by the death of his mafter: but it is impossible to convey a clearer idea of the designs which occupied the mind of Alexander in his last moments, than the language of his own diary will afford. The extract from it is preferved both by Plutarch and Arrian, and does not materially differ in the account of the two reporters, except that Arrian has preferved more notices of the fleet oo, to which he was perhaps peculiarly attentive, as being more appropriate to the nature of his work. The diary itself is fubjoined, with some small degree of licence, in order to harmonise the accounts of the two different authors.

It appears from Plutarch⁶¹, that Alexander had given a fplendid entertainment to Nearchus and his officers, two days preceding the account contained in the diary, which commences on the 28th of

day, the fleet on the fifth. lib. vii. p. 308. The feast might be only one day previous to the 28th.

the Macedonian month Dæsius, in the year 324 A.C. From the circumstances which follow, it is evident that Alexander was on the eve of commencing his expedition against Arabia, and that Nearchus with the fleet was to accompany this expedition, and to coast the Arabian shore down the Gulph of Persia, to that point at least where his own circumnavigation was to commence. If, therefore, we can suppose the army to have been successful, it is not impossible that a plan had been formed of connecting the operations both by sea and land round the whole coast, into the Gulph of Arabia. Impracticable as this may be deemed, the design is similar to that which had been imagined on the coast of the Mekran, and the execution of which had been frustrated only by the same disasters that were likely to have occurred on the present occasion.

At the conclusion of the entertainment, when Alexander was returning to the palace, he was met by Medius 62, who had been feasting a party of the officers, and now requested the favour of the king's company to do honour to the banquet. That night and the following day were spent in festivity, when it is not extraordinary that some symptoms of sever were the consequence of the excess.

The diary commences here, and contains the following particulars:

Dæfius.

18th. The king bathed, and, finding the fever upon the increase, flept at the bathing-house.

[The fleeping at the bathing-house is explained by Arrian, who states that he was conveyed on his bed to the river side, and carried over to a garden-house on the opposite shore.]

Dæfius;

Arrian no otherwise disagrees than by soften- two meetings instead of one continued.

Dæfius.

On this day, also, orders were issued for the land forces to be ready to march on the 22d, and the fleet to be prepared to move on the 23d.

10th. The king bathed; went from the bath to his chamber; paffed the day at dice " with Medius; bathed again in the evening; attended the facrifices in a litter 64; took nourishment 65 in the evening; the fever increased, and the night was passed in great perturbation.

Orders were iffued for the officers to attend on the next morning.

- 20th. The king bathed; attended the facrifices as before; converfed while in the bath with Nearchus, upon his voyage from India, and gave him fresh orders to be ready on the 23d.
- 21st. The king bathed; attended the facrifices in the morning; found no abatement of the disorder; transacted business with the officers; gave directions about the fleet; bathed again in the evening; the fever still increased.
- 22d. The king removed into an apartment near the bath; attended the facrifices; the fever now ran very high, and oppreffed him much; he nevertheless ordered the principal officers to attend, and repeated his orders in regard to the fleet.
- 23d. The king was conveyed to the facrifices with great difficulty: but iffued fresh orders to the naval officers, and conversed about filling up the vacancies in the army.

os Ate heartily, according to the translator

of Plutarch; but the author himself omits the 64 ini Khing, on a bed or Lectica; a pa- adverb, and Arrian fays, Sparingly; thirty deiningais.

⁶³ In conversation, Arrian.

lanquin rather than a fedan.

Dæfius.

- 24th. The king was much more oppressed, and the fever much increased.
- 25th 66. The king was now finking fast under the disorder, but issued orders for the generals to attend in the palace, and the officers of rank 67 to be in waiting at the gate. He suffered still more towards the evening, and was conveyed back again over the river from the garden to the palace. Here he obtained a short repose; but, upon his awaking, when the generals were admitted, though he retained his senses, and knew them, he had lost the power of utterance.
- 26th. The fever had made a rapid progress all night, and continued without abating during the day.
- 27th. The foldiers now clamorously demanded to be admitted, wishing to see their sovereign once more, if he were alive; and, suspecting that he was dead, and his death concealed. They were suffered, therefore, to pass through the apartment in single sille without arms, and the king raised his head with difficulty, holding out his hand to them, but could not speak.

28th. In the evening the king expired.

This diary, without a comment, exhibits the attention of Alexander to the defigns attributed to him in the preceding work better than any other language can express. It proves that he had entertained Nearchus only the day previous to his illness, and that the expedition of this officer was one of the principal objects

⁶⁶ Plutarch has an interval here from the 67 χιλιάςχας η συντακοσιάςχας, commanders 21st to the 24th; from τῆ δικάτη φθίνοντος to of a thousand and five hundred.
68 εν τοῦς χετῶσε καθ ἔνα σάντες.

of his mind almost to the last moment that he had the power of fpeech.

The date of his death is the only point which now remains to be fixed; and as perfect fatisfaction does not occur upon this fubject from confulting the chronologers, it is more proper to state the difficulties than to determine the question authoritatively.

The year of his birth is fixed for Olympiad cvi. 1, answering to 356 A.C. in the archonship of Elpines . His accession to the throne, Olympiad cxi. 1. 336 A.C. in the archonship of Pytho-The day of his birth is affigned to the 26th of July by Dodwell; to August the 7th, by Scaliger: the day of his accession is the 24th of September", according to Usher; fo that he was fomewhat more than twenty years of age when he began to reign; and if his reign commenced in 336 A.C. the thirteenth year of his reign and the thirty-third of his life coincides with the year 324 A.C.

That he died in this year is established by the consent of Diodorus and Arrian; but Diodorus adds feven months, and Arrian eight, to the twelve years of his reign; and though these months do not encroach upon the Attic or Olympian year, which did not commence till Midfummer following, they evidently interfere with the calculation of Scaliger and Petavius, if they commence their year in January. This is the reason", I conclude, which induces Usher and Blair to carry on the date of his death to the year 323 A.C. The chronology, indeed, of Diodorus is fo perplexed, that having fixed the Voyage of Nearchus for 327 A. C. and brought Alexander

⁶⁹ See supra, b. i. p. 31.

⁷¹ And fo Falkoner's Chronology, 1796, 20 In August. Blair. p. 168, 169.

to Susa in 326 A.C. he is obliged to interpolate a year 12, to give a false archon, and repeat the same consuls twice, a reproach which his learned commentator 13 is obliged to transfer to the transcribers, but which arose in fact from the historian having a year to fill up which he knew not where to find. It is, however, by this contrivance that he brings the date of Alexander's death to accord with the account of Arrian, or rather the authorities 14 which Arrian followed; so that both the historians agree on the year of the Olympiad cxiv. 1. or 324 before Christ, in the archonship of Hegesias.

It is here that the addition of feven months by the one, and eight by the other, raifes a difficulty which it is not eafy to obviate.

Petavius has a differtation sexpressly to solve this question, which he does by supposing that Dæsius, in the time of Philip and Alexander, answered to Hecatombæon, though it was afterwards made to correspond with Thargelion. Unfortunately, Hecatombæon is as little qualified to resolve our doubts as Thargelion, for it commences in July, and if it is July 324 A.C. even the twelve years of Alexander are not complete. Petavius says, indeed, that he had finished his twelfth year, and just taken the auspices for the commencement of his thirteenth; but this could not be true, if his accession was on the 24th of September, as Usher afferts.

Usher agrees with Petavius in supposing that Dæsius originally answered to Hecatombæon, and afterwards to Thargelion; but in

⁷³ Olympiad cxiii. 4.

⁷³ See Diodorus Wesseling, vol. ii. p. 248. Note 9, in his Audaciæ Specimen, &c.

⁷⁴ Usher agrees with Petavius.

⁷⁵ Vid. Differtationes, in fine, tom. ii. Pe-

his Ephemeris 76 he assigns the 1st of Dæsius to the 25th of April: the 28th of Dæsius consequently corresponds with the 22d of May; and, as his date of Alexander's accession is September 24th, it follows of course that his reign was twelve years complete on that day, in the year 324 A. C. and that the eight months extend to the end of the subsequent May in 323; this, therefore, is a calculation eafily admiffible, if Scaliger and Petavius had not fixed his decease in 324: but perhaps the archonship of Hegesias will enable us to reconcile the three chronologers; for the Attic year, Olympiad cxiv. I. commences, according to Dodwell, on the 23d of July, and confequently Hegefias continued archon till that day. This statement brings all the calculations fo nearly to a confishency, that one objection only remains, which is, that I cannot discover in any of the historians two winters after Alexander's return to Susa: one is evident; that, in which he fubdued the Koffæi; but the year and five months afterwards, which he must have passed at Babylon and the neighbourhood, is not filled up by the transactions recorded, nor agreeably to the bufy spirit of Alexander.

If, after the reduction of the Koffæi, he entered Babylon in the fpring of 324 A.C. we have nothing to employ the remainder of that year but the vifit to Pallacopas, which must have taken place during the increase" of the Euphrates, that is, between May and July, for he could not enter the canal before the bank was cut; or if we fix his voyage to the season of closing the Pallacopas, we cannot bring him there later than August, for in September the river is again below its banks. The account of his death succeeds this so im-

76 De Anno Sol. Maced. p. 5 and 6.

The inundation feldom takes place so early as May. Ives, p. 251.

mediately, that, if there was an interval of eight or nine months, it does not appear. The opening of a campaign, indeed, fuits better with the fpring following, as Usher fixes it; and that he was going to fet out on an expedition to Arabia appears from the orders iffued to the troops and the fleet during his illness. If this consideration, therefore, appears reasonable, we may fix the death of Alexander ftill in Olympiad cxiv. 1. and the archonship of Hegesias, notwithstanding it will appear from our different commencement of the year to be the 22d of May, in the year 323 before the Christian æra. The difficulty of unravelling the intricacies of the Greek calendar, and the digeftion of Greek months must apologise for fuch a degree of obscurity as may still remain upon this question; and even an acknowledgment of ignorance may be pardonable, fince it has been lately proved by the Choiseuil Marble, that, after all the learned labours of Petavius and Corfini, the arrangement of the Attic months by Scaliger is finally confirmed.

