APERIAM TERRAS GENTIBUS.
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 AGRIMONIAL RISING of the Pleiades,
By the Right Reverend Dr. SAMUEL HORSELY, 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 ROCHELLE,
On the First Meridian of Ptolemy.


LONDON:
Printed for T. Cadell jun. and W. Davies (Successors to Mr. Cadell) in the Strand.
PREFACE.

I t 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. Horlsey, 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 few attempts
tempts I have made upon Arabic etymology, and con-
tinued a still greater favour by introducing me to a cor-
respondence with Mr. Niebuhr, the best of modern tra-
vellers surviving. The information I received from him, in-
deed, related more immediately to another object than the one before us; but as a future opportunity may not o-
er, I seize the present with avidity to own my obli-
gations. By Mr. Bryant I was favoured 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 consulted upon all occasions, and if I have not profited by personal inter-
course, the fault is mine. His civilities will not be erased from my mind; but I found 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
PREFACE.

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

From Mr. Jones, Resident for the Company at Bushire and Basra, I obtained much information in the space of a short interview; but he left 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. M'cull, 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 prefaces 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 consulted 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 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 Jaff, which solves a geographical question left in obscurity by the ancient writers; and, previously to this attempt, undecided by the moderns.

The second 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'Cruer, another officer in the service of the East India Company,

Much will be said 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."

* The chart of the Gulph of Persia, by Lieutenant M'Cruer, was not a public fursey, but the meritorious operation of an individual during the moments he could allot without neglect of the common duties of an officer in the different vessels in which he served. It shows how much may be done in common voyages where diligence and ability are not wanting. Lieutenant M'Cruer had adopted a wild scheme of passing his days at the Pelter Islands, but has now abandoned it, and the Public may still hope for much nautical service from him. — Note by Mr. Dalrymple.
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 so perfectly delineated, as by the hand of Mr. Dalrymple. Mr. d’Anville has laboured this point in an express Mémoir upon the subject, to the full extent of that geographical learning of which he was so eminently possessed; 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 Euæus, Mr. d’Anville has been misled, from want of materials which have since been supplied by the publications of Niebuhr, and the investigation of our English navigators. To their labours Mr. Dalrymple is indebted for his singular accuracy, and I have had the satisfaction to find that Arrian is more consistent in proportion to every new light that has been obtained upon the subject.

III. With such assistance 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 source of information I could discover; 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 Reffende in the British Museum is hardly legible, except to a native. I collected some positions from the charts and drawings in that work, in which the coast of Mekran is better laid down than in any I have seen 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 searched in vain; and Osorius, whom Dr. Robertson quotes with respect, I examined, but found his period was too early to avail me.

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

* A few names occur in de Barros Ramuño's Collection, tom. i. p. 388; and I have likewise examined the English translations of Manuel de Faria y Souza (1695), and of Hernan Lopez de Cienfuega (1582), with little success. Souza mentions Reffende, vol. ii. p. 294, and the plundering of Guadel by the Portuguese, p. 373. It appears from another part of his work also, vol. iii. p. 416, that the coast of Guadel and Sine were a part of the Portuguese settlements. Texeira I have not met with in English, though I am told there is a translation of his 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 fleet, 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 information.

* In Harris's Collection, vol. 1. p. 499.
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 fixed 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 visit 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
singularity or affectation, but to principle; for I have discovered several relations by contemplating the native sounds of Greek orthography, and many more I am persuaded will occur to those who pursue their inquiries in the country. I write, for instance, Killoota, not Cillutta, because the latter comes to our ear, Silleuta; and the former is the true sound 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 Gadrosia. 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 Buiheer and Bombareek, as known to every English navigator, rather than Abu-
Schelir and Cohum-barick, which Niebuhr pronounces to be the Oriental orthography. I agree; however, most cordially with Mr. Dalrympe, in allowing that every variation should be preserved till some established mode shall be fixed; and in no one instance can this fluctuation be more fully exemplified, than in the expression of the Persian * Kaf. This letter our English navigators enounce as the soft G, writing Gidda or Jidda; but Michaelis affirms, that in the neighborhood of the Gulph of Persia it is uttered like Tch, and Niebuhr* writes Dsj, as Dsjebra for Gesira. Even in Oriental fluctuation 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

* Mr. Niebuhr's orthography of this word is liable to objection, for Bunder-regh he writes Bunder-regh, and regh is hard.
* Michaelis Extrait de Niebuhr, p. 10. Aux Environs du Golfe Persique on prononce قAf comme Tch.
* J'ai déjà remarqué ... qu'il est difficile de bien orthographier dans la propre langue, mais plus difficile encore dans une langue étrangère, ... c'est ce que je dis en juge que j'avais quelquefois orthographié tout différemment les noms des mêmes villages, suivant la prononciation de différents personnes. Niebuhr. Voyage, tome 1, p. 37. A msterdam, edit.
* And p. 34. Or si un écrivain Arabe a écrit différemment les mêmes noms, d'après la prononciation de plusieurs de ses compatriotes, je croyant ce que j'ai fait pas mauvais gêne, ... que je n'ai pas vu même les noms en caractères Arabes.

After their confessions, who can affect 

* Michaelis writes D'chiida; Niebuhr, Dsjida, for our English Jida.
* Ni les Grècs ni les Latins connaissent la façon de fid en Allemand. Extrait, p. 31.

Dsjenk.
Dsjenk into Kienk, Kenk, and Chienk; under another
form, by adhering to the D, it drops the sj, and be-
comes 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 source of variation, (and numerous others that
are attendant upon other letters,) surely Michaelis con-
fines etymology within bounds far too narrow, when he
insists upon the appearance of individual letters to es-
tablish 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 sound is familiar? It is by the ear only we find
that, with the addition of a syllable, it is Nabuchodo-
nozer, the Nebuchadnezzar of the Scriptures. I wish
not, however, to display the parade of research on this
subject, for I have ventured little on etymology; if I
escape from reprehension on the score of orthography***,
it is sufficient.

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

** Otter, tom. i. p. 192. So the Eng-
lisht write Ser-po-jre for the Maharra name
Surza-botchi.

*** See on this subject, Ludolphus Abyd-
ian, book iv. c. i.
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.

"Minute as I must sometimes appear, 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 Francois 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 censure; but it is the taste of the reader which must decide."
THE VOYAGE OF NEARCHUS.

BOOK I.

PRELIMINARY DISCUSSIONS.

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. Defence of the Authenticity of the Journal.

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 foundation 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 assert, that it presents to an unprejudiced mind every internal evidence of fidelity and truth.

It has been the peculiar felicity of Arrian to rise 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 superfluous: 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 inserted in Dr. Campbell’s edition of that work.
PRELIMINARY DISQUISITIONS.

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 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 reserve; 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 confidence for the solution of every difficulty.

1 Major Rennell, in his Memoir accompanying his Map of Hindoostan.
2 Mr. d'Anville, in a Discourse contained in the 30th volume of the Memoirs of the Academy of Belles Lettres.

Such
PRELIMINARY DISQUISITIONS.

Such are the sources from whence I derive my information, and these, with the assistance 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 seen as they occur; and if the result 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 researches 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 inflated 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 fondest 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
Preliminary Disquisitions.

But Alexander, from the moment he crossed the Hellespont, considered every country he subdued as a portion of his future empire. He never plundered a single province that submitted, he raised no contributions by extortion. From the battle of the Granicus, to the final 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 fleet; 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 Pafitigris, within a few miles of Sûla.

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, Androstenes, and Hiero been dispatched to explore the western side of the Gulph of Perisia, 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 foresight of this extraordinary man, to assert 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 successes, 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

* 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 sail round that continent to the Pillars of Hercules. It is a boast, however, rather than a plan.

See Ar. lib. vii. p. 307.

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

"Il ne songeait point à un commerce dont la découverte de la mer des Indes pouvait seule lui faire naître la pensée." Esp. des Loix, liv. xxii. c. 8.

7 Harris, vol. i. chap. 11. sect. 8.
the Orontes, and Seleucia on the Tigris, there was not one capable of existing; but the Paropamisian Alexandria, and that on the Iaxartes, 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 founder 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 sides by the sea, 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, and the Ptolemies completed, a double harbour; the situation of Alexandria presented every inducement to the view of the founder, comprehending the means of defence, and facility of access, united in a single spot. 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 Abdali, a kingdom which has risen out of the ruins of the Persian and Mogul empires. But see d'Anville's Eclaircissements, 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.

10 This design of Alexander is not hypothetical, for Hephæstion was to have had an Heroum in the Pharos, and his name was to have been inscribed in all contracts between merchants. See Ar. lib. vii. p. 306.

navigation along this coast, or approach to it, is always hazardous; the mouths, or Bogas \(^{12}\) (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 fleet 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 left 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 flow 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

\(^{12}\) From Boffa, Italian, and probably introduced on the coast by the Lingua Franca. See Wood's Essay on Homer, p. 110, et seq.
PRELIMINARY DISQUISITIONS.

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. Forster, he shews, that Alexander in his route from the Paropamisus to Taxila*, or Attock, actually trod the road ** which continues to this day to be the northern line of communication between Persia and Hindostan. This route he extended afterwards across all those streams which the Acefines or Chen-ab carries into the Indus, and terminated finally at the Hyphasis, 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 so 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 sufficiently 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

* Taxila is usually considered by geographers as occupying the same site with Attock, but Arrian does not countenance this opinion. He says, lib. v. p. 199, "That it was the principal city between the Indus and the Hydaspes." And in another passage, "Alexander marched from the Indus to Taxila," an expression which implies distance.

** Some allowance must be made for deviations, in consequence of the situation of the tribes he subdued.
vessels 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", in the territory of the Malli "a" in the kingdom of Taxiles" and, Porus ", Alexander traversed a country abounding in riches, and furnishing commodities from the thirteenth 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 presented an aggregate of cities, towns, and villages, of which, from the circumstances of their own country, the Macedonians had no previous conception.

These Authors "a" assert, that Alexander subdued five thousand cities in India as large as Cos. Mention is likewise made of a thousand cities in the single province of Bactria; and Arrian, who seems

\[ "a" \] Pykely Ayeen Akbari, always.  
\[ "b" \] Moulta...  
\[ "c" \] Attock.  
\[ "d" \] Panje-ab.

to be always on his guard, informs us, that the country of the Glaufæ, or Glaucanifæ, contained thirty-seven 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 situation among so great a number of navigable streams, the flourishing 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-æb as the third province of the Mogul empire, and mentions forty 21 thousand vessels employed in the commerce of the Indus 22.

It was this commerce that furnished Alexander with the means of seizing, 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 considerable portion of these had been left at the Hydaspes during the interval that the main body advanced to the Hyphasis, and returned to the Hydaspes again, we shall have no reason to accuse Arrian of exaggeration, when he

20 We ought not to be surprised at these exaggerations. Cherif-æddin says, Cashmeer really contains 10,000 flourishing villages, but is estimated at 100,000. Vol. iii. p. 161. The level country is not more than twenty leagues from mountain to mountain. The capital is Nagaz, or Syrin Nagar.

21 Maurice, p. 158, vol. i. from the Ayeen Akbari.

22 —Porum et Taxilem reliquit in regnis suis, summo in salutanda classe amborum studio uius. Q. Curtius, lib. ix. cap. 5.
asserts, that the fleet consisted of eight hundred vessels, of which thirty only were ships of war, and the rest such as were usually employed in the navigation of the river.

Strabo 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 Asiacani, and before he reached the Indus, had already built vessels which he sent down the Kophenes 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 some authors to two thousand, there is no improbability sufficient to excite astonishment.

By the same 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,

33 Τριακεταχμένος καὶ συμβαλλόμενος. Arrian, lib. vi. in init.

Τριακεταχμένος 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 seem to have only one deck, and to be rowed with thirty oars on a line, that is, fifteen on each side; the Galliatae, according to Gronovius, were half-decked, with the waist of the vessel left open for the rowers. But see Cæs. bon ad Athenæum. Not. 737.

Major Rennell mentions, that vessels of an hundred and eighty tons are used on the Ganges; and Captain Hamilton, p. 122, vol. i. says, that those employed on the Indus were, in his time, frequently of two hundred tons, divided into separate apartments which merchants hired for the voyage, and adapted most commodiously to the navigation. They carried a mast and sail, but were more usually towed by men. The passage from Tatta to Lahore is six or seven weeks, but the return is made in eighteen days, or even twelve; the navigation is open, clear up to Cath Meer, by means of the Cheiam; and Mr. Forster entered Cath Meer by that stream, which he calls the Jalam. The course of this river is eight hundred miles from Tatta to Multan only, allowing for the sinuosities of the river. See Major Rennell’s Memoir.

44 Strabo, 691. Arrian, lib. iv. in finem. Rennell says, Emodus is not near.

with
PRELIMINARY DISCUSSIONS.

with him, either for the purpose of conducting the fleet, 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 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 Oneicritus the pilot of the fleet, is still extant in the writings of Strabo, Arrian, Diodorus, and Pliny; and though the credit of Oneicritus 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 

2 Cotton made of that material, the sugar-
cane 39, and silk 39, 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 sea, and few of them had ever been seen 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 advertting to the caule, we may deem lightly of a voyage which required so much

SUGAR. 'Εφρεῖαν δὲ καὶ τοὺς καλαμοὺς τοὺς τιπανοὺς μὲν, πεδιακοὺς μὲ δοσιν. This assertion, Strabo (69.) quotes expressly from Nearchus. He speaks also of canes from which honey is made, though without bees. I do not know that Saccharum et Arabia fert, sed laudatius India. See Salmatius Pipio. Ex. vol. ii. et seq. who has a long dissertation upon the subject, and imagines Pliny's Saccharum, as well as that of Dioscorides, to be manna; yet seems to distinguish the καλαμός of Nearchus as the true sugar-cane. Sacar appears to be a word of Arabick extraction.

39 Silk. The passage in Strabo is not express; but having mentioned cotton before, he adds, τιπαντα καὶ τα Σηπές καὶ πλατας σιμαρινα την ενθητευσιν. Velleraque ut foliis depectant tenuis Seres. Virg. The Critical Reviewers, October 1791, p. 126, interpret this of cotton, as does Salmasius, p. 298. and p. 998; they call the Seres, inhabitants of Bocharia, and Sir-hend, Serinda on the Indus, the staple for silk. When in Sogdiana, Alexander was in the neighbourhood of Bocharia; but the mention of Σηπές by Strabo is incidental to India; and if it were not for a passage in Arrian, which seems to relate to the same quotation from Nearchus, I should not hesitate to refer this expression of Strabo's to silk. Arrian says, 'Εαν καὶ Βοκια Ινδα καθιστανοι ναυτικα Ναυτικα κανει τινα των δακων, &c. &c. Indic. I have since learnt, that the Reviewers follow the authority of d'Anville Eclairiff; but that great geographer's error is, consulting similarity of sound in names too much. When the locality is established, resemblance of sound is a strong confirmation, but to fix locality by sound is beginning at the wrong end. I cannot help thinking, however, that the mention of Seres and Serica in allusion to cotton is always error or confusion; for we must observe, that silk, when it came to be known and characterised, was always Serica; while the knowledge of cotton or vegetable wool is as old as Herodotus at least, in Greece. The silk-worm is first described by Pausanias Eliac. sub fine. Gibbon, vol. iv. p. 72, from d'Anville Eclair, Chamber's Dictionary, &c. &c.

preparation
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 curiosity as utility 3. Of this, Strabo furnishes abundant testimony, who from these

---

3 The following particulars are extracted 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 inserted later than Megalhenas, who was Ambassador from Seleucus to Sandrocota; and Sandrocota, 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 Bream Mandanis to the King, "are the only man whom I ever found curious in the investigation of philosophy, at the head of an army." Strab. p. 715.

The principal castes of India are four: 1. Bramins. 2. Husbandmen. 3. Soldiers. 4. Artisans. There have been always various subdivisions of these; both Strabo and Arrian from Nearcuss 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 sixth and seventh classes were properly never distinct castes, or at least only subdivisions of the others, and the third was possibly comprehended in the second.

---

Other Particulars mentioned by both.
2. Women not deemed dishonoured who received an elephant as the price of their favours. Ar. 331. Strab. 712.
3. No slaves in India. Ar. 350. Strab. 710. Onefericus confines this custom to the country of Manicurus.
6. Cotton tree, called Tala by Arrian, and the pod described. Ar. 320.
7. Cotton raiment, Strab. pass. Arrian, 330, reaching to the middle of the leg.
10. Knowledge of letters denied by Megalhenas, Strab. 709, but asserted by Nearcuss; who says, they write on linen or cotton cloth.
these sources 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

these sources 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.
15. Dye the heard, ibid.
16. Use umbrellas, ibid.
17. Do not exercise two trades, 326.
18. Wrap cotton round the head, 330.
19. Two sorts of philosophers; Brahmans and Germania. The first more properly Priests and Diviners; the second by obit or Hermits, that is, Fackeers and Jegoos. These latter enter every house, and even the women’s apartments. Many are attended by women devoted to them, but without suspicion of intercourse; penances and mortifications; residence under the Banyan trees. Arrian, Strab. Their discourse usually on death; their philosophy, that the earth is spherical, and the Deity, anima mundi. Strab. 713. Burn themselves, not to avoid evil, but to enter on a new life. Strabo mentions Zarma-nocheges; one of the Ambassadors from a Porus, King of six hundred Kings, to Augustus, who burnt himself at Athens, on his return towards India.

EPISTAPH.

*Zāṟmanoḫegetā ḍaṅsō ḍao ṛhörōng ᴍa kāta ṭa πατρία ἱνδός ᶇṃ ᵇαὀν ᴍαγανα ᵇे kētā.

But it is remarkable the MSS. read *Zāṟman*: ḍaṅsō, which is the Caganus or Cagan, as

used by the Huns and Avars. See Ducange in *voces*; Gibbon, ii. 572. iii. 151. and is in reality the Ham or the Tartars, written Can, Chán, Chaan, Khan, and Cawn. This seems the first instance of using the word; and if so, this is Zamanus Khan. Perhaps also Zamanus is related to the Germanic of Strabo, p. 720.

20. Another sort of philosophers called Pramna, Strab. 718, who dispute with the Bramins, and attack their doctrines. This fact 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."

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 mistaken facts; and what country is not subject to misrepresentation by those who visit it first?
PRELIMINARY DISQUISTIONS.

Dissections, Aristobulus, Nearcuthus, Onesicritus, and Megasthenes were fully apprised. It would be thought mere matter of observation, to produce the testimonies of this knowledge as they lie scattered in a variety of authors; but the accounts of Indian policy and government, the principles of the Brahmins, the devotion of widows to the flames, the description of the wild fig or banian tree, the variety of grain, the hair, colour, frame and constitution of the natives, with an abundance of other minute particulars, sufficiently 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 so 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 design of Alexander in planning the voyage of Nearcuthus was not merely the vanity of executing what had never yet been attempted, but that it was a system founded on a presumption of the advantages to be derived from it, a desire of knowing the coast as

---


23 Strabo mentions a grain called Bosmoras, smaller than wheat, held so choice by the Indians they suffer it not to be planted, unless under the obligation of an oath to pass it through the fire, in order to preclude vegetation. Some of our countrymen who have been in India might possibly form a conjecture what this grain is. There is a species called Gram, found in Mysoore. Major Dirom. But this is for horses. Another called Bajero, in Guzerat. Maurice's Indostan, vol. i. p. 121. But from the value set upon this, it was possibly some species of rice; of which the Indians are said to reckon forty sorts, and some of which they purchase at any price.

Mr. Dalrymple conjectures, that the unhusking of Paddy to obtain the rice by means of hot water thrown upon it, as is said to be practised in some parts of India, and possibly with some particular species of this grain, may have given rise to this opinion of 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 survey 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 sufficiently explored. The route of the army, after the death of Darius, had been mostly to the North of the Paropamisus, or that range of mountains, by whatsoever 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 sources of the Indus, his march and voyage down the course of that river defined the eastern limit of the empire: commencing again from this limit, he resolved to explore the southern provinces, which though they had submitted to the reputation of his arms, were in a political sense 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 fleet. 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

\* Notwithstanding particular expeditions to Propthasia, Arachosia, &c.
division under Alexander in Karmania; and when Nearchus, after the completion of his voyage, came up the Parthigris to Sufs, 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 said 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 survey, distances accurately set down, and journals faithfully kept, are, next to astronomical observation, 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 case, the attention of Alexander is evident, for the survey itself is attested by almost every contemporary historian, 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 deserts of Gadrosia. He tells us, that even Nearchus imputed this attempt to vanity and the desire of imitating or surpassing Bucephalus and

---

53 Much more may be done with precision in a short time than is generally supposed; a chain of triangles may be carried on in most countries quicker than an army could march, I might say in any country, except flat and woody, or the deiles of mountains. The Mahomedans of India measure every road they march; at least, I know this is sometimes the custom, I believe always. Dalrymple.

36 Sainte Croix mentions Ptolemy and Arilobulus, p. 50. but I have not yet found 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 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, 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, afterwards King of Egypt, after he was King of Egypt: fear, flattery, and every other inducement to falsification had subsided; they sometimes contradicted each other in

---

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.

**G E O G R A P H E R S.**

VI. **Major Rennell** 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 and Nadir Shah, and with the journal of Tavernier, Goez the Jesuit, and Bernier.

*And from the works of Beton and Diognetius. Sainte Croix, p. 20.*

*In the route of Timour given by Cheref-eddin, there is a regular mistake of the Ravee (Hydrates) for the Biah (Hyphae); 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 Hydrates, 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 Moulten, which he omits. The account is barren, and makes us doubt whether Tavernier travelled it himself; but he speaks as if he had.*

*Goez, according to Kircher, China Illustrata, p. 63; went from Lahore to Attock and Cabul, and thence through Tartary to China. These three points are all we have, but they accord with Rennell.*

*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 so 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
Preliminary Disquisitions.

Major Rennell professes to have laid down the western sources of the Indus and the rivers of the Panje-ab from the map of a native; and says, that as his own ideas grew correct from this communication, he was consequently 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 hesitates only upon some points of less importance before the crossing 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 research that may be made, will contribute to establish. Major Rennell likewise 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 Bey-pasha, sufficiently agreeing with the Hyphasis of Arrian: this reserve is the more to be regretted, as the communication would have contributed greatly to correct the errors and elucidate the obscurity of his predecessors.

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 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 second 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 source of these mistakes, which Major Rennell has not sufficiently 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 necessary consequence 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 result 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 infested 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 confusion 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

43 Cheref-eddin in fact places it on the Biah, but his error has already been adjusted, p. 21; and that error should have led d’Anville to assume a river for the position of Lahore rather to the eastward than the westward of the Ravee.
system, a system founded upon a resemblance of ancient and modern names, never exemplified more fancifully than by a supposition that Renas 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 features of the whole. Pliny enumerates the Kophes, the Indus, the Hydaspes, the Hyphasis, the Hefudrus, in the order they occur, and though he omits the Acesines and Hydrafetes, the picture, however incomplete, is not disfigured; but when he adds that Alexander failed down the Indus at the rate of five hundred stadia a-day, and yet it required more than five months to reach the mouth of the river, he is mistaken in his premises; for it will be proved from Strabo and

\begin{footnotes}
\item[42] *Antiq. Geog. de l'Inde, p. 17.*
\item[43] *Lib. vi. c. 17.*
\end{footnotes}
Arrian, that the passage took up nine months, and that various expeditions delayed the fleet as it arrived successively at the several tribes bordering on its banks. Perhaps we ought to read the passage hypothetically; but the assertion itself is extravagant. Six hundred stadia repeated for an hundred and fifty days produce ninety thousand; this sum, reduced by the standard of eight stadia to the Roman mile, amounts to eleven thousand two hundred and fifty miles, and it gives no less than six 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 doubtless originate from the authorities which Pliny followed, and even Arrian himself is not free from charges of a similar nature, though in a lower degree; but if Pliny had consulted his own reason instead of copying his authorities with servility, he could never have assigned six thousand miles to the course of the Indus between Nicæa and the sea, when he gives less than five thousand to the whole extent of Asia, from the Caspian desfiles to the mouth of the Ganges.

The errors of Ptolemy are of another nature, consisting 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 situation, than it can ever suffer by a failure in the application of

45 Prodiit Alexandria nullo die minus (quam) stadia sexcenta navigabile in Indo, nec potuisse ante menses quinque essagire, addit fis paucis diebus. Lib. vi. c. 17.

46 This will be proved when the stadium itself is taken into consideration.

47 Those who wish to analyse the source of these errors, and the means of correcting them, may refer to Mr. Guzzelin's Treatise, Geography des Grecs analytée; where, if they do not find themselves satisfied with his principles of correction, they will at least obtain the clearest view of ancient geography which has yet been presented to the Public.
his principles. The sources from which Ptolemy drew do not sufficiently appear; but as he was a native of Egypt, and lived at the same 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 at Alexandria, the centre of this commerce, than Arrian himself had, or any other historian 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, Hypasus, and Zaradrus of Ptolemy, are the Hydaspes, Acephines, Hydraotes, Hypasus, 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 letter

---

49 See this confirmed by Ptolemy himself, Geogr. lib. i. c. 17. Dodwell Dis. in Perip. Mar. Erythraei, p. 90.
50 Rhuadis is the Greek text in Ptolemy; Adaris, the Latin.
51 See Tiffenthal.
52 Thus Gezira is written Djezira, Baja-pore, Vizapoor, Vizapour. 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 sources; and the origin of this disorder is the small 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 set down is only thirty minutes, and the result 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 assign 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 assertion, or correcting his errors. It is probable that all great rivers which pass through level ground to the sea, 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 soil, and other causes, or are diverted for the purposes of agriculture and communication. This has been so remarkably the case 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 same obscurity. Major Rennell's second map differs essentially from his first; three charts of Mr. Dalrymple differ from both Major Rennell's, and from each other; and Captain Hamilton, the only navigator I know who went up to Tatta, has

---

Capt. Hamilton, though a very pleasant, is not an accurate writer; he did not go by water up to Tatta, but conducted a caravan by land from Lari-bundar to that city. It does not appear clearly from his narrative, whether he went up on the eastern or western side of the Lari-bundar river; but this will be farther noticed.
not given any account satisfactory to a geographer; though he has preserved one circumstance which coincides with Ptolemy, affuring us that the natives still call the mouths of the Indus, Divellée, or seven, 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

* In a translation of the treaty between Mohammed Shah and Nadir Shah, given in Fraer, p. 226, the Mogul Emperor cedes all the country to the West of the Attock, Scind 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 Fataleene.

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

I imagine, that in Persick it is properly Bend or Bender; and that Bundar is a corruption; but Fraer writes Bundar. The vowels vary so much, that Tchen, Tchen, Tchin, and Tchien, are equally the first syllable of Chin-ab.
Lari-bundar bears some analogy to the Lonibare\textsuperscript{16} 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\textsuperscript{17}; and one intermediate mouth known by the name of Scindy Bar, and characterized 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 Nearcho, 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 superfluous 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.

\textbf{D A T E S.}

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 seafar by Montefnuic, who supposes the difficulties experienced by the fleet.

\textsuperscript{16} The same sort of transposition takes place in a variety of names, Samyda, Samyked; Barada, Badara. Hudson's Geog. Min. vol. i. Marcian. Herculeot. p. 23.

\textsuperscript{17} See Major Rennell's Preface. Richell, Warrell, and some others, appear better known.
to have arisen from the circumstance of performing the voyage during the prevalence of the South-west monsoon.

As there are two departures of the fleet, one from Nicæa, and another from the mouth of the Indus, it will be expedient to ascertain them both; but as the latter is most important, we shall commence the investigation by stating in the words of Arrian ⁵⁹, that the fleet took its departure from its station in the Indus on the twentieth of Boedromion, in the archonship of Cepheisodorus, 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 Uther give a triple series of archons from Diodorus Siculus, Dionysius of Halicarnassus, and Arrian; and the deduction of Dodwell does not perfectly correspond with Uther. Uther's table stands thus:

**OLYMPIAD CXIII.**

<table>
<thead>
<tr>
<th>Diodorus Sic.</th>
<th>Dionysius Halic.</th>
<th>Arrian</th>
</tr>
</thead>
</table>

⁵⁹ To this point I have added Autian's notes in the Appendix, to improve the text. The year, by our calculation, is 327 A.C., which answers to O.C. xi. 2. Instead of O.C. xi. 1. The year, by our calculation, is 327 A.C., which answers to the year which Uther assigns to Arrian's Hegemon to the year which Uther assigns to Chremes. Arrian, p. 219, says, The battle with Porus was fought in the month 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, O.C. xi. 1, instead of O.C. xi. 2.
PRELIMINARY DISQUISITIONS.

The discordance of these authors is so glaring, that after the laborious researches 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 testimonies, is easily established.

According to Plutarch, Alexander was born in the first year of the hundred and sixth Olympiad, on the sixth day of Hecatombæon, answering to the Macedonian month Lous. This date corresponds, according to Dodwell, with the twenty-sixth day of July, in the year three hundred and fifty-six before Christ. Concerning the actual day, Scaliger, 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 succeeded to the throne, Olympiad cxi. 1. or in the year three hun-

60. According to Petavius, Alexander was born, — 356 A. C. Archon Elpinæs.
Philip died, — 336 A. C. Archon Pythodorus.
11th year of Alexander, 326 A. C. Archon Anicles.
Alexander died July 19, 324 A. C. Archon Hegefæs.

According to Usher, Alexander was born Sept. 24, 356 A. C. See Usher, p. 185, with his remark on Lous and
Philip died, — 336 A. C. Boedromion. See also Dodwell de Vet.
Alexander died, — 323 A. C. N. B. The year of Christ is not marked in the margin of Usher, from the year 318 to 323.

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

61. Scaliger does not accede to the synchronism of Lous and Hecatombæon. The discordance 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 Greece became a Roman province, the possible adoption of the Roman calendar rendered the Greeks negligent of their own. Dif. ii. sect. 15.


dred
dred and thirty-six 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-six before Christ, the year three hundred and twenty-six 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 stood in the way; for though Ælian labours under a similar mistake, little attention is due to his errors in a matter of chronology. It is surprising that Diodorus should have anticipated a year, and placed this transaction in the year three hundred and twenty-seven before Christ. It is still more extraordinary that Petavius should adopt his error. It appears at first sight as if Diodorus had confounded the departure from Nicea 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-seven at Salmus in the Gulf 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 Sula, to the hour of his death, are as clearly ascertained as those of any monarch in Europe who has reigned within a century.

64 That is, if Alexander ascended the throne on the 24th of September 326 A.C. the date is correct. The eleventh year of his reign commences on the 14th of September 326; and as the fleet returned, p. 243.

65 A city mentioned by Diodorus only.
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 same season 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 so nearly coincident, that we cannot doubt their veracity; in fact, there is but one intermediate report between the author of the Journal and ourselves.

Strabo

fixes the departure from Nicæa in the year three hundred and twenty-seven before Christ, a few days before the setting of the Pleiades; an expression obscure indeed, though precise. The ancients had two settings of their constellations, morning and evening, and accordingly Columella

says, 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 set. The phrase of Strabo is simple, 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. 501.
67 Blair's Chronology does not mention the Nicæan is in the autumn of the same year.
Voyage of Nearchus, but fixes the war with
68 Col. lib. xi. cap. 2.
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 Nicaea for the twenty-third of October, in the year three
hundred and twenty-seven before Christ.

In regard to the second 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 of the
Pleiades, and both profess the authority of Nearehus. 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 even-
ing on the setting of the sun. The evening rising of the Pleiades is
fixed by Columella for the sixth of the Ides, (that is, the tenth of
October,) we have therefore the intended sense of our author exhi-
bited 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 vexa-
tion of every one who has had to calculate the date of any fact con-
ected with Grecian history, that the commencement of the Athe-
nian 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 solstice was the day appointed
for the Olympic games, a day probably fixed upon to give the
best season of the year, and the brightest nights for the celebration

---

\[ ^{69} \text{'Εποχὴν ἔρχεται ἡ φασίνως τῆς ἡμέρας, &c. Sal. p. 720.}
\[ ^{70} \text{έρημο παρά τὸν κόσμον τῆς Ἑλλάνδης. Sal. p. 743.}
\[ ^{72} \text{See Scaliger Exemp. Temp. p. 29. who quotes Pindar and his Scholiast.}

4
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 has given us a series of years which comprehends this epoch; according to his calculation, the third year of the Olympiad, which answers to three hundred and twenty-six before Christ, commenced on the sixteenth 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 second 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 second of the same month, we have an approximation too exact to suffer 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 pursued this research 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, 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 See Mr. Wales’s Answer in the Appendix, No. 1.
afterwards found to be well grounded; for Salmacius 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 similar instance, the morning setting of the Pleiades (November the 8th) is esteemed the commencement of winter; after which it is dangerous to fail; but it is not till the eleventh that the calendar says, Maria clauduntur; we should therefore esteem the rising or setting of the constellations as marking rather the season than the day. If so, there is latitude given to bring him nearer to Arrian; but let the question be resolved as it may, the deviation is so small, 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 second 74 of October, in the year three hundred and twenty-six before Chryst; notwithstanding, the advance of eight days, according to Strabo, would be a more advantageous point to assume.