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ONTHE

SITE OF OPIS.

ARRIAN has recorded no circumstances which enable us to settle the position of Opis, we must therefore (if we suppose it to be the same city as the Opis visited by the ten thousand in their retreat) have recourse to Xenophon, who surnishes abundance of means for the resolution of the question; and that it is the same city, there can be little doubt; for there had been no revolution in Persia to alter either its name or place in the interval of seventy-six which occurs between the expedition of Cyrus and the visit of the Macedonians. By the account of Xenophon, it appears to have risen upon the decline of the ancient Assyrian cities on the Tigris, several of which he found deserted; and it seems to have decayed in its turn, as Seleucia and Apamea, the creations of the Seleucidæ, rose into eminence. It was only a village in the time of Strabo; and in the age of Ptolemy, when Ctesiphon was growing up into a capital, it had so far sunk as not to be admitted into his catalogue.

The means of discovering the Site of Opis by the course of the Tigris, and its eastern bank, are obvious; for Xenophon places it on the Physcus, a stream which falls into the Tigris at the distance of twenty parasangs, or fixty Roman miles, from the place where the ten thousand crossed that river. The fixing of the passage, therefore, would give the position of the Physcus, or, if we can find the Physcus, we could discover the passage and the bridge of boats. The latter investigation does not appear difficult; for between Bagdat and Mosul there are three streams which fall into the Tigris on its eastern side, and no more. These are

	110	m DAGDAI.		
Xenophon.	D' Anville.	Tavernier.	Ptolemy.	1 Pliny.
r. The Physcus.	Odorneh.	Odoine.	Gorgus.	Tornodotus.
2. The Zabatus.	Altoun Sou.	Little Zab.	Caprus.	
3. The Zathes.	Lycus.	Great Zab.	Leucus.	

x Xenophon, edit. Leunc. p. 277. et feq. 3 7Ωπις κώμη ἰμποςῖκεν τῶν ἐν κύκλω τόπων. 2 Expedition of Cyrus, 401 A.C. twelfth year of Strab. lib. xvi. p. 739. Alexander, 325 A.C. Blair's Chronology.

These three rivers Tavernier notices in his passage from Mosul to Bagdat, which he performed by water in a kelek*; and the travelling Jeweller (as Gibbon styles him), who always travelled with his eyes open, marks the mouth of the Odoine in the very place where the Physcus ought to be found. By measuring off sixty Roman miles on d'Anville's map, we arrive at Bagdat, consequently it is plain he intended to fix the passage and the bridge of boats at the site of that city, where it continues to the present hour. If, however, d'Anville should be mistaken (which is hardly the case), the means of correcting his error are easy. Many of our English gentlemen, in going to and returning from India, preser the route by Hilleh, Bagdat, and Mosul, to the passage over the great desert between Basra and Aleppo. Any one of these who would descend the Tigris, from Mosul to Bagdat's, in a kelek, may fix the mouth of the third river on his left, by observation; this must be the Odoine, or Physcus, and the distance between this and Bagdat is easy to obtain, as the latitude of that capital is already sufficiently established.

By these observations, the eastern side of the Tigris is cleared of its difficulties; and if it can be shewn that the march of the ten thousand on the western side points to Bagdat, all our authorities coincide. To explain this it must be premised, that d'Anville's wall of Semiramis and Xenophon's Median wall cannot be the same. It is evident, indeed, that there was a wall of Semiramis terminating at Opis, for Strabo twice mentions them together; but the march of the ten thousand cannot be made from any point of this wall to Sittaké and the bridge. Their march, after passing the wall, was only twenty-fix miles to the Tigris; but if Opis is sixty miles above Bagdat on the eastern side, the wall of Semiramis cannot be less on the western; and consequently this cannot be the rampart which Xenophon calls the Median Wall. This Median wall, however, did exist; it exists in ruins at the present hour, and is seen by every traveller as he approaches

4 A vessel supported on the water by inflated skins, used on these rivers from the age of Xenophon to the present hour. See Tavernier, tom. i. liv. ii. p. 226. et seq.

s The passinge must be made by water to obtain this object, as the road between Bagdat and Mosul leaves the Tigris. Ives, when three days' journey from Bagdat, found a stream called Chiba Harpsie, which, he says, fa'ls into the Tigris; this, by the distance, might be the Odoine, but Niebuhr carries it into the Diala. Strange, that a traveller should not notice whether it flowed east or west! This road goes by Yanka, Karatope, &c. Dr. Howel's Journal agrees with Ives.

6 Nicbuhr, p. 239. 330 20'. D'Anville differs only 2 few feconds.

- 7 Lib. ii. p. 80. Lib. xi. p. 592.
- 8 Eight parafangs, fifteen fladia.
- 9 Iyes went to vifit Nimrod's tower; it lies west by

north, about nine miles from Bagdat. "We passed the "Tigris by the bridge of boats, and rode through Old "Bagdat, from whence, quite up to the tower, ruins of buildings either wholly above, or fomewhat under ground, are still to be seen, which can be no other than the remains of the ancient Seleucia." This is perfect evidence for the remains of the Median wall, and, in the direction I give it, west by north: but Ives is mistaken when he talks of Seleucia; he was close to that city at Tahkti Khesra, which is south-east of Bagdat, not north-west. Old Bagdat, or the ruins he saw, might be the ruins of Sittaké; but Xenophon's usage of Sittaké is dublous; the district called Sittakené is east of the Tigris. Ives, p. 297. Tavernier, tom. i. p. 238.

10 Some of the public buildings at Bagdat confift of the old Affyrian bricks from this wall, or the ruins of Sittake. Bagdat ** on the road from Hilleh, extending for many miles on his left. Where it touched the Euphrates is not discoverable; certainly not at Babylon, in the direction assigned to it by de l'Isle *2; but, as I conjecture, at the very part where the Euphrates approaches nearest to the Tigris, where the intervening space is as nearly twenty-six miles as may be, agreeing exactly with the march of the twenty thousand. I suppose them to have crossed the Median wall close to the Euphrates, and to have measured twenty-six ** miles, in the direction of the wall, till it terminated at the Tigris, as it now does; and possibly at the very point where the modern bridge of Bagdat consists of boats, as it has done in all ages.

Let us now refer to the field of Kynaxa, where Cyrus loft his life. D'Anville places Kynaxa on a curvature of the Euphrates marked by the modern Hit or Het. There is every reason to suppose that in this position he is perfectly correct; and the reason for believing this is, because the ten thousand, on the first "4 march after the battle, moved with their face to the north, for Xenophon mentions expressly that the sun rose on their right; this direction, therefore, was necessary to bring them out of the curvature in which they were inclosed. At night they reached a knot of villages which ought to lie in the fituation of d'Anville's Makepracté and the wall of Semiramis, where it touches the Euphrates; but of this wall Xenophon takes no notice. On the fecond day they proceeded to other villages, where they found abundant provisions for their support. No distance is assigned to the march of either day; but it is evident, that on the fecond the direction of their courfe must be different from that of the first, for they did not dare to quit the Euphrates, least they should fail in a supply of water; and that they kept the river on their right, and followed its winding to the fouth-east, is proved by their approach to Babylon, from which Xenophon fays they were not far, when fome days after they paffed the Median wall.

At these villages the army halted twenty days, while a treaty was going on with Tissaphernes; when, after commencing their march again, they reached in three days the wall of Media. Xenophon has not assigned measures to any of these five days' march after the battle; but if we allot five parasangs to each, it produces seventy-five miles Roman; a space which brings them to the point where the Euphrates approaches nearest to the Tigris,

¹¹ By Texeira, as I learn from Mr. Howe's Papers.

really appear, but directs the ruins upon his map as they really appear, but directs the termination of the wall west to Babylon. I cannot trace it so far, and suppose it to have crossed Mesopotamia at the narrowest part. Map of William de l'Isle, published by Joseph Nicholas de l'Isle, 1766. Kindly communicated by Mr. Jacob Bryant.

¹³ Strabo reckons 200 stadia, or twenty-five miles, at the wall of Semiramis. Did he confound the two walls?

or did he confound the fite ?—if the latter, there was one wall only inflead of two. See Strabo, lib. ii. p. 80.

¹⁴ There is a movement previous to this, but it is only towards Ariæus, and probably over the field of battle. The possibility of a mistake in d'Anville can be founded only on an affertion of Xenophon's, that it is 300 miles from Kynaxa to Babylon: but Xenophon did not march the whole extent.

and makes the Median wall, if we place it here, feventy miles nearer Babylon than the wall of Semiramis, that is, fixty miles instead of an hundred and thirty. The army, according to this statement, ought to have crossed the wall near, or close to the Euphrates; and as we then find two days' march of four parasangs each to Sittaké, and two miles from Sittaké to the Tigris, this gives twenty-fix miles, following the direction of the wall to Bagdat; and this, at a point where d'Anville makes the space between the two rivers less than thirty, and where Niebuhr 15 makes it only from eighteen to twenty.

By this process, the movements of the army west of the Tigris point to Bagdat, as the measures from Opis end at the same city, taken on the east. The bridge of boats would be as necessary for Sittaké in that age, as for Bagdat at the present day; and thirty-seven, the number of the boats mentioned by Xenophon, is a medium between the highest and lowest statement of those employed at present, according to the season of the year. From these deductions it is easy to conclude, that the passage of the ten thousand was at Bagdat ; but if not there, the space for error is very short. The wall proves, that it could not be higher up, and other circumstances prove that it could not be lower down the stream than the mouth of the Diala; this confines it within the limits of ten or twelve miles, which it is impossible to exceed. The Diala falls in on the east side of the Tigris between Bagdat and Ctefiphon, and the fite 16 of Ctefiphon is fixed by two ruins at the distance of a quarter of a mile from each other, called Tahkti Khefra 17, (the throne of Khofroes,) and Soleiman Pac, or the tomb of Soleiman the Pure. These ruins were visited by Pietro " della Vallé and Ives, and Ives mentions expressly his passing the Diala both going 19 and returning. It is nearer, indeed, to Ctefiphon, but Ctefiphon is little more than fixteen 20 miles from Bagdat, and confequently the mouth of the Diala must be less. Now it has

15 Niebuhr fays little more than fix leagues. Vol. ii. p. 236. Voyage. Amfterd. edit.

16 Ctefiphon, the Tifbon of the Orientals, was built on the eaftern fide of the Tigris, opposite to Seleucia, which was in Mesopotamia; it rose under the Arsacidan dynasty during the second century. See Gibbon, vol. i. p. 211. And the remains of the two cities are still called Al-Mod-ain, the double city; from Medhi, Midhi, or Modhi, a fortress, and ain or ein; so Bahr-ein, the double sea.

17 The Aivan Khefra of Pietro della Vallé, built of buint bricks, 1400 paces long; middle aifle 62 paces long, 33 wide. Ives gives a drawing of this building, p. 289. in which it has the appearance of Roman architecture; but such it can hardly be; it is certainly not Oriental, but may have been a palace or temple built by the Seleucidæ, who might prefer a fituation on the opposite side of the river to their capital, Seleucia. Ives says, the east front is 300 feet, breadth of the arch \$5, height

106, length of the arched room 150.

18 Pietro della Vallé, tom. ii. p. 258. He faw the Dia'a as large as the Tiber, flept at a village fomewhat lower down, and proceeded next day to Soleiman Pac. A proof that there is fome confiderable diffance between the Diala and Ctefiphon.

19 Ives is not quite correct. He fays, he passed at Yealla instead of the Yealla; for such Diala sounded to his ear, agreeably to the succession of Dsjialla, so often noticed, like the Diamuna of Prolemy, for Jumna or Jomanes.

20 D'Anville makes it near twenty; but Ives left Tahkti Kefra about midnight, staid half an hour at the ferry of Diala, and reached Bagdat between fix and seven in the morning. Suppose him to travel five hours, and it will scarcely amount to more than sisteen or sixteen miles, p. 291. Al-Edris says sisteen miles, p. 205. but his miles are dubious.

been proved, that the wall brought the ten thousand to Bagdat or near it, and the Diala confines them on the other hand, for if they had passed the Tigris below the issue of that river, they must have crossed the Diala after they arrived on the east of the Tigris; this they manifestly did not, as it is not noticed at all by Xenophon; and an author who records the passing of the Physicus could not have omitted a much larger stream.

The refult of this inquiry ferves to establish the position assigned to Opis by d'Anville; and it may be concluded he also fixed the passage of the Tigris at Bagdat. He has published a memoir, if I mistake not, on his map of the Euphrates and the Tigris, but I have not seen it; neither do I know how he has disposed of the Opis of Herodotus. On that Opis I must be silent, observing only that it cannot be the same as the Opis of Xenophon and Arrian; for he says the Gyndes salls into the Tigris, and the Tigris, after passing by Opis, issues into the Gulph of Persia. If we are to understand by this that Opis is near the gulph, it is evidently not the same city. He mentions in another passage, that the Tigris salls into the Gulph of Persia at Ampé, and if there had been any suspicion of the text in the passage before us, the two names might have been reduced to one; but there is no appearance of this fort, and I must leave the venerable sather of history to his commentators.

²¹ Γύνδης iz διδοϊ iς ἔτερος σοταμός Τίγεις p. 447. is Αμπη σύλι σας ης Τίγεης δ δι σας α ΄Ωπις σύλις είων iς της Ερυθεής Θάλασσης συταμός σας αξίως iς θάλασσας iξ ιι. iz διδοδοϊ. Herod. lib. i. p. 89. Compare with lib. rt.

APPENDIX.

ADVERTISEMENT.

THE learned Author of the second Dissertation says, with no little kindness, that had I had the ill luck to have consulted Usher's Ephemeris, I should not have applied either to his Lordship or Mr. Wales for a solution of my difficulty: but however it might have been unfortunate to have missed the acquisition of two such Papers, I feel in some degree the charge of negligence, for having sailed in my pursuit at the very moment when I was in sight of my object.

The truth is, that I had worked my way through a mass of obscurity by the affistance of Scaliger, Petavius, Dodwell, and Columella; but the edition of Usher which I used was the English one, and in that, though I found a reference to his Treatise on the Solar Year of the Macedonians (which I have noticed), I did not find the treatise itself; neither is it contained in that edition. This, however, was the clue; and I am sensible of vexation, rather than shame, that I neglected the opportunity of seizing it.

In that Ephemeris, Usher, upon the authority of Euctemon, places the evening rising of the Pleiades on the eighth of Dius, corresponding with the first of October. This is Usher's own date of the voyage, upon a comparison of the two passages from Arrian and Strabo, in the eighteenth page of his treatise; and affords an irrefragable proof, among a thousand others, that both authors copied from the original Journal of Nearchus.

My own date, with the affiftance of Dodwell, came out the fecond of October; and this difference, though of one day only from the estimate of Usher, I had laboured much to reconcile. The error was on my side; for I had miscalculated by reckoning the thirteenth of September, which is the first of Boedromion, exclusive, instead of inclusive. This is the extent of my offence; and, as my confession is unreserved, I have a right to expect abfolution rather than penance.

After all the trouble caused by the discussion of this question, it is no little pleasure to find, that the issue renders Strabo and Arrian consistent, that it justifies Usher and Dodwell in their calculation of the year and month, and that this calculation is confirmed by the deduction of two proficients in a science which I have never had leisure to pursue, and to whom I had stated the question without furnishing all the data it required. I have now only to request, that the reader would consider the departure of the sleet from its first station in the Indus as fixed for the sirst instead of the second of October.

DISSERTATION I. i.

On the Rifing of the Constellations.

DEAR SIR.

AVING at last finished the calculations which are necessary to enable me to refolve your questions from Columella, I will endeavour to give you the best and plainest answers to them that I can. But to do this it may be necessary to fay something concerning a branch of astronomy which was much cultivated by the ancients, namely, the rifings and fettings of the stars, as they respect the rifing and fetting of the fun. The points chiefly attended to were, the times when certain fixed stars, or constellations of stars, rose or fet with the fun; the times when those stars fet as the fun rose, and the times when they rose as the fun set. The determination of these points constituted a principal part of the astronomy of the ancients, and was esteemed by them of the utmost importance, because it was by these means that they regulated their festivals. judged of the returns of the feafons, and even estimated the length of the year.

As the fun, apparently, revolves in the ecliptic annually from west to east, while the fixed stars remain constantly in the same place, it is manifest the sun must come into conjunction, at one time of the year or other, with every star. In the present age the fun comes into conjunction; that is, into the fame part of the heavens. 3 \$

heavens, with the Pleiades about the middle of May, and, in confequence, rifes and fets about the fame time that they do; in this position, the constellation was faid by the ancients to rife cosmically and fet achronically. But it must be observed, that in all places which have northern latitude, a ftar, which is to the northward of the fun when they are in conjunction, will rife at the fame inftant that the fun rifes a few days before the fun comes into conjunction with it, on account of the obliquity of the sphere; and will not fet at the same instant the sun sets until the sun has passed the conjunction, and got to the eastward of the star: that is, the time when the star rifes cosmically happens some days before that when it sets achronically; and the number of days by which the first of these circumftances precedes the latter depends partly on the latitude of the place, and partly on the distance which the star is to the northward of the fun at the time of conjunction. On the contrary, if the ftar be fouth of the fun at the time of conjunction, the ftar will fet achronically before the conjunction, and will not rife cofmically till after it is past. The contrary to both these positions takes place in fouthern latitudes".

While the sun is westward of the point which it is in when it rises with the star, it is manifest that the sun must rise before the star, and, consequently, the rising of the star cannot be seen. It is as obvious that the rising of the star cannot be seen when the sun and star rise together: but some time after that, when the sun has got so far east of the star as to be considerably below the horizon when the star rises, the twilight will be so little advanced that the

If the place of observation be between general rules do not hold good; but they are the tropics, there are cases in which these two very limited, and not worth considering here.

star may be visible at its rising; and, as soon as this was the case, the star was said to rise heliacally. The number of days that this circumstance happens after the time when the star rises cosmically depends partly on the latitude of the place, partly on the declinations of the sun and star, and partly on the star's brightness: it can therefore only be determined, like the beginning and end of twilight, by observation. For the same reason, the star cannot be seen to set when it sets at the same instant that the sun sets; nor can it be seen to set for some days before that time, on account of the twilight: and when the sun approached so near to the star that it could be no longer seen to set, it was then said to set heliacally. These phenomena happen now about the latter end of May and the beginning of June.