**THE MONSOON.**

VIII. The Monsoon is a term so familiar at present, that it is hardly necessary to observe, it signifies, in India, a wind that blows six months from the north-east, and six months from the south-west. This wind, unknown in the Great Atlantic and Pacific

74 Uther fixes on the first of October, which, allowing for Dodwell’s exclusion of the eighteenth of September, brings his date to correspond with ours. Had Uther favoured us with his mode of calculation, this deduction might have been spared. But see Uther on the Solar Year, cap. 2. and consult the authors concerning the time expended after Alexander’s return.
Oceans, extends, with a variety of inclinations, through all the seas of India from Japan to Madagascar; its general course only is north-east 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-four hours. We shall have occasion to notice all these circumstances during the passage of Nearchus from the Indus to Cape Jaff, and shall find authorities to support them.

In a collection of papers furnished by Mr. Dalrymple, I have a Journal of Lieutenant M‘Cluer, 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 Mufcat, 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 Monsoon, which commences with some fluctuation in October, fixes steadily in November, and continues in force for four months, when it begins to fluctuate 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 tropie, it is easterly along the coast of Mekran, with a current setting to the westward." And another navigator of this track says, "Between the latter end of October and the middle of November,
vember, the land and sea breezes 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 north-west, to bring her in shore again; neither is the land or sea breeze ever attended with squalls of thunder or rain.” Tavernier, 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 fifteen or twenty days.

It has been thought necessary to detail these circumstances, in order to shew that if Nearchus failed, as he did, the beginning of October, why it was necessary for him to wait twenty-four 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 apprised 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 capable of conducting him,

78 The sea breeze blows from noon to midnight; the land breeze from midnight till noon. The weather is generally pleasant and serene in the N. E. Monsoon.
81 He did find a pilot at Moforna, which, at the same time it proves a navigation carried on by the Perians, Karmanians, or more probably the Arabians, along the coast, evinces the attention of Nearchus.
neither his own foresight nor the prudence of Alexander would have been wanting to procure assistance. The general effect of the Monsoon he certainly knew; he was a native of Crete, and a resident at Amphipolis, both which lie within the track of the annual or Eteian winds, which, commencing from the Hellephant, and probably from the Euxine, sweep the Ægean sea, and stretching quite across the Mediterranean to the coast of Africa, extend through Egypt to Nubia or Ethiopia.

Arrian has accordingly mentioned the Monsoon by the name of Eteian 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 Eteian winds, says he, do not blow from the north in the summer months, as with us in the Mediterranean, but from the south. On the commencement of winter, or at latest on the setting of the Pleiades, the sea is said to be navigable till the winter solstice. This setting 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 says, navigation ceases on that day; yet COLUMMELLA places the setting on the twenty-eighth of October, and the morning setting on the eighth of November. We shall prefer, on

---

88 A vessel 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.

89 And in another place, the Eteian winds, which prevail the whole summer season, blowing from the sea upon the coast, render navigation impracticable, p. 335. The mouths of the Indus front exactly south-west.

---

89 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 say, that as the Eteian winds in the Mediterranean blow from the north in summer, and are generally succeeded by an opposite wind in winter, the reverse takes place in the Indian ocean; the summer Eteian is south, the winter north.
this occasion again, the setting as expressed simply by both authors, and fix the change of the Monsoon as intended by Arrian for the twenty-eighth of October; a day which coincides so 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 so happy in limiting the termination of the Monsoon to the winter solstice, for it has been already shewn, that it continues to blow during January and February, and does not fluctuate till March; so 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 consequently no opportunity of observing the prevalence of the Monsoon after the winter solstice; he delivered, therefore, what he knew to be true from his own experience, without considering or knowing what the winds were in January and February; and Arrian copied as faithfully as Nearchus related.

We know from later writers, that the ancients were perfectly acquainted with the nature and seasons of the Monsoon, and that from the time of Claudius, the fleets which sailed from Egypt traversed the Indian ocean to the coast of Malabar, and returned from that coast again, by means of the Monsoons, without confining themselves any longer to the winds of the shore. It is not, however, our object to display the advances made in later ages, but to specify the discoveries of the Macedonians, and the fidelity of the historian; yet we cannot avoid mentioning some particulars that occur in the navigation.

---

* See B. de Sainte Croix, Note i. fil. p. 319. 

---

*3" Dodwell's Diff. on the Periplus Mar. 

---

*3 Eryth. 

---

*3 Periplus Maris Erythraei, in Hudson's construction, if the Greek language allowed it. 

---

Col.
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 coast; 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 passed little beyond the eastern mouth of the Indus. His errors, however, are pardonable, if we consider him, as what his work declares him, a merchant, or navigator in the seas 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 authorized to assume this, is evident from a passage not very intelligible, where he says, “In sailing into the Gulph of Arabia we keep our course in the middle; we sail nearer the coast of Arabia.” The adoption of the first person seems conclusive, and as his description includes Cape Gardafui, (Aromatum Promontorium,) Cana, and Ras-al-gate, (Syagros,) in Arabia; the departure of the vessels from those points with the Monsoon, the cargoes they carried, the part of the coast they reached; the particulars of the bay of Cutch, (Baricares,) of Cambai, of Guzerat, (Barigaza,) of the Ghauts, and the

** Without building any proof upon what follows, I cannot help observing, that as the boundary I fix for this Arrian’s knowledge is Cottonara, so it is remarkable that Salmasius’s readings of Pliny or Solinus vary on this word; for he says he found Cottaonare, Quodsonare, and Cottonmore. Now it happens that Cotta is a native term for a fort, as Devi-cotta, Palam-cotta; and Cotta Onore gives exactly Onore, a place about one hundred and eighty miles to the north of Calecut, and which is as convenient a point for Arrian’s Cottonora, as Calecut which Dr. Robertson assumes.

** Cava-Canim, d’Anville; Cape Farquaire, Robertson. Baraces. Barach?

Deckan,
PRELIMINARY DISQUISTITONS.

Deckan, with the return from the coast of Malabar by means of the north-east Monsoon; 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 pursue this inquiry may be thought an intrusion upon the province of Dr. Robertson, but there is much curious matter in this tract that he has left untouched, and some circumstances have escaped his notice which are matter of surprize. Dr. Robertson has not demonstrated that the Ptolemies had an immediate intercourse with India; he supposes, on the authority of this Periplus, that vessels did pass from the Red Sea by coasting along Arabia, and the Mekran to India. I am willing to accede to this supposition upon the same authority, but I have searched for farther evidence in vain; and as Dr. Robertson has produced no other, it is reasonable to conclude that proof is wanting.

It is worthy of remark that Pliny says, the knowledge of this naviga-

90 His term is Dachanabades. It is well known that Deckan signifies the south, and the modern Deckan, in the peninsula, is so called because it lies south of the seat of government. It is curious to find this name as old as the time of the author. Deckan signifying south, and Abad a city; Dachanabades signifies the capital of the south. Where to place this is indifferent; as, if we were speaking of modern times, we might doubt whether we should call Poonah, Aurungabad, or Serilingapatam, the principal city of the south. The reigning prince took the name of his city or province. The modern Deckan is the country of the Nizam, his capital Aurungabad.

91 Huet (Histoire du Commerce) drops the prosecution of this question at the very point he ought to introduce it, p. 38, and p. 99, and countenances the opinion I have adopted, p. 313. See also p. 302, 246. Ed. Paris, 1727.

92 From a passage in Pliny, lib. vi. c. 23, Dr. Robertson lays down a passage from Rasal-gate (Syracoues) to Zizerus, a place somewhere 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 Dr. Robertson has laboured the point as much as it will bear, he concludes thus: It is probable that their voyages were circumscribed within very narrow limits, and that under the Ptolemies no considerable progress was made in the discovery of India. Sect. i. p. 37.

93 Lib. vi. 23. Nunc primum certa notitia patecens.
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. It is equally extraordinary that the discovery made of a passage across the Indian ocean by means of the Monsoons, 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 Felix in the Periplus. For the author says, it is near the mouth of the Red Sea on the Arabian side, and had formerly been the point of rendezvous between India and Egypt, till it was destroyed by the Romans not long before his time. What then are we to conclude? But that the success 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 suspect 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 vessels 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 silence of authors, and the little said

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 corrupt text.
96 Huet, Histoire du Commerce, p. 302, supposes this Arabia Felix to be Aden; and Aden, he says, signifies deliciae, p. 54; in which sense it is applicable to Arabia Felix.
97 Dodwell’s Differt. in Peripl. M. Eryth. p. 102.
98 By Cæsar. Which Cæsar?
99 The expression in the Periplus is remarkable, p. 32, τῶν ᾧ ἀπὶ ἀπὸ τὸν ἐρυθῆνα Ἰερισαμών ἀπὸ Κάισαριν τοὺς Εὐφράτην Λιτροτακᾶς ἐν μιᾷ μνημεία ἐπώνυμα ΗΠΕΙΚΟΛΗΤΩΝΕΣ Ἑλλήνες. The whole voyage was indeed performed from Cana and Arabia Felix, but in vessels of an inferior size, 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 presumptions to conclude that these voyages were not frequent; 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 second book he says, 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 seventeenth book he adds, that formerly scarcely twenty ships dared to navigate the Red Sea so far as to shew 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 system; 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 discovery of Hippalus is a fact; and though he is barely mentioned by Pliny, we have a distinct account of him from the author of reference in the time of Claudius, would this narrative assume so much of the marvellous? Pliny adds, that this embassy gave the Romans the first certain intelligence of Taphobane.

100 There is a passage in Pliny, lib. vi. 22., which mentions, that in the reign of Claudius, Annius Placamus, 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 sea, and beyond Karmenia to Hippurus, a port in India; and that the prince reigning there, induced by his account of the Romans, sent an embassy to the emperor. If a voyage to India had been a common occurrenc
the Periplus. He informs us, that small vessels 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 appear-
ance 185 of the sea, ventured upon a navigation across the ocean at
the season of the south-west Monsoon 186. 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 slight
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 so 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 secondly, because it attaches to the
voyage of Nearchus in a very extraordinary manner. The coast of
the Mekran, (Gadrophia,) which had not been heard of in Greece
before the time of the Macedonians, was visited but little on
account of commerce, and perhaps not at all, except by the few
vessels which performed those coasting voyages just mentioned, and
which probably never touched at any port on it, unless from ne-
cessity. 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 fresh intelligence had reached the writers of Greece or Rome.

185 Σχέδια.
186 Libonotus. Salmasius has a long disser-
tation to prove, that Libonotus is not south-
west, but west. Had he asked any seaman
which way the Monsoons blow in India, he
might have saved himself the trouble. D’Anville
more sensibly lays it down south-west. This
wind, in honour of the man who first had the
skill and courage to profit by it, was after-
wards called the Hippalus.

Strabo
Strabo gives much the same account as Nearchus; Pliny is too indistinct 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, by residing at Alexandria, had the opportunity of making inquiries upon the spot. Some merchants and navigators evidently in his age frequented this coast, for he does not draw his materials from Strabo, Arrian, Nearchus, or Oneiscritus, but exhibits a varied list of names and situations, 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 consequently there is a chain of silence on this subject 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 survey of this coast to be made, the expedition of Nearchus could not have been properly illustrated, nor the narrative of Arrian so 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
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 situation, by means of longitude and latitude, is at present conducted with so much facility, and is so 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 positions; 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 so 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 some standard applicable to the country under consideration. It is this measure which Arrian has adopted, with what laxity may be readily seen by consulting Mr. d'Anville's Treatise on the Itinerary Measures of the Ancients; and if, by the assistance of that able geographer, some general estimate can be formed, it is such as must be a result from the whole, and must not be expected to apply in every particular instance. Extraordinary as it is to us who live in times when, by means of the press, new acquisitions of knowledge are diffused throughout Europe in the course
course of a few months, it is a certain fact, that before this communication took place, authors 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 sphere, that he seems ignorant even of the parallel of Eratosthenes, though he is an author quoted by himself. He makes but one attempt to mark the course of the fleet, by mention of the shadow falling to the south, and unfortunately the whole track of Nearchus is to the northward of the tropic. But though Arrian has conveyed or preserved no discovery of this sort, he is still a faithful transcriber from his authorities; the standard measure, therefore, which he has used, we may be assured, is such as he found it in Ptolemy and Aristobulus, and the valuation of their stadium becomes the object of inquiry. Mr. d’Anville says with great justice, that none of the ancient measures require more discussion than the stadium; he specifies four different forts, and these will admit of variations.

<table>
<thead>
<tr>
<th>Measure</th>
<th>French Toises</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Olympian</td>
<td>94.5</td>
</tr>
<tr>
<td>The Pythian</td>
<td>125 or 750</td>
</tr>
<tr>
<td>Xenophon’s</td>
<td>75, 3, 7</td>
</tr>
<tr>
<td>Aristotle’s</td>
<td>51, 0, 0</td>
</tr>
</tbody>
</table>

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

---

408 Goßelin, p. 27. 409 This will be noticed in its place. 410 Not the geographer, but the companion of Alexander, and afterwards king of Egypt. 411 Mef. It. p. 85. 412 The French toise or fathom is six feet, and a French foot is to the foot English nearly 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 assertion, for no stadium of fifty-one toises 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 "" 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 sixty 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 "" toises. Now the truth seems to require, that we should examine whether Aristotle intended to give a larger world or a less stadium, before we accede to the inference deduced. If, however, we were once persuaded 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 Diogonet to employ it in their surveys, and for our finding it in the journal of his officers. The philosopher 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. Cesnorrus Vitruvius, &c.
115 It is extraordinary that Mr. d'Anville, Mem. Itin. p. 83, should expressly say, fifty-one toises and a little more; and that the B. de Sainte Croix, quoting the very passage, should assert, that Mr. D. makes the stadium fifty toises two feet five inches, and then reckon fifty toises without the fraction. Ex. Crit. p. 103.
matter, either from deference 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 "measure, still the general correspondence of fifty-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 five 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

---

"""" Tiefenthaler reckons by miles, but his are close, equal to 1/8ths of a mile. """" Great allowances must be made for the What forbids the Macedonians to have done incorrectness of Pliny's numbers.

Eratosthenes,
PRELIMINARY DISQUISITIONS.

Eratosthenes, at thirteen \(^{18}\) 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-five miles English, which, with allowance for the course of the river, we may extend to eight hundred and fifty \(^{19}\) or even nine hundred miles.

The second 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 Idthyophagi from Malana to Badis; that is, from Cape Maran, or Malan, to Cape Jafk, 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-five 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 Jafk to the island Keish or Kataæ; the number of stadia given by Arrian is

\(^{18}\) 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 Arasis 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 fifty miles English.

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

<table>
<thead>
<tr>
<th>From Jamad to the mouth of the Indus</th>
<th>10,000</th>
<th>625</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast of Arabitæ</td>
<td>1,000</td>
<td>75</td>
</tr>
<tr>
<td>Orbitæ</td>
<td>1,600</td>
<td>98</td>
</tr>
<tr>
<td>Ichthyophagi</td>
<td>10,000</td>
<td>480</td>
</tr>
<tr>
<td>Karmania</td>
<td>3,700</td>
<td>280</td>
</tr>
<tr>
<td>Persis</td>
<td>4,700</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>31,000</td>
<td>1,908</td>
</tr>
</tbody>
</table>

| Stadia multiplied by fifty-one toises | 1,581,000 stadia. |
| Miles English multiplied by 826 toises | 1,576,008 stadia. |

| Difference | 4,992 toises. |

---

180 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 result is an error less than five thousand upon upwards of a million and an half, the difference is not worth regarding. I am sensible, however, that several 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 issue, and the result 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 Jaffk by the same 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 sixty-nine and an half. The difference which this causes upon ten degrees is nearly an hundred and fifty miles; but if it be considered that the stadia of Arrian arise 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 essential service to ancient geography, in pointing out a measure of any sort 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 result which is admissible.

Two considerations 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 second consideration 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 deficiency of two jugera, or a third part of a stadium. The Olympian stadium is fix 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, Mef. 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 seven hundred and fifty-six \(^{123}\) French toises or fathoms; now the French fathom is to the fathom Greek \(^{124}\) or English as sixteen to fifteen \(^{125}\); consequently five thousand feet Greek ought to be equal to four thousand five hundred and thirty-six feet French; and eight hundred and thirty-three Greek fathoms, with a fraction, ought to be equal to seven hundred and fifty-six fathoms French: but the result is not so; for seven hundred and fifty-six fathoms French amount only to eight hundred and six two-fifths Greek fathoms; consequently, either Polybius is not correct, or else 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-six French fathoms as equal to one thousand seven hundred and sixty yards, or a mile English, which is true almost to a fraction \(^{126}\); yet he reckons sixty-nine of our miles to a degree, instead of sixty-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 sixty yards, or five

---

\(^{123}\) The Greek and English foot are nearly lib. iii. c. 39. Schweighæuser’s Ed. vol. v. the same. Med. It. p. 70.  
\(^{124}\) p. 576. We have it not in Polybius.  
\(^{125}\) More exactly as 1440 to 1351\(\frac{2}{3}\). Med.  
\(^{126}\) With a fraction of two feet two inches. It. p. 125.  
\(^{126}\) 2½ feet. Mr. Wales.
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 tole 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 stadium 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 confide myself in the expectation of its exciting others to examine the subject 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 and Huet. The supporters of its credit, however, are Salmasius, Usher, Sainte Croix, Gosselin, and d'Anville; and after the mention of their names, if a new apology should be thought superfluous, I must plead the necessity of defending my own opinion independently of others; for if I had thought the work spurious, I would neither have contributed to support an imposture, nor bestowed the labour of years upon the elucidation of a Romance.

137 Hominius in mendacis confingen. but I learn from Gosselin, that Dodwell assumes dis audaciam: Hardouin cited by Sainte all his objections.
I have not seen Hardouin's edition of Pliny, Croix.
But Nearchus has experienced a fate severe in the extreme; he is joined by Strabo with Daimachus", Megasthenes, and Onesicritus, as a retailer 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 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 facts 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 Ithyophagi; not indeed with a view to affter the truth of such trash, but to refute it: and if he mentions himself as the only man in the fleet 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 the breadth of the Indus; the other, his error in asserting 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-

He places Daimachus in the first rank. Nearchus and Onesicritus only in the second. Sainte Croix.  
Prating nonsense.  
Hudson perhaps, and not Dodwell.  
This charge falls rather upon Arrian than Nearchus.
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 assertion 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 is this: "The journal of Oneiscritus 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 Oneiscritus, but from the journal of Oneiscritus, published by Juba the Mauritanian.

---

23 

Oneiscriti et Nearchi navigatio nec nominis habet mansionum, nec spatio. Lib. vi. c. 25. 

24 Indicare convenit qua pridit Oneiscritus classice Alexandri circumvexitus in Mediterranea Per fidii ex India, narrata proxime à Juba. ibid.
Dodwell feels this inconsistency, and accounts for it by making Pliny say, what he never does say, that there was no un
interrupted series of names, like that preserved in the itineraries of Antoninus, of the Peutingrian tables, &c. What Pliny found in Nearculus 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, Tuburus, Hymenis, &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 Nearculus 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 passage thrust into his text as strangely as this assertion of Pliny is discordant with the tenor of his assertions. "Nearculus 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 assertion of Pliny: "Οἱ προτόρους ἔχει, because it afforded no mansiones. What?—not the journal, but the coast; and some expression of this sort has given rise to Pliny's error.

134 Spata.

But
But let us consider 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 Oaraéta? 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 18, Amazenes, governor of Oaraéta, was the pilot from that island up the Gulph.

The ignorance of Pliny himself, or the corrupt state of his text, or the vitiated medium through which he received his information, is such, that it is not easy to discover a relation between the account he gives from Onesicritus and that of Arrian’s Nearchus. This also forms one of Dodwell’s charges. But whether Onesicritus is the cause of this difference, or whether it originates from the intervention of Juba, it is not irreconcilable with Nearchus; for, with some assistance from Salmasius, I read Arbis for Nabrus, Tomerus for Tuberus 19; Ortae for Parita, Ori gens for Origens, Andanis for Hytanis, Achaemenidas for Achaemedinas, Aradus 40 for Acrotandus 41, 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? Salmasius 43 goes still farther; he charges Pliny in direct terms with not knowing the west from the east, and consequently with inverting the order of the tribes on the coast, and he notices a variety of other errors which it is not my business to insist on. These are mentioned merely to shew that the credit of

18 P. 757.
19 In the margin, Tomberon.
40 In the margin, Aradus itself is for Arac-us, Arek or Arek.
41 First Aradus.
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 stadia, 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 curiosity to compare several of these computations by miles with the stadia on which they were made, and the result has been, that as soon as the measure of the stadium in the author copied was ascertained, the numbers of Pliny have been reconciled to truth; truth, of which the writer himself was not conscious.

But Pliny affirms, that there are no measures in Nearcphus; and whether he copies his extract from Onesicritus or Nearcphus, 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 Nearcphus, 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 Nearcphus. This Dodwell allows; but then he adds, they were not regular or uninterrupted; that they did.

---

Note: The Olympic stadium being eight to a mile Roman, and Arrian's stadium fifteen; by halving Pliny's measures an approach to the real distance is often-obtained.
not extend along a whole coast, or all the coasts of the voyage, so that a general estimate might be formed; this is the sort of measure that Arrian's Nearcphus presents, and this is a sufficient proof that the work is not genuine. As a general answer to this, it is sufficient to observe, that this uninterrupted series is an invention of Dodwell's, and we allow that Arrian's work does contain this sort of series; but a series commencing at the Indus, and extended to the Euphrates, according generally in its parts, and almost perfectly in its total, with the actual survey 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 whatsoever.

This ought to suffice; but I will now adduce the very passages from Pliny cited by Dodwell himself, and make them both bear evidence against their own system. "Nearcphus" says, that the "coast of Karmania extends twelve hundred and fifty miles." And again: "Oeconomicus" and Nearcphus write, that from the Indus "to the Gulph of Persia, and thence from the marshes of the Euphrates to Babylon, are twenty-five miles." In another passage: "From the commenceement 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, cor- rupted 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 Nearcphus. In whatever manner, therefore,

---

44 Godichet, p. 25; who reads 2500 for 25. 45 Plin. lib. vi. c. 24. Dodwell, Hist. p. 132. 46 I quote from the Frankfort edition as Dodwell does; and though I know attempts have been since made to correct these readings, the correction arises frequently from calculation, and not from MSS. I have many corrections prepared; but the object here is to show the spatia of Nearcphus, not to correct. 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 depraved 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 found none; but it has been proved already that, in the abstract of the voyage, Pliny follows 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 147, 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 Goffelin 148 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 revival of this argument have made use of their assistance without reserve. D'Anville 150 has thought it a sufficient answer to all objections to introduce a part of the narra-

147 Anno 4398.
149 Geographie des Grecs, p. 25.
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, seasons, winds, and natural productions, all bespeak a knowledge which could have been obtained from actual inspection only, and all present a work which Antiphanes, Euemerus, Iambulus, Euthymanes \( \text{\textsuperscript{11}} \), and all the forgers of antiquity could not have put together.

If it were requisite to pursue this inquiry farther, Salmantius 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 consultation; 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 such a work should be maintained, in order to depreciate, nay, to annihilate a journal, in which accuracy is as conspicuous as the inaccuracy of Pliny is demonstrable. I shall adduce one proof only, and leave numerous others to the contemplation of those who build systems upon his authority. "The limit" \( \text{\textsuperscript{12}} \) between Karmania and "Armenoea is a promontory; but some place the Arbii between "them, whose whole coast extends four hundred and two miles." This is his assertion in the twenty-fifth chapter; in the twenty-third,

\( \text{\textsuperscript{11}} \) Impostors enumerated by Dodwell, Dif. p. 139, &c.

\( \text{\textsuperscript{12}} \) Lib. vi. c. 25. A promontorio Car. manis junguntur Armenoea; quidam interpo.
he says, their coast is two hundred miles long. But whatever its extent may be, it is more than six hundred miles from this promontory, Armozon. Such is the magnitude of this error. On the contrary, Nearchus places the Arbii, or Arabitae, 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.
BOOK II.
From NICÆA 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. Oxydraces, Mulli, Abasiani, Ossadii.—IV. Sogdi, at Behber.—V. Muscanis, Oxycanus, Sambus in Sewee, or Sibwan.—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 Aycen Akbari has at

Panje-ab; Rennell.

K 2 length
length removed the obscurity, and admitted us into a knowledge of
the situation, division, revenues, and population of the provinces,
the geography of the country, and the course of the rivers, with a
dergree of precision which reconciles the accounts of the best ancient
geographers, and corrects the errors of the moderns. To the en-
couragement given by the East India Company, and the industry
and abilities of the gentlemen employed in its service, 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 acquisition not subject to vicissitude, but will per-
petuate the honour of all who have been concerned in the patron-
age 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 fidelity 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 consulted, that of Tieffenthaler, a Ger-
man, and a missionary of the Romish church, long resident in Hin-
doostan, 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
solid 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 superior, at the time of the Macedonian conquest, to any period of prosperity, since the Tartars of different tribes have harassed the country with invasion, or reduced it by conquest. It is not possible to assert that there had been no invasion of this sort 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 suspicion, 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 several little independent republics, which frequently occurs, bespeaks something 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.

2 The work consists of three volumes. The first contains Tlesslyenthaler; 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 Mogul empire can hardly be said to exist.
4 Rennell supposes them to be the Katiry, or Kuttrivi tribe.
5 Not only in their superior courage, but in their manner of defence, consisting in a triple row of wagons.
6 They bear one lamp of Indian manners; i.e. they burn their widows. Strab. p. 699.
7 Kathai was a name brought into Europe by our early travellers, who entered Tartary on the north of Asia, 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 said, upon the authority of Arrian himself, 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 suspicious; 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 self-evident, from works still extant of the most extraordinary magnificence. Their temples, excavations, and public buildings, not to be seen without astonishment by foreigners, and by the natives attributed to the agency of supernatural powers, all bespeak a command both of labour and riches, which can be rivalled only by the illuftrious 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,
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 "" 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 "" miles wide at a medium, and from an hundred to an hundred and fifty miles long. Out of such a territory as this, without "" allies, Porus raised an army consisting of four thousand horse, three hundred chariots, and thirty thousand foot, under his own command, besides an advanced party under his son, of an hundred and twenty chariots, with two thousand 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 raise, support, 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; Abissares, a powerful Chief, lay on the north; the Glausae, on the east; a second Porus, on the Hydraotes or Ravee; and the Kathsx lower to the south, between that river and the Hyphasis: adjacent to these,

12 See supra; and the extraordinary reading in Pliny. Cominus for Co minus.
14 Doo-ab, two rivers or waters.
15 Strabo says it contained three hundred cities! Lib. xv. 698.
16 Embissares; the Abissares of Arrian was to join him, but failed. Diodor. lib. xvii. p. 239.
17 Diodorus says fifty thousand. Ibid.

Sopithes;
Sopithes; with the Malli towards the mouth of the Hydraotes; and the Oxydracæ, at the angle between the Akesines and the Indus; besides the Abafani and Offladii, for whom we can hardly find a site.

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 step; and little remains but, after due allowance for exaggeration, to admit a population of the greatest magnitude possible.

Numbers to this extent, surpassing those of Greece, and equalling those of China, depended, as far as we can judge, not upon that abominable practice of exposing children, legalized in both those countries; for this is a system that seems never to have entered into the conception of Indian legislators, civil or religious. Existence, however lightly prized by Indian principles, 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

The population of China calculated at two hundred and forty millions by P. Mailla, and that of Japan by Kempler and Thornberg, may make us indulgent to the extravagance of the Greeks. If the cities and towns of China stand 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 Aenas Anderson. See also the accounts of the Jesuits in Du Halde. Lettres Edifiantes, &c. &c.

In Greece a parent was allowed to expose every child; in China every female, and every third male. The legislators seem to have removed 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 consequence taken effectual measures to diminish it. The discovery is imploited to Mirabeau.

It is an Hindoo sentiment, that rest is better than action, sleep better than rest, and death best of all.
too much is always imputed to the purity of remote ages, and we value too highly systems, the defects of which we can no longer discover, it will not be thought unreasonable to attribute great effects to Indian policy and manners, and still greater to the security 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 institutes of Akbar. To this it may be objected, that a tribe of military forms one part of the Hindoo system; and that war implies oppression. Against this, however, the same code provides a remedy. The produce of the field, the work of the artisan, the city without walls, and the defenceless village, are declared sacred and inviolable. 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 union, 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 subject for the contemplation of the legislator, of the philosopher, and of every individual, moral or religious.

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

23 See also Arrian. Ind. p. 375.

24 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.

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

I have
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 summer season at least, a thousand miles 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 of an immense commerce between that country and Dehli; and that one of the more eastern branches either did communicate, or was intended to communicate, by means of a canal, with one of the sources 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 consonance with this, Abu'l Fazil informs us, that forty thousand vessels were employed on the Indus, which, even in the decline of commerce, are said by Captain Hamilton to be two hundred tons burden, and the most convenient he had seen for the accommodation of the passenger and the merchant.

28. Ten degrees, by the opening of the compass, from the mouth of the Indus to the southern mountains of Cashmeer. Rennell makes it, by the river, eight hundred miles to Mouttan. By the same estimate, we might reckon four hundred to Cashmeer, and two hundred above the mountains.

29. Previous to Nadir Shah.

30. Rennell.

31. Tavernier, Thevenot, Goetz, Bernier, Tiewenthaler, Rennell, &c. &c. all unite in testifying the magnitude of this commerce.
If such has been the state of commerce 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 fleet collected by Alexander is another. The wealth he accumulated from his conquest is nowhere specified; but Maghmoud the Ghaznavide tyrant, the earliest Mahometan invader of whom we have an historical account, is represented as enriched with such an enormity of plunder as to make the ravages of Timour and Nadir Shah appear moderate.

The revenue of all these provinces or foobahs, 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 foundation in fact. All these provinces were overrun by the Macedonians, except Caph-

---

33 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. sterling, from a country about three hundred and forty miles long, and one hundred and sixty in breadth.

39 There is a passage in Q. Curtius and Athenæus which describes three hundred befts in the train of Alexander laden with treasure, in which it appears as if the conqueror had carried with him the plunder of Persia out of mere ostentation. But if this assertion has any foundation, it ought to be the conveyance of the Indian treasures; a circumstance similar to the accounts of Nadir Shah. This fact, however, as supported by no historian of credit, is utterly dubious.

30 The size of Ghazna has been determined only within these few 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 Aghyans, the same tribe that put an end to the Dynasty of the Sefis in Persia, so late as one thousand seven hundred and twenty. The commander of that invasion wrote his name also Maghmoud like the Ghaznavide; it is probably the provincial dialect for Mohammed.

31 Maurice.
meer," the paradise of the Hindoos, consisting of a large valley in the northern mountains. But Lahore, Moultan, and Tatta," 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," 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 Hyphalis, 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

12. Ahiffares is suppos'd by M. Rennell to be the Chief of a tribe in the northern part of the Doo-ab of Juncrat, called Kalares. 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 territory to be on a river, by searching for the etymology of Ijfar, I am satisfied his residence would be discoverable.

13. Tatta was united with Moultan by Akbar.

14. There is no real authority but Rennell's Persian map, the Ayceen Akbari, and Cherefeddin. Frazer, Hanway, and Jones's Nadir Shah will afford little assistance to an inquirer. Hanway is total error.

15. It is not quite evident whether into the Saranges or Akesines,

mentioned
COURSE OF THE FLEET DOWN THE INDUS.

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 affirms) 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, asserting 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 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 consistence, 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, Persian, or Hindoo.

The Hydaspes is the first in order, corresponding with the modern Chelum, and flowing 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

Tieffenthaler. Ayeen Akbari.
the Macedonian orthography and the Shaniskreet, dispersing light on both sides, and shining himself like a luminary in the centre.

Hydaspes, — Arrian, Strabo, Pliny, &c. &c.
Bidaspes, — Ptolemy.
Bedufts, — Shaniskreet, according to the Ayeen Akbarji.
Vetafts, — Shaniskreet, Tiefenthaler.
Dindana, — below the mountains of Cashmeer, Tiefenthaler.
Chelum, — Persian or Mogol, Cheref-eddin.
Zalam, — Forster, &c.
Jalam, — between Aurungabad and Rotas, Tiefenthaler.
Djalam, — from an island so named in one part of its course, Tiefenthaler.
Zeloom, — Behut, — Hindoostan, Ayeen Akbarji.

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

27 La diversité que l'on remarque dans les différents auteurs, ou écrivains, où il est mention de ces rivières, a de quoi étonner, et n'est pas une médiocre embarrass pour qui conçoit veut débrouiller cette matière. Différens noms à la même rivière ont contribué à y mettre de la confusion. Eclaircissens sur 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 with the Beduista or Vetuista of the Shankrket, 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, 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 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 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 Pergunam of Shoor, joins the Akansines or Chen-ab, and twenty cofe lower receives the Ravee, or Hy-

...
draotes, at Zufferabad; when the three streams united, after a far-
ther course of sixty cose, form a junction with the Indus at Outche,
the Oxydraeæ 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 Hy-
daspes, is styled Sind-fagur by the Mogols; and its breadth is es-
imated at sixty cose, or an hundred and fourteen 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 es-
imated in the accounts that follow. The whole breadth of the Pan-
je-ab, including all the Doo-abouts from the Indus to the Satludj, is
given at an hundred and eighty cose, or about three hundred and
fifty miles; the specific measures make the cose an hundred and
eighty-five.

Cherecf-eddin's account does not differ much from the Ayeen
Akbari; for he mentions, that the Chelem rises from the fountain
Vir, or Syrin-nagar, and after passing the mountains, takes the name
of Dindana and Jamad. It then passes into the Geneve, 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 mea-
suration. Tiefenthaler 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. Tiefenthaler, who wrote in
Latin, styled these milliaria. The cose is pro-
ably a very ancient measure, and, according
to Senbo, marked as the miles were on the
Roman roads. See d'Arville Mef. Itiner,
and the term milliar. I doubt, however,
whether it is Hindoo. See a curious treatise
on Indian measures. Lettres Edif. tom. xv.
173, et seqq. If I could find any Shaksstreet
account of a measure equivalent to Arrian's
stadium, I should conclude he had used the
stadium, as Tiefenthaler adopts the mile.

44 Ayeen Akbari. Tiefenthaler.
45 Only in respect to the Biah.
46 That the Dindana and Chelum are the
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 Moul
tan; and it is remarkable that Cheref-eddin 46 should agree with Arrian in making the Hypphasis or Biah join the Chen-ab before that river joins the Indus.

The second river is the

Akesines of — Arrian, Strabo, Pliny, Q. Curtius, &c.
Chen-ab, — Hindostan, Ayeen Akbari.
Jen-aub, — { Persian, Rennell.
Chen-aub, —
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 mollifying a barbarous sound, that the Greeks wrote Ake-fin-es for A-chen-ices, or 47 A-cefin-es for Ab-tchen-es. I find a tribe on this river, mentioned by Justin 48, styled Hia-cen-fanas, in which the prevailing syllable is preserved;

47 Kafin for Chchen or Djen, considering that the Greeks have no Ch in their lan-
guage, is as near as they could approach to the found.
48 Lib. xii. c. 9.
and the initial letter, coming to us through the medium of the Per- 

fian Dj, causes all the variety exhibited in Djen, Djan, Tischen 49, 
Tischen, Chan, Chen, Chin, Jen, Gen, Tchun 50, 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 
Shanskreet is equally visible. The Aycen Akbari 51 affords, 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 these, I conclude, 
we are to look for the Tootapus 52 of Arrian, which, from the au-
thority of Megaathenes, he brings into the Akesines at an early part 
of his course.

The Akesines 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 Djienk, which occurs 
under a variety of forms as an adjunct to 
rivers in Mekran and Sufiana. (See Chere-
From what language derived I know not; but 
from its frequent recurrence, it affuredly sig-
ifies a river or water. Whether Tischen, 
Chen, &c. are related to this found, which is 
expressed Kienk, Chienk, Dienk, Denke, &c. 
I dare not pronounce, but I suspect a relation-
ship between the two; and if this should ad-
mit of proof, Tischen is the river, in some 
anient dialect, with the addition of the Per-
ian Ab, which signifies the same. Tischen-ab 
is therefore only River, River. It is an hypo-
thesis of many etymologists, that all names of 
streams are in some original language expressive 
of water. (See Whaitaker’s Hist. of Man-
chester.) And if so, Tischen-ab is perfectly 
similar to our own usage, when we say the river 
Doe, or the river Avon, for both by interpre-

tation are, River, River. On this ground it 
might be argued, that Ab-Tischen and Tischen-
ab are equivalent; and that Arrian’s Akesines 
is only Ab-Kein, Ab-Kein, Ab-Chen, that 
is, Chen-ab reverfed. I do not insist on this, 
as I read on Oriental ground with hesitation; 
but I state it as a problem for resolution, by 
those who are better versed in Eastern learn-
ing.

50 The Persians generally pronounce a, be-
fore u or u, like u. Frazer, Nadir Shah, 
p. 72.

51 Tieffenthaler, Rennell.

52 I assume this form, rather than follow 
the Latin orthography of the Greek diphthongs, 
in hopes of obtaining more readily an Oriental 
etymology, Tootapus is Toot-ab.
COURSE OF THE FLEET DOWN THE INDUS. 83
daspe or Chelum from the west, with the Hydraotes or Ravée from the east; is confirmed by all. Whether he receives the Biah and Satludj also, or whether they join the Indus without communicating with the Akesines, is still a geographical problem. Arrian every where asserts, that the Hyphasis, Saranges, and Neudrus, that is, the Biah, Satludj, and Caul, join the Akesines, either by themselves or by the intervention of the Hydraotes. But the Ayeen Akbari brings them independently into the Indus, considerably below Moultan; and this is the authority of M. Rennell. Tieffenthaler, if I understand him right, is not consistent with himself; for in one place he agrees with Rennell and the Ayeen Akbari, in another he makes the Biah and the Satludj join the Ravée. 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 positive evidence to rely on, and he does not follow his Macedonian guides, but Megaflhenes. Mr. de la Rochette has adhered to d'Anville in this particular, and, in the disposition of Ayjodin with the parts adjacent, accords better with Chereh-eddin's march of Timour, than any other arrangement I have seen. It is extraordinary that d'Anville, who is more likely to err on the side of etymology than by a neglect of it, should not

---

54 Rather by implication than directly. See vol. ii. p. 136.
55 Probably with the addition of his Persian MS. Map.
56 Vol. i. p. 115, compared with p. 115.
57 P. 316.

---

58 Megaflhenes was sent 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 that city, in Sandracota. It appears to me to be only Santrou-Cotta, the town or city on the Shantrou.
have observed that Shan-trou⁵⁹ 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 preserving 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 cessation of the rains. The province, or doo-ab, between the Hydaspes or Chelum and this stream, is called Jenhut⁶⁰, and its breadth is estimated only at twenty cife, 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, Abul Fazil affirms, 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

<table>
<thead>
<tr>
<th>The Hydraotes of</th>
<th>Arrian.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyarotes,</td>
<td>Strabo, Q. Curtius.</td>
</tr>
<tr>
<td>Iyrawutti⁶¹,</td>
<td>Shanfsreet, Ayeen Akbari.</td>
</tr>
<tr>
<td>Ivaratti⁶²,</td>
<td>Shanfsreet, Tieffenthaler.</td>
</tr>
<tr>
<td>Rhuadis,</td>
<td>Ptolemy.</td>
</tr>
<tr>
<td>Adris, Adaris,</td>
<td>Commentators of Ptolemy.</td>
</tr>
<tr>
<td>Ravi, Ravee,</td>
<td>Persian, or Hindostan.</td>
</tr>
</tbody>
</table>

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 are all Mogol distinctions, assigned by Akbar.

⁶¹ 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 Shanfsreet.
COURSE OF THE FLEET DOWN THE INDUS.

From this catalogue it is apparent that the termination Ravatti, Rawatti, or Rawutti, furnishes the Rhuadis of Ptolemy, and the Ravac of the moderns, as Iyrawutti is the Hyarotes of Strabo, and the Hydrastes of Arrian. It is better known at present as the river of Lahore, which renders the error of d’Anville more extraordinary, in placing Lahore on the Aeksines, a city of almost equal celebrity with Dehli itself. The roads from Cabul, Candahar, Attick, and Mouttan, 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 exists perhaps no longer except in the page of history, bespeaks 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 Nicaea to this city, explored by Alexander, is probably still open. For though the road from Attick passes at present through Rotas in a more northerly line, as I shall hereafter shew the relation between Jamad and Nicaea, a sovrestency at that island, whether tributary or independent, would naturally open a road from thence to a capital like Lahore; and a line from Attick drawn through Jamad being more direct than through Rotas, it is not impossible that it was the more early means of intercourse. 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, was still more anciently Lachonore and Lo-pore; and Onore, Pore, being terminations ex-

63. See the Map prefixed to the Antiquité Geographique des Indes; but by his Map of Asia, première partie, it is evident he supposed the Aeksines to be the modern Ravac.


preslive 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 losing their native distinction by an omission 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 second 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 says 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 suite 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 course, and now running at some miles distance; a fact confirmed by Tavernier, and perhaps not unusual with rivers that overflow with periodical rains. Tieffenthaler mentions a canal which has since been cut from the river to the city, but whether it has in consequence recovered its splendour 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.

"The Indus itself, below Moditan, exhibits the same phenomenon almost every year. See infra."

"The Sikhs equally disown Brahma and Mahomet. They profess equality and the worship of one God. Their list is numerous; but the doctrine of equality prevents their union, and renders their efforts weak and delusive. Mr. Haflings."
the deists and democrats of Hindostan in the present age. Cherifeeddin, 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 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 sea, 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 cfe in breadth.

The fourth river is the

Hyphasis of — Arrian.
Hyphasis — Pliny, lib. vi. 17.
Hypanis — Strabo, lib. xv.
Beascha — Shanskreet, Tieffenthaler.
Beypashe, — Shanskreet, Ayeen Akbari.
Bibasis, or Bipasis — Ptolemy.
Beah, Bea, Beand, Biah, — Persian or Hindostan.

The Bipasis of Ptolemy is, upon this occasion, once more the centre of relation between the Beypashe 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-

---

49 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.

50 Ayeen Akbari, vol. i. p. 197.
nouilli, Teiffenthaler 76 and de la Rochette, into the adoption of his system. This is the more extraordinary, as they all acknowledge the Setledj; and yet could not discover that the fourth stream, whatever it should prove to be, must be the boundary of the expedition.

This river 77 rises 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 Ayyodin into four branches called Har, Haray, Doond, and Noorny. These four unite once more as they approach Mouttan, 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 Akelines, whose authority is followed by de la Rochette. What modern confirmation of this he has found I do not discover, except Cheref-eddin 78, whose evidence indeed is direct; for the Ayeen Akbari, though it seems 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 subdued 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 79.

76 Teiffenthaler. vol. i. p. 55; but contradicts himself, p. 55.
78 The evidence of Cheref-eddin would be perfect if Timour had been on the spot, 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 still very strong. The river of Cushmeer, he says, takes various names, as the Dindana and Jamad, and joins the Gêve-ave (Chen-ab) above Mouttan. When they have passed Mouttan, they receive the Ravee, which passes by a second Mouttan. Ensuite le fleuve Biah les joint, et tous au près de la ville d'Ouatcha se joignant dans le grand fleuve Indus nommé Abfend, i.e. Ab-fend, fleuve Send, ou Scind.
79 Cheref-eddin plainly marks two Mouttans here. Is it a fluctuation between the province and the city, or are we to suppose there were different heads of the district like the towns of the Malli in the time of Alexander?
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, sufficiently correspondent with the different seats of modern empire, was still unsatiated 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 discretion 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 issue.

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

The province between the Ravee and the Biah is called Bari, and is only seventeen cose in breadth. The number of troops, which is above an hundred and sixty 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 series, it will not be unacceptable to the reader to see the connection of the whole.

74 Ayeen Akbari, lib. v. The breadth of this Doo-ab is measured by the road, but the province itself is considerable.

75 Seventeen thousand were slain at Sangaia, the capital, and upwards of seventy thousand were taken in the city. Ar. 227.
The fifth river is the Saranga, or Saranges, of Arrian.
Hefudrus, — — Pliny.
Zadadrus, Zaradrus, Zardrus, — Ptolemy.
Schatooder, Shetooder, — Shanskreet. Ayeen Akbari.
Satlodj, — — Tieffenthaler.
Setlooge, — — Rennell.
Satluiz, — — Persian. Hindostan.
Setlej, Setledge, — —
Seteluj — —

In the Shetooder of the Shanskreet we find the Hefoodrus of Pliny, and in the Satlodj or Satluiz, the Zardrus of Ptolemy. Anquetil du Perron informs us, that Zardluiz is the proper orthography of this name in Persian, and that this word written in Greek characters would be necessarily Zardrus. The source 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 Cau, 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 Hyphafis, and we are not concerned in reality with the Setledj at all, it is not necessary to pursue the inquiry. I shall only add,

36 Here is another transposition of the syllables. 27 Perhaps rather into the Ravee.
that Ptolemy joins the Zardrus with the Bipasis, that is, the Setledj with the Biah, and brings their united stream, not into the Indus, but the Chen-ab 74.

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

Such is the detail of the five rivers; and when the Ayeen Akbari calls them six, either in the province of Lahore or Mouttan, it always includes the Indus, without any respect to the Setledj, as consisting 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 crossing 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 consequence, indeed, will attach to this secondary object; but it is a matter of curiosity, 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 purposed to advantage by those who are proficient in Oriental learning.

But after conducting these five streams individually into the Indus, some 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 south 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 75, like the Ganges and Burhampooter; its ultimate source is

74 This will not appear either in Ptolemy or Mercator's Map, because he makes the Hydasphes prevail over the Akefines, and therefore the stream he brings them into is called

75 Arrian affirms the contrary, Lib. v. p. 199.

N. 2
still unknown. The chain of mountains coming from Candahar, the
Paropamisus of the ancients, and the seat of the modern Agwhans
or Afghans, takes a sweep 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 side of
that river, and, dividing itself to encircle Cashmeer, emits the Che-
lum or Hydaspes from its northern ridge, while its southern chain
sends forth the Akesines, Hydromites, and Hyphasis. The moun-
tains 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
from Dehli, and within which, it is probable, the sources of the
Setledj will be found.

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
solstice 51; and from this circumstance both Alexander and Timour,
who planned a summer campaign, experienced all the inconve-
niences of winter. The limits of these rains may be fixed at Moul-
tan; and from Moultan, the Indus, like the Nile, flows towards the
sea through a country rarely refreshed by the genial shower or nu-
tritious dew, and condemned to everlasting sterility 52, except a nar-
row margin which is moistened by the stream.

51 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.
52 The country, on both sides 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 termi-
nated by the Sand mountains, the residence of
the Alambetees or Jams. On the western
side, another desert extending to the range of
rocks inhabited by the Belootches.
COURSE OF THE FLEET DOWN THE INDUS.

In conducting the navigation of the fleet through this desert tract, it is difficult to find a situation for the tribes which Alexander found to conquer. Some scattered 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 must have been of small importance to the conqueror.

If I could hope for health and leisure to attend this conqueror through his several campaigns, I am persuaded 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 Shanfreet. This is what the demonstration required, at a period when the Shanfreet 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:

<table>
<thead>
<tr>
<th>Arrian</th>
<th>Ptolemy</th>
<th>Shanfreet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydaspes</td>
<td>Bidaspes</td>
<td>Bidafta, or Bedufta,</td>
</tr>
<tr>
<td>A-kefin-es</td>
<td>Sandabala</td>
<td>Chandar-Bahka,</td>
</tr>
<tr>
<td>Hydracotes</td>
<td>Rhuadis</td>
<td>Iyrawutti,</td>
</tr>
<tr>
<td>Hyphenis</td>
<td>Bipafis</td>
<td>Beypafha,</td>
</tr>
<tr>
<td>Saranges</td>
<td>Zadadrus</td>
<td>Shatooder, or Satludj.</td>
</tr>
</tbody>
</table>

**Ast** Behker and Sewee only occur in this tract. Their relative value is considered here.

N.I.KAIA,
NIKAIA, or NICÆA.

III. After establishing the several rivers with their mutual connection and relation, let us return to the Hydaspes or Chelum, to search 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 so much precision to another point, that we can hardly be mistaken. On a bend of the Hydaspes, he says, there is an island surrounded by the river, with a second branch, or artificial canal, on the eastern side. Below the southern point of this island, and the reunion of the river, Porus had drawn up his forces on the eastern side; Alexander, leaving Craterus with a considerable body of forces opposed to Porus, marched in the night to effect a passage, under cover of this island, to the opposite shore. He embarked himself in a galley, and conveyed his troops in boats brought over land from the Indus. He had scarcely disembarked them, when he found himself encircled by another channel, which, being swelled by the solstitial rains, he forded with great difficulty; then, turning to his right, he followed the course of the stream, and, after defeating the son of Porus, advanced to the spot where the king himself had drawn up his forces opposite to Craterus. Here the battle was fought, and here must be the site of Nicæa.²⁶

²⁶ Major Rennell, in his Memoir, p. 93, concludes that Alexander passed the Chelum at Rotas; but in the accompanying map places Nicæa lower down—28 miles. Jamad, by de la Rochette, 66 miles. by Rennell's first Map, 65 miles. by Rennell's second Map, 28 miles. Arrian says, Alexander marched one hundred and fifty stadia from his camp to the island; by a rude calculation I make it nine miles. As the stadion of Arrian has already been made to appear very indefinite, I can only say it is not here the stadion 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 space of about eighteen or twenty hours.

The
COURSE OF THE FLEET DOWN THE INDUS. 95

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 requisite distance 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 source of exaction. This island is called Jamad by de la Rochette, and by Major Rennell in his second Map; in his first Map it contains a fort named Shah Buldien's Fort, equivalent, I conclude, to Cheref-eddine's 56 Chehabeddin. It is remarkable that Chehabeddin 56 should oppose the progress of Timour, at the distance of sixteen centuries, almost in the very spot where Porus had encountered Alexander. From the resistance of Chehabeddin, it may be presumed that the island has the advantage of high ground and woods, as described by Arrian; and that it was a place of importance 57 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 consequently was another from this fort to Lahore.

57 To this the translator, Petis de la Croix, subjoins a note.

Jamad. Rivière près de l'Indus. C'est la suite de la rivière de Dendana, qui vient du Cachmir.

56 And p. 49. Se confiant à la force de son île, 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. Goffelin's method of correcting Ptolemy; and as it is one object of this work to reconcile ancient geography with modern, the system of Mr. Goffelin is worthy of consideration.

His system I am not bound to adopt in all its parts, neither do I believe that the geography of Eratosthenes was founded, as he asserts, upon an earlier and better hypothesis, whether Chaldean, Egyptian, or Greek. I have much hesitation also in acceding to M. Goffelin'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 "² Greek feet, and the Greek foot is very nearly equal to the English. Eight "² 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 divided in toises than English measures. The French toise, however, being six feet, and the foot French to the foot English nearly as sixteen to fifteen, the reduction may be easily made by any one who wishes to compare it with the

---

²² This, however, is said to be the estimation of Eratosthenes.
²⁸ Some authors make it six hundred and twenty-five. D'Anville Mèfures Itin. p. 70. See Blair's Geog. p. 67.
²⁸ Eight one-third according to Polybius, Strabo, p. 322; in which there must be some error, or something not understood.
D'Anville never values this one-third of Polybius in his calculation.
600 feet = 94 ½ French toises.

<table>
<thead>
<tr>
<th>English</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>94 ½</td>
</tr>
<tr>
<td>4</td>
<td>75 ½</td>
</tr>
<tr>
<td>846</td>
<td>4 ¹/₂</td>
</tr>
<tr>
<td>756 toises, D'Anville's Rom. mile.</td>
<td>850 ½ toises: 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-four one-half toises over.</td>
</tr>
</tbody>
</table>
English mile. Let us observe next, that d'Anville reckons seventy-five 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 toises.

<table>
<thead>
<tr>
<th>Stadium</th>
<th>Toises</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>47,250</td>
</tr>
<tr>
<td>600</td>
<td>56,700</td>
</tr>
<tr>
<td>700</td>
<td>66,150</td>
</tr>
</tbody>
</table>

Hence it appears, that the computation by six 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 system 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 five 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 five 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

---

91 Mr. Dalrymple approves of plain, or Mercator’s charts, and the rule given for calculating the true longitude according to the diminution of the degree of longitude in proportion to the distance from the equator.
this experiment is extraordinary; and having explained the principle it
it is founded on, I must leave the defence of it to Mr. Gosselin him-
self. This is, however, 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 seven hundred stadia to a degree of latitude, while he
assumed only five hundred to a degree of longitude. It is not re-
quisite 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 Green-
wich or Paris, on which most of the charts I was concerned with
were founded. I referred this question to Mr. de la Rochette II,
whose knowledge of the science qualifies him to solve problems of
much greater intricacy, and his solution I have printed in the
Appendix III. The result of it is this, that Ptolemy makes the
difference of longitude between Ferro and London twenty degrees,
while the real difference, according to Malfeline's Tables, is
17° 40' 13". This is consequently the allowance to be made; and
in place 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
Chelem, from whence I take the first departure of the fleet.

II Mr. de la Rochette is the author of a
variety of maps published by Faden; particularly two, one of India and one of the Propontis, which place him high in the rank of
modern geographers. He has composed also
a map for the conquests of Alexander, which
I would have obtained for this work if I had
dared to venture on the purchase.

III See Appendix, No. II.
COURSE OF THE FLEET DOWN THE INDUS.

Ptolemy has not Nicaea in his series, but Bucephala only**; as Bucephala, however, is supposed to have been on the opposite side of the river, the difference is inconsiderable.

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, 89° 30′ 0″.
Longitude by Ptolemy, 125° 30′ 0″.

Mr. Gullielm's method of correction follows:

Longitude of Ptolemy, 125° 30′ 0″
500 stadia.

<table>
<thead>
<tr>
<th>Stadia</th>
<th>62750</th>
<th>89</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600</td>
<td>6750</td>
<td>6300</td>
</tr>
<tr>
<td>250</td>
<td>45°</td>
<td>60 minutes</td>
</tr>
</tbody>
</table>

700 | 27000 | 38 |
2100 |
6000 |
5600 |

400 reducible to seconds.

** See Cellarius, tom. ii. 529.
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 $89^\circ 38'$ was only eight minutes more than the true difference of longitude, his observation was, "That Mr. Goellin's method of correction succeeded wonderfully in this instance; but that he did not immediately recollect whether Ptolemy had any where said, that he assumed five hundred 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 found by Mr. Goellin, and that the inference was formed upon a comparison of the plain chart of Eratosthenes, with the spherical chart of Ptolemy.

### N I C A X A.

<table>
<thead>
<tr>
<th></th>
<th>Longitude by Ptolemy, from Ferro</th>
<th>Longitude of Ptolemy, reduced to Greenwich,</th>
<th>and corrected by Mr. Goellin's method,</th>
<th>Longitude by Rennell,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$125^\circ 30' 0''$</td>
<td>$89^\circ 38' 0''$</td>
<td></td>
<td>$89^\circ 36' 0''$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Latitude by Ptolemy</th>
<th>Latitude by Rennell</th>
<th>Latitude by de la Rochette</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$30^\circ 20' 0''$</td>
<td>$31^\circ 40' 0''$</td>
<td>$31^\circ 30' 0''$</td>
</tr>
</tbody>
</table>

At Nicaea⁹⁵, therefore, we fix the departure of the fleet on the twenty-third of October, in the year three hundred and twenty-seven before Christ. The views of Alexander in preparing the fleet and undertaking the navigation have been sufficiently noticed already;

⁹⁵ Diodorus makes the departure from the Aekines. Lib. xvii. 234.
already; but the anxiety which oppressed his mind cannot be exhibited better than in the description of Arrian, or the language of Nearchus himself.

He dreaded, says the historian, the length of the voyage, the danger of a desert coast, the want of harbours, and the difficulty of supplies; he was fearful lest a failure should tarnish the splendour of his former actions; still, however, the desire of attempting something new and extraordinary prevailed. But who was to command such an expedition? Who was capable of inspiring the men with confidence; or persuading them, that in undertaking such a service they were not abandoned to destruction? Such, says Nearchus, was the perturbation of Alexander when he ordered me to attend him, and consulted me on the choice of a commander. "One," said he, "excuses himself because he thinks the danger insuperable; others are unfit for the service 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 myself for the command, and promised the king that, under the protection of God, I would conduct the fleet safe into the gulph of Persia, if the sea were navigable, and the undertaking 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 distresses and hazard of such a voyage! Nearchus still persisted in his proposal, and intreated the acceptance of his services. At

* Arrian introduces this account after the fleet had reached Pattala; but as Nearchus commanded during the passage down the Indus, it is much more probable that the conversation took place before his first appointment. 

* Tü Öiu. Arrian was the disciple of Epictetus.
length the king, who had probably consulted 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 considered 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 succeeded to terror, the ships were equipped, not only with what was necessary, but with great splendour; the officers vying with each other who should collect the best men for the service, and have his complement most effective. Success was anticipated, and despair subdued.

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

**Macedonians.**

1. Hephæstion, son of Amyntor.
2. Leonnatus, Eumus.
3. Lyssimachus, Agathocles.
5. Archon, Clinas.

**Footnotes:**

* It is true that Arrian, p. 236, says, the Triacosteri were eighty; but under that title, as a general one, he probably includes the Hemiolai, or half-decked vessels. The Hemiolai are half-decked vessels, according to Gronovius; but Calsabon ad Athen. lib. v. p. 203, says, they were rowed with two banks of oars from the head to the mast, and from the mast aft, with one. Not. p. 737.
Macedonians.

6. Demonicus, son of Athenæus.
7. Archias, —— Anaxidotus.
8. Ophellas, —— Silenus.

These were all citizens of Pella.

11. Lampedon, —— Larichus.
12. Androstheneus, —— Callistratus.

Citizens of Amphipolis.


Natives of Orestes.

15. Ptolemy, son of Lagus.

Natives of Eordaia.

17. Metron, son of Epicharmus.

Natives of Pydna.

19. Attalus, son of Andromenes.
Native of Stymphæa.

20. Peucestas, son of Alexander.
Native of Mieza.

Native of Alcomenæ.

22. Leonnatus, son of Antipater.
Native of Ἐγξα.

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

23. Pantauchus, son of Nicolaus.
   Native of Aloris.

24. Mylæas, son of Zoilus.
   Native of Bæa.

Thus far the list consists of Macedonians.

25. Medius, son of Oxynthemis.
   Native of Larissa, in Thessaly.

   Native of Cardia.

27. Critobulus, son of Plato.
   Native of Cos.

28. Thoas, son of Menodorus.

29. Mæandrus, Mandrogenes.
   Natives of Magnesia.

30. Andron, son of Cabelas.
   Native of Teios.

   Native of Soli, in Cyprus.

32. Nithadon, son of Pnytagoras.
   Native of Salamis, in Cyprus.

33. Magoas, son of Pharnuches.
   A Perian.

Oneficultus of Astypalæa, Pilot, and Master of Alexander's own ship.
Evagoras, son of Eucleon a Corinthian, Secretary, or Commissary to the Fleet.

---

201 Nithaphon Gronov.

Strabo mentions an Androthene of Thatus, p. 766, who sailed with Nearchus, but he does not say in what capacity; I conclude, however, that it is the same Androthene who went down the gulph of Persia to explore the Arabian coast. Ar. lib. vii. p. 301.

Instead
Instead of this barren list of officers, many of whom certainly did not accompany Nearchus round the coast, and many whose names are never mentioned except upon this occasion, it would have been some satisfaction, if it were possible, to have preferred the list 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 Onesicritus.

If the whole journal of Nearchus is preserved by Arrian, there is some 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. Hephaéstion, Leonnatus, Lysimachus, Ptolemy, Craterus, Attalus, Peuceftas, and probably many others, had evidently only a temporary or honorary command; and the silence 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 service, thirty galleys might possibly contain from two to three thousand \(^{103}\) men; but this estimation of both is uncertain, and in reality too high, considering the little means of support they found on the voyage, and the impossibility of discriminating the fighting men from the mariners.

The mariners were supplied from a number of Phœnicians, Egyptians, Cyprians, Ionians, natives of the Hellepont and Ægean

---

\(^{103}\) It is possible that I may estimate the number too high, both here and on the voyage. See Kokala. For the whole fleet, including transports, carried no more troops than eight thousand. The mariners I find no proper data to calculate. At other times, indeed, eighteen hundred horse and ten thousand foot are embarked.
illands, 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 service which required little more than bodily strength, the Greeks frequently assigned to slaves, or those removed but one degree from slavery.

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 vessels is estimated at two thousand by the historians, including all sorts, from the galley to the tender. The collecting of such 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 similar practice at the isthmus of Corinth, or consider that Alexander was at the head of an hundred and twenty thousand men, and was possessed of treasures, alliances, dependents, and tributaries, sufficient to command the services 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 size of the vessels, the conveyance of horses aboard, the numbers and splendour of the equipment attracted the natives to be spectators of the pomp. The sound of instruments, the clang of arms, the commands of the officers, the measured song of the modulators, the responses of

104 Eight hundred ships of war and transports.
105 We must suppose some extraordinary means requisite, as the space between the Indus and Hydaspes is estimated at sixty-eight cose, or about one hundred and thirty miles. This distance, indeed, might be diminished by descending the Indus, but we have no data to direct us how far.
106 It is not improbable that Alexander had supplied his cavalry with horses from the Persian Sahan. Ayeen Akbari.
107 Κάκονταί.
108 So Gronovius renders Μονή.
the mariners, the dashing of the oars, and these sounds 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 Aksesines alone; that river he estimates at fifteen "" stadia, the Hydaspes"" at twenty. The Indus, he says, was forty at a medium, and fifteen where narrowest; that in its course from the confluence of the Aksesines to the Delta of Pattala it was an hundred, and lower towards the sea 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 subject; the highest, he says, 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 crossed 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 some 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

"" P. 272.  
*** P. 239.  
"" Lib. xiv. p. 700.  
"" Eight to a mile Roman.  
*** Rennell, p. 109.  
smuch
much facility; but even Mr. d'Anville's stadium of fifty-one toises, which gives somewhat more than sixteen 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 supply two miles and a half to the Indus above the confluence; an hundred produces six miles and a quarter for the breadth between the confluence and Pattala; and two hundred, twelve miles and a 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 Onesicritus recorded by Strabo, who says, the Indus rises forty feet, twenty to its banks and twenty above them. But, unfortunately for this assertion, the fleet left Nicsea in October, when the swelling must have been on the decrease, and reached Pattala in July, before the next year's swelling could be very evident in the lower part of the river. According to Tieffenbaler and the Aycen Akbari, the Indus between Moultan and Tatta runs in a stream comparatively narrow, but very deep, and Hamilton affords, 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 seems to justify this at the time when he mentions the hundred stadia; for he adds, "this is the breadth when it spreads" its waters most." Much

114 It is very possible that the channel from 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 perhaps above one hundred stadia where it spreads the widest.

It is reasonable to conclude, that all the varying accounts of the breadth of the river, which, as Strabo observes, fluctuate between seven and an hundred stadia, owe their disagreement to the different views of the stream, either in its lowest or its highest state. See Arrian, lib. r. p. 280. Ctesias (if Ctesias is any authority) says, that the Indus where narrowest is forty stadia in breadth, and where widest an hundred; but that in general, a medium between these may be assigned.

reason
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 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 Hephæston 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 Hephæston 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 Sophistes, which seems to occupy the angle between the

416 It is remarkable that Curtius mentions also this river—profundo alveo—flagmantibus aquis—occulis faxis—fine vado—in medio amnis insula crebra—una insula amplior cataris. All precedent circumstances, and the last agreeing with Arrian, though omitted by Diodorus. Q. Curtius, vol. ii. 653.

417 'Arrianus' is not exactly by Arrian. It sometimes means all the companions, 'et ripis', sometimes id est 'barbares', the royal troop.

418 See the note of Gronovius in loco, upon the division of forces, p. 333.

419 Strabo and Curtius make Sophistes and the Kathai the same. The title of the Kathai is known. They were between the Hydrantes and the Hyphasus to the southward of Lahore. Arrian makes them different; but if Sophistes was in the angle between the Hydrantes and the Hyphasus, Hephæston must have passed two rivers to reach them.
junction of the Hyphasis and the Akeines. Having distributed the land forces in this manner, Alexander fell down the river for three days to a station, where he halted two more for the troops to join, and then proceeding again for five ""days, he reached the confluence of the Hydaspes and Akeines "". 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 sixty to seventy miles "", and with three armies moving in separate divisions, encumbered with plunder, and obliged to make roads or find them, corresponding with the sinuosity 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 six hundred stadia a-day. Q. Curtius "" mentions expressly in this part of the passage, that the rate was only forty. Freinsheim, in order to reconcile to glaring a contradiction, supposes four hundred ""; but if seventy-five or fifty miles is too much, and five is too little, some other remedy must be sought. It is true, as Mr. Rennell observes of the Ganges, that a passage of fifty "" or sixty "" miles a-day is easily performed when the river is swollen; but this

---

""Major Rennell supposes only five days from Nicesa to the junction. Arrian from Megalhenes says, at Cambiistholi or Antrobus. Which of the two is right seems hard to discover. See p. 317. Rennell’s first map, 75; second map, 72. De la Rochette, 57. Vol. ii. p. 621. By reading quadringenti for quadragesima. See Curt, in loco. Major Rennell, from his Latin Itinerary, supposes twenty miles a day’s passage for a boat on the Indus. Rennell supposes thirty-eight miles a day down the Indus, p. 290, second Memoir.
COURSE OF THE FLEET DOWN THE INDUS.

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. "", the repetition of sixty stadia for eight days gives sixty miles, a distance not greatly differing from Rennell's corrected map, consistent with probability, and correspondent to the ordinary progress of an army in similar circumstances.

The Hydaspes and Akefines 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

32 This is a conjecture not authorized by the text of Curtius, as given either by Frei-ehem or Snakenbörck, for both read quadruplicata 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.