After this, the fun advancing still eastward in the ecliptic, while the star keeps its situation, will have got so far beyond it, that some time in the beginning of November the sun will set as the star rises; and the star is then said to rise achronically. Moreover, the sun and star being at this time nearly in opposite points of the heavens, it must follow that about the same time, or a few days either before or after it, according as the place is in south or north latitude, and the star south or north of the sun at the time of conjunction, the star must set as the sun rises; and when it did so, it was said to set cosmically.

The longitude and latitude of the Lucida Pleiadum was determined with great accuracy by the late Dr. Bradley to be 8 26° 38′ 34″, and 4° 1′ 36″ north respectively, at the beginning of the year 1760; from whence it will be readily found that, at this time, and in the latitude of Rome, the Pleiades rise cosmically on or about the 10th of May, and set achronically about the 20th of

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the

the fame month: and that they rife achronically about the 12th, and fet cosmically about the 21st of November.

These two last-mentioned circumstances, according to your extract from Columella, happened on the 10th of October and 8th of November, in the year 42 after Christ. You add, that according to Strabo, Nearchus sailed from the Indus, at the time when the Pleiades rose in the evening, or achronically in the year 326 before Christ; that Arrian informs us this was on the 2d of October; and you wish to be informed how near these dates and circumstances agree together when the precession of the equinoctial points is allowed for. You wish also to have a popular explanation of the term Precession, in antecedentia, and an account of its application to, and effect on, the phenomena which have been explained above.

The two points where the ecliptic croffes the plane of the earth's equator are called the Equinoctial Points. That which the fun is in on the 20th or 21st of March, when he passes to the northward of the plane of the earth's equator, is called the Vernal Equinoctial Point; and the other is called the Autumnal Equinoctial Point.

The earth is not a perfect sphere, but is in the form of such a bowl as is used on a bowling-green; the two poles being in the two slat sides, and its greatest diameters all in the plane of the equator. Now, as all bodies attract each other, the protuberant parts about the earth's equator are acted on by the sun and moon, when they are out of the plane of that equator, in such a manner as to cause the two equinoctial points to be carried backward, along the ecliptic, at the rate of 50½ seconds of a degree in a year; and this motion of the equinoctial points is called, though somewhat improperly perhaps, the Precession of the Equinoctial Points.

As

As the vernal equinoctial point is carried backward by the abovementioned quantity yearly, while the fixed ftars retain their places, and as we continue to reckon the longitudes of the flars from that point, it is manifest the longitudes of the stars will be increased every year by 503 feconds. But as the motion of these points is in the plane of the ecliptic, this apparent motion of the stars will be parallel to the ecliptic; and, consequently, their distance from the ecliptic, which is called their latitude, will not be altered by it. It must be farther observed that the year (as it relates to astronomy) always begins when the fun is in the vernal equinoctial point; from which it will be evident that it is later, by a fmall quantity, every year than it was the year before, when the fun comes to the fame longitude with any particular star, or to that point of the ecliptic where it rifes or fets with it: and this is the cause why the Pleiades rise as the sun sets, and set as the sun rises, later now than they did formerly.

It has been already said, that the longitude of the Lucida Pleiadum was 8 26° 38′ 38″, at the beginning of the year 1760; but in the 1718 years which elapsed between the years 42 and 1760, the precession of the equinoxes, at the rate of 50½ seconds in a year, amounts to 86,472½ seconds, or 24° 1′ 12½″, which being taken from 8 26° 38′ 34″, leaves 8 2° 37′ 21½″ for the longitude of n Pleiadum in the year 42 after Christ: and, as the latitudes of the stars remain the same², the point of the ecliptic which then rose with this star was 8° 29° 7′ 9″, the obliquity of the ecliptic being at that time 23° 41′ 24″. Hence the point which set as the star rose was \$\alpha\$ 29° 7′ 9″; and this point, I find by Mayer's Tables, the

² I take no notice here of the very small fixed stars by the actions of the other planetschange which is caused in the places of the on the earth.

fun was in on the 19th of October. By a fimilar process, I find that the point of the ecliptic which rose as the Pleiades set was m 4° 20', which point the sun occupied on the 29th of October that year.

The former of these determinations differs nine days, and the latter ten from the times affigned by Columella; but it may be remarked that the former of these errors is in defect, and the latter in excess; and as the stars rise and set sooner as the year advances, it follows, that on the 10th of October the fun would fet a short time before the star would rife, and on the 8th of November the star would fet some time before the sun rose; both which circumstances appear to be necessary if these phenomena were determined by obfervation, as, most probably, was the case. For it is manifest the ftar's rifing cannot be observed when it rifes exactly as the fun sets: nor can its fetting be feen when it fets exactly as the fun rifes, on account of the daylight, as hath been already observed: but, perhaps, the one might be feen by a good eye, in the latitude of Rome, nine or ten days before, and the other as much after the time when the two circumstances happened together; and I have not a doubt but that the difference between Columella's observation and my calculation is to be attributed to this cause.

I am next to inquire whether the effect of the precession of the equinoctial points will reconcile Strabo's account, which states that Nearchus sailed at the time when the Pleiades rose in the evening, that is to say, as the sun set, with the account of Arrian, who says expressly, that he sailed on the 2d of October in the year before Christ 326. In the interval between the year 42 after, and the year 326 before Christ, the precession amounts to 5° 8′ 42 ½″, which being taken from 8° 2° 37′ 21½″, the star's longitude in the year 42 after

42 after Christ, leaves & 27° 28' 38;" for the longitude of the Lucida Pleiadum in the year 326 before Christ; and the point of the ecliptic which rose with the star, in this situation, at Rome, in the year 326 before Christ, the obliquity of the ecliptic being then 23° 44' 13". was r 19° 26' 41": but as the fun was fetting when the star rose, it must have been in a 19° 26' 41", the opposite point of the ecliptic, which point the fun occupied on the 17th of October; fifteen days after that which is fixed by Arrian for the failing of Nearchus. Now if nine or ten days were fufficient to render the rifing of the Pleiades visible at Rome, we are certain that more could not be requifite to render their rifing vifible at the place Nearchus failed from, which is in a much lower latitude; we are therefore led to fuppose, either that Strabo spake in general terms, (as indeed seems to be the case,) meaning only to point out the season, and not the day when Nearchus fet out on his expedition, while Arrrian gave the precise day on which it happened, or that some mistake has crept into one or the other of these authors: to me, the former supposition seems most natural.

But notwithstanding it is highly probable that the apparent difference between the two historians ought to be referred to one or other of these causes, it is by no means certain that either one or other of them must be resorted to. It is possible that it ought to be attributed to another cause.

The preceding calculation is founded on a supposition that the Julian calendar has been in use ever since the year 326 before Christ; but we know it was not established by law till about 45 years before Christ, and that before that æra different modes of computation were used by different persons, who did not always tell us what mode of computation they made use of. Now, not-withstanding

withstanding both Arrian and Strabo refer to the same authority, it is possible the years by which that Author reckoned might differ from Julian years; and if they did, a greater difference than that which exists between them might arise from that circumstance.

There is a circumstance occurs in the foregoing calculations which may lead some persons to conclude I have committed a mistake in them; and which it is therefore necessary to obviate. The quantity of the precession in the interval between the year 326 before, and the year 42 after Christ is 5° 8′ 42 ½″, a space which the sun is more than five days passing over. It may therefore be supposed, that the difference between the achronical risings of the same star, at these two times, ought to be between five and six days, whereas I make it little more than two: but it must be considered, that near three of these sive days are anticipated by the excess of the Julian year above the true length of the solar year in that interval.

This, Sir, is the plainest answer I can give to the questions you have been pleased to propose. They betray no ignorance in a person who does not profess to be an astronomer, as the circumstances are certainly sufficient to create doubt, which every rational mind must be anxious to clear up. If I have contributed any thing toward this by what I have written, I shall be very happy, and am,

REVEREND SIR,

Your's very fincerely,

WILLIAM WALES.

Jan. 14th, 1796.

DISSERTATION I. ii.

On the Rifing of the Constellations.

DEAR SIR,

YOU will receive, I hope, some satisfaction from the result of my calculations upon the different dates, assigned by Arrian and Strabo, to the commencement of Nearchus's expedition; which at first, I confess, I thought too discordant to be reconciled by any probable conjecture, without tampering with the text of Arrian, which, in my judgment, seemed to carry some marks of corruption.

The method I have taken has been to go directly to the investigation of the time of the acronychal rising of the Pleiades, in that part of the world where the voyage was undertaken, in the year before Christ 326, which was the year of the voyage; and, for a reason which will presently appear, I have not concerned myself at all with Columella's risings or settings.

Arrian fays, that Nearchus failed from the mouth of the Indus as foon as the Etefiæ ceafed, in the eleventh year of the reign of Alexander, according to the reckoning of the Macedonians and the Afiatics, and on the 20th of the Athenian month Boëdromion.

This

This eleventh of the reign of Alexander, it is agreed, was the year before the vulgar æra of our Lord 326; and the 20th of Boëdromion in this year, upon the authority of eminent chronologers, you take to have been the 1st of October, St. Jul. And in this reduction, if there be any error, which, though I suspect, I will not too confidently affert, it cannot be of more than a single day.

Strabo's account is, that "the fleet failed in autumn about the feafon of the evening rifing of the Pleiades, before the winds were fair, the barbarians attacking them and forcing them to fea."