33 The march of Timour from Jamad to 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 Petit de la Croix.

Après avoir achevé heureusement l'affaire de Chehabeddin, l'on marche vingt-six jours, au bord du fleuve Jamad (Hydaspes), et... on alla camper sur le bord de la rivière de Genave (Akefines), à une fortebrise, vis à vis de laquelle se fait le confluent de la rivière de Jamad avec celle de Genave, i. e. the Hydaspes with the Akefines.

Five or six 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 Hephæstion detached on an expedition.

Lord Cornwallis, in his march from Bangalore 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 spot. 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 silent with astonishment; but as the stream carried them nearer, the commanders recalled both to their duty, and directed them to exert their utmost strength, that the vessels 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 sort, suffered greatly, and some, 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 vessel, 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 saved such of their crews as were able to swim. 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-

---

120 Les vagues qui se forment en ce lieu la 177 To πολεμικον ταῦτα; it was a part fond parasite une mer agitée. Cheref-édin, of the phalanx.

vol. iii. p. 52.

veyed
veyed over the Hydaspes, and proceed under the command of Craterus, while he landed himself and ravaged the neighbouring territory, to prevent succours being sent 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 Hephaestion 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 Akesines 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 himself wounded in storming an inconsiderable fortress of the Malli. The territory of this tribe naturally suggests an idea that it may be the same as the celebrated province, or Soobah, which takes its name from Mouttan, a city well known for its situation and commerce in Europe as well as India.

MOULTAN.

Longitude

from Greenwich by Rennell, 70 40
add from Ferro, 17 40
88 20
from Ferro by Ptolemy, 127 0
Ptolemy corrected by Gosselin, 90 4

Latitude

by Ptolemy, 31 15
by Rennell 29 50
by the Turkish geographer, 29 30
Etval’s, 29 40 11

121 See Otter, tom. i. 407.
According to the rivers of Ptolemy, Caspina on the Rhuadis ought to be Moultan upon the Rayee; but if it is so, his latitude is very erroneous, for he places it north of Bucephala, whereas it is near a degree to the south." 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 south. Major Rennell has noticed this with his usual accuracy, and the testimony of Arrian is direct; for he says that Alexander, after having passed the Hydraotes, returned and crossed 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 says the Pergunnah of Shoor joins the boundary of Moultan on the north, he evidently shews that this soobah extends to the north of the Rayee or Hydraotes, and consequently comprehends the spot allotted for the situation 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 soon as his wound permitted him to be removed, he was conveyed in a galley down the stream of the latter. The transport of

---

22 See Ptol. p. 171, and Mercator's Map Asia, tab. x.
23 See Second Memoir, p. 97, Major Rennell places this nameless fort ten miles from the conflux of the Hydraotes and Akefines, below Tolomba.
25 Shoor lies upon the Chen-ab or Akefines, near the junction of that river with the Chelum (Hydaspes). See in confirmation, Ayeen Akbari, vol. ii. p. 106.
26 Alexander did not land at the actual junction of the rivers, but at the camp of Hephzibah, on the Hydraotes, a small distance higher up. See p. 252. Ar.
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 foobah of Mouttan, and occupies the angle formed by the junction of the Chen-ab, or Akesines "", with the Indus. It is somewhat singular that Arrian should mention these people as cantioned into departments, and their magistrates "" as presiding in each separate canton, while the moderns distinguish them to this day by the appellation of the Seven "" Towns of Outche "". 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.

118 Ἥπτας τῶν τίθεντος ὃς ἐν ὑπαρχῇ.
190 See Tiefenthaler, vol. i. p. 118, and de la Rochette's map.
140 Perhaps the orthography is, Ouj, or 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 chariots, and their territory, with that of the Malli, was added to the satrapy of Philip. During the continuance of the army at this place an additional number of vessels had been built, and seventeen 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 Akesines 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 usual 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 omission 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 situated to the southward of the Ravee or Hydraotes, is considered as one of the oldest in India;

*** I should rather read ὠτακάτα fifty, than mation of an error. The number is extrava- gant.
it has a citadel and a wall of brick four miles "44 in circumference. The climate is hot in the extreme, the soil a burning sand, and rain is seldom known. A branch or canal from the Ravee, called Mo-
nan, approaches within one cosse of the town; the Ravee itself is
only two cosse distance, and the Indus twelve or fourteen. The
junction of the Ravee and Chen-ab is distant twenty-five "45 miles,
and that of the Chen-ab and Indus eighty."46. It is not impossible
that a town of the Malli should have occupied this site in the time
of Alexander, but certainly not as a capital, or a place of impor-
tance; for the Macedonians were more ready to give consequence to
the places they subdued, than to detract from them; but local cir-
cumstances by no means disallow of its being one of those for-
tresses "47 attacked by Alexander upon his first crossing the Hydra-
otes, and before he recrossed that river, to the place where he was
wounded.

From the junction of the Hydraotes with the Akesines the fleet
now fell down to another station, at the point where the Akesines
with all its tributary waters is united with the Indus, waiting there
for the arrival of Perdicas, who had been employed in subduing
the Asian. The submission of another tribe named Ossalii 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-
clude,
clude, that these vessels 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 consisting of galleys and transports newly built, but it is hardly credible that the whole \textsuperscript{146} fleet had been carried over land, and highly probable that part left behind had been augmented at Xathira. If we had any data to fix the position of Xathira on the Indus, it would afford great satisfaction to prove the length of the line of transportation, but Xathira is named only by Arrian, and does not appear in Ptolemy, Strabo, Diodorus, or Q. Curtius.

At the confluence of the Akesines with the Indus, Alexander fixed the establishment of a new city, of which, though we find no traces in modern accounts, we may naturally consider the situation 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 several sources 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 coast. The judicious choice of a site for this Alexandria (for such probably was its name) has been as little noticed by the historians as imitated by the native \textsuperscript{147} powers of India; nothing is found in the

\textsuperscript{146} A similar conveyance of vessels overland appears, lib. vii. p. 300, from Phoenicia to Thapacae. Three Quadriremes, twelve Triremes, thirty Triacenturi, divided into parts, and brought over land by a longer transport certainly than from the Indus to the Hydaspes or Chelum.

\textsuperscript{147} Whatever local circumstances have contributed to the situation of Moulan, have united also in preventing the growth of a city at this confluence.
COURSE OF THE FLEET DOWN THE INDUS.

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

Alexander remained here some 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 satrapy, 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 sufficient for the defence of the province.

SOGDI. BEHKER.

IV. As we are now to leave the confluences of the respective rivers, which have hitherto served to direct us in the position of cities, tribes, and countries, a scene of difficulties opens which nothing but a desire 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 scanty; for Arrian and Diodorus have only two short pages, Quintus 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

No magnificent idea is requisite to conceive the building of cities in the east. A fort or citadel, with a mud wall to mark the circumference of the Pettah, or town, is all that falls to the share of the founder. The habitations for the natives are raised in a few days or hours; and inhabitants are supplied either by force, or, if the place is commodious, by inclination. Timour, as well as Alexander, built cities in two, three, or five days. The soldan of Egypt influx Timour, by telling him that the cities of the east are built of mud and ephemeral, ours in Syria, says he, and Egypt, are of stone, and eternal. Cheref-eddin.
distances are equally disregarded by all. Added to this, I feel some repugnance in deserting 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 seat of Musikanus's government was very near 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 Akesines to Tatta, four hundred miles in one channel, with hardly a single point to characterize 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. Sewifstan, between Behker and Tatta. IV. Nusleerpoor, extending east from the head of the Delta; and, V. Chuherhaleh, (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

---

249 Though I desert Major Rennell, I have the approbation of d'Anville.
La ville royale des Sogdi, ne peut mieux se rapporter qu'à Bakor, qui a servi de résidence à des rois de cette contrée.
Renfermée dans une ile deux villes sur les rives opposées Sukoret Louhri l'accompagnent.

But d'Anville himself is mistaken about Sin-

domana, ibid. and Eclaircielemens, p. 36; Antiq. de l'Inde, p. 32.
De la Rochette follows d'Anville in placing Musikanus at Sewee.

331 I believe not near, but next to.

Πρὸς ἀντὶ η΄ ἐν τῇ Πατταλαὶ τῇ τῇ Μου-
καν ηγηθε, ἢ τῇ Σαμοῖτα Σαλμαλίαν, ἢ τῆς τῆς

331 Three Hundred. De la Rochette.
two principal positions on the river, between the confluence and the
Pattalene; Behker in Moultan, and Sewee in Tatta. We have
likewise two governments named in ancient history, that of the
Sogdi and of Musikanus

I shall consider each more particularly hereafter; but at present 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 present day; if so, 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 subject. For the Indus,
although it resembles the Nile in forming the centre of a valley
and watering a country where no rain falls, differs in some points
more essential. The map is crowded 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 sand hills on the east are the residence of the
Alshambety, while a chain of rocks on the west commences from
the sea, 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 seat
of the Aghwans, the conquerors of Persia and the defolators of In-
dia; and this range from the sea produces the Belootches, a tribe no

128 Oxykanus was not on the Indus.
129 Major Rennell, Postscript.
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 Sewitan and Hajikan; and if there were any guide to direct me, I should as readily assign Hajikan for the seat of the Abafani reduced by Perdicas, as I can nearly demonstrate that the lower branch in Sewitan 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 Sambeftæ and Sodrae of Diodorus. We need not insist on the diversity of names, for it matters little; but the transactions which occurred, the voluntary surrender of the place, and the establishment of docks and arsenals, are all similar and accordant; and though Diodorus would make the Sambeftæ and Sodrae distinct tribes, his transactions are too clear to leave a doubt. II. The Musikanus 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 Pædi of Q. Curtius, the Portikanus of Diodorus and Strabo. IV. And finally, the Sambus of Arrian has the same appellation in Diodorus, and is the Sabus of Q. Curtius, the Sabutas of Strabo. A situation 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 persuaded 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 cursory view of the map, a fort and dock-yard at the confluence of the Akelines, 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 Akelines, Craterus with the elephants and the greater part of the army was transported to the eastern side of the Indus, as the country on that side 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 18 at Behker, the distance appears from Major Rennell to be short of an hundred and fifty 17 miles. In the same order follow the Sabracæ of Q. Curtius, and the Sambelæ of Diodorus; both describe this tribe as living under a republican 18 form of government, and defended by an army of sixty thousand foot, six thousand horse, and five hundred chariots; both specify the submission of this people without a battle, and Diodorus adds, that th. Maffani 19 and Sodraæ were borderers on the river, who submitted at the same time. In the construction of a citadel and docks at this place 20, all the three historians agree.

185 In a right line by the scale.
187 Eighty. De la Rochette.
188 Arrian says expressly, &c. Sambelæ.
189 Maffani and Sodraæ are perhaps the modern Pekier and Sekier, in Sekier written Sackor and Sunkar; these may be the representative of Sogdi and Sodraæ.
190 Q. Curtius mentions an Alexandria four days lower down; but it must be referred to this place, as he names no nation or sect.

R 2 Now
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 fifty 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 confusion and obscurity. Another consideration is, that Behker in the modern division of the province is a circar of Moultan; and where the Dooabei "" 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.**

<table>
<thead>
<tr>
<th>Longitude</th>
<th>Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>by Ptolemy, from Ferro, 118° 0’ 0”</td>
<td>Ptolemy, 25° 20’ 0”</td>
</tr>
<tr>
<td>by Rennell, from Greenwich, 70° 0’ 0”</td>
<td>Rennell, 27° 33’ 0”</td>
</tr>
<tr>
<td>add from Ferro, - 17° 40’ 0”</td>
<td>Oriental. Otter, 34° 0’ 0”</td>
</tr>
<tr>
<td></td>
<td>De la Rochette, 27° 27’ 0”</td>
</tr>
<tr>
<td>87° 40’ 0”</td>
<td></td>
</tr>
</tbody>
</table>

Ptolemy corrected by Gosselin, 84° 16’ 0”

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

"" A space between two rivers. Doo, two; Ah, water.

Behk-nagar,
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 Doobeh of Behker contains twelve mahls, or places for collecting the revenue, which amounts to fifty-seven thousand five hundred and seventy-eight pounds sterling, 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 Akelines 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; 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

Louheri

163 The names of the twelve mahls are the same in Tiefenthaler and the Ayeen Akbari. If any one wishes to see what spelling can do to confound, he should consult both. Tief. vol. i. 117. Ayeen Akb. vol. ii. 103.
164 Reckoning the dam forty to a rupee. 165 Mansura is a city entircled at a distance 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 Mansura.
Louheri of de la Rochette. Tekier is situated either at the re-union of the river after its separation 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 Sadræae 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 circuit of Behker, and that the name is derived from the first place in the circuit 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 Muskanus; 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.

Manfura; the inferior turns to the north towards Sarufan, and then winds back again to the west [read east], till it joins the main channel once more, about twelve miles below the city. Manfura 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 Manfura two different places, which the Ayeen Akbari proves to be the same; but d’Anville places Behker near four degrees higher up the stream, and this Manfura he places below Shihan. Otter has fallen into the same error. Vol. i. 406, 407.

Major Rennell makes the isle thirty-five miles in length, which does not differ much from Al Edrisi’s account. Manfura is doubtless a Mahometan, and not an Indian title, for it expresses widiery in Arabic. See Melchitz. Thevenot, tom. i. in Abulfedam, p. 19.

From
From this island of the Sogdi, Craterus was detached into Arachosia and Drangiana; but as we hear of him again at the next station 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 design is perfectly consistent 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 pursue, and then returned to the main army. The reunion of these forces will be noticed in its proper place.

From Sogdi then, the Behker of the Hindoos, the Mansura 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 said, that Strabo is my authority for placing Musikanus lower down the river than Major Rennell; for Strabo says 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 considered, the immediate arrival of the fleet at Pattala confirms the assertion of Strabo.

---

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

166 This island of Behker has two dependant places, Tekier and Sekier, so written by Otter, vol. i. 409. Frazer writes Buckar for Behker, Sankar for Sekier. Treaty Nadir Shah. Khoudahad seems to be Shicarpur of de la Rochette's sheet map.
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 consider the present distribution of the provinces. Sewistan, the name of this circar, comprehends the country on both sides the river; but on the east there is probably little cultivation, as the tract tends toward the desert and the sand hills; on the west, there are branches from the mountains extending towards the river inhabited by Belootches, and on one of these 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 subject 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 mentions a chain of mountains extending from Sehwan to Seewee, regarding them as different places though in the same circar; and an


obscure
obscure San" marked on the maps is possibly a corruption of Schwan. Be this as it may, Sihwan is an appellation sufficiently known and acknowledged; and this word, I think, may be discovered in Mu-sihan-us, Ok-sihan-us, Por-sihan-us²⁶⁷, for the aspirate b" passes into k in almost all words derived from Oriental languages. The termination is Greek for sake of inflexion only, and the initial syllable will possibly be found in the Shanfskreet to convey an idea of the relation in which they stand. If the distinction between Seewee and Schwan could be established, I should have little difficulty in ascertaining, that Moo-sihwan²⁶⁷ was the chief of one, and Ok-sihwan of the other. I am sensible etymology meets with little encouragement in the present age; but I am likewise convinced from much study 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 society in Bengal for Asiatic researches shall direct their inquiry this way, they will discover more than can at present be calculated. I have proved this in regard to the names of the Panje-ab rivers; others have long seen it in the Malli, Oxydracæ, Peukaliotis, Gurai; and I am convinced that every name mentioned in the historians of Alexander will be found either

²⁶⁶ San may be, however, the Cahan which Tiffenthaler places in this circar, p. 122.
²⁶⁷ It is remarkable that the reading of this name differs in Q. Curtius, Posticanus, Porricanus. I ask for a third reading: Porssicanus.
²⁶⁸ Han or Ham, the original title equivalent to Chief or Lord, passes into Kan, Khan, Cham, and Cawan. Da Halde. I do not object to applying Kan Khan to Mufi-kanus, if it should be proved that the Tartars had entered India at so early a period.

²⁶⁷ The title of a Hindu prince who reigned in this circar formerly, and whose government extended from Mekran to Cachemire, was Sihan. Tiffenthaler, vol. i. p. 122, writes Sihan.

In a situation lower down, near Dron, appears a district named Maa or Ebrat by Abul-feda. D'Anville, Esclairencens, p. 39. Who will translate Maa? I state this merely to shew that Maa is a native term.
in the history or memory of the Hindoos. I conceive that they exist in the Shanfsreet at this hour, though they may be known to Europeans in a different form derived from the Mogols, disfigured 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 sources 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 "" from Behker to Seeewee, and the Ayeen Akbari "" informs us, that the country is a desert subject in summer to the Semoom, or suffocating wind. The term desert, however, must be qualified; for we are informed that the Indus changes its course, inclining some years to the east "" and others to the west; and that it is not so absolutely desert, but that there are villages "" of herdsmen who change their habitation with the stream.

This circumstance, recorded by Strabo, proves the attention of the observers, and the fidelity of the historian; for when we find in Major Rennell "" that he had similar 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 scepticism cannot doubt.

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

---

"" In a right line by the scale. 
"" North and south. Ayeen Akbari. The same thing occurs at Behker; which favours the inclination given to the Indus by Major Rennell. 
"" Ayeen Akbari, ibid. Tiefenthaler. 
"" See Rennell's Postscript.
advanced to meet the monarch upon his arrival, and surrendered his city, territory, and elephants, at discretion. The readiness of his submission, and the acknowledgment of his offence, procured him a ready pardon; for upon all occasions of this nature, the policy and generosity of the conqueror were in union. He found the territory one of the richest in this part of India, and the city so commodiously situated, that he determined to erect a citadel here, and leave a sufficient garrison for its support.

Even in the comparative wealth of this place I find reason to think Musikanus must be fixed at Seeewee 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, while that of Seeewee 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 spot till it was completed. As soon as a proper garrison was appointed, an expedition was undertaken against Oxykanus commanded by the king himself; his forces consisted of the archers, Agrians, and the horse he had on board. If Arrian or any of the historians had told us on which side 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 of a district

---

379 "Economia estatis. Flourishing is perhaps a more proper term.
380 A forty days to the rupee.
381 Havelly is added to Seeewee in this account. Ayeen Akbari, vol. ii. p. 105.
Jumna.
in the same country, and are left to our own conjectures for the rest. My conjecture is directed by the mention of Sambus next, as a satrap appointed by Alexander himself over the Indians of the mountains; for the mountains mentioned here correspond exactly with the range called Lukhy in the Ayeen Akbari. They are a branch of that great chain which extends from the sea to Kandahar, a branch of which reaches nearly to the Indus at Seewee, and affords a residence for a horde of Belootches called Kulmany. On these mountains I have no hesitation 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 desert and the sandy 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 subdued. Q. Curtius relates these circumstances with some shade of difference; Oxykanus, he says, was killed, and the people he

---

Lakhi. Tiesseuthaler.  
Kābāko to ḡawma.  
calls
calls Pæstii. 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 of Strabo, the Sabbas of Plutarch, the Ambigarus of Juffin, the Ambiras of Orofius, the Sabus or Samus of Q. Curtius. This recital is preferred 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; but upon receiving intelligence that Musikanus had made his peace with the conqueror, he had abandoned his country and fled. For this flight no reason is assigned; but it is natural to suppose, that in the reconciliation of his enemy with Alexander, he
forewarn sufficient reason 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 submission. 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 jealousy 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 Belooches who possess the range of mountains called Luhky styled Kulmanics, are said by the Ayeen Akbari to consist of twenty thousand families, and able to bring ten thousand horses into the field. Their country, though covered with hard rock, black and barren, must be interwatered with fertile valleys; for besides the horses raised for their own service and for foreign sale, camels also are produced here in great abundance, sufficient, not only for the supply of Scindi, but of the interior provinces. From this account of a single tribe, we

See a similar conduct of the second Porus upon the reconciliation of the first Porus with Alexander. Porus on the Hydaspes had been an enemy to the other on the Hydaspes, and had sent deputies to the camp as the army was advancing. After the victory, and the admission of the conquered into favour, this second Porus fled upon the approach of the conqueror to his own territory. Lib. v. p. 223.

Vol. ii. p. 142. cannot
cannot be surprized at finding the general influence of the Belootches extending far to the westward at present, or even to Cape Jask, according to Niebhour; 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, from Clistarchus, 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 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; and though there are strong objections to all the rest of the narrative, Arrian was a man of such learning and judgment, that the truth seems hardly to be disputed. The whole account in Q. Curtius is confused as usual. For first Alexander enters the country of Sabus, and then falls four days down the river to attack his capital. This is perhaps an error from want of distinction between Sindonatia 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.

196 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 seas nearly in the same 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 Sinn 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 Arabian, and from them they derived the term Sin, which has produced the word China, now current throughout Europe.
jections to placing any city of importance sufficient to be considered as the head of Scindi in the mountains, it is not assuming too much to suppose that the Belootches might have a city at the foot of them. I speak with great diffidence upon the identical situation of Musikanus, Oxykanus, and Sambus; but I have no doubt about the settlement 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 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 resistance, 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 same 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 flight prepared to defend itself. It was taken without difficulty, and the Bramins, who were the admirers of resistance, were put to the sword. While these

rope, a term unknown to the Chinese themselves. Marco Polo, who entered from the north, never obtained this word, but calls China, Mangi, probably from the Mantecheou Tartars. The Arabians penetrated from the west; and though Ptolemy's knowledge extended not to China, his Sinus were the termination of his chart, and these were the Arabian Sin. See the Voyage of two Arabians to China in the twelfth Century, published by Renaudot, and in Harris's Collection.

99 See his Sheet Map of India, published by Faden.
transactions were going on, intelligence was brought that Musikanes had revolted. Python, now satrap of the province, was ordered to proceed against him, while Alexander seized the cities in his territory. These, we may conclude, lay between the country of Sambus and the river, and lower down than the residence of Musikanes; but whether Alexander returned thither, or joined the fleet below, does not evidently appear; he found Musikanes, however, a prisoner in the hands of Python, and executed him with the Bramins, who were the promoters of his revolt.

While Alexander was preparing for the prosecution 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 such of the companions and other Macedonians who had before been ordered to proceed through Arachosia 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 surveying and exploring the extensive provinces of his empire; and a secondary design suggests itself, which is, that he was already acquainted with the fertility 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, the chief of Pattala, and the Pattalene, came up the river, in order to make his submission, and to

\[\text{\textsuperscript{194} Μεκανατος \textsuperscript{τις οικίας της Πολιωτις, implies that Musikanes was brought in. If, therefore, Alexander was now in his city, Musikanes had left it and fled into the country, from whence he was now brought as a prisoner. Alexander executed him \textsuperscript{τον} \τον Πολιου, which does not quite imply his city, but his territory.}\]

\[\text{\textsuperscript{195} We have the name of this chief from Curtius; and I prefer a singular name for the investigation of future inquirers.}\]
surrender 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 accommodation 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 side of the river, while Python conducted the Agrians and light-horse on the west. The king proceeded with the same troops on board as before. He had advanced only three days, when intelligence was brought that Mæris had left Pattala, and fled into the desert with the greater part of his people. The progress of the fleet 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 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

---

196 This is inferred from the commission Python received to collect inhabitants for the cities already fortified; and which can be no other than those Alexander had taken and estab-

197 Lib. xv. p. 701. Πάτταληι ἡγεῖται τοῖς Ηπεΐχθησι συνεχείας, ad ipsam Pattalenam.

gographers,
geographers, and highly conducive to the elucidation of our classical 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 Sihwán to Tatta. This, with the sinuosity of the river, may be estimated at two hundred miles; and if we should now add eighty or ninety miles more to carry back Mufikanus to Behker, I ask what reference can Arrian's three days' voyage have to such a distance?—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 sixty miles out of an hundred and fifty or two hundred, we leave a sufficient residue 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 considered, there is every reason to conclude that Arrian is in harmony with Strabo; and as both these authors drew from original sources, whenever they agree, little attention is due to Diodorus, Q. Curtius, or Plutarch. Upon this occasion, however, though there is some 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

102 One hundred or one hundred and twenty, allowing for the course of the river.
from this foobah in general, and from the circar of Seewifstan 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, universally indicate "" population, commerce, and wealth. In the state of India, at this day, every chief who has a fortress is a khan or sovereign, and perhaps at this very instant there may be more than two such sovereigns in this identical district. It is Seewifstan itself that the Ayeen Akbari specifies as having forty thousand vessels on the Indus, and its revenue as amounting to forty-eight thousand five hundred and eighty-three "" pounds. It is probably not less than two hundred miles in length by an hundred and eighty in breadth, and contains nine mahals or subdivisions; these are fully equivalent to the territories or cities, which two such chiefs as Mulkhanus 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.

"" In the ancient world, Greece, Italy Holland, Switzerland, America. before the Romans were masters), Sicily, and Gaul, are instances. In the modern world, "" At forty dams to the rupee.
Before we proceed to Pattala, I shall explain another geographical problem, which, though not absolutely connected with the progress of Alexander, pertains immediately to the country where we now are. Mr. d’Anville and Major Rennell both express their surmise at finding a tract called Indo-Scythia \textsuperscript{351}, in Dionysius Periegetes, Ptolemy, and the author of the Periplus of the Erythraean Sea. This tract seems in their opinion to extend upwards on the western 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 thesimplest nature. We find in this tract two tribes of Belootches, one called Sethians, and the other \textsuperscript{352} Hendians \textsuperscript{353} or Sindhians, which, though ill defined, seem 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 \textsuperscript{354}. If then we may be allowed to add antiquity to these names, the Nomurdies and Sethians will be metamorphosed in Nomades and Scythians without hesitation; 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 set them down on the banks of the Indus.

\textsuperscript{351} Indo-Scythia belongs to the lower part of Scindya, according to d’Anville. Anc. Gea. vol. ii. p. 946. \textsuperscript{352} Perhaps d’Anville, by including Minnagar in it, (a constant mistake of his about Mansura or Behker,) is disposed to extend it on the east side of the Indus.

\textsuperscript{353} 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 Arabites are the same.

\textsuperscript{354} Ayee Akbari, Tieffenhaler, vol. i. p. 149.

\textsuperscript{355} Ayee Akbari, vol. ii. p. 142.
VI. P A T T A L A.

<table>
<thead>
<tr>
<th>Longitude</th>
<th>Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>by Ptolemy, from Ferro, 112 50 o</td>
<td>Ptolemy, 21 0 0</td>
</tr>
<tr>
<td>by Rennell, from Greenwich, 67 36 o</td>
<td>Rennell, 24 47 o</td>
</tr>
<tr>
<td>add from Ferro, 17 40 o</td>
<td></td>
</tr>
<tr>
<td></td>
<td>85 10 o</td>
</tr>
<tr>
<td>Ptolemy corrected by Mr. Goffelin's method, 80 0 0</td>
<td></td>
</tr>
<tr>
<td>Ayeen Akbari, 102 30 o</td>
<td>Ayeen Akbari, 24 10 0</td>
</tr>
<tr>
<td>Otter, { Abul-feda, 92 31 o</td>
<td>De la Rochette, 24 43 0</td>
</tr>
<tr>
<td>Etvals, 92 30 o</td>
<td></td>
</tr>
</tbody>
</table>

Rennell's estimation is taken from Braimabhad, 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 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-

---

Maurice Ind. Ant.
gerous, in the route from Guzerat, suggests ideas of hell with
great facility to the mind of an Hindoo.

The Pattalene is a Delta, like the Lower Egypt, but the dimen-
sions of it seem 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 geo-

ography. Ptolemy and the author of the Periplus assert, 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 ex-
treme 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

<table>
<thead>
<tr>
<th></th>
<th>Miles Eng.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrian, at</td>
<td></td>
</tr>
<tr>
<td>Pliny 307</td>
<td>300 ftadis,</td>
</tr>
<tr>
<td>Rennell’s first memoir</td>
<td>220 Roman miles,</td>
</tr>
<tr>
<td>Rennell’s second memoir</td>
<td>210 English miles,</td>
</tr>
<tr>
<td>D’Anville</td>
<td>150 English miles,</td>
</tr>
<tr>
<td>Dalrymple 308, Pritty’s chart</td>
<td>30 leagues 13 degree,</td>
</tr>
<tr>
<td>Dalrymple, by another chart</td>
<td>123 geog. miles,</td>
</tr>
<tr>
<td>De la Rochette</td>
<td>118 English miles,</td>
</tr>
<tr>
<td>Rennell’s map, by scale</td>
<td>170 English miles,</td>
</tr>
<tr>
<td>Ptolemy,</td>
<td>3 degrees 10 minutes,</td>
</tr>
</tbody>
</table>

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

307 By applying d’Anville’s solution to 308 Measured from Pandramme to Lari-
Pliny, his measure is nearly the same as bundar. Allow for Ptolemy’s degrees in lati-
Arrian’s.    tude 24.

observation,
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-five miles by the course of the river from Laribundar to Tatta, and Laribundar is from fifteen 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-four miles for the western branch of the Lower Delta, and is reduced to sixty-eight geographical miles by the scale. 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 source of obscurity which belongs to no other spot upon earth; for as the English charts give Laribundar 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

209 Curtius says, four hundred fidiia, and then three days sail added. Lib. ix. p. 9, 220 De la Rochette writes it Kartsch.
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 Gedrofia, 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 satrap 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-
tives who had deserted the city; and most of them, upon promise of safety and protection, returned. His next care was to explore the deserts on both sides, to find water and to sink wells. This is one evidence rather of a commercial than military tendency, for such, all who have travelled in the deserts will esteem it, and such 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 Hephaestion; 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 site of Braminabad now in ruins, within four miles of Tatta, will sufficiently correspond. This city, before the inroads of the Mahometans and Mogols, is said to have been surrounded with a wall that had fourteen hundred bastions; and the wealth and importance of such a capital, while commerce flourished on the Indus, plainly indicate 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 sea, will afford reason to suppose that the first is that upon which Lari-bundar stands in our best charts. This,

146 COURSE OF THE FLEET DOWN THE INDUS.

133 More probably on the west only.
134 Major Rennell's last map places Lari-bundar on the west of the Darraway, or rather ancient India, as superior to the modern; a Pitty branch.

Pity branch.

however,
however, is not clear; for Captain Hamilton, who describes Lari-bundar as a village 317 of an hundred houses with a fort, and who himself conducted 315 a caravan from hence to Tatta, does not inform us on which side the river it is placed. From the course of his march we should suppose it to be on the western side, as Rennell 317 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 314 of the ancient kings evidently at Braminabad, four miles from Tatta, as if they lay in his road; if so, Lari-bundar is not on the west of the Indus.

Mr. Dalrymple 318 is satisfied in regard to the position of Lari-bundar on the eastern bank, but thinks its insular situation dubious; neither would it have been necessary to insist on this point, unless from a desire of fixing one of those islands observed by Alexander in his passage to the sea. He set out from Pattala with all his gallies, several of his half-decked vessels, and his best sailing 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 320, 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 second day a storm arose, which, blowing contrary 321 to the stream,

---

315 In 1697.
316 Vol. i. p. 114.
317 I conclude this from Major Rennell’s map, which places Dangham, an intermediate station of Hamilton’s, on the west of the Darsna
318 Anquetil du Perron mentions these tombs as still existing, and testified to him by letter from Mr. Erkkin, English Resident at Tatta, in 1760.
319 Private correspondence, December 23, 1794.
320 This is a confirmation that the Delta in this part was not interlocked with rivers or canals, and countenances the opinion I have formed of Hamilton’s march.
321 As this was nearly the month of August, the south-west monsoon was in its full vigour.
endangered the safety of the fleet. Some of the gallies perished, and the remainder was with difficulty saved by running them on shore. During the delay occasioned by this misfortune, and the repair of the vessels, some light troops were sent in pursuit of the natives, and a few were taken who were used as pilots in the prosecution of the voyage. When these difficulties were surmounted, the fleet proceeded; and as it now approached the sea, the stream appeared enlarged to two hundred stadia; an exaggeration which no computation of the stadium, no allowance for the overflowing of the river, can justify. It is true that the season might have swelled 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, is not consistent with probability. The numbers in Arrian are possibly 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 breadth of the river in that age, or suppose (as is much more probable) that the Macedonians on board were so alarmed at the catastrophe which befell them the following day, that they amplified in proportion to their terror.

332 Arrian adds, Εκεῖα μὲ συνελκυσίω, others were constructed. But perhaps we ought to read, ἐκεῖα, the others were repaired, if synelkysis will bear that sense; for time would scarcely allow the building of new ships, and the country affords no timber.

333 Arrian.

334 July or August.

335 By the lowest stadium.

336 The Indus, like all the other streams subject to the solstitial swell, accumulates obstructions 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 sea, and great hazard to the fleet, which had evidently moved with the tide of ebb, and been involved in the turbulence raised 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 or creeks which had been formed for the convenience of the neighbouring country. As the tide fell, the vessels were left aground; but upon the return of the flood, those only that had settled upright in the mud, or ooze, escaped unhurt, while all that lay inclined upon the harder ground were exposed to the most imminent danger, and several were lost.

The surprise 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 Bœotia, and must have known that Aristotle wrote upon the subject. Major Rennell has corrected this petulance, by showing 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 peninsula of

---

217 Δάμβρος, a nullah.

218 The gallies (γάλλις) were probably in the nautical phrase, βάρφ βάιλ, 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 surface lies down almost on her side; 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 similar to what takes place in the mouth of the Seine, between Havre and Rouen, where the tide rises with a rapidity greater than any experienced in our own country, except perhaps in the Severn.

219 The Bore, with all its attributes, is described by the author of the Periplus Maris Erythraei (page 27, Hindi Ed.) in the gulf 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 peninsula. In this view I contemplate the Barugaza of the Periplus, and the Ba-gafira of Arrian, as the same word; for Arrian applies Ba-gafira to Cape Arraba, which is a peninsula also. The adjunct Ba will be noticed hereafter; and as the Orientalists themselves transpose the syllables, writing Gezira or Gezira, so does the Periplus add another transposition, Rugaza for Guzara, or Guzarat.

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

The damage was repaired as well as the situation of affairs would allow; and two of the transports were sent down to explore an island called Killuta [Killoota], where it was said anchorage and shelter would be found, and occasion might be taken for prosecuting the discovery. Upon a favourable report the fleet proceeded to this station; and Alexander, taking with him some of the best sailing vessels, proceeded to a second island which lay clear out of the river, and ascertained the existence of a passage. The distance of this second 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 seems 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 here assumed, and establish upon future ob-

250 More will be said on the subject of this island when it comes under consideration again upon the departure of Nearchus.

251 Ciliuta, Cilluta Scillutiae Páltocin. Curt. Loeceenius, in loco; but see infra. Otten mentions Deboul, Divil Scindi, here, in latitude 22 30', which it certainly is not; and Lahuri Lari on the eastern branch, two days' journey distant; which is vague. Vol. 1, p. 406.
servation the seite of the outer islet, as the extent of Alexander's progress.

The Western Mouth of the Indus called Sagapa by Ptolemy:

<table>
<thead>
<tr>
<th></th>
<th>Longitude</th>
<th>Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Ferro,</td>
<td>110 20 0</td>
<td>19° 50' 0&quot;</td>
</tr>
<tr>
<td>Rennell, from Greenwich</td>
<td>66 22 0</td>
<td>24° 43' 0&quot;</td>
</tr>
<tr>
<td>add from Ferro,</td>
<td>17 40 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>84 2 0</td>
</tr>
</tbody>
</table>

Ptolemy corrected by Gosselin, 78 5 0

From this point he returned back to Killuta, and sacrificed to the gods; he proceeded the next day a second time to the outer island, and sacrificed there also; after which, he stretched out into the ocean, as he affirms 16 himself, to determine whether the sea were open, or there were land in the neighbourhood; but, as I imagine, says Arrian, not a little inflamed by the vanity of having it recorded, that he had navigated the Indian 17 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 18, with the vessels which had accompanied him, up the river again to Pattala, where he found the citadel completed, and Python

16 Probably in his letters, which were extant in the time of Arrian.
17 Το τη Ἱλίου Σαλαμωνα. In opposition to the Mediterranean.
18 To Hyala, says Diodorus, a city with a Spartan government! But where are we to find it? Both Diodorus and Curtius are ignorant of the voyage down the eastern branch. Diod. xvii. p. 241.
returned from his expedition. Hephaestion was left to superintend
the construction of a naval arsenal here, with orders to fortify it, and
prepare it for the reception of a fleet which was to be established at
this station, 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 these were the only two explored by the Macedonians.
I have met with no author prior to Ptolemy who mentions the seven 19 mouths; and modern geography, though it pre-
serves the record of the river still having seven 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, seems, from all the information we have at present, im-
possible to determine.
Major Rennell 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 Pandrimme or Pandrummee, in
his and several of Mr. Dalrymple’s charts; and the stream is called
Nulla Sunakra. But Nulla, Nalla, Nala, Nallah, is a Persian term,
and seems as if it was never applied properly except to an artificial 39
cut. The authority for making this the easternmost branch at pre-
sent stands high; for we have in Frazer the translation of the
actual treaty 47 between Nadir Shah and the Mogol Emperor, in

19 The author of the Periplus says there
are seven mouths, but two only navigable; the
other is shallow, or choked by the
marshes they pass through.
39 Nulla or Nallah is a Persian word, de-

erived from the Hebrew יֵלֶל and יֵלֶל, a hollow,
valley, or course of a torrent—the torrent it-

which
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 Indoostan 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.  

Nadir Shah had passed the sources 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 same 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 Lohry-Bundar (evidently beyond that line) as the extent of the Mogul empire.  

There is nothing but the term Nala which hinders me from establishing this as the very channel navigated by Alexander; and though no modern accounts have ever been attainable to ascertain the passage 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 present Nala be a genuine stream, there is no difficulty in adopting it; if it is an old channel cleansed, it might assume the

218 The Orine partook of Indian manners, but were not Indians.
219 Written Seuberi by Otter, vol. i. p. 409, perhaps for Leuberi. Lohry is Lari-bundar, thus spelt in the treaty; this is what our English authorities call Bundar Laree, to distinguish it from Lari-bundar on the western branch, or Daraway. Better knowledge of the language will possibly discover the application of this term to both.
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 he 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 fleet 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 fell 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 Behiker, we must conclude that these

\[240\] He sent Craterus through the midland provinces, and marched himself through Gadoria.

\[241\] 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 intersect 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 is evidently no more than a bay into which the eastern channel falls, and must be searched for in vain at the distance of twenty centuries, considering 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 sea. At the head of this bay Leonnatus and the greater part of the forces were put on shore, while Alexander proceeded with the galleys to take a view of the ocean. He observed the passage 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 soon as he had anchored he landed with a body of horse and, proceeded three days' march along the coast, making observations on the country, and directing wells to be sunk.

Q. Curtius, who knows nothing of the passage down this branch, finds a lake on the other, where those who bathed became lean; but were cured with oil. Lib. ix. p. 79.

Probably fifty or sixty miles.
The general title of this tract is Cutch, and gives name to a bay on which it lies; the country is a desert inland, and seldom 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 Sanganian race famous 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 is mistaken when he supposes Alexander to have advanced westward along the Delta upon his landing in the direction that his fleet was to sail, for the fleet 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, and then join the main army at Pattala.

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 fleet 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 foresight and prudence which I have all along attributed to this great commander; his character has been usually esti-
mated by the victories he gained and the ravages he spread; but the regulation of his empire, the security of his frontier, the extent of his commercial views, the survey of his provinces, and the share he took himself in everything 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 satisfactory account of this eastern branch, I should satisfy the curiosity of the most accurate inquirer: but Major Rennell, who says it is an hundred and seventy miles in extent, does not carry the Nulla Sunkra to Tatta, but much higher. Mr. de la Rochette's "map gives it a direction I could adopt, and Makes a considerable bay at the mouth of it; but as I know not the authorities he follows, I am constrained to hesitate while I seek for evidence. The lower part of the Delta is intersected 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 garrisons 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 fleet. Strabo mentions that he was ten months in his passage from Nicea to Pattala; if, therefore, he had

255 As does d'Anville Antiq. Geog.
set 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-six; but the dates in the same 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 18th 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 Orithæ; after which, it will be sufficient to sketch the general course of the route into Karmania, where Nearchus joined Alexander again, and reported the account of his success.

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 season would permit.

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

---

211. Strabo, Lib. xv. p. 691.

They set out a few days before the setting of the Pleiades are, and spent the autumn of that year, the winter, spring, and part of the following summer, in their passage down the river; they arrived at Pattala about the rising of the Dog-star, completing their navigation in ten months—but how so? the Pleiades set the 18th of October, and the Dog-star rises the 26th of July, which makes nine months as nearly as is requisite. How can we account for this here, but by that perpetual error which pervades all the numerals in Greek authors?
mence from the sea and extend parallel with the Indus up to Kan-
dahar. These mountains are still occupied by different tribes of the
Belootches, whose habits to this day resemble 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 soon as the enemy was pass'd.

These Arabitae are mentioned by Arrian as an independent tribe,
like the Belootches of the present day; as in fact all the inhabitants
of mountains 364 either in Persia or Hindostan have generally been.
Their country seems 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 easter stream of
the Indus. Major Rennell's second 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 va-
riety of facts, which will contribute to the perpnicity of the nar-
native, I shall introduce a general view of the coast, and the pecu-
liarities connected with it. The nature of the two coasts of Ma-
labar and Coromandel is now well known in Europe, as confining
of a tract of low land towards the sea, below a line of mountains
which encircle the whole centre of the peninsula; the same circum-
stance seems to take place again on the bay of Cutch, where the

364 Those who wish to see a catalogue of the
robbers inhabiting one part of Asia, i.e. Taurus,
Amanus, M. Caudi, &c. &c. may find a very
extraordinary one in Mr. Baldwin's journal,
published with Major Capper's route from
Bagha to Aleppo.

Chigoo.
Chigoo mountains appear running inland, parallel with the sea, till they join the range of sand 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 raised by the chain of black and rocky mountains so 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 distance from the sea, a branch shoots off again, running west or north-west parallel with the coast "", and inclosing the level country of Gadrofa, parched and barren in the extreme. The modern name of this tract is Mekran, or Cutch "", Mekran, and is specified in Commodore Robinson's journal, published by Lieutenant Porter by the name of Bloahee, and Brodia. Bloahee is a corruption of Balotchee, and I imagine the coast is so called as far as the influence of the Belootches "" extends, and, where that ends, Brodia. That this branch sends off shoots towards the sea at particular points seems probable; but that its general course is parallel with the coast, is ascertained by Commodore Robinson's "" journal, and another of the Houghton East Indiaman, 1755, which I owe to the communication of Mr. Dal-

332 It is nearly evident that a second ridge shoots from this chain, forming the residence of the Orients.

Q. Curtius says, that Alexander waited at Patala 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 Gadrofa; subjoining, almost immediately, five days' march to the river -

I could have made use of his eighteen days, if he had not destroyed his own constancy.

334 Gedje-Mekran; Rennell: from Kix or Kidge, the capital.

333 The boundary between Bloahee and Brodia is fixed by Lieutenant Porter at Guadel; p. 5.

335 "The land, as in all other parts of the coast [of Bloaehet], is extremely low by the sea side, and very high in the country." C. Robinson. Lieutenant Porter, p. 2.
rymple. In all this level country no river has a longer course than from the mountains to the sea; in which it resembles the coast of Malabar, where almost all the rivers rise westward of the Ghauts. One branch of this range, I imagine, verges towards the sea, not far eastward of Cape Jafk, separating Gadrosia from Karmania; but no sooner are we past that promontory than we find the same 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 says, is never cut by any river, but stretches on uninterrupted till it joins the mountains which encircle Persia and Susiana. Here the Tigris flows its farther progress, and sends 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, present 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 Persia across the sources of the Indus, forms the barrier of Hindoostan, 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 history 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

217 Mr. de la Rochette marks the Tanka-Banca as rising beyond the mountains; but, as no memoir accompanies his map, I know not on what authority. Otter, however, countenances this opinion.

218 It is not so on the coast of Coromandel, the Nerudda, Kridna, Ganga, and Caveri, &c., all rise above the Ghauts, and near the western range.
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 Indus 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.

Arrrian does not indeed expressly state, that Alexander passed a line 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 Hephaestion; the natives fled into the desert on his approach; in pursuit of them he passed the Arabis, 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 Oiritae. Here he left his infantry to follow in due order; and, spreading his

---

592 See the Nubian Geographer, p. 57, et seq.
590 The existence of this range is indubitable, 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 Belooches."
Vol. ii. p. 143.

It has already been shown that the Kulmanies are on the parallel of Seward, 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 Arabitas or Orite. I am persuaded with Major Rennell, that there are two of these ranges, one belonging to each; and nothing hinders me from ascertaining it but the appellation of Karch, which affords a suspicion that Kar has some relation to Har, Haur, Hor-eius, Or-eius.

"The land at the back of Crotchy is pretty high, and extends to C. Monze." Lieutenant Porter, p. 2. I shall show hereafter that Crotchy is the Crocala of Arrian; and C. Monze, Birus, or Irus; and I consider this evidence of Porter as full proof of the existence of a chain previous to the river Arabis.

594 See supra, the Hend of d'Anville and de la Rochette, and the Arabitas; perhaps the Hendians of the Ayeen Akbari.

cavalry
cavalry over the country, flew all that resided, and brought in a great number of prisoners. The army then halted at a small stream for the arrival of their light infantry and the junction of Hephaestion. As soon as they came up, Alexander himself moved to Rhambacia, the principal village of the Oritae; he found the situation advantageous, and directed Hephaestion to fortify it as a post, while he proceeded again to the confines of Gadrosia. Here the Oritae who had fled, after being joined by the Gadrosians, had taken post in a pass that was narrow and difficult of access (apparently on the second of those chains already mentioned); and this pass they determined to defend. Upon his approach however they dispersed, and the Oritae sent offers of submission. He ordered the chiefs to

---

262 Probably the stream we shall hear of again under the name of Tomerus.
263 Ram, or Rham, has doubtless a sense in Shankstreet. There is a Ram Raja in the Mahatta country; another Ram mentioned in Nadir’s treaty; and Ramnagar in the Ayeen-Akbiri, 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. Robinson] Lieutenant Porter, for the existence of a range which falls in at C. Monte, or Irus; and I think we have his authority for a second ridge between the Oritae and Gadrosia, which falls in at Cape Moran, or the rocks of Kingalah. Moran, I have no doubt, is the Malana of Arrian, which he says is the western limit of the Oritae; 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 of Malan; and considering how easily a pass 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 same. 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 such obscurity, (for he did not see it,) that it is not easy to ascertain whether he means to say it is twenty or forty leagues from Scindia.

"Cudjerah appears a low point, but terminates in a bluff, as by its last appearance with C. Moran." Lieutenant Porter, p. 3.
"The land from Sommeay, [the mouth of the Arabis] runs extremely low next the sea, but the back is very cragged, and continues so 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 Oritae, we ought to find it.
collect the fugitives, and send them to their respective habitations, under a promise of safety and protection.

Apollophanes was appointed satrap 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 service. 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 *6*, upon leaving Pattala, had designed 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 Orbitæ; and as he was now at the entrance into Gadrosia, where he foresaw the difficulties he was to encounter, he was desirous 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 Orbitæ, with the neighbouring tribes, collected again into a body *99* and attacked the forces left for its defence. A victory over such an enemy as this was perhaps no great achievement; but as Leonnatus flew six thousand natives, saved the province, and relieved the fleet, his services were rewarded with a crown of gold when he afterwards joined the main army in Susiana 97. Neither ought we to undervalue the merit of this service; for this part of the coast, before we enter Gadrosia, appears neither deficient of inhabitants or the means of supporting

---

*6* See Arrian, p. 260.
*99* Eight thousand foot, five hundred horse.
Q. Curt. lib. ix. p. 10. The reverse is more credible, for these tribes are all mounted.
*97* He probably joined in Karmania, but received the crown in Susiana.
them. The natives, as possessors 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 found 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 fleet, to which we must now return.
THE

VOYAGE

OF

NEARCHUS.

BOOK III.

COURSE FROM THE INDUS TO CAPE JASK.

I. Coast of the Arabies, or Arabitae.—II. Coast of the Orita.—
III. Coast of the Ethyophaei.—IV. Dissertations.

I have already fixed the departure of the fleet from the Indus on the second of October, in the year three hundred and twenty-six 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 monsoon, the method pursued 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 observe, that though Marius, the chief of Pattala, had previously made his submission 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 sent in pursuit of him. His flight into the desert, 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 such circumstance occurs, we must suppose that he returned as soon as he heard of Alexander's departure, and endeavoured to recover the province he had lost.

This transaction throws light upon the narrative of Arrian, and reconciles the difficulty arising from the departure of the expedition before the season. Arrian, however, is so far from acknowledging it, that he mentions the performance of the games and sacrifices usually adopted on such occasions, which intimate neither haste or confusion at the actual moment of embarkation. But there is one

The passage in Strabo is too express to be omitted.

Kai ἐν Ἡ φυλή Ἡ Νεαρχος ἦν τοῦ βασιλέως της αὐτοῦ, οὕτως μετατρέποντας τοῦ Πανδώρας ἐκείνους, ἔμφασεν τοῦ τε, ἵνα μὴ τῶν ἑλεομένων ὑπεράντην, τὰ δὲ εὐδοκίας ἐνεργοῦσαν αὐτοῖς, ὡς ἀδραστάς, καθίσθησαν γὰρ ἀναξιόντος τοῦ βασιλέως, ὃ ἐνεπειράζετο. Lib. 15, p. 721.

Nearchus says, that after Alexander was upon his march, he set sail himself on the evening rising of the Pleiads, though the wind was not yet favourable. But the natives attacked them and drove them out, having resumed their courage on the departure of the king, and willing to recover their independence.

If these circumstances were in the journal of Nearchus, which there is every reason to believe, Arrian cannot be justified in supposing them.

particular
From the Indus to Cape Jask. 169

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 says, he had found water and good anchorage, with protection both from the tides and the monsoon. If I had any actual data for fixing the Debil-Scindy of our modern maps at the mouth of the Lari-bundar river, or could ascertain its size and position, I should have little hesitation in asserting its identity with Killuta, for Debil-Scindy is only a Persian or nautical corruption of Dew, or Dive-il-Scindi, the island of the Scind, or Scindi.

Were I to form a position for Dive-il-Scindi from such 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 stream, which should entitle it to its insular name and situation. The course of its shore where it formed the eastern bank of the river ought to incline north-east and south-west. Whether this is really so I pretend not to ascertain; but if ever it shall be ascertained, 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

3 ἀρχις ἀνα τα Ναυάρματα.
3 Dive is either Tamoulian or Malabar. Selen-dive is Ceylon. Lack-dives, Mal-dives, Anje-dives, are all clusters of islands. Div in Guzerat is another form of corruption. See d’Anville Eclair, and Selen-dib, which we meet with in Oriental orthography, gives the change of w into b, in Dib-il-Scindy. It is written el, il, or ul, of.
4 D’Anville’s account of Debil Sindi, from Pimentel, favours these conjectures. Autig. de l’Inde, p. 38.
accumulation of two thousand years, these conjectures will not be
very distant from the truth.

But if Nearchus took his departure from a station at this island,
and not from Pattah, (as will immediately appear,) though it does
not amount to proof that he was driven from thence by the na-
tives, it affords great reason to suspect it, and to confirm the
assertion of Strabo, who copied from the journal of Nearchus as well
as Arrian.

Wherever we place this station, it was only an hundred and fifty
stadia, 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.

When the fleet weighed from this station, the first day's course down
the river was only six miles, and they anchored at a creek or inlet
called Stura (Stoura "), where they continued two days; on the follow-

5 This is the place intimated by Pliny as the Xylenopolis, from whence the voyage
commenced. Unde celerum exordium. Lib.vi.
c. 23. But the whole is dubious.
6 I have before examined d'Anville's stadi-
unum of fifty-one French toises, and thence its
general conformity upon the whole voyage; I
pretend not to ascertain its accuracy in par-
culars, 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 seven hundred and fifty-six
toises; and sixteen, with a fraction plus, are
equal to a mile English of eight hundred and
twenty-six. I shall neglect all these fractions,
because accuracy is unattainable in the appli-
cation of individual distances. To state this
precisely where precision cannot be obtained, is
affront to me to use the toise, a French measure,
because Mr. d'Anville's is the best calculation
on this subject.
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° 30'.
8 One hundred stadia.
9 Δαρντις μεγάλης, a large nullah.
10 I shall preserve generally the Greek or-
thography 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 salt, 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 consequently in a direction exactly opposite. This brought them to an anchor again immediately; when, after waiting till it was low water, they observed that the projecting sand (which probably formed the bar) was soft 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 safest passage into the open sea. They had so far effected their purpose during the recels of the tide, that upon the return of the flood they carried their vessels through it" in safety, and after a course of about nine miles" reached Krokala the same day. Here they remained the day following.

11 In the present defolation of this coast and 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 belt, M.S. are written Kaumara and Koreatis, Koreacatis, Dodwel, Geog. Min., Freibehem, Curt. ix. 92, 9, and ix. 90, 29, mentions, on the authority of the academicians at Coimbra, the violent tides on this coast, and the necessity of these nullahs, or nulli, 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.

15 A decl. See Rennell, Postscript.

16 Mouth of Lari-bundar river, in latitude 24° 44'.

17 Allowed two days,
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 survey of the
coast never reached his hands. I present to the reader, however, a
Plan of this Bay, by Lieutenant Mafcall, taken in 1774; and I feel
great satisfaction in exhibiting the first harbour in the Indian ocean,
in which an European navy ever rode. Krokala, says Arrian, is a
sandy island, and such an island, dry at low water, we still find in

**Written Caranchy Carrangee, &c. and by Gronovius, Κροκέα (Croceia), from his best
MS. The Greek language has no ouch.**

**Furnished by Mr. Dalrymple. Lieutenant Mafcall was an officer on board Com-
modore Robinson’s ship. [See a Plan of this
Bay in Chart, No. 1.]**

**From the mouth of the Larry Bunder
river is seen part of the high land over
Crochey. There is nothing remarkable
between that place and Crochey. The
land by the water-side is low, interspersed
with shrubs; but the country there are
several hummocks of moderate height.”

This is the rising to the ridge at Cape Monze,
which I have marked before as the eastern limit
of the Arabitæ. “ Crochey (the town) was
formerly under the Bloches, but is now
seized by the prince of Scindla.” 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 Beelootches
are not worse robbers than their more refined
neighbours.

**Major Bennell supposes Crochey to
be the port of Alexander. Postscript. But
that is impossible, as the fleet evidently
paßes Cape Monze before it reaches that
port.**

**I here follow the authority of Lieutenant
Mafcall’s drawing; but Lieutenant Portier’s
journal says, there are several 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 νησίαν αμφιβολο of Arrian. Lieutenant
Portier, C. Robinson, p. 1. For by the plan
it appears high; and I conclude the low island
mentioned by Arrian to be that found 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 like-
wise dry at low water, or visible some tides.
It is sufficient, however, for Arrian’s assertion,
that this shoal should mark such a spot, which,
though visible formerly, may be now con-
stantly covered by the sea.**
this bay. It lies in latitude 24° 28' twelve leagues from Scindi bar, and, according to Captain Prattie'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 sand " 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 fifty 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 afford 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 flood and the prevailing monsoon, I consent to place the station ** from which Nearchus departed.

** However extraordinary or superfluous an attempt of this kind may appear to modern navigators, the difficulty of carrying a fleet of Greek galleys out to sea 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 promontory was cut, he had two more to pass.

** The "maximben" of Arrian.

I am persuaded it is on the eastern side of the channel; but recommend it to future inquiry.
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.

Weighing from Krokala, 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 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 freight, presented a bay or harbour under cover of a second island called Bibaêta, not more than three hundred yards from the entrance.

25. Crocethy town is situated about five or six miles from the place where the ships lie. It is fortissida with a mud wall, flanked with round towers, and has two useless cannon mounted. It formerly belonged to the Belootches (Belootches); but the prince of Scindi finding it more convenient for the caravans out of the inland country, which cannot come to Tanta, 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. Lieut. E. Porter, p. 2.

This prince of Scindi is a Mahometan of Abyssinian extraction; his residence at Hydrobad on the Indus, near Nufferpoor, which lies not far from the head of the Delta, Rennell, Postscript, p. 291.

From Porter's account, I collect that Hamilton's route must have been within the Delta, for his castilla or caravan consisted of fifteen hundred beasts, as many men and women, with two hundred horses; 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.


I would render it with an allowable licence, a passage curving with the land.

27. *vallum ubi incivit.*

This
This harbour Nearchus thought so large and commodious 18, 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 shore, and fortified with an inclosure of stones to guard against any attempt of the natives; and this precaution was no more than necessary, as they were now within the confines of the Arabita, whom Alexander had attacked and dispersed not many days before their arrival. Security both from the natives and the season they found; but the people suffered greatly, having no water but what was brackish 19, and little food to support life except muscles 20, oysters, and another species of large shell-fish 21, 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 slightly mentions, that as soon 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 galleys, 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

18 μεγάλα το θάλασσα τα ευσεβή. A large and good harbour. In what sense our author pleas this expression will appear at the Arabis, or Somer.
21 Σαλασός is explained by pelther; but is, I conceive, the Kima cockle. See infra.
islands described by Arrian, where I could find one only; but the
new chart gives a sand (dry 28 perhaps only at low water) in the very
position off the Cape as laid down by Arrian, and Chilney for
a second island corresponding exactly with the Bibacta of that
author.

Cape Monze, according to Major Rennell 25, lies in longitude east
from Greenwich 65° 46', and in north latitude 24° 55'. Com-
modore Robinson's chart does not mark the longitude.

Chilney Isle 24 appears immediately as you are passed the Cape,
lying off shore to the south-west in the very direction for covering
the fleet in the bay, and of a height sufficient to interrupt the blast
of the monsoon; for it is near a league long, and rises 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 sweep or hollow, round which
we must trace the course of the fleet close in shore; but we can-
not hope to ascertain the site of stations where we have in
the journal itself names only without habitations; and where, if
ever habitations arise, the neighbourhood of the Belootches
will hardly allow them to be permanent. The place and district
around are called Sangada by Arrian, and the situation of the
camp was evidently on the narrow stripe of low ground which

28 Mr. Dalrymple's chart does not author-

25 Postscript.

24 Longitude 60° 40' from Gibraltar, north

nise me to say that this sand is ever dry. But
the position is so precisely conformable to
Arrian's narrative, that there can hardly be a
doubt but it was above water, and visible to

near the two thousand years ago.

26 Longitude 24° 57'. De la Rochette.

extends.
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 monsoon 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 monsoon 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 sort 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 several 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 monsoon 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 affirats, that Nearchus was driven out of the Pattalene by the natives? What else could have induced that commander to encounter the hazard of navigating in such a season, 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 delirious of finding the modern Sangadians, or Sangarians 44, a tribe famous for their piracies; but their seize 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 failed with the monsoon, he might have found here an enemy unexpected.

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 46 miles. They took refuge under an isle called Domæ 47. 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 48 from the shore.

44 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 Chubbar; but their residence is Jefferabad.

I do not find Jefferabad mentioned in Rennell, except a town of that name on the coast of the Ganges. I suppose this to be in Cutch, or Guzerat.

30 Sixty stadia.
37 There is a small island marked in Commodore Robinson's chart by Mr. Dalrymple. Whether I should call this Domæ, as I have named it in the chart, No. 1, or reserve it for two rocks mentioned afterwards, is dubious.
31 Twenty stadia.
The following day they proceeded nearly nineteen ²⁹ 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 same day ³⁰, and passing two rocks so 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 safe, capacious, landlocked all round, and protected from the wind in every quarter. They thought it no small achievement 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 two ³¹ rocks in Arrian, and only one in the English journal; this circumstance excepted, there appears no great difficulty in assigning the same 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 sight of the

²⁹ Three hundred stadia.
³⁰ Day allowed.
³¹ They did not pass between them, if we may judge from ἴθαλωντις, ἴθαλων, and yet Needle rocks at the western end of the Isle of Wight; there are now only two.
rocks **, soon after it had weighed on the fifth of November; and Morontobara ** 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 signifies 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 passing 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 left Morontobara, they preferred an intricate course ** between an island and

---

42 I by no means insist on Lieutenant Porter's rock for these two; though the circumstances are probable, his rock, in point of distance, agrees better with Domet.

** Morontobara will hereafter obtain an etymology either Arabic or Shankreet; and if ever this coast should be visited again, the harbour may perhaps be found, or the place occupied by it be ascertained.

43 There is every reason to believe that it was an arm of the Arabs flowing round an island, now perhaps choked; or, if capable of investigation, of no service in the present state of nautical knowledge.

44 entrance into it is narrow.** I render ἐν ὑποθαλάσσει, and ἐν ἐναλαῖον; running inland, from Homer's ἐναλαίον, and I with a reference to be made from this passage to the description of the Port of Alexander, which the author calls only μάρμαρος, large and good, and which a bay might be without being entitled to the other characteristics so particularly given to Morontobara.

45 Literally, "the harbour is large, well protected from wind on all sides, runs far within the land, and is perfectly quiet; the
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, presented
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-fish on the coast afforded; they left
it therefore on the following day, and proceeded towards the river
Arabis 46, 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
sorts. They did not clear the passage till the following morning,
when they found the tide out, and the water shoal and broken 48;

46 Arbis, Arabius, Araba, Artabia.
See a very long note of Salmasius, Plin.
Es. 1177, to prove that Arbis is the true or-
thography; but C. Arrubah or Arraba proves
the contrary.
47 Seventy iiadia.
48 ἐχῖς. Gronovius has noticed the error
of former editors, who render this word usu-
ally by rupe, scopulus, locus scopulus, litus scopu-
leum, and in this instance, per angusta
quadrant loca; but he has not with his general
accuracy defined the proper meaning. I shall
every where render it either surf, 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 Mariden’s Sumatra.
And if it is not surf in this one instance, it is
the break of the sea arising from the flats,
or narrowness of the passage; κατά ἐχῖς τὰ ἄγαθα.
The word occurs frequently in the journal, and
is used ἐχῖς, ἔχῖς, and ἔχις, from ἑως ἔφερεν
στραγγος, cum ἔφερε ἀλλ’ ἐνεργος. Lemep, in voce.
And so ἐχῖς δικαφεῖος, a junctura ventorum,
(potius disjunctura,) capability of separation,
from ἐχῆς. Thucyd. lib. IV. p. 10. Schollaet.
κατά τὸ τοῦτο ἔφερα, ἐφερεν καλύτερα, αἱ αἱ της
ἐχής της ἐπέκα. This seems to favour the
editors’ rendering rupe, scopulus. So also,
ἵππαἱ ἐν τῷ ἐντυγίῳ τοις, εἰτ οἱ περενίσαντες
τὰς Νάυσους, μὴ ἐκλίνατ, μὴ ἐφ’ ἐκλίνατ... Νοντο
ad Polybium. Schweighae-
rer, vol. v. p. 575. But, notwithstanding
this high authority, I am disposed to
think, that, in Arrian at least, it is the surf
simply, and used frequently without refer-
ce to the rock, or rocky ground, which
the surf breaks on; for at Kohala the surf ran
so 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
vessels, and formed a camp. If the rocky
shore
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 preservation 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 Persians. 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 Bibaçta with Chinney 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 49 are possibly without great difficulty reducible to Lieutenant Porter's rock; and Morontobara is so characteristically distinguished, that it cannot be mistaken if the coast should be visited again. Dome, Saranga,

shore had been the obstruction, that circumstances would have excluded the second day as well as the first. But a stronger influence will occur at Cape Jask, which is, by the testimony of all our navigators, a low sandy point; but there, also, the term jaskin is applied; where Mr. d'Anville is so misled, by reading rupis or scopolus in his authors, that to find a rock he recurs to the assistance of Bombareeks, which is at seven or eight miles distance by his own account.

49 I rather apprehend that d'Anville has been misled by the Nubian Geographer, who mentions an Hendemend and Araba, with this

addition—Atque hinc intratur in regiones Indoram. But both the Hendemend and Araba of the Nubian Geographer are in Segelian, far to the north of our Araba. See Nub. Geog. p. 154.

D'Anville, however, may have other authority, and certainly can interpret the Nubian Geographer better than his corrector.

50 Arrabah, or Arrnback, by Lieutenant Porter.

49 I have some suspicion that Sakala will be found to signify either rock or mountain in some of the Oriental languages. The Nile rises 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 defoliate, and where, if villages 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 stadia make sixty-three miles and a half; but there is an omission 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 short of eighty miles, which accords sufficiently with the best charts I have seen. 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 requisite 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 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.

Sakala and Saranga do not appear as places inhabited, by the journal; and Domin is an isle. Whether future inquiry may make this Lieutenant Porter’s rock, remains for investigation. I am induced to embrace a contrary opinion, both from the distances given, and the distinction between an isle and a rock.

33 Mr. Rennell has placed the Arabis to the eastward of Cape Monze in his first map, but corrected it in his second.

Arrian
Arrian mentions an island at the mouth of the river, which Lieutenant Porter does not notice; but says 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 same 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. Lieutenant Porter says, "every thing is scarce, even water, which is procured by digging a hole five or six feet deep, and as many in diameter, in a place which was formerly a swamp; and if the water ooze, which it sometimes does not, it serves them that day, and perhaps the next, when it turns quite brackish, owing to the nitrous quality of the earth." We shall find the same 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 Neararchus was there, but he calls the harbour large and commodious, and says that shell-fish, with others of various sorts, were found here in great abundance. Marcian mentions two cities upon the river Arbis, Perthus and Rhapsra on the coast between the river and Morontobara; the distance between the two latter he states at a

26 Arrian's island is high.
25 ἀρρεν. Perhaps a pool.
24 μέγας μικρός. The same 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.
27 Perthus he writes Perthus, and calls it the capital of Gadroina, which cannot be in this country. It should seem that he had heard of such a city, but did not know where to place it. It is in reality the Pura of Gadroina mentioned by Arrian and others, and the sound of which is still preferred in Phir, Phor, and Phor-eh. Ptolemy has a Parsa with evidently the same confusion, p. 167. Written "Нарис магранио" for Нарис.
thousand and fifty stadia, which by no means agrees with Arrian, and gives reason to suspect that he confounded the Port of Women with the Port of Alexander, for his next station is Koiamba, where he fixes the limits of the Pattalene; 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 fourteen hundred and fifty stadia.