This claims great attention, for it is Nearchus's own account. The words of Strabo import as much, and the thing speaks, in some measure, for itself. The character, by which the time is described, is of a fort to have been taken from the journals of the mariners themselves; for any second-hand writer of the voyage would have expressed it in a more popular manner, by affixing to it, as we see Arrian has done, a precise date, or a date at least pretending to precision, in some well-known civil reckoning. But if this character of the time of the commencement of the expedition came from the original journals of the mariners; it follows, that some two or three days before they failed, or two or three days after, (for in this fort of date no greater accuracy is to be expected,) they faw the Pleiades rifen in the east, some short space of time after the sun was fet in the west; or rather, fince the star could not be feen when the fun was yet upon the horizon, they faw the star about an hour after funfet with that altitude, that they concluded it had rifen at the moment when the fun fet.

We have to inquire, therefore, on what day of the year, in the year of this voyage, namely before Christ 326, the Pleiades rose acronychally in that part of the world, from which these voyagers set out; that is to say, at the mouth of the Indus. If this should be found to agree with Arrian's date, all will be well. If not, the phænomena of the Roman horizon in the time of Columella, even upon the supposition that Columella's representation of them is exact, will throw no light upon our subject.

Now I assume 24° north for the latitude of the mouth of the Indus. This is nearly the truth; and I take the even number, because the difference of one-half of a degree, more or less, will not affect the result of the calculation.

By Dr. Bradley's observations, the longitude of Lucida Pleiadum, in the beginning of the year 1760, was 8 26° 38′ 34″, and the latitude 4° 1′ 36″ north.

The interval of time, between the beginning of the year 1760 and the beginning of the year before Christ 326, is 2085 Julian years; and, in this time, the retrogradation of the equinoctial points amounts to 29° 7′ 55″.

Therefore, in the beginning of the year before Christ 326, the longitude of Lucida Pleiadum was γ 27° 30′ 39″, and the latitude 4° 1′ 36″ north.

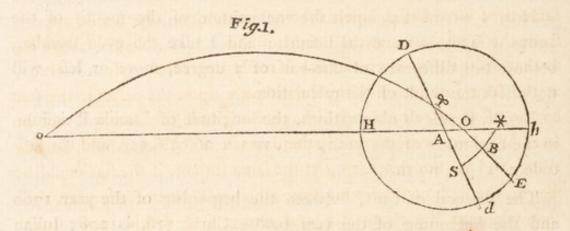
The obliquity of the ecliptic at this same time was 23° 44' 14".

In the figure annexed, let H A h, D A d, γ O E, represent the horizon, the equinoctial circle and the ecliptic, all projected upon the plane of the meridian of the mouth of the Indus, at the instant when Lucida Pleiadum is rifing. Let the ecliptic intersect the horizon, on the eastern side in O; and on the western, in o. Let * be

3 T 2 Lucida

Lucida Pleiadum upon the eastern horizon; then O will be the point of the ecliptic, which comes to the eastern horizon, and rifes with the star; and the opposite point in the west, o, will be the point of the ecliptic, which sets when the star rises.

Through * draw a great circle of latitude * B S, meeting the ecliptic in B, and the equinoctial in S. Then, in the spherical



triangle γ B S, we have the angle at B right. B γ S, the obliquity of the ecliptic, = 23° 44′ 14″; the fide γ B, the longitude of Lucida Pleiadum, = 27° 30′ 39″. Therefore, by the refolution of the triangle, we find the angle B S γ = 69° 4′ 57″, and the fide B S = 11° 28′ 56″.

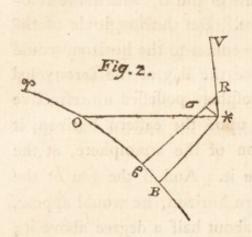
But the arc * B is the latitude of Lucida Pleiadum, = 4° 1' 36''; and * S = * B + B S = 15° 30' 32''. Therefore, in the fpherical triangle * S A, we have the fide * S = 15° 30' 32''; the angle * S A (or B S γ) = 69° 4' 57'', and the angle * A S, the complement of the latitude of the place, = 66° . Therefore, by the refolution of the triangle, we find the angle S * A = 43° 24' 29''.

Before we proceed further in the calculation it is proper to obferve, to fave unnecessary trouble, that it will not ferve our purpose

to afcertain the longitudes of the points O and o, which the refolution of one triangle more would give. But the longitude of the point o, which fets when the ftar really comes to the horizon, would give us only the day, which would be the day of the acronychal rifing of Lucida Pleiadum, if the atmosphere possessed no refractive power. But when the flar is really upon the eastern horizon, it appears, by the effect of the refraction of the atmosphere, at the height of about half a degree above it. And if the fun at the fame time were fetting upon the western horizon, he would appear, from the same cause, at the height of about half a degree above it; fo that on the day when the fun is really upon the western horizon, at the fame inftant when the ftar is really upon the eastern, the ftar by the effect of refraction will have rifen, and the fun will not be fet. What we want to find is the day when the star would be feen rifing, and the fun feen fetting at the fame instant, if the star could be feen in the light of the fetting fun; which will be an earlier day, than that whereon the rifing star and fetting fun would come to the eastern and western horizon respectively at the same time. To determine this day of the visible acronychal rising of the star, we must estimate the effect of refraction both upon the star and upon the fun. The effect of refraction upon the star will easily be afcertained by means of the angle S * A, the quantity of which we have already determined; and this is the only use of the calculation, so far as we have yet carried it.

In figure 2, let O *, O B, * B, represent the same arcs of the horizon, ecliptic, and circle of latitude passing through the star, as in the former figure.

Through

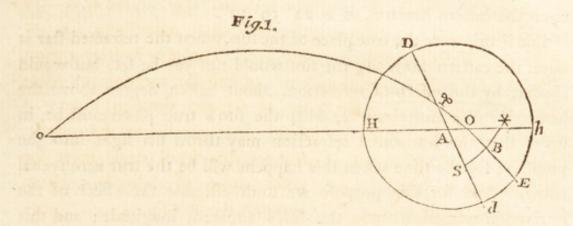


Through * draw a vertical circle *V, and fet off an arc * R = to the horizontal refraction, i. e. = 30' 51". Through R draw a great circle of latitude, meeting the ecliptic in \mathcal{E} ; and through * draw a fmall circle parallel to the ecliptic, and let this fmall circle meet the great circle of latitude, drawn through R, in σ .

Now fince the light of the rifing star upon the horizon is thrown, by the effect of refraction, up to R, in the vertical circle, so as to appear in the heavens in the point R; the star, which, without refraction, would be seen, where it really is, at the point * in the circle of latitude * B, appears at the point R in the circle of latitude R \mathcal{E} . Both the latitude and longitude, therefore, of the star are changed in appearance by refraction; the latitude being increased by the quantity of the arc R σ , and the longitude diminished by B \mathcal{E} .

In the triangle * R σ , right-angled at σ , which for the smallness of its sides may be treated as a rectilinear triangle, the side * R = 30'51''; the angle R * σ , which with σ * 0 makes a right angle, must be equal to 0 * B (A * S of Figure 1.), which with the same σ * 0 makes a right angle; therefore, R * σ = 43° 24' 29". Therefore, by the resolution of the triangle, the side R σ = 21' 12", and the side * σ = 22' 24". This is the length of * σ in parts of a great circle; whence B & will be found 22' 28". Hence R &, the apparent latitude of the refracted star, = R σ + σ & = 4° 22' 48", and σ &, its apparent longitude, = σ B—B & = σ 27° 8' 11".

Now



Now then, in Figure 1, we must resume the resolution of the triangles, making use of the star's apparent longitude and latitude, instead of the true. Thus in the spherical γ BS, which is right-angled at B, put γ B = 27° 8′ 11″; the angle B γ S, 23° 44′ 14″ as before. Then, by the resolution of the triangle, the angle BS γ = 69° 0′ 30″, and the side BS = 11° 20′ 29″.

But * B is to be taken as the stars refracted latitude, = 4° 22'48"; and * S = S B + B S = 15° 43' 17". Therefore, in the spherical triangle * S A, we have the side * S = 15° 43' 17"; the angle * S A = 69° o' 30", and the angle * A S, the complement of the latitude of the place, = 66° . Therefore, resolving the triangle, we find the angle S * A = $43^{\circ}29'$ 34".

Then in the spherical triangle * B o, which is right angled at B, we have the angle B * o (S * A) = $43^{\circ} 29' 34''$; and the side * B, the star's refracted latitude, = $4^{\circ} 22' 48''$. Whence, resolving the triangle, we find the side O B = $4^{\circ} 8' 39''$.

Now γ B, the apparent longitude of the refracted flar, = 27° 8′ 11′; and we have found O B = 4° 8′ 39″. Therefore, γ O = γ B — O B = 22° 59′ 32′; and this is the longitude of that point of the ecliptic, which comes to the eastern horizon, at the same instant of time, with the refracted light of the star.

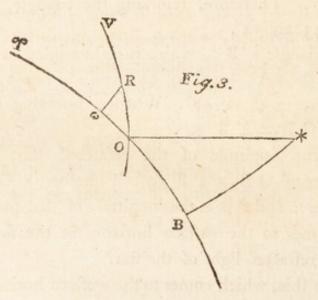
The point o opposite to this, which comes to the western horizon,

at the same instant of time, when the refracted light of the star is upon the eastern horizon, is \(\text{22}^{\circ} 59' 32''. \)

But if this were the true place of the fun, when the refracted star is upon the eastern horizon; the sun would not yet be set, but would appear, by the effect of refraction, about half a degree above the horizon. We must inquire, what the sun's true place must be, in order that the horizontal refraction may throw his light into the point o; for the time when this happens will be the true acronychal rising. And for this purpose we must estimate the effect of the horizontal refraction upon the sun's apparent longitude; and this depends upon the angle which the ecliptic, at sun-rise or sun-set, makes with the horizon; that is upon the angle γ O A (Figure 1.) or its equal * O B.