II. OREITEÆ. ORITEÆ.

No mention is made of any stay at the Arabes, we must therefore make the fleet 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 Arabes, will now be less capable of accuracy in many particulars, till we reach the gulf of Persia.

They sailed the next morning, and after a course of almost nineteen miles reached Kabana in the evening. The place was only an open

*[Marcian evidently intends to place Koiamba at the mouth of the western channel; but I suspect he has confounded the limits of the Arabes with those of the Pattalene.*]
and desert shore, on which a violent surf broke, which hindered the vessels from approaching the land. The progress of these two days sufficiently indicates that the wind was not yet settled at north-eaft, and in the present day's course they experienced directly the reverse; for a strong gale came on from the south-west, in which two of the gallies and a transport foundered, but the course was so near the shore that the men were saved by swimming. If we advert to our date here, which is the tenth of November, we find such a coincidence with the turbulence accompanying the change of the monsoon, as cannot fail of exciting our admiration, while we observe, at the same time, that no instance of a similar calamity occurs afterwards in the journal.

They left this desolate place at midnight, and reached Kokala next morning, after a course of about twelve miles. The coast here was such, that the vessels could not be drawn on shore, but rode at anchor without the surf. The suffering of the people was however so great, from being confined on board two nights, that it was found necessary to disembark them, and form a camp on shore, which

In vessels like those of the Greeks, which afforded neither space for motion, or convenience for rest, the continuing on board at night was always a calamity. The gallies of Alexander had perhaps a deck; but the *hēmatas* are exactly the vessels of Homer's age, the fore part and waist open for the rowers, with a deck railed over the hinder part; this in Homer is called *παραμήνει* ἰδέα. Od. M. 32. For there, perhaps, the cables were coiled; but, when a whole crew was to sleep on board, this was impossible, and the suffering was in proportion to the confinement. This makes Ulysses 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 sea water.
Nearcikus fortified as usual. 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 stack 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 such a supply 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 six thousand of the enemy, and losing only fifteen\(^{60}\) of his own horse, with Apollonipes\(^{61}\), the new-appointed satrap of Gadropha. He now joined Nearcikus, bringing with him a supply 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 desert like Gadropha, but the circumstances of the time, and the resisstance of the natives, rendered this supply rather proportionate to the condition of the country, than the wants of Nearcikus. The attention of Alexander is still con-

\(^{60}\) I never feel myself bound to account for these disproportionate numbers. Leonnatus had with him at this time, possibly, a large force of native Afritics. If a thousand of them had been killed, they would not have been thought worth notice. These fifteen are Macedonians.

\(^{61}\) In another passage of Arrian, lib. vi. p. 267, this Apollonipes is said to have been deposed from his satrapy, when Alexander was halting in the capital of Gadropha. See Gronov. p. 338. In the journal, Arrian follows Nearcikus, in the history, Ptolemy or Aristobulus.
spicuous; and a second unsuccessful attempt 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 desert region; a charge which even Nearcihus is said to have countenanced.

To search for correspondent positions to these three desert stations would be superfluous; for as the next is the river Tomerus, 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 besides the supply obtained from the army, Nearcihus discharged several of his people, who appeared not to have sufficient spirit or fortitude for the enterprise, and received others in exchange from Leonnatus: he likewise repaired here several of his vessels which had suffered in the voyage or the storm. This proves that the weather grew more moderate during his continuance at this place, for upon his first arrival the surf was too high to admit of drawing them on shore. If therefore we shall, with Roome, 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

---

65 See infra.
62 The Tomerus is apparently the river upon which inland Alexander halted, when he invaded the territory of the Oritae. And probably it passes by Haacr, the capital of that tribe, who derive their name from Haacr, Horor, Oritae.
64 It is not expressly said they were drawn ashore. The author afterwards, at the Tomerus, uses the term núažec.
65 Roome finds ten days in his author, I can only find mention of ten days’ provision; but I think the allowance just.

surf
furth consequently diminished. This accords exactly with the following day's progress, for upon leaving Kokala they failed, for the first time, upwards of thirty miles, and it is the first time Arrian specifies their failing with the wind 66 settled in their favour.

The satisfaction of meeting with a supply of provisions would not be a little heightened by a sight of their countrymen again, after having experienced unfavourable weather and the danger of famine for six 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 confidence 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 galleys or other vessels of which the fleet consisted. The number of commanders appointed at Nicæa was thirty-three, and by these I estimate the galleys. There was also a greater proportion of half-decked vessels, and transports in abundance. That Nearchus had transports as well as galleys appears by the wreck of one on the preceding day; and if we were to allot him all 67 the galleys, it would,


But there is another derivation from ἀπόλ., μὴ παρακλαίζοντο, ἀπὸ ἀπόλ. Ζήφυρον. Parum Zephyrum. And that derivation seems peculiarly applicable in this passage. It was the north-eaft monsoon settled, and without fluctuation.

67 Q. Curtius mentions the destruction of such 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 dockyards 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", 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 Nicaea 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 Tomerus.

On the twenty-first of November" the fleet proceeded with a fair wind, and made good a course of thirty-one miles to the river Tomerus". 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. Tomerus 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 Orita; 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

23 See Sequel.
24 In making the fleet sail on the tenth day from Kokala, and before, on the twenty-fourth, from the Port of Alexander, I have given two days which I might have added. In all that affects a syllae, it is more honourable to give than to take.
25 It is written Τιμαγος in the Greek.

abundance,
abundance, though none is seen in the low country between them and the sea. 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 Moulta down wards, 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 Tomeris, inhabitants were found living on the low ground near the sea, in cabins, which seemed calculated rather to suffocate 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 acquainted with similar visits of the Sanganians. Their arms were spears, not headed with iron, but hardened in the fire, nine feet long, and their number about six hundred. Nearuchus 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,
to be ready for commencing the attack. On a signal given, they were to plunge into the sea; 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 themselves out of the ships, swam forward, and formed themselves in the water, under cover of the engines. As soon 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, struck with the novelty of the attack, and the glittering of the armour, fled without resistance. Some escaped to the mountains, a few were killed, and a considerable number made prisoners. They were a savage race, shaggy on the body as well as the head, and with nails so long and of such strength, that they served them as instruments to divide their food (which consisted 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 substances, they substituted stones sharpened instead of iron, for iron they had none. Their dresses consisted of the skins of beasts, and some of the larger kinds of fish.

Near the islet at the Toméris six days, during which time he drew some of his vessels on shore and repaired them; and this

74 Will not the reader think that I describe the landing of a party, from the Endeavour, in New Zealand, under protection of the ship's guns?

75 These Orinés are the next tribe to the Arables or Belootches, whom Tieffenthaler thus describes from Oriental authority: "Cette nation est barbare et féroce, portant les cheveux longs et sans ordre, laissant croître la barbe, et ressemblant à des faunes ou à des ours." Vol. i. p. 119.

76 Seal-skins possibly.
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 considering 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 Tomerus on the sixth 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 Arabsis, 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 sixteen hundred 77 stadium. 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 assigned to each day's progress give but fifteen hundred stadium; 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 sixteen hundred and thirty; and this Arrian expresses by a round number. So satisfied am I with the precision of my data here, that I have no scruple 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,

77 D'Anville's stadium gives sixteen to a mile British, with a very small fraction.
78 There is a chart by Lieutenant Maffall, who was a volunteer under C. Robinson, which places these three names differently from the Commodore, and in positions which I could perhaps adopt; but it varies so essentially in other points, that Mr. Dalrymple does not esteem it highly.
FROM THE INDUS TO CAPE JASK.

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 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 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 Arrabah, about thirty miles to the westward. There can be little doubt that the name of Cape Arrabah preserves 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, who says

If it should be thought necessary to investigate this point, a short table will shew all the particulars at one view.

| From Arabic to Pagala, | 200  | 12 1/2 |
| to Cabana, | 300  | 19     |
| or by the MS, | 450  | 27     |
| to Kokala, | 200  |        |
| to Tomerus, | 500  | 31 1/2 |
| to Malana, | 500  | 19     |
| 1500  | 94 1/2 |

With the number of MS, | 130  | 8      |
| 1630  | 102 1/2 |

"The land from hence (Sommeany Arabis) runs along extremely low next the sea; but the back is very cragged, and continues so to Cudgerah." Lieutenant Porter, p. 3.

"Arrabah, Arraback.

"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.

"P. 6."
 expressly, that the coast as far as that cape is now called Bloachee (the country of the Bloaches or Beloottches), and from that cape to the gulph of Persia, Brodia. The Beloottches, 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\textsuperscript{14} places Haur as the modern capital of this province on the river Tomerus, corresponding with the ancient Ora. In this, I conceive, he follows the Nubian Geographer\textsuperscript{15}, who carries a route from the Indus through Manhabare, a town on the Araxis, and through this Haur to Firabuz\textsuperscript{16} in the Mekran, or Gadrofia. Orea 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 fleet from Egypt, which at that time crossed the ocean by the assistance of the monsoon, and never approached the coast of Gadrofia. He

\textsuperscript{14} Eclaircissements, p. 42. Antiquit. p. 44.
\textsuperscript{16} Et via quæ ducit a Dabil (Debil-Scindi), ad Firabuz transit per Manhabare, et inter Manhabare et Firabuz medias est urbi quâdam pura habitata, Haur appellata. Urbs autem Firabuz est incolis et mercurioibus frequens, proprietique 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 the twelfth century, if refined of its dross, would be found to contain much pure metal. Mr. d'Anville could have performed this service.

The Dabil of Al Ediri he places three 

\textsuperscript{17} distances from the mouth of the Mekran (the Indus), that is seventy-five miles, which makes it nearly agree with Pattala. I suspect that Debil-Scindi, in its Oriental sense, comprehends the Delta, however afterwards applied to a part of it. Nub. Geog. p. 57.

\textsuperscript{17} therefore
therefore mentions only the bay of "Terabdo", which the ancients place between Cape Jask and Guadel, and then, with the incidental notice of Orra, passes to the Sinthus 49. He seems to have mistaken the site of this place; for he says 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 Orra for Orra, is excusable only on account of his not having visited this coast; for whatever he saw himself, he describes graphically. Orra 50 is laid down by Ptolemy in longitude 102° 20', latitude 23° 40'; but as little would be gained by the method I have pursued in correcting his error, it is here omitted. The general name of Gadrosia is extended sometimes 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 desert and what is habitable. The country of the Arabes and Orites appears full of inhabitants, and no notice is taken of the army's experiencing any distresses before Alexander crossed the mountains into Gadrosia; from that line it appears that the desert commences, in passing which the army encountered greater difficulties than in the whole course of the service.

In detailing the coast of the Orites, I find only three fixed points, the two rivers Arabes and Tomerus, with Cape Malana or Moran. Thevenot 51, in his passage from the gulph of Persia, mentions Cape Malan, but he never came in sight of it; and his evidence, there-

---

49 Perhaps the Paragon Sinus of Ptolemy.
50 On this subject, see infra.
49 Sinthus is the name he uses for the Indus; and this proves his acquaintance with the native appellations Scind and Scind.
50 By Mercator's map it does not differ much from the Ora of the Periplus. The confusion seems to be general.
51 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 situation or the similarity of sound. The interchange of the liquids $l$ and $r$ occurs in numerous instances, exclusive of the deception to which the ear is subject in receiving foreign sounds. The three other stations on this coast I can fix only by the distances given; they all appear uninhabited; and when we find names as 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, it is possible that Kudjerah may be the Kokala of Arrian; for we are to remember, the Greek language has no sound correspondent to our English $cb$, and Cochela is not very distant in sound from Gudjerah. Resemblance of this kind, where distances or local situation agree, is strong presumptive 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 seventy stadia in so small a number: but this is perhaps only an additional instance 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-

---

93 Porter's are three names merely, and this is an Oriental practice; for thus Niebuhr speaks of the coast between Suez and Jidda.

94 Kingalah. MacCall,
script" 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 mensuration, without the assistance of instruments, can hardly be reduced to greater conformity.

Here I should have closed the account of the Oritte, 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 phenomenon, which, however familiar to the navigators of the present day, was, in his own age, a matter of no small curiosity. The sun, he tells us, was seen by Nearchus in the meridian to the north, and the shadows fell to the south. 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 sailed along the coast of India, that is, the country of the Arabitæ and Orithæ [for the Thithophagi are not accounted an Indian tribe], Nearchus says, that the shadows had not the same effect as in those parts of the earth with which they were acquainted, for when they stood out to sea a good way to the southward, the sun was either vertical at noon and no shadow was to be seen, or so far to the north that the shadow fell to the south. The northern constellations, which are always above the horizon, set 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 assert nothing improbable; for at

**" This MS. Gronovius found at Florence, in the Grand Duke's Collection. See Prefat. Ad Læt. It evidently contains readings of the first importance; and the reconciliation of numerals is no small proof of its superiority. It is possibly the MS. brought by Aurelia from Constantinople in 1403. See Roscoe's Life of Lorenzo, p. 50.

**I take some liberty to make this consistent.

"Syene
Syene in Egypt, when the sun reaches the summer tropic, they shew 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 south, the shadow should be subject to the same law, and more particularly in the Indian ocean, which extends still farther to the southward.

In this account there is apparently little to perplex; but when we consider, 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 asserts 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 phenomenon 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 solstice, 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 Sunkra is within the tropic: Mr. Rennell's last map and Mr. de la Rochette, it is true, bring it within that.

See Gosselin Geog. des Grecs, p. 52; within the tropic. Plin. lib. ii. c. 75, who mentions that Oneistertus places Pattala, line;
line; but till it shall be determined by observation there is still room to doubt.

If this phenomenon, however, was to be recorded, it is extraordinary that it should not have found its place at the point farthest southward which the Macedonians ever reached; and that it should be reserved for Malana, when the fleet was nearly two degrees to the north of the tropic, and the sun southward of the equator. I would save the credit of Arrian, if it were allowable, by supposing that he spoke for Nearcybus in this passage generally, rather as a circumstance known than experienced; but truth compels me to confess, that to my apprehension his language is too express to admit of general interpretation: it is Nearcybus speaking of what he had seen himself, and I cannot acquit Arrian without making Nearcybus subject to the imputation.

Nearcybus, it is true, is enrolled by Strabo in the same list with Onesicritus, 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 state of the country than Strabo had, and I must acknowledge that I have found Nearcybus a most faithful and unerring guide. If I cannot excuse him in the present instance, I can join him in his error with companions so illustrious, that I hope the reader will pardon me for entering upon a digression in which the knowledge of the ancients in geography is materially concerned.

97. Mr. Dalrymple's chart, by C. Prittie, mouth, it is consequently within the tropic. I places Pandrumee in latitude 23° 15'; and in his chart of Scindi, latitude 23°.

If, therefore, Pandrumee is the eastern

**The**
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 phenomenon of the sun casting no shadow at the summer tropic had evidently been observed by the Egyptians previous to all the astronomy of the Greeks with which we are acquainted. The spherical figure of the earth also, we are now told, was no secret to the Indians, Chaldeans, Egyptians, and Phoenicians; 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 phenomena as well as the phenomena themselves, for they wanted neither knowledge or industry to observe them; but they failed in the result 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 Eratosthenes drew a line parallel to the equator, which suggested the doctrine of latitudes to the school of Alexandria, and finally enabled Ptolemy to apply both longitude and latitude universally to the science.

Arrian is contemporary with Ptolemy, but so 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 phenomenon produced by

---

59 See Bruce on the Obelisks, Norden, Parkinson, and Blair's excellent treatise on the Nile, but there is much reason to give it a higher antiquity.
FROM THE INDUS TO CAPE JASK.

the sun in the tropic, from his mention of Syene in this passage; and he could not be ignorant that southward of Syene the sun might be seen to the north; for he has in another passage noticed the solstitial rains in Ethiopia (Nubia or Abyssinia), as the true cause of the inundation of the Nile; and whoever verified this fact, which was known to Strabo as well as Arrian, must have observed the shadow falling to the south. Arrian discovers his knowledge of all these circumstances in reasoning upon this extract from Nearchus, and Nearchus seems to have been as cautious in giving this fact as Arrian is in repeating it, when he says it took place, not actually upon the coast, but at some distance out at sea. So likewise Arrian does not assert that Malana lies upon the same 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 summer solstice, neither of these authors is culpable for anything more than for asserting that as seen, which only might have been seen at another season; and if it were not for the positive assertion (o ϕή φοί νωκία), they saw 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-

---

103 As he says himself in Merue. Merue, 101 Strab. lib. ii. p. 93.

according to Bruce, is Abyssinia.
ander is conveyed by his miraculous historians to those regions on
the north, where perpetual cold and darkness reign; on the east and
south, to the utmost limits that the heat allows to be inhabited.
But without recurring to such admirers of the hyperbole as Q. Curtius,
we must reflect that Orpheus carries his Argonauts to the
Cimmerians, who never see the sun. And where do they dwell?
that is no easy matter to discover: but their country is excluded
from the solar rays by the Alps, the Rhipean mountains, and the
rock of Gibraltar. Homer claims the same privilege for Ulysses,
for he conveys him to a region which enjoys the polar day,
which his commentator affirms us must be the country of the Cimmerians,
and yet the poet informs us that this was in the territory of the
Laetrygons, and Laetrygonia is in Italy, just three days sail from
Circe and the bay of Naples. Cæsar speaks with the caution of
an historian when he says there was no night in the extremity of
Britain, or the islands lying north of Mona. Such, he says, was
the information he received, but he had no opportunity of ascertaining
it; he observed himself only, that in Britain the summer days


The whole of this subject is worthy of discussion at large, if I could have ventured to indulge in it.

106 Orph. Argonaut. l. 1116.

The reader may think I indulge a vein of ridicule, but it is serious truth. Orph. Argonaut.

'Αρμαντίας ἄρματος' ἐπικοίνωνα ἢ ποιηθήναι

Lascivus inpsicus μαρτυρεῖν την Ἐρυθραν

Philippus ad quatuor quinque annos. "Ab ausis

καί ρούμους, σιβύλλαι, ἐπηκολύναται κυρ. 1125.

The unking of the Rhipean mountain, Calpe, and the Alps is given up even by the
commentator.

1125 Εὐρυδίκη ἐπηκολύνει τον ετών τον κυβέρνοντα.

Od. K. 85.


107 If, by no night, he intends to say that it is not absolutely dark, he is not guilty of an
error.

106 He seems to mean the Hebrides.
were longer than on the continent. Pytheas of Marseille went farther north himself; he was at Thule, or Iceland; and here, he says, the day and night were each of six 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 shew that travellers, poets, and historians, have all conspired in placing a true phenomenon in a false latitude. They had all heard that this took place somewhere 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 similar 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 seems to have pervaded so great a proportion of our ancient authors, and which may be thought pardonable at least, 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 lapse, and to prevent such an imputation is the only excuse I have to plead for this digression. — I now return to conduct Nearchus along the coast of the Ichthyophagi; a part of his voyage where he experienced every calamity but adverse winds, and where no commentator has ventured to trace his progress.

Pytheas, is reproved as a fabulist by Strabo, I. 61. ii. 141. 2 but he has found favour with his countrymen; for Huet thinks him not quite a dealer in fiction, and Gosselin discovers that, though he speaks little truth, he exhibits a knowledge drawn from sober sources, and a specimen of that geography which, though antecedent to all history, was better than that of the Greeks. This is a system of Gosselin's, and by no means the valuable part of his work. Geng. des Grecs, p. 45, et seq.

Pytheas says, the tropic of Cancer becomes (or stands in lieu of) the arctic circle; which Gosselin explains, by supposing that he means the tropic of Cancer is always visible above the horizon. Strab, 114. G. 48.
III. I CT H Y O P H AG I.

This desolate coast, extending from Malán to Cape Jask, is not less than four hundred and fifty miles in a right line, and nearly six hundred and twenty-five miles, or ten thousand 110 stadia, by the course of the fleet. It is not meant, however, to infer that an hundred and seventy-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 acquisition of a pilot, and the advantage of the prevailing wind, contributed to lengthen each day's course. We shall find, therefore, that their progress was now sometimes a thousand stadia, or upwards of sixty miles a-day; and as proofs will arise, that they did not always adhere so closely to the shore as in the other parts of their voyage, it may be presumed 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 fifty and six hundred and twenty-five; 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

110 Strabo says seven thousand four hundred, p. 720. This will be examined more correctly hereafter.
principal of which are, the distresses 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 considered as famine; and though turtle is mentioned as found on this coast by Arrian, and a tribe called Turtle-eaters by Marcian 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 suspect that Leathyophagi and Chelonophagi stand in the Greek text as appellations bordering on contempt, or at least as intimations of misery; 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, such 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

---

430 Eros, the general term, means bread, as bread with us is the general term for food. There are many instances of the Greeks considering the want of bread as famine; and a very particular one in Roman history. At Avaricum Caesar'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.


433 The whale, which we shall hereafter 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.
ICTHYOPHAGI

...read is a fishy substance pounded and preserved; 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 Niebhir, seem to comprehend the coast of Persis and Karmania as under the same circumstances with that of the Ichthyophagi; and Edward Barboza, 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 country is a low plain and desert; their chief support is fish, of which they take some of a prodigious size; these they salt, 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." So invariable has been the misery of this coast for two thousand years! and so positive are the assertions 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 Ichthyophagi was confined to the inhabitants of the coast, while the country within land, from the confines of the Oritçe to Karmania, was styled Gadrofia, almost equally desolate, and as incapable of supporting an army as the coast.


This
This country Alexander had evidently entered before the fleet had reached Kokala, as Leonnatus joined Nearchus at that station, 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 preservation 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 "" expressly, that when Alexander entered this province it was his intention to proceed along the coast, to examine what harbours it afforded, to sink wells, and provide whatever else might afford accommodation for the fleet; but he soon found that, from the nature of the country, this was impracticable. He sent down Thoas, however, with a small body of horse to make observations, which amounted to no more than a confirmation of the misery of the few inhabitants to be found there; and that even water, which was scarce "", was brackish also, and obtained only by opening holes in the sand or beach. The army, therefore, was obliged to advance inland; and here the length of the marches to reach water harried the men and killed the beasts. It happened, however

---


When we read in Otter, tom. i. p. 409, no less than five rivers specified in this province, we may be led to think, that more is said of the want of water than it true; but I shall shew hereafter, (see article Cyixa, river Hydriakus,) that two at least of these rivers were salt or brackish, and from the nature of the soil all along the coast, described both by ancients and moderns as salt or nitrous, it may be presumed that all the waters in the country partook of this quality. Such Arrian represents them here, and such Lieutenant Porter says they are at Summeany. If the Summeany river itself were not brackish, the natives would not have caused to open the sands for better, and the water in those openings ceases to rise from the second or third day.
that at one station he met with a supply of corn, and this, notwithstanding his own wants, he defined for the support of the fleet, fixing his seal upon it, and ordering it to be conveyed down to the coast; but distress prevailed over the fear of punishment; the escort broke the seal, and supported their own lives by the supply entrusted to their charge; neither did Alexander, knowing their sufferings, think this a time to punish their offence. He made a second attempt by sending down Cretheus with another supply 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 salt 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 "", the capital of this desert; 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 service,) and pushed down to the sea-side, where he found water by opening the sands, it is confidently asserted that the whole army must have perished. They proceeded along the coast for seven days, supplied by the same means, till the guides recovered the track, and conducted them safe to Poora "".

There is something in this account which induces us to think that one distress, the want of water, would have been less experienced on the coast than within land; and during these seven days it is

---

"" Strabo. Arrian says expressly, from the time they left Ora.
"" I shall write Poora, which is the Greek pronunciation.
"" The present capital of Mekran is Kidge.

**P. E.**

probable
probable that Alexander, seeing 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* grow, however arid the soil, there is always water to be found, by opening the ground to the depth of from ten to fifteen feet.

I cannot account for the sixty 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** 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***, four hundred, and even six hundred stadia, that is, sometimes 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 solution 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 palm grows in Egypt; and when the Egyptians had poisoned the water in the Kaliph of Alexandria, Caesar 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 something 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-five miles; a march which is impossible.

<table>
<thead>
<tr>
<th>Miles English</th>
<th>Miles Roman</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 stadia of d'Anville, 12 ½</td>
<td>Olympian, 25</td>
</tr>
<tr>
<td>400 ditto,</td>
<td>25 Ditto, 50</td>
</tr>
<tr>
<td>600 ditto,</td>
<td>37 ½ Ditto, 75</td>
</tr>
</tbody>
</table>

shall
shall have no farther reference to Alexander till Nearchus found him in Karmania. He had left Pattala a month or six weeks before Nearchus, that is, some time in August ""; what time he continued in the country of the Arabes and Oritze does not appear, but from a circumstance which occurred in Gadrosia, and the sixty days employed in that province, we shall bring him to Poora "" in the latter end of November; and as Nearchus reached Malana on the twenty-seventh of November, we may conjecture that the seven days' march of Alexander along the coast of the Ichthyophagi, 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 same tribe. I have entered into these particulars in order to connect the motions of the fleet and army, and have no small pleasure in finding that they correspond with each other. Another object was to prove, in opposition to all the historians, that the penetration through the desert was not a mere idle suggestion of vanity, but part of that great design which Alexander had conceived of opening a communication by sea with India; the three attempts which he made in the midst of his own distress to affright the fleet, establish this point as the first object of his mind; and the loss which he suffered fell perhaps chiefly upon the Asiatics, 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.

See Anamis, infra.

Otter, tom. i. 408, mentions Kiče or Guise, as the capital of Meckmas; but as he makes Kic and Kiče, or Kidaj, two distinct places, and distinctly they really are, it is highly probable that he is mistaken, as he disagrees both with the Nubian Geographer and Cheref eddin. It should seem that Phoreh is the ancient, and Kidaj the modern capital.
FROM THE INDUS TO CAPE JASK.

We left Nearchus at Malana on the twenty-seventh of November, where he said only that day, and, weighing at night, proceeded thirty-seven miles to Bagasira. There was a good harbour here, and a village called Psafira\(^{125}\), about four miles up the country. The site of this station answers to a creek in Porter's chart to the eastward of Cape Arraba, and which, in Mafcall's chart, obtains the name of Jerkumuty\(^{126}\), but the distance is only fifteen miles. We cannot, however, well be mistaken, because the next day's sail is round Cape Arraba; and as no distance is specified for the doubling of that promontory, the thirty-seven miles applied to the whole are sufficiently 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-gafrica, 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 Gofira, signifying in Arabic an island or peninsula confessedly, and, as I apprehend, a cape likewise. It is remarkable that, on the coast of the Ichtyophagi, this term occurs twice, in Ba-Gafira the first station but one, and Da-Gafira the last but one. It occurs, likewise, in the Periplus of the Erythraean sea, with the transposition of a syllable, where Ba-rygafa is either Guzerat\(^{127}\), or the gulf of Cambay, and Ba-rygafa corrected is exactly the Ba-Gafira applied by Arrian to the bay east of Arraba. I appeal, then,\n
\(^{125}\) De la Rochette places Pa'ira to the westward of Cape Arraba instead of the eastward; and his whole distance from the Tomèrus to the Cape is reduced to nothing. Has he not mistaken the Jerkumutty creek for the Tomèrus? Pa'ira is possibly a corruption of Bagasira.

\(^{126}\) This chart of Mafcall's is not from his own observation, and therefore far from correc. Jerkumutty is ill applied; it belongs to Churmut, the Calamatta of the Portuguese, the Kalama of Arrian. From the first view of the two words, who would conceive that Jerkumutty and Kalama were related?

\(^{127}\) The fluctuation or corruptions of this word are endless; for we find Gafira, Gesira, Gezira, Geziret, Dejafret, 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 coast, as Ba-lomus, Bar-nah, 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, supposing that Da, Dah, or Dagh, signified the head of a cape, and Ba the neck or falling-in of the land, in contradistinction; but my friend Dr. Ruffell, whom I consulted, gave me no hope of finding any such primitives in Arabic, where they ought to be looked for. I have only to add, that as a bay occurs almost to a certainty in every instance where Ba is applied as an adjunct, it is an extraordinary coincidence of sound with our native term; and I look with no little curiosity to an etymology of it, if it should be discovered in Arabic, Perlic, Pehlvi, Shanfskreet, or any native dialect of the coast.

The fleet weighed from Ba-gafira 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: 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

---

132 Dagh, in Turkid, is a mountain; and Dahr, in Peric, a head officer: if derived from any root signifying a head it would answer in this instance; but that is not allowed by Mr. Jones or Dr. Ruffell.

133 Our word Bay, is from Beagan to curve or bend. Junius in voce.

134 fexin. Pétrosum litus, according to the translators.

influence,
influence, as I have before observed, reaches much farther westward at present than this promontory. The island Karmine, which Arrian places two day's sail from hence, corresponds so precisely with Aijkstra\textsuperscript{138}, 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 be misplaced.

The next day's sail was only twelve miles and an half to Kolta; and that of the day following something more than thirty-seven to Kalama\textsuperscript{139}.

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-seven miles; and if I had added a distance for doubling the cape, the disproportion would have been still greater. In eighty-seven miles there is an excess of twenty-two, for Commodore Robinson's survey gives only sixty-five; and in my account there can be no mistake, unless I have been too desirous to make Malana and Morán the same, which is hardly possible, as the previous measures all correspond. We must impute, therefore, this excess either to the circuitous course round the cape, which seems more than requisite, considering 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

\textsuperscript{138} Prolemy has an island in this sea called Aijkstra, placed by his longitude indeed opposite to the river Arabis; but as there is no conspicuous island on the coast except Aijkstra.

\textsuperscript{139} Kalama, Kalyba, Gren. 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 Reifende, in the British Museum, we have a map of this coast, in which Paslaum (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 fixed with the utmost precision; and the island Ashtola, or Karnine, mentioned by Arrian as lying off this place, completes the evidence.

That Karnine 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 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 foul 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 runs in so deep as to make the cape appear like

435 Karnina, Kanina. Gron. MS. opt. 436 It is in that bay I place the anchor.
437 Lieutenant Porter, p. 4.
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 Orita and Gadrofia; and the rise to this branch possibly commences at Morán.

At Kalama, the natives were disposed to be hospitable; they sent a present of fish on board, and some sheep; but the very mutton was filthy, as were all the fowls 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 fish. A few palm trees were observed about the village, but the dates were not in season.

From Kalama they set sail 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 Kyla, about two miles from the sea. The inhabitants fled upon the approach of the ships, and nothing was found in the place but the boats which the wretched fishermen of the coast used, and some goats which they seized and carried on board. Corn they searched for without success, and their own flock was almost exhausted.

136 An additional reason for its name, Baghra.
137 χρυσα in the text. Green.
It is not impossible that the appearance of this fruit may be adduced to determine the season 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 season of the voyage, from a contradiction of this kind. However the naturalists may determine this point, the monsoon, which regulates my whole progress, is, in my estimation, a foundation which cannot be removed.
138 Gron. MS.; opt. Kifia.
139 Probably what they had obtained from Leonnatus.
The following day they doubled a cape which projected nine miles into the sea, and, after getting round, anchored in a safe harbour called Mosarna.

As Mosarna is the station 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 Pasience. The cape we cannot be mistaken in, as the island of Karmine, or Ahtola, fixes Kalama, and the course from thence; while the projection of Arrian’s nameless cape corresponds almost exactly with that assigned to Cape Pasience or Pofnee by Lieutenant Porter: but there is, in fact, no harbour here, or what might be deemed an harbour⁴⁹ even for a Greek fleet, represented in the charts; and Commodore Robinson assured me that the chart of his survey is accurate. If so, modern geography can afford us no assistance, 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 Mosarna is comparatively conspicuous, being mentioned both by Ptolemy and Marcian as the boundary of Karmania and Gadrosia. Where to fix that boundary inland may be a difficulty; but Arrian, who calls the country inland Gadrosia, and the coast Ichthyophagi, takes no notice of Karmania till he comes to Cape Jalk. On the contrary, Ptolemy and Marcian consider the whole coast as Karmania from Mosarna to Cape Jalk; and from thence to the river Bagrada in the gulph of Persia. Be this as it may, my present purpose is to shew that Mosarna must be placed at some short distance to the westward of Cape

⁴⁹ in πολυ νοτέρον is Arrian’s expression; it means land-locked, or at least so sheltered as to be a quiet harbour.

P.P. 

Pasience,
Pallence, 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 ftridia for this day's work, except his mention of the ex-
tent of the promontory; and as we have met with the same omission
on the doubling of Cape Irus or Monze, when the fleet anchored
immediately in the bay which joins it, we may conclude the same
circumstance took place upon the present occasion.

There is a passage in Lieutenant Porter's memoir, which, if I
understand it right, confirms the position I assume for Mofarna.
"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 authorize this, for the chart places the village of
Pallence or Posmee eastward of the cape, and in the bay formed by
the projection; and here, if the text of Arrian had not been posi-
tive to the contrary, I should have placed Mofarna.

I state the evidence on both sides, and I confess my disapoint-
ment 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-fish; a trade which gives a
relative importance to the place, conformably to my ancient
authorities.

--- Lieutenant Porter.

At
At Mosarna, Nearchus found a pilot who undertook to conduct the fleet to the gulf of Perisia; 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 circumstance of meeting with a pilot at this place denotes something more commercial than any thing that has yet occurred on the coast; and Arrian suggests, that from hence to the gulf of Perisia the voyage was more practicable, and the stations 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 fleet leaves Mosarna; but, at present, 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.

---

Footnotes:

142 Τὰ ἐκ τοιαύτα ἡμοῦ γεγονάμεν τὰ ἐκ τῶν τοῦ Ἀρρίου, ἡ τῆς τῆς καὶ τῶν τοῦ Πτολεμαίου. Which Rooke translates: Lost difficult to be traced, though much more famous in story.

I am not sure that I render ἡμαλαζώμενα right, but I apprehend it means, places better known.

Porter bears evidence to the better appearance of the country between Churbar and Jask.

p. 9.
### TABLE for comparing Arrian, Ptolemy, and Marcian, ICHTHYOPHAGI.

<table>
<thead>
<tr>
<th>ISLANDS in Ptolemy</th>
<th>From MOSARNA</th>
<th>From MOSARNA to BADIS</th>
<th>LABARIS</th>
<th>From LABARIS to BADIS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pola, Pola, Palla, off at sea, no correspondent island in modern charts.</td>
<td>To Zorambus</td>
<td>-</td>
<td>Zorambus</td>
<td>500</td>
<td>Balhoma, 750</td>
</tr>
<tr>
<td>Libe, Liba, Zibe, off Alambateir; Guadel</td>
<td>To Harada, Badara</td>
<td>-</td>
<td>Badara</td>
<td>200</td>
<td>Bima, 400</td>
</tr>
<tr>
<td>Karminna, off Deren-oberilla; Karmine of Arrian, off Charmot, or Calamets</td>
<td>To Deren-oberilla*</td>
<td>-</td>
<td>Deren-oberilla</td>
<td>250</td>
<td>Deren-obulla, 400</td>
</tr>
<tr>
<td>Kafa, To Bagia Prom</td>
<td>To Kyparissia</td>
<td>-</td>
<td>Kyparissia</td>
<td>400</td>
<td>Kyfna, A small town, 800</td>
</tr>
<tr>
<td>Athaca, long. 19° 20', lat. 18°, misplaced</td>
<td>To Tyfa</td>
<td>-</td>
<td>Tyfa</td>
<td>100</td>
<td>East Point, Gutter Bay, 1000</td>
</tr>
<tr>
<td>To Samy, Dake, Samy-Kade</td>
<td>To Agri</td>
<td>-</td>
<td>Agri</td>
<td>500</td>
<td>Weft Point, Gutter Bay, 1000</td>
</tr>
<tr>
<td>To Sarus River</td>
<td>To Osima</td>
<td>-</td>
<td>Osima</td>
<td>300</td>
<td>Weft, Choubab, 750</td>
</tr>
<tr>
<td>To Rhogana, Kugana (Ptol, p. 157)</td>
<td>To Kupri</td>
<td>-</td>
<td>Kupri</td>
<td>200</td>
<td>Kupra, 800</td>
</tr>
<tr>
<td>To Agira</td>
<td>To Kanta-tes, Kanta-pi</td>
<td>-</td>
<td>Kanta-tes, Kanta-pi</td>
<td>1000</td>
<td>Cape Bombardek, 7400</td>
</tr>
</tbody>
</table>

**Distance from Mosarna to Badis by Robinson's chart, in a right line.**

4000 fad. = 5750. M.B. of 8 to a mile. 7400 fad. = 4623 miles or 35 1/2 miles at 1 16 to a mile.

---

**REMARKS.**

Arrian, Ptolemy, and Petronius, or possibly Petronius, are pears; but from Ptolemy, 1766, 176 M. B., by Arrian, 1776, 177. Zorambus transferred to agree with Arrian.

Zorambus transferred to dovetail with Ptolemy, by which name it is known; and the corrections are called decimals. Ptolemy's distance is by the opening of the bay.

This is the best interval for comparison with Marcian, except in modern charts. Ptolemy's distance is by the opening of the bay.

**Between Kanta-tes and Kanta-pi:**

The corruption of the text of Ptolemy and Marcian, from Mosarna to Kyta, 2500 fad. in the reading of this word is fixed, though there is a nameless Marcian, 1000 fad. 3500 fad. 1000 fad. 2000 fad.

Arrian, as will appear hereafter, reckons on the number of 720 fad. to the extent of a Roman mile, and consequently every form which will correspond.

Kanta-tes is supposed to be 17 miles, upon a given distance, and in ex |

---

**From the Indus to Cape Jask.**

Kugana, Nimmara, have no correspondent letter in the text of Ptolemy; it is received from its letter in Jask. Arrian, but does not contain the text of Ptolemy.

Varus, Badara Nom, Kambis, Gumma, Kugana, Kupna, Kupri, Kanta-tes, Kanta-pi, Kanta-tes, 2000 paces; or any particular distance than any of the above, 432 of Arrian's fad.
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 Nearcirus's reckoning on this coast, I imagine the numerals in Marcian 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 Nearcirus'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 Mosarna, and ends at Bombareek, the Karpella of Ptolemy.

It does not appear that any supply was procured for the fleet at Mosarna but water, and perhaps fish; but taking the pilot on board, they weighed anchor in the night, and proceeded forty-seven miles to Balomus. 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 fifty-five or sixty miles; not that it is intended to assert that these measures are correct, but only that their progress was much increased and per-

---

Marcian himself acknowledges the great difficulty of giving distances accurately, from a variety of causes, in the preface to his work, well worth consulting.

And if Pal称之 is Mosarna, Lieutenant Porter's memoir is in perfect correspondence.

Dried fish he specifies as an article of trade; and adds, "Water is to be procured here in the same manner as at Summarny. Goats also, but very lean, and not restorable." The people are Blockees, and very cold.

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 doubts of it is general, that in every region within the limits of the trade winds or monsoons, a land breeze blows during the night, and a sea breeze during the day. Mr. Marlden, in his History of Sumatra, 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 six in the evening; about seven, the land breeze comes off, and prevails through the night, till towards eight in the morning, when it gradually dies away." This is Mr. Marlden'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 mentions the land breeze upon this coast, as well as those of Malabar and Guzerat; and he adds afterwards 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".

---

446 From p. 15 to p. 19. 447 P. 16.
448 In Mr. Dalrymple's Collection, p. 87, et seq. 449 P. 88.
westward, to carry her in shore again, and neither is the land
or sea breeze ever attended with squalls 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 facility of navigation, all contribute to
the accomplishment of this voyage, as a prelude to the communica-
tion with India, in vessels of such a sort as must probably have
perished on any other coast of equal extent: but there is a pecu-
liarity in this evidence of Captain Rannie, that accounts for a cir-
cumstance in the voyage which, without it, would have been in-
explicable. We have seen the fleet pass two capes, Arraba and
Posimee, with some symptoms of alarm or difficulty, and both no-
ticed in the journal; but we are now approaching a third at Guadel,
which Arrian never mentions. We should reasonably be surprized at
this, as the doubling of a cape is always an achievement in the esti-
mation 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, or Alambateir,
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 stood 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.

<table>
<thead>
<tr>
<th>Ptolemy and Marcian</th>
<th>Arrian</th>
<th>Ptolemy and Marcian reduced to Arrian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mofarna</td>
<td>Mofarna</td>
<td>Mofarna</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Badara, or Barada.</td>
<td>Balómus</td>
<td>Zorambus</td>
</tr>
<tr>
<td>Alambatier.</td>
<td>—</td>
<td>Guadel.</td>
</tr>
</tbody>
</table>

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 Dendróbośa. 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 flowers and myrtle "", of which they made chaplets ""; indulging, for the first time perhaps since the voyage commenced, one of their native "" luxuries.

From Barna the fleet proceeded"" twelve miles, to Dendróbośa; and here the ships could not approach the shore, but rode at anchor. This circumstance may induce us to suppose, that the whole course from Moarna 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-
ployed are to be admitted with some reserve, and with this ob-
servation, 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 be-
lieve, though I mark it otherwise in the margin, for the reason
already given; and this is the more probable, as the fleet is said
immediately afterwards to have weighed from hence at mid-
night.

That Dendróbofa 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-óbofa, Deren-óbola, 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-óbofa;
as I conjecture Shied and Muddy Peak would agree with the other
names of Arrian, if they had been inserted in Commodore Robi-

tson’s chart.

From Dendróbofa the fleet weighed at midnight, and reached
Kophas, after a passage of twenty-five miles. And here a variety
of difficulties arise, which I despair of solving to the satisfaction of

---

134 The change of letters in this word is justified by the organs of speech, and exemplified in *Τροχ*, Greek; *Tener*, Latin; *Tender*, English.

135 Ptolemy appears to use this name as a plural, *Καρσαρα*. It occurs but once in Arrian, and then without an article; but Marcian uses it, and it *Kafara*, which marks Kophas as the right name.
the reader. I place Kophas to the eastward of Alambateir, or Cape Guadel, because Ptolemy, Marcian, and Arrian, all concur in the same assertion; 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 "", so that if the existence of this bay were established, it would be near three hundred miles across; but it does not exist. The coast rises gently, indeed, about half a degree towards the north, during its whole course; and though there are two or three small indentures, there is no general curvature whatsoever. The mistake of Ptolemy (of far less magnitude than his error in regard to the peninsula of India) admits of a solution nearly self-evident; for the fleets from Egypt which failed with the monsoon 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 Jaffik on their left out of sight; this naturally raised the idea of a curve inwards, because no land was seen; and if Ptolemy knew any thing of such vessels as failed from the gulf of Persia, or if any did in reality fail, they also, from the moment they doubled Cape Jaffik, took advantage of the monsoon, and did not creep along the shore, like the fleet of Nearchus, but

""dian Gulph;" apparently giving support to the idea of calling that sea a gulf which lies between the coast of Arabia and Scinde, in which the entrance into the gulf of Persia is disregarded. See Franklin's Tour, p. 55."
flooded 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 monsoons, 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 authors happily to each other.

CAPE GUADEL.

Alabageion \(^{19}\) Alambateir of Ptolemy.

<table>
<thead>
<tr>
<th>Longitude</th>
<th>Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>by Ptolemy</td>
<td>101° 0' 0&quot;</td>
</tr>
<tr>
<td>by MacCluer,</td>
<td>60° 34' 0&quot;</td>
</tr>
<tr>
<td>and from Ferro,</td>
<td>17° 40' 0&quot;</td>
</tr>
</tbody>
</table>
| Ptolemy corrected by Gosselein, | 78° 14' 0"

\(^{19}\) Marcian, as the copyist of Ptolemy, is always included in this estimate.

\(^{39}\) The Western point of Gutar Bay is called Bageia; and the etymology of that

word would explain Alabageion, in which

There
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 side 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 present the reader with a plan of this bay, and the soundings will shew, that in whatever part of it we place Kophas, there is a sufficient depth of water for Greek galleys; possibly, at the favourable time of the year when Nearchus failed, such shelter as the shore itself afforded was ample security. Between this bay and the other on the western side there is a neck which joins the peninsula to the main, and which has been fortified by a wall 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 considerable, is now ruined by the miserable state of the country. 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 Portugueze, who had a settlement here, if not of more ancient date. Lieutenant Porter's Memoir. Hamilton mentions this decline in his time.
some consequence to navigators; and induce a probability that con-
veniences 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 fishermen, 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 consistent, than from Moefarna to this place. Moefarna I have fixed by the neighbourhood of Ashtola and Cape Posmece, and Kophas is, I hope, established by means of Ptolemy, and the position he gives to Alambatieir; 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 neighbour-hood; 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 Alambatieir; the latter I conclude to be nothing more than this very peninsula of Guadel before us, which may have been an island 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 sailed early in the evening, and, after a course of fifty miles, reached

---

161 Seen possibly as an island at sea, from the lowness of the coast.
164 About the first watch; six 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 Gutter 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 four 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 fifty 166 miles from Alambateir, or Cape Guadel.

A plan of Gutter 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 167; they therefore took their meal 168 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 169 of Arrian upon which this city was situated. "We

165 See the Table, where it is assumed that Nearchus reckons, between Kyiza and Talme- na, from the extreme points of each bay; that is, from the eastern point of Gutter Bay to the western point of Churbar.

166 See the Table, where it is assumed that Nearchus reckons, between Kyiza and Talmena, from the extreme points of each bay; that is, from the eastern point of Gutter Bay to the western point of Churbar.

167 If there was a surf, it is an additional reason for placing Kyiza previous to Noa Point.

168 thanumakters, is not precise enough to specify an evening meal, but is apparently so. 169 ψωλάθ,

"found,"
"found," says Lieutenant Porter, "a small town at the bottom of "the bay, inhabited by fishermen." Is it not a whimsical coinci-
dence, that at the distance of two thousand years, an English naviga-
tor should find a town without a name, as well as Nearchus? I
do not build upon this; nor do I assert, 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 side, as Lieutenant Porter appears to have viewed the hum-
mocks as he entered the bay from the east.

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 supply if he could find
means of obtaining it; but he perceived that he could not take the
place by assault; and a siege, the situation he was in, rendered im-
practicable. He concerted matters, therefore, with Archias, and
ordered him to make a feint of preparing the fleet to sail, while he
himself with a single 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
presented him with baked fish, (the first instance of cookery he
had yet seen on the coast,) accompanied with cakes " and dates "
These he accepted with proper acknowledgments, and informed
them he wished for permission to see the town: this request was
granted without suspicion; but no sooner had he entered, than he
ordered two of his archers to take post at the gate, and then mount-

"Nερούστα ωίνη.

"This does not specify the season of the
ripe fruit. They might be dried. I do not
speak from authority, but I think the date is
gathered in April or May.

ing
ing the wall contiguous, with two more and his interpreter, he made the signal for Archias, who was now under weigh, to advance. The natives instantly 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 same time, that if they wished their city to be preserved from pil- lage, 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 im mediately with the force which attended him, and Nearchus sent proper officers to examine such stores as were in the place, promising the inhabitants that, if they acted ingenuously, they should suffer no other injury. Their stores were immediately produced, consisting of a kind of meal **"** or paste made of fish, in great plenty, with a small quantity of wheat and barley. This, however insufficient for his wants, Nearchus received, and, abstaining from farther op pression, returned on board with his supply. The fleet hailed off to a cape in the neighbourhood called Bageia, and there anchored at no great distance, as I conclude **"**, 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.

---

**"** This is not more extraordinary than that cattle should eat fish, as mentioned above; or than the Caviar of the Wedga. Lieutenant Porter reports, p. 45, that at Mafcat in Arabia they make a mixture of fish and dates with a kind of earth and water, which the cattle eat as their common food, and it is extremely fattening.

See ia/ia.

**"** No distance is mentioned, and it appears like immediate anchoring, after leaving the town.
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 fish, 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 Gutta Bay as identified," 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 fleet, had little opportunity of describing; and on which, consequently, the scantiness of the journal leaves great ob-

---

272 Memoir, p. 7.
274 A relation may be suspected between Bucker and Bageia, Bukah.
275 There can be no possibility of error, unless it should be thought worth while to pay attention to the fladan of Marcian, He reckons twenty-five miles from Alambeir to Kyiza, and sixteen from Kyiza to Khafis, i.e. Bageia. This would make Bageia and Noa Point the same; 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.

security.
security. Kophas, Alambateir, Kyzia, and Bageia, corresponding in
the three authors, conduct us safely 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 sixty-three miles, an estimate which carries Tal-
mena beyond Churbar Bay, and which, if a remedy is sought by
commencing the course from Noa Point, encroaches as much on the
previous measures as the contrary supposition does upon the subse-
quent part of the coast. I had, however, originally fixed Talmena
at Churbar, Kanafida at the Tanka, Kanaté at Kalat, Toæfi at a
creek, and Dagafira at a headland previous to Muckfa; but by
means of fresh information collected from Otter, I have been in-
duced 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 recom-
mend it.

The three stations in Arrian are Talména, Kanafida,
and Kanaté; and in the series of Ptolemy there is a Kandriakes,
answering to Talména; if, therefore, we assume Kandriakes for
Talména, we obtain three successive names, of which Kan is the
initial component part. Now it appears from Otter, that the

---

176 The Chart, No. I. will give all these positions.

177 There are four in reality, for a nameless one is placed between Kanafida and Kanaté, which is possibly the modern Godeim.

H H 2

Oriental
Oriental accounts which specify the rivers of the Mekran, employ the adjunct Kienk or Kenk, as the Persians use Ab or Roud, to express a river; thus we have Kiourkienk, Nehenk, and Kiechenk, all of which d'Anville has adopted in his map of Mekran, and given them the course assigned by Otter. The same term is found in Sufiana, for Chereff-edin mentions a Hoo-chenk and a Dou-danke crossed 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 passing, 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 Akefines; with the Ganga, the Ganges, the Kishen-Gonga, the Sevi-Gonga of India; and with the Gihon of Sogdiana: in its second, Denk furnishes the Dou-Danké of Sufiana, and the Samy-Daké of Ptolemy, which is the Danké or Tanká river of the modern charts on this coast. This term, in one or other of these shapes, appears to be the most ancient expression for a river of any that occurs; and it may be easily 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-riakes, evidently from τέχνη, the Greek term for water. Upon consulting Otter, I find a stream
in this neighbourhood called Kie-Chek, which may be interpreted the river of Kie or Guié, an inland town at some distance from the coast, and I cannot help thinking that Ptolemy's Kandriakes is a transposition of the same word Kande-Kie, or Kandre-Kie, for Kie-Kande. Otter says, this river falls into the sea between Khudar and Pichin. Pichin is not discoverable, but Khudar is Gutter Bay, which the fleet has now just left, and it Pichin is to the westward, we have the mouth of this river falling into the sea between Gutter 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 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?

\[\text{Ptolemy.}\]

Bageia,
Kandriakes,
Tysa,
Samy-Kade.

\[\text{Arrian.}\]

Bageia,
Talmena,
Kana-fida,
Kan-ate.

\[\text{Notes:}\]

355 It is true that Otter considers Kie-Chek as a fort; and yet he writes, Le Kien-
Kienk receivit aufig Peau de Kie-Chek. Chek is
Chenk, or Kienk.

353 Five days or a week; one hundred or
one hundred and twenty miles.

356 D'Anville gives Pichin a situation such
as is required; but I apprehend has only Ot-
ter's authority; for I do not find Pichin in Al
Edriú.

357 Mina, Minau, at the Anamis, and Mi-
avi, at Bafia, are expressive of a fort. Tal
is, in Hebrew, a ruinous heap; and from
hence, perhaps, Arabic or Persian. That such
ruins were as common on the coast formerly
as at present, there can be little doubt; for the
Beloochtes from the eastward, and the native
Gadroins are both tribes of plunderers. The
very next station at Kanalida is noted by the
journal as a ruined city. Thus has rapine
joined with avidity to defolate this coast in all
ages. See Parkhurst in voice הילל; and
333 an inhabited place; but the last is du-
bious.
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 considered as the unknown quantity we are searching for. Permit me, then, to read Kana-Disa for Kana-Sida; and I find Kienk-Disa, the river of Dis, Tiz, or Tidsj. This is the Tysla of Ptolemy, the Teia or Teifa of Marcian, the Teiz of Dalrymple, and the Tearla of Porter. All these different modes of writing are expressive of a town situated in the bay of Churbar, celebrated by Al Edrisi for its commerce with Keish, an island in the Gulph, and Oman in Arabia, both sufficiently noticed by Cheref-eddin and other Oriental geographers. Otter brings the Kiour-Kienk, or salt river, into this bay; and unless Sida shall be found to express salt, there can be little doubt but that it is a transposition from Disa or Diz. By a similar 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 consequently answers to the Kandriakes of Ptolemy, and the series in both authors is consistent. It is not necessary to insist on this reasoning as indisputable; but if we find the initial Kan thrice repeated in succession, and three rivers locally agreeing with this, and still preserving 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

---

138 The licence required for these transpositions is stated fully hereafter at Agris.


---

190 Roud-Chiour the salt river, near Kansk in Loristan; and Kusk itself is related to Kienk. In those countries where the soil is salt or nitrous, there are salt rivers everywhere. See Marco Polo Ramaio, tom. ii. p. 8.
again. More rivers than these three. I cannot distinguish in Otter; for his Kiourkies and Souringuirou are only the same, or parts of the same stream, Kiour-Kienk; and what their course may be inland is of no consideration to the journal. Otter’s authorities, in this respect, are much embarrassed; and I am not without suspicion that he has mistaken Kič for the capital instead of Kidge: I once thought them both the same; but Al Edrili writes Kia and Kir as distinct places, and Kir he seems to estimate as the principal city; if so, 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 Gedrosia, 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 necessary to discuss, as it is not connected with the voyage; neither is it insisted on farther than as the suspicion of a mistake. Otter has made a similar lapse in regard to Ahwaz in Susiana, and this gives an additional reason for supposing that he may, in this province also, have been misled by the fluctuation of Oriental orthography.

Having now obtained a probable solution 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-

---

191 There is a fourth, Makefhid, to the well; of which see infra.
192 Otter, tom. i. p. 408.
mena, Kanafida, and Kanaté, with a fourth between the two last, which is nameless, and without any distance specified.

The fleet weighed from Bagcia at midnight "94, and proceeded a thousand stadia, sixty-two miles and an half to Talmena. This distance, if taken from Noa Point, is not greatly in excess, but this assumption the transactions recorded do not authorize; and there is reason to apprehend that the error of numbers lies somewhere about Guttar Bay, or Kuiza. Whatever it may be, the sinking of it here relieves the remainder of the course to Badis; and we might build something on the four hundred stadia of Marcian to diminish the excess, if we could find their proportion with other stations; that, unfortunately, is impossible. No circumstances relating to Talmena are recorded in the journal, but that it was a safe harbour; and this, at least, has nothing discordant with the station allotted to it at the mouth of Ptolemy's Kandriakes, the Kâ-Kenk (Kiâ river) of Oriental geography. Nothing in Otter's account forbids the issue 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 Hudriakes, the pilot of Nearchus, seems to derive his name from this Hudriakes. It is said expressly that he was a Gadoian; and if we are right in assuming this stream 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 suppressed this circumstance? Or will it afford ground for an argument, that the silence 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 prosecution of the voyage.

"94 Again at night.
From Talmena, the distance to Kanafa is estimated at twenty-five miles, a space not greatly in excess; and Kanaf-Disa has been interpreted the river at Tiz or Tedsj, which Otter calls the Kious-Mien, or salt 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 same analogy as Cape Passence or Passam is styled Pof-mee: is it not remarkable that two navigators, at the distance of so many centuries as Nearchus and Commodore Robinson, 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 see it; but they found a well ready dug, which saved the trouble of opening the sands, and the wild palm tree, from which they took the tender shoots of the head to support life; so that the little supply of corn they had procured at Gutter 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 disappointed in finding no river marked here by our English navigators, in which they agree too well with Nearchus. My authority for bringing the salt 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.

198 Pallium, Portug.
199 Strabo mentions, p. 722, that the army of Alexander, in passing the desert of Gar-doria, was preserved from famine by the same means.  \'εγὼ ἑκὸν ἑλληνὴν ἐοὶ ὑποτεθαλ, ἦς ἐ ἐ
κατακτή καὶ τὸ ιμπαλ, \textit{According to the translation, Fru-cus et cerebrum salutiferum.} So Xenophan, Anab. lib. ii. c. 3. seems to use ἱμπαλ, for a part of the fruit: but I think in this passage of Arrian, \textit{τιτλοῖς οἷς ἱμπαλαῖς;} \textit{seems to imply cutting the tender head of the plant, rather than the fruit; for fruit at this season 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 Indico-pl. Tab. p. 338. Mostlave, N. Coll. Pat- rum. Strabo mentions the preferred date: \textit{O. Παλαιοὶ Ποτηρίας ἐν Ιοίνῳ καρπᾶται, ἡν}
	param τοιοῦτος.} P. 725.
At the time Churbar was visited by Commodore Robinson's little squadron, the natives were desirous of the English settling at Tiz, where they shewed him the ruins of a Portuguese fort, and informed him that Churbar had been a place of considerable trade in ghee, silk, twilled cotton, and shawls, till a six years' drought had reduced the land to a desert. Water, however, was easily 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 vessels in the harbour sent by Hyder Ali to take advantage of the market depressed by the drought, and to seek a supply for his cavalry even in this desert region of the Mekran. Such was the attention of that extraordinary man, whose spirit soared 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 coast. This intelligence agrees well with Otter's site of Kie, and argues something 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 Kanalida, 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
reason to suspect that they would not have returned on board. This desert 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[207] is a headland very level along the top, with steep cliffs next the sea, from whence Coqal or Kalat is seen, which is a remarkable object, and somewhat short of which is the mouth of the Tanka Creek. It is observable, that headlands of this kind frequently 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, Kanaté 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 [Kanafida] to the Tanka; and as there is nothing in Arrian to forbid the application of this measure to the two days' course, 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[208] or Kadé indifferently, which

---

KANATÉ.
Dec. 13.
Seventy-third day.
Twentyninth station.

---

AD DESERT SHORE.
Dec. 12.
Seventy-second day.
Twentyeighth station.

---

207 Lieutenant Porter, p. 9. He says, Godeim looks like an island till you are near it; and d'Anville has an island here. May not this be the Pola of Ptolemy?

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 say, but such it appears to me; and on a coast involved in so much obscurity, every approximation to probability is clear gain.

The journal assigns 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 soil. Porter calls the Tanka a small river, and the artificial cuts of Arrian bespeak a river also; for on this coast, wherever there is not a river, no such 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 site 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 salt [river] of Kic. 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 of Reffende; 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 spot with Commodore Robinson. To this river a long course inland is assigned by de la Rochette, on what authority I know not; but it can hardly rise beyond the mountains, as he makes it, if we may judge by the size and shallowness of its mouth.
It does not appear by the journal that the people were suffer'd to land at Kanaté; neither is there any mention made of a supply* being procured. A sufficient 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 assign another day for the passage to Troes; the course made good was fifty miles; and here, at last, a scanty supply of provisions was obtained. The place presented several mean and wretched villages, deserted by the inhabitants upon the approach of the fleet; but a small quantity of corn was found, with some dried dates, and these, 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 distress 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 nauseate what they are not used to consider 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-flesh 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 feasting 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 seem to have considered men reduced to live

---

*All bread-food was certainly exhausted. **Translating in Spanish. The copiousness of the Greek language did not supply a term for this fruit. It is literally the acorn of the gum. 

**wholly
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 397, “Between the Tanka and Muckfa, we found the land bear a better face than any we had hitherto seen; as the valleys 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 Troillin, 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 Mafis, Magis, Magida, and Mazinda; and which Marcian seems to fix at a river 308 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 Dafafira; and carry his Sarus westward to a creek marked in Commodore Robinson’s chart, which answers to the Ifkim of d’Anville 309, de la Rochette, and Reffende 310. So far Nearchus corresponds with Ptolemy’s position of Magis, that he intimates no river at Trushi.

397 Memoir, p. 9.
308 The reason for affixing this is, that Marcian gives no distance between Pasis and the Salarus.
309 It is very ill defined in all.
310 Reffende writes Ifqui, Ifk, Ekk, and Uk. are names of rivers in our own country, and all signify 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 Trofii short of the cape which succeeds first westward of the Tanka, and to fix on that cape for the Dagaflra 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 Trofii to Dagaflra 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 fix 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-Gefra***

---

** Sub autors, before the sun rose.
On all other occasions from Mofarn, falling 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 Dah or Dahr might signify a head, and Bah or Bahr, in contradiction, the interior part, or bay. I shall now add that Bahr signifies a sea; as Bahr-ein the two seas; Bahr Nudjeef, the dry sea or lake at Makichid Ali. Nuebaier: but I ought not

To omit that another sense of Bar occurs in Montfaucon's Preface to Colmas Indico-pleutes, where he says it signifies a continent, as in Zangue-bar, Mala-bar, &c. In this sense, Bar-Gezira is literally expressing a Chersonese, such as Guezez and Arrabe 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 Montfaucon N. Collectio Pat. Prefat. Ex. Colmar. p. 134.

expresses
expresses the head of a peninsula or promontory, and there are two capes between the Tanka and Muckfa. From the distance between Dagasira and Badis, I prefer that which is the more eastern. One circumstance only is noticed here, that of meeting with a few straggling natives, from whom it does not appear that any assistance was obtained. Unimportant as this may appear, it preserves 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," says Porter, "there is a family here and there which keeps a few "goats and camels, and subsists 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 season." Such were the wretched inhabitants Nearchus found here; and Gronovius is almost angry that he honours them with the title of Nomades (herdsman wandering in search of pasture); he insists upon it, that they are mere vagabonds; but Porter’s camels and goats seem to justify a better sense of the expression. In one view, their misery seems rather upon the increase; for if they are not provident enough to preserve the date, they are sunk below the condition of their ancestors. Strabo mentions the fruit in its dry state, and Nearchus evidently procured dried fruit at Trepsi. The inhabitants are called Brodies by Porter; but Niebuhr considers them all as Belootches, quite to Jaik ***, 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 Arabite on the Arabic, with the

*** Porter, p. 8.

*** There is a prince of Jaik whose name is Balladsj. See Tavernier.
Arabs of Oman. 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 desert 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 distress of the people, and the impossibility of procuring a supply 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 sixty-nine miles, a promontory projecting far out into the sea, with a surf 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 consequentlly during the night, as near shore as the surf 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 desolate coast. This promontory is the boundary between the country of the Ichthyophagi 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.

There is an Ommana, mentioned by Ptolemy and Marcian, to the westward of Pafis, (see the Table, p. 220.) and placed, by the author of the Periplus, six days' sail east from the gulf of Pefia. (See Peripl. Maris Erythraei, p 20. Hudson Geog. Minor.) The author mentions the connection of this Ommana with Kasa in Arabia, and Barygaza in India, as a kind of central emporium. The place probably did not exist in the time of Nearchus, but seems to owe its rise to the extension 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 gulf, always celebrated for its commercial spirit, and containing Muscat, still the greatest Arabian mart on the ocean, which is the Mosteh of the Periplus. See Niebuhr's map of Oman.

K K And
AND now having conducted my friends into a place of safety, I must return to survey the coast. The first point necessary to fix is Badis. Badis I place at the cape called Muckla by Robinson and Porter, and which will presently 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 resemblance to every one of these variations. Kau-Ratis, in conformity to the other three, is necessarily Kan-Ratis; and this differs so little in the form of the Greek letters, that there is no violence used in asserting, that Kan-Batis and Kan-Ratis are the same. Now Kan marks a river, and Ba-dis, if my conjectures are right, a bay: both these circumstances are applicable to the spot, for there is a river five miles within this cape; and at this river I conclude the fleet anchored on the morning of the seventeenth.

The fluctuating orthography of the Greek text will justify still greater liberties than I have taken; and when it is considered how much the native names of every coast vary in modern charts, how difficult it is to write foreign sounds received by the ear, and how seldom two persons express the same sound by the same letters, there will appear no extraordinary licence in the changes adopted upon the present occasion. I never wish to lay more stress on these conjectural criticisms than they deserve; and if this explication had stood 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

\[\text{kan}_{\text{a}}\text{ratis}, \text{ in Cod. Herv. Hudson.} \]
\[\text{Marcianisi Periplius, p. 32. kan}_{\text{a}}\text{ratis} \text{ in the text.} \]
\[\text{the mistake is natural.} \]
\[\text{I only go a step farther, and read in Marcian, kan-} \text{y} \text{pati} \text{c for kan-ratis; or, in capitals, kan-} \text{bat} \text{i} \text{c for kan-pati} \text{c.} \]

\[\text{of} \]
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 same, 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 site of Cape Jafk. It happens, that upon the approach to the gulf of Persia there are two capes about twenty-seven miles asunder; the easternmost of which is the Cape Muckla of Robinson, Porter, &c. and the westernmost their Cape Jafk. Here is the origin of that embarrassment which involves the whole question in obscurity, for in reality Muckla is the true Jafk, and their Jafk is Cape Bombareek. It is this Bombareek which is the Karpella of Ptolemy, and consequently 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 series comes down the gulf of Persia to Karpella. This lags 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 Mullenodon, on the Arabian
Arabian shore, where is the narrowest part of the freight 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 Parsees; 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 seryes, but stands at the foot of the account; its latitude, however, marks its place.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Armozon</td>
<td>-</td>
<td>23° 40' 0''</td>
</tr>
<tr>
<td>Strongylus</td>
<td>-</td>
<td>23° 0' 0''</td>
</tr>
<tr>
<td>Karpella</td>
<td>-</td>
<td>22° 30' 0''</td>
</tr>
</tbody>
</table>

The inaccuracy 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 figure from a perforation at its top, and appears, when the land is not seen, like an island.

Now it is very remarkable that Kar, in Hebrew, signifies a hole through which the white light appears; and if I could find the means of ascertaining a similar sense of this word in Arabic, Perfic,

---

Karpella is really in lat. 25° 42' 30'', that Mr. d'Anville has an island here.

or 25° 40'.

Kar. Also a hole or slit in the.

It is from this deception of mariners lid of a box, for admitting money.
Sketch of the Southeast Angle of the Coast of Persia by Captain A. Blair for this work.