The angle * O B is easily found, by resolving the spherical triangle * O B, in which the angle at B is a right angle; the angle B * O = 43° 29' 34'', and the side * B = 4° 22' 48''. Hence the angle * O B comes out 46° 39' 57''.

Now, to avoid confusion, draw the spherical triangle O * B by itself in Figure 3. Through O draw a vertical circle O V, and



take the arc O R = horizontal refraction = 30′ 51″. Through R draw a great circle of latitude, and let it meet the ecliptic in the point ω.

Then, if the fun be upon the horizon at O, the horizontal refraction will throw his light up to R, and in that point he will appear in the heavens. He will appear

at R upon the circle of latitude R ω ; ω will be his apparent place in the ecliptic; and the arc of the ecliptic, O ω , will be the difference between his true and his apparent place; or the effect of the horizontal refraction upon his apparent longitude.

In the triangle R o w, which, for the smallness of its sides, may be treated as a rectilinear triangle, the angle at ω is a right angle. The angle RO w, being the complement of * O B, is 43° 20' 3". Hence O w comes out 22' 26"; and this, as has been faid, is the effect of the horizontal refraction upon the rifing fun's apparent longitude, his true place being O, in the latitude of 24° north. And the fame will be the quantity of the effect upon the fetting fun; in the oppofite point of the ecliptic o, in the fame latitude; for the quantity of the effect in any given latitude, upon the rifing fun, in any given point of the ecliptic, and of the effect upon the fetting fun in the opposite point of the ecliptic, will be the same; the angle which the ecliptic in opposite points makes with the horizon, upon which the effect depends, being equal: but the effect lies, in the two cases, in opposite directions; the refraction making the apparent longitude of the rifing fun west of his true place, and the apparent longitude of the fetting fun east of his true place.

Hence, that refraction might throw the light of the fun to the point o in the western horizon, at the same instant of time when refraction brought the light of Lucida Pleiadum to the eastern horizon, in the climate in question, we must put the sun's true place 22' 26" west of the point o.

The point o has been found to be $22^{\circ}59'32''$; therefore the sun's true place, in order that the required effect should be produced, must have been $22^{\circ}37'6''$. By an accurate calculation of the motions of the sun, (by Mayer's Tables,) I find that, in the year before Christ 326, he came to this place October 19, 10hrs 25'9"

St.

St. Jul. mean time under the meridian of Greenwich: but to this, to be exact, we must apply a correction for the effect of the precession upon the longitude of Lucida Pleiadum, in the interval between the commencement of the year and October 19th, (since the sun's place is deduced from the longitude of the star,) + 16"; add also 4'36", for the difference between the meridians of Greenwich and the mouth of the Indus, and we have October 19th, 15hrs 17' mean time under the meridian of the mouth of the Indus.

The 19th of October (St. Jul.) therefore was the day of the acronychal rifing of Lucida Pleiadum, upon the horizon of the mouth of the Indus, in the year before Christ 326, i. e. in the year of the Julian period 4388.

It may perhaps strike you as a difficulty, that the time that our calculation gives for the appulse of the sun to the required place, falling between three and four o'clock in the morning of the 20th, under the meridian of the mouth of the Indus, the sun was actually set on the 19th many hours before he came to that point of the ecliptic, which would have made a precise acronychal rising of the star, had the instant of the sun's appulse, in his annual course, to that point coincided with the instant of sunset: but this not being the case, you may wonder how we can say there was an acronychal rising at all.

Now this is really the fact; that, speaking with geometrical precision, there was in this year no day of an exact acronychal rising of Lucida Pleiadum; and it very seldom happens, that there is an exact acronychal rising of any star at any place, if we insist upon this strict sense of the words; because it very seldom happens, that the instant of the sun's appulse to the required point in the ecliptic, and the instant of sunset, are the same. They may differ several hours; and the same thing happens in the cosmical and heliacal risings

the rifings and fettings; nevertheless, there will always be a day, when the rifing will be nearer to acronychal, than in any other. And this, physically speaking, is the day of the acronychal rifing; and, in our case, the 19th was that day; for on the 19th the sun, at the hour of sunset, was 24' 45" of longitude behind the required place. On the 20th, at the hour of sunset, he was 35' 58" before it; so that the setting sun was much nearer to the required place on the 19th than the 20th.

I fear you will find the accuracy, with which I have purfued these calculations, tedious; but I have chosen to give them in detail, that they may be the more easily examined. I have been diffuse upon the refractions, because the effect of refraction upon the longitude and latitude of celestial objects, though a matter of no difficulty to mathematicians, is not generally understood; and yet is very intelligible, if those who are masters of it would take the trouble to explain it.

The 19th of October (St. Jul.) you see was the day of the acronychal rising of Lucida Pleiadum at the mouth of the Indus, in the year of our voyage. The voyage commenced, according to Arrian, on the 20th of Boëdromion (for that he gives as the very day on which the fleet sailed), and the 20th of Boëdromion in that year, you reckon, with Dodwell, the 1st of October; and in this reckoning there can be no material error.

I have never examined Dodwell's Tables of the Metonic Cycles. I make use of a very compendious Table of my own, by which I can, in a very sew minutes, ascertain, on what day of the Julian year the 1st of Hecatombæon, in any given year of any given Metonic Cycle, fell, according to the principles upon which my Table is formed. And the 1st of Hecatombæon, i. e. the beginning of the year, being once determined, the whole year is easily reduced to the Julian

reckoning, by a general Table of the Cycle. In the principles upon which my Table is formed, I agree not entirely either with Scaliger or Petavius. In the order of the months, I agree with Scaliger. I agree with Scaliger in the epoch of the first Cycle; placing it on the 15th of July, not on the 16th with Petavius. I place the Embolimæan month in the 3d, 6th, 9th, 11th, 14th, 17th, and 19th years of the Cycle: in which I agree entirely with Petavius, except in the third Embolism, which he (with Scaliger and Dodwell) places on the 8th year of the Cycle. I put it in the 9th; dissenting, I confess, in this from every one. In the arrangement of the exæresimal days, I follow the very best authority I know, that of the learned astronomer Geminus.

Now the year of the voyage in question was the year of the Julian period 4388; it was therefore the 107th Metonic year; that is, the 12th year of the 6th Cycle. That is to fay, five Cycles were completely run out, fince the first introduction of this 19-year period, and the 12th year of the 6th Cycle was in its course. And I find by my own Tables, that the 1st of Hecatombæon, in the 12th year of the 6th Cycle, fell on the 15th of July (St. Jul.). Add 29 days (for the Hecatombæon of this year was a hollow month), and we come to the 1st of Metageitnion, on the 13th of August. Add 30 days (for Metageitnion of this year was a full month), and we come to the 1st of Boëdromion, on the 12th of September. The 12th of September being the 1st of Boëdromion, the 1st of October ought to be the 20th of Boëdromion. But Boedromion in this year was a hollow month, and the exærefimal day came before the 20th, being the 18th; therefore the 30th. of September was the day which, according to my principles, was counted the 20th of Boëdromion in this year.

By Scaliger's principles, the 20th of this Boëdromion will fall on the very same day, the 30th of September. By Petavius's, one day later, namely on the 1st of October.

It is certain, therefore, that on one of these two days, either the 30th of September or the 1st of October, Nearchus sailed from the mouth of the Indus, according to Arrian; consequently, he had been eighteen or nineteen days at sea, before the day came of the acronychal rising of Lucida Pleiadum; taking acronychal rising strictly, according to the mathematical definition of the terms. It is true, that Strabo's words import not that the fleet sailed on the very day, but at the season only, of the acronychal rising of the Pleiades; but yet eighteen or nineteen days seemed too great a difference to admit even this lax description of the time. I was at first, therefore, inclined to suspectural emendation; but the severe test of a strict calculation compelled me to discard it.

After various conjectures, and many long calculations, I am entirely perfuaded, that Mr. Wales's very ingenious conjecture, by which he reconciles his calculation of the acronychal rifing of the Pleiades at Rome, in the year of our Lord 42, with Columella's date, is the only folution, and the true folution of the difficulty. The perfect agreement that it will produce between Arrian and Strabo, in the time of Nearchus's failing, is indeed aftonishing.

Mr. Wales observes, that the exact acronychal rising of a star is never visible, on account of the sun's light; but it is equally true, that the rising of the star for several evenings before the day of the acronychal rising will not be visible: for the sun must not only be set, but he must be set and sunk to a certain distance below the horizon, for the twilight to be sufficiently faint to allow the fixed stars to appear. Suppose then, that on a certain day, no matter what, the

fun is funk fomewhat below that distance, when a particular star is upon the eastern horizon; on that evening, if the sky be clear, the rising of the star may be observed. Suppose, that the next night the sun is not sunk quite to the required distance, when the same star is upon the eastern horizon: then the rising of the star will not be visible; and when the star becomes visible, it will be seen at some small distance above the horizon: the next night, it will be at a greater height above the horizon, when it is first seen; the third, a greater still; and, on the evening of true acronychal rising, the star will have gained a very considerable height, when it is first seen. It certainly was very natural (and it was the only way for popular use) for the ancients to call that the evening of the acronychal rising, on which they first missed the sight of the rising star.

The distance below the horizon, to which the sun must be funk when a ftar first becomes visible, is different according to the magnitude of the flar. Lucida Pleiadum is a flar of the third magnitude; and Ptolemy fays, that stars of the third magnitude first become visible when the sun is sunk 14° below the horizon. Now I find by calculation, that in the year of the Voyage (of the Julian period 4388), when the fun was 14° below the western horizon, at the fame inftant of time when Lucida Pleiadum came to the eastern horizon, his true place must have been = 3° 33' 56"; and he came to this place in that year, September 30, 12 hrs 59' (St. Jul.) mean time under the meridian of Greenwich. Apply, as before, the proper correction for the effect of the precession upon the longitude of Lucida Pleiadum, namely + 15', and we have September 30, 13hrs 14' mean time under the meridian of Greenwich. Add 4hrs 36', and we have September 30, 17hrs 50' mean time under the meridian of the mouth of the Indus; which, as we in our civil reckoning divide the day, was 10' before fix in the morning of the 1st of October.

On the evening, therefore, of the 30th of September, the fun (fetting in that latitude about 5 hrs 57' 26", apparent time after noon) would be many minutes more than 14° below the horizon, when Lucida Pleiadum was rifing. The rifing of the flar, therefore, that evening might be feen a minute or two later than 1hr o' 24" after funfet; but the next evening, the 1st of October, the fun would be only 13° 37' 15" below the horizon, when the flar was rifing, wanting 22' 45" of the full depression of 14°. This evening, therefore, the star could not be feen upon the horizon. But as the fun funk at the rate of 13' 40" in 1' of time, he would fink to the limit of 14° in 1' 40" of time after the inftant of the star's rising: and as the star rises in the latitude of 24° north, at the rate of 13' 11" in 1' of time, the ftar, Ihr o' 24" after funfet, and I' 40" after the moment of its own rifing, would break through the expiring twilight with the apparent altitude of 21' 58" (I fay with the apparent altitude, for the effect of refraction upon the star is included in these calculations). This altitude is very fenfible to the naked eye, being fcarce less than ; of the whole diameter of the fun: but the next evening (Oct. 2d) would certainly put the matter out of doubt; for, on the 2d of October, the star, at the same distance of time after sunset, would break through the remains of the twilight, with the very fenfible altitude of 1° 2' 48" at the moment of its first apparition. Whence our mariners would conclude, that the fenfible acronychifm was past. It appears, therefore, that what these mariners would call the acronychal rifing of the Pleiades, took place either on the very day the fleet failed, or the next, or, at the latest, the next day but. one.

Thus, by a train of calculations of confiderable length and labour, but of the greatest certainty, and pursued with the most ferupulous accuracy, by the help of Mr. Wales's suggestion, the ingenuity

ingenuity of which I cannot fufficiently admire, we have brought the two accounts of Strabo and Arrian to a perfect good agreement.

I congratulate you and myself upon the success of the investigation, and remain,

DEAR SIR,

Your very faithful friend and obedient fervant,

DEANERY, June 6, 1796. S. ROCHESTER.

P. S. You will perhaps suspect that I have committed a mistake in the very entrance upon these calculations, by reckoning the interval between the commencement of the year before our Lord 326 and the commencement of the year of our Lord 1760, no more than 2085 Julian years, whereas you may think it was 2086. The truth however is, that, through carelessness, I fell into the opposite mistake; I reckoned the interval 2086 Julian years instead of 2085; and, by this inadvertency, I gave myself the trouble of going through the whole calculation from beginning to end a second time, and of correcting all my numbers; though the error accruing from this over-reckoning of that interval, might well have been neglected in this investigation.

To understand how it is that the lesser is the true interval, you must know that it is the uniform error of chronologers, reckoning by the æra of our Lord, to reckon the years before our Lord too many by one. The year which chronologers call the year before Christ 326, was the year of the Julian period 4388, as you may see by turning to Blair's Tables, Petavius, or Usher. The year of our Lord 1760 was the year of the Julian period 6473; the in-

terval, therefore, is 2085 Julian years. The reckoning by the æra of our Lord, when we have to do with time antecedent to the æra, is feldom conducted with precision but in astronomical tables. If you turn to Mayer's Tables, you will find there, in the first page of the Epochs of the Sun's Motions (p. 6.), and again in the first page of the Moon's Epochs (p. 36.), a year of Christ, o; and it appears by the epochs afcribed to this year of Christ, o, that it is the year of the Julian period 4713. Now, the year of the Julian period 4713, chronologers call, as you will fee again by their tables, the year before Christ 1; at the same time they call the next succeeding year of the Julian period, viz. 4714, the year after Christ 1; and by this inaccuracy of their language, they in effect represent the interval between any numerical day of the year 4713 of the period (the 1st of March for instance) and the same numerical day of the very next year of the period, as confisting of two whole years instead of one.

Since I finished my calculations I have, almost accidentally, met with what I deem a strong confirmation of the accuracy of the conclusion to which they have brought us. In Archbishop Usher's Ephemeris of the Macedonian year, I find this entry against the 8th day of the month Dius. " Euctemoni vespertinæ apparent Pleiades." The 8th of the month Dius, according to Usher's reduction of the Macedonian year, was the 1st of October (St. Jul.). Euctemon the aftronomer is mentioned by Ptolemy as Meton's affiftant, in the obfervation of the fummer folftice. He flourished, therefore, in Greece, about a century earlier than the time of this expedition.

I imagine that Archbishop Usher took this date of Euctemon's evening rifing of the Pleiades from Geminus, reducing Geminus's date to the Macedonian year; for in Geminus's parapegm 3 X

which he gives in the 16th chapter of his Isagoge, I find this entry:

Τον δε ζυγον διαπορέυεται ο ήλιος εν ήμεραις λ. And a few lines lower,

Έν δὲ τῆ Ε Ευκημονι Πλειάδες εσωέριαι Φαίνονται έκ τε πρὸς έω.

The numeral E denotes the 5th day of the fun in Libra. The fun entered Libra, according to Euctemon and Meton, September 27th; his 5th day in Libra, therefore, was October 1, the 8th of Usher's Dius.

On the 5th day of the sun's passage through the sign of Libra, he was in the 5th degree of Libra according to the mean motions; and the prosthaphæresis at this time being 1° 38′, with the negative sign, his true place was in the third degree of Libra. And this again agrees wonderfully with my calculations.

Had you had the ill luck to confult Usher's Ephemeris, or Geminus's, instead of Columella, you would not have proposed this question to Wales or me; for you would have taken it for granted, that Strabo and Arriana greed. Had either he, or I, consulted them before we calculated, we perhaps should not have engaged in the labour of these calculations. We should have advised you to follow Euctemon, without regard to Columella describing the phænomena of another climate in another age; but then we should not have discovered what Wales has conjectured, and my calculations, I think, put out of doubt; that when the ancients speak of acronychal risings, they are to be understood of the sensible acronychism: and this is a principle which may prevent many mistakes in deducing conclusions in chronology from these astronomical characters of time which the ancients used.

NOTE

NOTE on the small STADIUM of ARISTOTLE, p. 52.

By the Right Rev. Dr. HORSLEY, Lord Bishop of Rochester.

CIRCUMFERENCE of the earth, according to Eratosthenes, = 252,000 stadia; Aristotle, = 400,000 stadia; therefore Aristotle's stadium to the stadium of Eratosthenes as 252 to 400, that is, as 5 to 8 very nearly. This is a much more exact proportion than that of 4 to 7; for the proportion of 4 to 7 makes Eratosthenes's stadium too large by almost $\frac{1}{9}$; whereas the proportion of 5 to 8 makes it too large by no more than $\frac{1}{124}$.

Proportion of Roman foot to London foot 97:100: hence Roman foot = 11,64 inches; passus (5 feet) = 4 feet 10,2 inches, London measure; milliare (1000 passus) = 7 surlongs 76 yards 2 feet, or 4850 feet London measure.

Call the Roman passus P, milliare M, Olympic stadium S.

Now (by Polybius as quoted by Strabo) $M = 8 \Sigma + \frac{1}{3} \Sigma$.

Hence 125 P $\left(=\frac{1}{8}M\right) = \Sigma + \frac{1}{24}\Sigma = \frac{25}{24}\Sigma$.

Hence 5 P = $\frac{1}{2\pi}$ Σ ; and 120 P = Σ .

Hence Σ, or Olympic stadium, = 582 feet London, or 194 yards. or Olympic stadium, = 0,110227'27' miles London.

8:5 = 0,110227'27':0,0688920'45'45'.

Hence Aristotle's stadium = 0,068892045'45' miles London.

Hence

				Aristotle's Stadium.		M	Mites London.	
Hence from	Jamad to Me	outh of	Indus,	=	10000	=	689	
	Coast of Ara	bitæ,	-	=	1000	=	68,9	
	Oritæ,	-	-	=	1600	=	110,24	
	Ichyophagi,	-	-	=	10000	=	689	
	Karmania,	-	-	=	3700		254,93	
	Perfis,	-	-	=	4700	=	323,83	
and the fall			Total	t ,	31000	=	2135,90	

Hence, by reduction of the Greek measures, the whole distance should be 2135,9 miles London; which, however, if the decimals had been more exactly computed, would have been 2135,65 miles London: for $0.068892 \times 31000 = 2135.652$, the actual measurement by the moderns, gives 1908 miles; the difference is 227,65 miles London, or $\frac{10}{34}$ ths of the whole distance.

But if 8 Olympic stadia were exactly a Roman mile, and Polybius's addition of \$\frac{1}{3}\$ of a stadium was an error of his, arising from the difference between the Roman and the Olympic stadium was 606,25 feet London, or 0,1147774 miles London, and Aristotle's stadium will be 0,0717359 miles London, and the whole distance will be 0,0717359 \times 31000 = 2223,8 miles London, which makes the difference between the ancient and modern measures still greater; and this makes it probable that Polybius's estimation of the stadium was right.

It is to be remarked by the way, that if this estimation was right, the opinion which has so generally and so long prevailed of a difference between the Greek and the Roman soot, making the former greater than the latter, in the proportion of 25 to 24, must be erroneous. It seems to have been current

among the Romans themselves, but it must have been founded on a gross estimation of the length of the Olympic stadium. The Romans, in their popular valuation of the Greek measures, would be apt to reckon eight Olympic stadia to be exactly equal to their own mile, taking no account of the fraction mentioned by Polybius. Hence they would infer, that the Olympic stadium was 125 Roman passus, i. e. 625 Roman feet, which is, indeed, the length expressly affigned to it by Pliny. But it was very well known, that this ftadium was but 600 of its own feet. It was concluded, therefore, that 600 Greek feet make 625 Roman, whence the confequence would be, that the Greek foot was to the Roman as 625 to 600, that is, as 25 to 24. But if the Roman mile actually was, what Polybius reckons it, i of a stadium more than eight stadia, the length of the stadium turns out exactly 120 Roman passus, or 600 Roman feet. And fince it was also 600 Greek feet, the Greek and the Roman foot must have been the very same.

DISSERTATION II.

On the FIRST MERIDIAN of PTOLEMY.

By M. de la ROCHETTE.

will try to answer in the following manner. If Ptolemy had determined the meridian of Londinium by the difference of time between that place and the meridian of Alexandria, as it is believed by Maginus and some others, I do not know how we could be justified in the reduction of his longitude, or, which is the same thing, in the augmentation of his degree; but these horary differences have been deduced from the graduation itself, which is the result only of itinerary distances shortened beyond measure by Ptolemy, in order to bring all the places within his stereographic projection; thence his degree of a great circle contains a fifth less of stadia than it ought to contain, viz. 500 instead of 600.

In his first Map of Europe, Ptolemy places London 20 degrees to the east of the Fortunate Islands. In the account of the most remarkable places where celestial observations are supposed to have been made, the horary difference between London and Alexandria is 2 hours 40 minutes, or 40 degrees. Now, as Alexandria is 4 hours distant from the Fortunate Islands, the same longitude of 20 degrees east of these isles is again found for the meridian of London.

Longitude

Longitude of London from Forms according 2	0	,	11	
Longitude of London from Ferro, according to Ptolemy,	20	0	0	
According to Dr. Maskelyne's Tables,				
Error of Ptolemy,	2	19	47	
Longitude of London from Alexandria ac. 3	0	,	. 11	
Longitude of London from Alexandria, ac-	40	0	0	
According to the connoissance des temps, -				
Error of Ptolemy,	9	43	51	
Which ought to be, follow the editions which place Alexandria in 40			51	if you

Ptolemy places the Civitas Parisiorum, vel Lucotecia, in 23° 30' from the Fortunate Isles, or 3° 30' east of London, instead of 2° 25' 37" (Maskelyne's difference of longitude between the two places). Now if we decrease by a fifth the difference expressed in the Alexandrian Geographer, we shall have 42' to deduct, which will bring that interval to 2° 48', or pretty near the true one. This I look upon as the longitude really assigned by Ptolemy between London and Paris.

The same operation made in respect to the longitude of London from Ferro, or the Fortunate Isles, will bring London to 16° instead of 17° 40′ 13″, and then the error is only 1° 40′ 13″. The distance between the meridians of London and Alexandria is also reduced by that means to 32°, and the error in that immense space becomes less than 2°.

The

The maps of Ptolemy, constructed upon the principle of his short degree, have given the Mediterranean an extent of about 20° of longitude more than it ought to have, when in reality the author has not exceeded the true length by 4°, or thereabout. This enormous disfiguration was followed and improved during 14 centuries. At last, the learned Gassendi (in the middle of the last century) wrote against such an absurdity; and, some years after, Guillaume de Lisle gave us a Mediterranean only 860 leagues long instead of 1160, which that sea had always before that remarkable zera.

ADDITIONAL NOTES.

Page 153. Note 239.

AS Bundar-Lari on the eastern branch of the Indus, and Lari-bundar on the western, appear to form a distinction in European accounts only, may it not be conjectured that both have a reference to Lari, or Loheri, a town belonging to the Doo-ab of Behker? and that Bundar, expressing a port, may be common to both branches, one forming the eastern port of Loheri and the other the western? Loheri is either the same as Tekier, or else a place somewhat lower than Tekier, at the bottom of the Doo-ab of Behker, as Sekier, written Sucker, Sungar, and Sengueré, is at the top. This likewise affords ground for conjecture, that the Nulla Sunkra, or Sengueré, the eastern channel, may assume its name from conducting the navigation to Sunkra, Suckor, or Sekier.

Page 276. Note 270.

In the History of the Discovery of India, by Manuel de Faria y Sousa (English edition 1694, vol. i. p. 27.), it appears, that previous to Gama's expedition, Peter de Covillam and Alsonso de Payva had been sent to Alexandria; and that Covillam had passed by the Red Sea to the coast of Malabar, who, though he never returned himself (being detained in Abyssinia), yet sent an account of his discoveries by Lamego, a Jew, to the Court of Lisbon. This is worthy of remark, as it proves that the Portuguese pursued the discovery of India by the route first designed by Alexander, accomplished

plished by the Ptolemies, completed by the Romans, and continued by the Arabian khalifs and foldans of Egypt. It was the trade of the Venetians to Alexandria, that the Portuguese were endeavouring to rival, and finally destroyed by the discovery of the passage round the Cape of Good Hope.

Page 478.

Upon the distances of Icarus and Tylos it is to be remarked, that the account is taken, not from the Journal of Nearchus, but from Ptolemy and Aristobulus; it is possible, therefore, that both these authors reckoned by the Olympian stadium, and not the short stadium of Nearchus. If this conjecture be allowable, it will double the distance of both islands, bringing Icarus not far from its true position, and giving the distance to Tylos correctly.

THE END.

ERRATA.

Page 24. line 23. for Hydrastes read Hydraotes. 34. note 70, line 1. for opa 97 read boar 97. 45. line 3. for scite read site passim. 48. — 14. for Plolemy read Ptolemy.
51. — 12. for Krocala read Krokala paffim.
69. note 4, line 2. for Kuttriri read Kutteri. 81. line 3d from the bottom, for A-chen-ifes read A-khen-ifes. 97. - 16. for plain read plane. 123. - 3d from the bottom, for th read the. ibid. note 159, line 2. for in read is. 141, line 18, for in read into. 142. - 10. for rains read ruins. 145. - 7. for Gedrofia read Gadrofia. 183. - 3d from the bottom, for Mr. Rennell read Major Rennell paffins. 219. note 142, col. 2. line 3. for witten read written. 228. line 2d from the bottom, for and from Ferro read add from Ferro. 240. - 22. for Kidge . . Kidge read Kié . . Kié. 256. note 230, line 2, for the yn read the yn,.
275. line 4. for to eastward read to the eastward. 278. note 279, line 5th from the bottom, for more than half a degree read near a degree. 281. line 9. for thought his read though this. 311. note 77, line 7. for Bedouar read Bedouar. 320. note 100, line ult. for Bahr-ain read Bahr-ein paffim. 328. line 12. for of Baffidu read off Baffidu. 354. — 14. for latitude 28° 4' . . 30° 6' read latitude 21° 54' . . 35° 15'358. — 4. for Shiras read Shiraz paffim.
ibid. — 15. after capital of the province add in Timour's age. 386. *note 322, line 2. for ingenious read ingenuous. 422. line 5. for orthogrophy read orthography. 434. note 487, line 1. for orininates read originates. 462. line 17. for the Separate narrative read the narrative.

An error which affects the feries of days occurs p. 36, wherel the date assumed is October 2 instead of October 1. This is accounted for, and corrected p. 495, Appendix.

There are likewise some oversights in regard to punctuation.

DIRECTIONS to the BOOKBINDER.

Place the Head of ALEXANDER to front the Title-page.

[N. B. This Head is engraved from a Macedoni coin of the age of Severus, and is believed to be a copy from a buft of Alexa d. It is remarkable that Alexander's own coins do not bear his image, for his gold coins have the head of Minerva, and his filver the head of Hercules.]

This coin is of brafs, and forms part of the valuable collection of the late Dr. Hunter; the engraving was taken by the permission of Dr. Combe, for which favour he is requested to accept the best thanks of the Author.

Inscription on the front—--ALEXANDER.
on the reverse—The Commonwealth of Macedon.

The letters B. N. E. intimate, that Macedon was one of the Roman provinces styled Neocoræ; that is, had the privilege of being allowed to erect a temple in honour of one of the Roman Emperors. Those provinces, which had this privilege repeated, marked it by a B. Vaillant. Numismat. Græc. p. 216. Dr. Combe.

The fentence under the medallion is from Quint. Curtius, Book ix. c. 6.

MAPS and CHARTS.

- I. General Map from d'Anville-to front Book I.
- II. Map; fketch of the Indus-to front Book II.
- III. Two Charts.

Chart N° I. by Mr. Dalrymple, of the coast of Mekran, from the Indus to the Gulph of Persia—to front Book III.

Chart N° II. by Mr. Dalrymple, of the Gulph of Perfia—to front Book IV.

[N. B. These two Charts are from actual surveys of Commodore Robinson, Lieutenants Porter, Blair, M'Cluer, Mascall, &c. with the ancient names added.]

- IV. Sketch by Captain Blair-to front p. 253.
- V. Map of the Euphrates, Tigris, Sufiana, &c .- to front the Sequel.