No. 1 in this Sketch. Saquar & Bombarab are found from the information of the natives.

The ancient name is Wn.

Published according to Act of Parliament June 27. 1797 by D. Vincent.
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, signifying loose sand; and such is the nature of the soil from Muckfa all round this angle of the coast to Elhourz, 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 fluctuation of the modern accounts in regard to Cape Jafk; for the suffrages are nearly equal, whether it is at Karpella or Muckfa. Lieutenant Porter says, Muckfa has been frequently mistaken for Jafk; 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

---

331 הֵילָל, Pala, Palah, cut, severed, divided.
332 תָּלָל, Palag. Applied to the dividing or bounding of countries. See Parkhurst in voce. All have properly Ph.
333 Combarack, Gombarat, Mumbarack, &c. 
341 Pietro della Valle writes, Sable delit.
334 There are several Elhourz in Persia; one particularly at Yezd.
345 Niebuhr, if I am not mistaken, agrees with Captain Blair; for he says Kohum-barreck is three three-fourths German miles north-west of Jafk; but this is not certain; for his text stands, à l'ouest vers le nord. I read, à l'est vers le nord, because north-east agrees neither with one Jafk or the other, tom. i. p. 72.

uniformly
uniformly agreed in calling the eastern 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; 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 eastern cape, from a manuscript of Baffin and Sommerson preserved 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

---

*256* Nous doublâmes le cap, qu'ils appellent en Perfin Combarick, c'est à dire, jetable délie, et la nuit suivante nous laiflames 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 fleet in Jask road.

*257* "To the northward of Cape Jaques comes 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 secure 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, affixed to Baffin'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, Jafk; but it calls the bay, Jafk 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 Jafk road in which the English fleet lay in the year one thousand six hundred and nineteen, when it came to assist the Persians in the reduction of Ormuz; and, during the north-easterly 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 future call the eastern point regularly Jafk or Badis, and the western, Bombareek or Karpella.

The mistake committed by d'Anville, in supposing Karpella and Badis to be the same, is founded upon, and supported by another error; for he read in the translation of Arrian, that there was a rock at this point, and, in order to establish the identity of Badis with Karpella, he went six or eight miles north to fetch the Bombareek rock to the cape. Unfortunately for this system, the Greek text says nothing of a rock, but uses that term, 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 Jafk, but

---

244. *Memoirs, p. 140.*

Il parle d'un rocher escarpé sur cette côte; or la terre du cap allait assez basse, mais l'anse qui lui succédé est terminée par un rocher blanc, fort près 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 feature 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 Vulcainus: for it is Vulcainus qui parle d'un rocher escarpé, and not Arrian.

245. *Ibid.* See this fully stated above.

none
none at Bombareek; and when he is assured that these were inferred 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 Jaff; to observe Bombareek without breakers, and Jaff 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 Ichthyophagi and Carmania, they rode at anchor at a distance from the shore because a violent surf 310 beat along the line of the coast, and extended out a

310 So I render *scapulus*. The translation of *scapulus* by *scapula* and *scapula* 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 *fossa*, surf; and there can be no error in my construction greater than this. It is either the surf itself, that is, the breach of the water, or else the shoal or breakers on which it beats."
"considerable way into the sea." These, as nearly as I can render them, are the very words of Arrian, and a single glance at the Jaff of Captain Blair's sketch seems now to determine the question past contradiction. The extent of the surf naturally implies the extent of the projection; and if extent is not the peculiar feature of Jaff, in opposition to Bombareck, 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 says expressly, that from this cape the course was no longer west, but north-west. This is true of Jaff, but not of Bombareck; for from Bombareck 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 Jaff and Bombareck as Captain Blair; and he affirms 11, that "from Guadel to Jaff the coast lies west by north, and east by south;" but "from the point of Jaff to the low point of Bombareck 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 false confidence 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 superfluous, 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 Jaff, which, if native information be the best, is fixed immutably

11 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 own doubts satisfied; 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," upon the authority here produced; and I know not of any one suggestion to the contrary, except that Badis and Bareek bear a distant resemblance. The precision which has been attained by these inquiries will enable me now to reduce two previous stations to probability, which were passed in haste; for Dagsira falls in, by the measures of Arrian," with the first cape west of the Tanka, and Trebs must of course be about eighteen or twenty miles eastward of Dagsira. My first arrangement of the stations from Kyzia had been very different, but the measures are more correct by the present allotment, which is founded on the information of Otter compared with Ptolomy, and is upon the whole as accurate as any statement can be expected in a tract of the greatest obscurity. Trebs is the only place I have reason to doubt, and the corruption of the text renders it a hopeless search. I would have carried it either to the Masis of Ptolomy 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 Ptolomy’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

\[\text{In consequence of this fluctuation, this part of the narrative has been reviewed and written three times over.}\]

\[\text{Eleven hundred stadia, nearly sixty-nine miles, then}\]
then the Agris of Ptolemy interferes with the disposition. I shall add but one particular more, as a general confirmation of the arrangement I have adopted, and submit 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 position 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 indisputably mark a river.

Kan-driakes, — the Kie-Kienk, between Gutter and Churbar.
Kana-dila, — the river at Tiz.
Kana-Té, — the Tanka.
Sarus, — the Itqui, or Iskim.
Kan-Ratis, or Batis, — the river at Badis, or Jaik.

These five streams appear in Arrian, Marcian, and Ptolemy, and five only, without addition, on the modern charts; four of them

336 The Agris of Ptolemy is written Agrisa, as Hadson informs us, by the old interpreter of that author; and Agris it appears in Marcian; in the Table I have ventured to form Agarisa, and then transposed 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 also. Gezira is a town of some note on the Tigris, near Mardin, and takes its name from being surrounded on three sides by a winding of the river. Dr. Howel, who came by this route from Baira to Constantinople, says, the natives call it Jiffiera or Gezasa. (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 which I contend:—Gerif, Gexra; Jeffera, Jetceffa. The errors which arise between the eye, the ear, and the mouth, in hearing, writing, and pronouncing, are beyond calculation, besides 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 say, that he was hospitably entertained by the English at Calcutta, who treated him with an excellent liquor called Benopause. The translator never once suspected that his countrymen made a bowl of punch.

A second occurs in Pietro della Valle. His French translator says, he embarked in an English ship at Gomroon, called the Fabali. This strange word is nothing more than the Whale. But the Frenchman, having no w in his own language, wrote two w's, or rather Vv, and then turned an italic e into a è; thus Whale became Fabali. Etymologists are often ridiculed; but I claim no small share of credit for the resolution of this difficulty.

L. L. 2

occur
occur with the adjunct Kan. Is it arrogance to lay that this amounts to demonstration?

At Badis is the boundary between Karmania and the desolate coast of the Ichthyophagi; and at this limit I must pause, to consider 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:

<table>
<thead>
<tr>
<th>Location</th>
<th>Stadia</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Bagasira</td>
<td>600</td>
</tr>
<tr>
<td>To Kolta</td>
<td>200</td>
</tr>
<tr>
<td>To Kalama</td>
<td>600</td>
</tr>
<tr>
<td>To Kyla</td>
<td>200</td>
</tr>
<tr>
<td>To Mosarna</td>
<td>150</td>
</tr>
</tbody>
</table>

Rook 400.

1750
250 from Rook.
2000
7400 to Badis.
9400

323 After conjecturing that the adjunct B 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 Arabia.

326 Rook's addition is fair; for one hundred and fifty stadia are assigned to the cape alone; but I observe, where a cape is marked and no distance afterwards given, the fleet appears to anchor as soon as it is round. See Eirus.
To this sum Rook adds six hundred three quarters stadia, for a distance omitted between Kanasida and Kanate, to make up the ten thousand of Arrian. These six 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 Kanate. Nothing, however, is gained by this; for though it eases the measure on the coast, it still disagrees with the total. It is not a little remarkable, that Strabo's 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 misled by some boundary of the same kind: but Marcian's total from Badis to Mosarna is four thousand six 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 observe, that by Arrian's total,

\[
10,000 \text{ stadia produce } - 625 \text{ British miles,}
\]

Strabo's 7,000  -    462\frac{1}{2}\]
Commodore Robinson's chart,  -  480 299

\[
625
\]

\[
480
\]

so that the excess upon the whole coast, by Arrian's numbers, is 145

437 By an error of the press, it appears nine hundred.
438 Gronovius doubts Cafaubon's statement of Strabo's sum. Arrian, p. 344.
439 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, arising from the diminution of a degree of longitude in latitude 25, and there is a second error to be acknowledged here; for the former measure was taken to Karpella, twenty-seven miles west of Jaffa, as I did not at that time know the real distinction between these capes. After due allowance made for both these errors, and some considerations of smaller moment, there is still room for farther discussion, if I had not already dwelt on these minute particulars too long.
miles, and Strabo's comes much nearer to the truth. It is not possible
to account for Arrian's excess by the sinuosity of the coast; for no
shore of equal extent has fewer curves: but if the excess cannot be
justified, it justifies the system I have adopted all along this tract of
the Ichthyophagi, 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 design of lengthening this navigation, in
order to enhance the difficulty or the danger: but distress and
famine make every passage appear longer than it is, as mariners
assure 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 cor-
rectness, or inflamed by conjecture. Marcian, in the preface to his
work, has fully stated the difficulty of obtaining correct distances by
means of itineraries and journals; some measure by a right line,
some 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 
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

549 Mercator's map in Ptolemy gives the
Mediterranean near 65°; d'Anville's little
more than 45°.

Scanderoon, Alexandria, and Constantinou-
ple were determined by Mr. Chazelles, about the year one thousand six hundred and ninety-
three. Sertup the Levant for that purpose.
The meridian of Paris to the Straits of Gib-
ralter about one thousand seven hundred and
twenty. Some doubt still remains between
Gibraltar and Algiers. Blair's Rise and Frog.
of Geog. p. 154.

hitherto
hitherto by geographers. Ptolemy places Karpella in longitude \(94^\circ\), and Mosarna \(103^\circ 15'\); the interval is consequently \(9^\circ 15'\) degrees of longitude; and, upon the same interval, Marcian reckons five thousand six hundred stadia, which brings his estimate to six hundred and twenty-two stadia for a degree of Ptolemy's. Let us then advert to the common calculation of the Greeks, six hundred and twenty stadia 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 measure. It is evident therefore that Marcian, as the copyist of Ptolemy, has taken his degrees for a standard, and formed his own measures by this calculation of six hundred and twenty stadia to the degree. In order to apply this estimate, then to the cafe before us, let us next take the measures between Mosarna and Badis. The stadia of Arrian are seven 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 ninety-two miles Roman; and as Marcian's are eight to the same measure, they give five hundred and seventy-five miles Roman. From this deduction, therefore, it is manifest that the estimation of the coast by Marcian is more in excels than Arrian's statement; and upon repetition of this experiment upon the whole extent from

---

\[31^\text{a}\] In latitude \(25^\circ\), which is the median of this course, a degree of longitude contains in reality but fifty-four one-half geographical miles; and upon this, some farther inquiries might be grounded: but the object here is only to obtain a general deduction, and the reasoning, as far as I am a judge, is conclusive; but I refer it with great deference to professed geometers.

\[32^\text{a}\] D'Anville reckons six hundred, Goose- lin seven hundred, for a degree of a great circle; the ordinary and usual estimate is six hundred and twenty.

\[33\] Equal to four hundred and sixty-two miles English. The fractions are omitted.
Karpella to the Indus, I had the satisfaction to find that the blue was nearly the same.

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, Trepsi. If this be carried to the Sarus, Dagafira must be fixed at the second 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. Some obscurity remains upon all nautical measurements; and if modern navigators, with the assistance of instruments which divide to a second, 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 consequently drew the best of their conclusions from conjecture?

The time employed on the coast of the Ithyophagi is twenty-one days, according to the account in the margin, which reduces each day's course to an average of twenty-two miles on the reef.
measure, and twenty-nine upon the measures of Arrian. The estimate of time may be corrected, when the fleet 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 fleet failed 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 fleet 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 Ichthyophagi, 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 considers 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 such translations the Greeks indulged in, sometimes to the prejudice of geography. It. 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 service. The fish they obtain, they owe to the

Ptolemaeus in Syria, Polytimetus a river in Sogdiana, Hectompylon in Parthia, &c. &c. are all instances of this practice.
flux and reflux of the tide; for they extend a net 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 fish; 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 fibres of the palm, which they twine into a cord, and form like the nets of other countries.

The fish is generally eaten raw, just as it is taken out of the water; at least such as is small and penetrable; but the larger sort, and those of more solid texture, they expose to the sun, and pound them to a paste for store; this they use instead of meal or bread, or form them into a sort of cakes or frumenty. The very cattle live on

Those who are acquainted with the coast of Kent will recollect a similar practice in Sandwich Bay, called Pegwell Bay from this circumstance, where the nets are of much greater extent; Arrian says two stadia (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 stadion 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.

Maço, Polenta, a thin cake or paste of meal, still used in Italy by the name of Polenta, according to Barretti (Letters to S. Sharpe.) The ancient Polenta was sometimes not a solid.

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 sun in this latitude is sufficient for exhalation and crystallization without the additional aid of fire; and from this salt they formed an extract \( \text{219} \) which they used as the Greeks use oil. The country, for the most part, is so defoliate, 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, small and stifling; the better sort only have houses constructed with the bones of whales; for whales are frequently thrown \( \text{217} \) up on the coast, and when the flesh is rotten off they take the bones, making planks \( \text{213} \) and doors of such 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 vertebrae orocket-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.

\( \text{211} \) From a part in the jaw.

\( \text{217} \) Strabo says the bones only.

\( \text{219} \) Salt is here the production of nature; by which we are to understand, that the power of the sun in this latitude is sufficient for exhalation and crystallization without the additional aid of fire; and from this salt they formed an extract which they used as the Greeks use oil.

\( \text{213} \) They pound their fish, and mix it up into a paste, with the addition of a little meal.

\( \text{217} \) They pound their fish, and mix it up into a paste, with the addition of a little meal.

\( \text{217} \) Strabo says the bones only.

\( \text{219} \) Salt is here the production of nature; by which we are to understand, that the power of the sun in this latitude is sufficient for exhalation and crystallization without the additional aid of fire; and from this salt they formed an extract which they used as the Greeks use oil.
To this scanty list of provisions our modern voyagers add little. Barboia, Thevenot, Tavernier, and Nieuhof, all mention fish on this coast as still the food of the natives, and from hence all up the eastern 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 scarce. Whether camels are usually eaten on this coast, as they are in Arabia, is not ascertained; those which Nearchus procured at Tresil he seems to have employed, as the inhabitants of a besieged town may sometimes be reduced to feed on horse-flesh; but beyond this instance I find nothing specified. Marcian mentions a tribe called Camel-eaters in Karmania, if they are not rather Camel-feeders; and another styled Turtle-eaters at Samyda, on the coast of the Ichthyophagi: it should rather seem that all these names imply disgust at the manners of the natives.

Whether whales are found on this coast at present, or whether houles are still built of their bones, I find no authority to determine. The silence 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 seen by Nearchus were whales, or not, may possibly be disputed, for the Greek word may be applied to any fish of great magnitude. The size of fifty yards seems to confine the expression to this animal; spouts seen by him nearly in this very sea. Part II. p. 185, Eng. ed. Nieuhof, however, is said not to be the word which usually expresses that phenomenon, but 。“Whale” is not the thing in either to apply one more particularly than the other, except the modern definition. I do not mean to infer that Nearchus misfucked a water-spout for the blowing of a whale; but the comparison, to this sea more especially, is remarkable.
and though blowing is not peculiar to the whale, the circumstances which are immediately subsequent will best determine the judgment of the case.

For Nearchus says, that on the morning he was off Kyiza or Guttar, they were surprised 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 phenomenon; 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 vessels to be pointed at the several creatures as they approached, and to attack them as they would the vessel of an enemy in battle: the fleet immediately formed as if going to engage, and advanced by a signal given; when shouting all together "", and dashing the water with their oars, with the trumpets sounding at the same time, they had the satisfaction to see the enemy give way; for upon the approach of the vessels the monsters a-head sunk before them, and rose again stern, where they continued their blowing, without exciting any further alarm. All the credit of the victory fell to the share of Nearchus, and the acclamations of the people expressed their acknowledgment, both of his judgment and fortitude, employed in their unexpected delivery.

The simplicity of this narrative bespeaks its truth, the circumstances are such as would naturally occur to men who had been

...
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 as he appeared to the followers of Nearchus.

The mention of this engagement might have been spared in a work dedicated to geographical research, but those who are acquainted with Arrian would not have pardoned the omission; 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 sort of history, why should he not have indulged their taste? But there is a second tale too singular to be passed without observation, for we are informed that the Ichthyophagi derive their origin and manners from a race of men who frequented these seas, and who having by chance or enchantment landed on an island named Nosale, were there entertained by a Nereid, and afterwards transformed into fish. Fortunately for the metamorphosed, this spot 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 same fate 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 second transformation of her lovers into their

\textsuperscript{255} This is Gronovius's interpretation of an obscure passage.
native figure. From these men, so happily restored, the Icthyophagi derive their origin.

Arrian is offended at Nearcicus, 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 Ulysses, but with more continence. The catastrophe of the piece, which consists in the delivery of the metamorphosed, is brought about with more dignity by Apollo’s refusing the temptation, than by Ulysses’s yielding to the solicitation of the enchantress.

The best excuse for introducing this tale is, that Nearcicus had lost one of his transports manned with Egyptians, and the report was current in the fleet that the vessel had disappeared at an enchanted island; Nearcicus 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 Gutar 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

---

229. These are the Myrmidons of Thessaly, the Scam of Thebes, transplanted to an Indian soil. Nearcicus imputes the fable to his Indian guides: but it is Greek; unless fables similar to the Greek mythology are current all over the world.

230. Strabo mentions this story, p. 725, with similar circumstances, but without the Nereid.

231. Ulysses refused the cup, but not the potion of Circe. Od. v. 44. His refusal of the cup forms an allusion for the moralist; his passing a year with the goddess is suppressed. See a very elegant frontispiece on this subject in Rousseau’s Emile.
FROM THE INDUS TO CAPE JASK.

Polla of Ptolemy with this Nosala; but the coast is now too well known to give us hopes of finding one; and if not found, the whole is a tale calculated to raise the importance of Nearchus, and shew 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 subject to vain terrors and superstitions 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, six hundred and twenty-five miles, equal to the estimation of Arrian on the coast of the Ichthyophagi alone; and this number of miles Nearchus was from seventy to seventy-five days in passing: if, however, with due allowance made for setting out against the monsoon, and twenty-four days lost at Cape Monze, we reduce the whole to forty 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

263 Nosala lies one hundred fadias, or six miles, from the coast. Arrian.
264 "There are very few islands on this coast." McCluer, in Mr. Dalrymple's Collection, p. 98. But in several charts of the gulf of Persia one island, and in some two very small ones, are specified a little to the eastward of Cape Jask. They are apparently nothing more than hummocks upon a low coast shewing themselves like islands at a distance; and laid down as such by those who never approached near enough to ascertain them. D'Anville has thus made islands of Godeim and Bombareek.
265 Some days were lost on the junction with Leonatus, and at the Tornora, not more than were necessary for repairs.
Gomeroon 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 encounter; weak vessels with inexperienced mariners, no provisions but such as an unknown coast might furnish, no convenience for sleeping on board, no pilot but such as they might casually pick up on their course; no certainty that this sea was ever navigated before, or even navigable; and no resources such as the moderns have, without number, in their arms, their instruments, their experience, and the accumulated acquisitions 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 consequences 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 master 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
journal, they were never without shell-fish till within a few days of their arrival; and scurvy, 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 from the Indus to the gulf 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 Arabs, 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 Ichthyophagi, 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; but of this there can be no satisfactory evidence.

*288* The name of the place, Αλεξάντερ, is derived as readily as I can assign Cape Finisterre, Cape Clear, or Christmas Sound, to the respective people who have bestowed these appellations.  
*287* The reason for this conjecture has been noticed upon the mention of Daghira; 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 Αεγολσπεταμος, 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, to the respective people who have bestowed these appellations.

"There is a striking analogy between the manners ascribed to the ancient Ichtyophagi and those of these Arabs [on the eastern coast of the gulf of Persia]. . . . They use little food but fish and dates; they feed also their cattle upon fish." Niebuh, Eng. ed. vol. ii. p. 193.

That
That something passed upon the sea, and in all appearance from port to port, there seems to be ground for supposing; for Hydrakes could not have been worthy of employment without some sort 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 visited the coast, either for the purpose of intercepting the traffic, or of plundering the property of the inhabitants; and yet what temptation could they present, unless slaves were a commodity? If so, their persons might be seized, 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 seems wholly due to him as the original undertaker. I am not ignorant of a much longer voyage in this very direction imputed to Seylax by Herodotus 268, from Pačtya (the Pekeli 269 of Rennell) into the gulph of Arabia; but whether this voyage was performed by the Persians, or that other round the Cape of Good Hope by the Phœnicians from Egypt, as recorded by him, is a point highly problematical in the opinion of every one who considers the structure of ancient vessels, and their whole method of navigation: I believe the record of both, as preserved by Herodotus, to be evidence that the Persians 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

269 The province Peckeli, or Puckeli, on Seylax, the Indus; but Dodwell supposes Pačtya, or
requires more evidence, more particulars, and a clearer detail of facts, to enable us to form a judgment. The bare assertion that the thing had been done might lead Alexander to think it practicable; but the Persian voyage produced no consequences whatever, and the Egyptian navigation led to nothing, unless we suppose the Portuguese discoverers influenced by the assertion 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 of his journal, and no other evidence of his voyage but the report of Herodotus, which is very deficient in circumstances to confirm its own authority; and collateral evidence there is none. In regard to the circumnavigation of Africa, there is one particular much insisted on by Larcher, Gesner, and other commentators, which is, the appearance of the sun to the north; a phenomenon dependent on every navigation within the tropics. The reserve of Herodotus, in saying that others may suppose this probable, though he doubts it himself, is a caution worthy of such an historian, and more persuasive than the boldest assertion. I must, however, notice a peculiarity in this passage which seems to have escaped the scrutiny of his commentators; for he informs us in another place, that he went up the Nile himself as far as Elephant-

---

570 Whether it will be thought probable that the Portuguese 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 Herodotus was in 1474.

Gama's discovery of the Cape, 1497

See Pref. to Weissel's Herod.

574 The Syclax, published in the Geog. Minores by Hudson, is proved to be an imposture by Dodwell.

577 See Gesner de Navigationibus extra Columnae Herculis, Pref. I. 6.


576 Lib. ii. p. 115.
tine, in order to ascertain 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,

275 The modern Asouan, visited by Po-
cock, Norden, Bruce, &c. &c. Su-one is
Asouan with the article. D’Anville, Geog.
Anc.
276 I know no testimony of the well at
Syene older than Strabo, lib. xvii. 817, but
conclude that older may be found. Pliny,
lib. ii. cap. 75, seems to intimate, that it was
dug by Eratothenes at the time he was mea-
suring an arc of the meridian. The follow-
ing observations are kindly communicated by
the Bishop of Rochester:

The well, besides that it was sunk perpen-
dicularly 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
stoop enough over it to bring his eye into the
axis of the cylinder, where it would be per-
pendicularly over the center of the circular
surface 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
freed from the motion of the wind, that its
surface might be perfectly smooth and mo-
tionless; and not so low, but that the whole of
its circular surface might be distinctly seen by
the observer on the brink. A well formed
in this manner would, as I apprehend, the
most certain observation of the sun’s ap-
pulse to the zenith, that could be made with
the naked eye; for when the sun’s centre was
upon the zenith, its disc would be seen by re-
fection 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 concen-
tricity of two circles, provided the circles be
neither very nearly equal, nor the inner circle
very small in proportion to the outer.

Plutarch says, that in his time the gnomons
at Syene were no longer shadowless on the
solar day. This is very strange. Era-
tothenes 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 342 years;
and the change of the obliquity of the elliptic
in this time (the only cause to which I can re-
fer 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 solstice, in the time of Era-
tothenes, should have cast a shadow, in the time of
Plutarch, of the length only of \( \frac{721}{2} \) inch, i.e.
not quite \( \frac{1}{36} \) of an inch. The shadow of a
perpendicular column of the height of 100
feet would have been \( \frac{721}{2} \) 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. These
seem to have been the shadows of gnomons:

but
he should mention nothing of the situation of Syene itself under the tropic? Had he been there in summer, he must himself have seen the phenomenon he professed to doubt, or at least the sun vertical; and if his visit was at any other season, 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”, and yet Herodotus does not quite say he was actually at Syene. From his mention that the Cataract is four days’ sail from the Elephantine he visited, may we not suspect that it was some island lower down (for there are many), or that the island called Elephantine by Pocock is not the Elephantine of Herodotus? and that the historian was not nearer Syene than within three days’ sail? for it is in reality less than one day’s sail or journey by land from Syene to the Cataract. 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 sun was low, and people were going to supper; and this affords an argument that the gnomons of the ancients were of a very moderate size; for in the latitude of 40°, at the season of the equinoxes, the sun’s altitude, one hour before sunset, could be 1° 26’; and a gnomon, of the height of 2 feet 3 inches, 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 six feet would cast a shadow of the length of ten feet 50 minutes after three in the afternoon. I think the small variation that took place, between the time of Erastothenes and that of Plutarch, would be more easily discovered by the well than by any gnomon the ancients can be supposed to have used.

317 Pocock, B. ii. p. 117. Bruce.
378 Bruce mentions the island, but does not call it Elephantine. Vol. i. p. 150.
379 “The distance from the gate of the town [Assan] to Termi or Marada, the small villages on the Cataract, is exactly six 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° 0’ 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 equator to the equator. The circumference of the sun’s disc is to be taken into the account.
tended, in ages antecedent to history; and notwithstanding all that Mr. Gosselein 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 displayed by Gefner in his treatise on the navigation of the Phoenicians in the Atlantic; there is nothing appears sufficiently satisfactory 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 of Hanno, a knowledge of the coast of Africa will enable us to form a judgment of his progress; but a bare assertion of the performance of any voyage, without consequences 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 Vespuccius; but I would not bestow a moment in annulling the claim of Madock and his Cambro-Britons to the discovery 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 geographical fragments still extant; the Periplus of Hanno, the survey of the Euxine sea by the real Arrian, and that of the Erythraean sea or Indian ocean by the fictitious one; and I say that all these, as well

---

*380* Published with his edition of the works of Orpheus.

*381* Dodwell doubts the authenticity; but Dodwell errs as frequently on the side of scepticism as others do on the side of credulity.
as the journal of Nearchus, though they have their errors, difficulties, or even absurdities, still contain internal evidence of veracity, and are well worthy of examination; while the expedition of the Argonauts, 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), or through the medium of a Phoenician 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 influx of gold into Judea 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

---

329 Gefner, in his Preface to the Argonautick 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.


Diodorus here mentions tin found in Spain, but not in great quantities; and it is highly probable that the grand source of that metal was always in Britain.

---

331 It is not the business of this work to follow up these several incidents; but Bruce has most admirably illustrated the commerce of Hirami, Solomon, the Arabian 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 professed to its full extent. See Ezekiel, chap. xxvii.

Egypt,
Egypt, that contributed to the preservation of the mummies, are some of them supposed to be Oriental; and if so, Egypt must have had, even antecedent 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 of Scylax from India to Egypt, or that of the Phoenicians from Egypt round the continent of Africa, have neither produce nor consequences; 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 second 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

\[\text{...Several authors agree in opinion, that the ancient Egyptians possessed themselves of the trade of the East by the Red Sea; and that they carried on a considerable traffic with the Indian nations before the time of Scylax, who was contemporary with Abraham.}\]

\[\text{All the. Or. and Progress of Writing, p. 41; who quotes Rollin, p. 59, 60, and Univ. History, vol. i. p. 545, and might have added Huet.} \]

\[\text{I pretend not to investigate any fact antecedent to history; but I can believe the Egyptians (from the increasing evidence we now have of their arts, through the means of Pocock, Norden, and Bruce) to have been capable of any enterprise. Navigation, however, does not appear as one of their pursuits, for we cannot imagine those who never appear upon the Mediterranean, to have made any great efforts upon the Indian ocean. All the vessels we find in early ages on the Mediterranean are either Greek or Phoenician. Phoenicians navigated the Red Sea for Solomon, and not Egyptians. 2 Chronicle ix. 21; and if the Egyptians had possessed a trade on that sea, they would not have suffered rivals to interfere. The passage round Africa is not attributed by Herodotus to Egyptians, but Phoenicians; but I decline all disquisition on these matters previous to history; and mean at present only to maintain, that if we have the real journal of Nearchus in Arrian, it is the first authentic document of a voyage of importance to navigation.} \]

\[\text{It is not impossible that all these assertions of circumnavigation arose from the idea of the ancients, that the ocean surrounded the earth like an island; an idea in some degree true; but unfortunately for one of these assertions, that of Patroclus, who maintained there was a passage from the Indian ocean into the Caspian sea, it has turned out that the Caspian is a lake. See Strabo, lib. xi. p. 518.} \]

\[\text{Herodotus,} \]
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 who professedly consider the question in its full extent; it is here only incidental; but I must still repeat, that it is the assertion 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 preserved.

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 coast. We shall have some opportunities to remark, that as there was commerce among the natives, there were consequently pilots to be obtained; and so satisfied was Nearchus of the

---

287 Gefner.
288 It is prior to the Periplus of Hanno, if it is the same Hanno, contemporary with Agathocles as generally supposed, for Agathocles died anno 289 A.C. The Greek Periplus of Hanno which we have is of late age, according to Dodwell, and a copy or extract possibly from the Carthaginian journal, as Arrian's is from Nearchus.
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 distress, 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.
THE

VOYAGE

OF

NEARCHEUS.

BOOK IV.

GULPH of PERSIA.

I. Karmania.—II. Persis.—III. Susis, or Susiana; with the Mouths of the Tigris, Euphrates, Euæus, and Pafidgris.

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-

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 gulf 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 gulf, and the mouths of the Euphrates, the Tigris, and the Euleus.

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 M'Cruer, 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 gulf; the later publication in both instances is the most correct, and in both instances agrees best with Arrian. This is no accidental correspondence, for Nearcitus, 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

* Charts from Mr. D.
Poor by M'Cruer.
Two by Harvey.
Two by d'Apres.
One, Niebohr.
One, Van Keulen.
Two, Thornton's.
One, Claude Ruffell.

One, Anonymous by Dalrymple, containing the mouths of the Euphrates:—Belden's variety of plans and topographical sketches.
One, Lieutenants Canti.
One, Kämpfer.
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 fiction. The issue is, however, exactly what we could desire; 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 consulted 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 Bulheer for several years, and afterwards in the same office at Bafta. 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 assistance, 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 shewing that the rivers of Peries, beyond the mountains, never reach the sea, but are lost in lakes, exhausted upon agriculture, or absorbed by sands; 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 coast 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 coast, 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 coast; 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 Hepheshion and the forces he commanded, ever trod the whole extent of this ground; and as this is the only route which could cut the streams from the mountains at right angles, and afford the means of establishing the order in which they succeed, it will be long before this desideratum in geography can be supplied. Pietro della Vallé went from Mina to Lar; but from Lar, north-west to the Arofis 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 fleet, 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 Baffin's plan and Captain Blair's sketch, or upon the river laid down by Baffin 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 seem correctly.
this river as a secure harbour for any vessel not drawing more than eleven feet, and here a fleet of Greek galleys might have lain, though, from the shortness of the time Nearchus said, 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 distress 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 gulf was in view, I have a right to fix by the measure of the course, if it coincides with a sight 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 a half for the same space. The suspicion on this head is confirmed both by Niebuhr and Pietro della Valle. Upon reference to the charts it will immediately appear, that there is a cape on the Persian coast, nearly opposite to Muffendon on the Arabian side; and the freights between these two points is exactly the part where the entrance into the gulf is narrowest. It meas

---

1 *Both Gronovius and Salmaeus, from an error in Pliny, seem to suppose that Badis is the Sabis of Ptolemy and the Sabai of Dionys. See the general map of Asia, and

2 See Gronovius in loco, p. 347.
GULPH OF PERSIA.

atures here only thirty-four sailing miles in M'Cruver's chart, and Mussendond 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 Bombareck by M'Cruver, an error he fell into from considering the real Bombareck as Jask: but this cape is the Armozon of Ptolemy, as appears evidently by his series, 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 fix the present anchorage on an open shore; and in the passage from Badis to this point, the fleet must have passed the Bombareck rock, though no notice is taken of it, nor of Mount Elbourz, not far from which they must have anchored. Bombareck, 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, and appears from the sea as is here represented, 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 small creek, but so entirely choked up, that it will not admit a boat; it is represented in Commodore Robinson's chart, in the chart com-

---


2 Pliny is nearer the truth than d'Anville chooses to allow. Avrian says, it is a day's sail. Six or seven of the charts before me agree with M'Cruver, and d'Anville hazardous some deductions of importance, if he is mistaken.

3 Gombareck, Gombarreak, Gombarat, Bombarack, Bombarick, Mumbarick.

4 This has arisen from a deception of the sight when the object was viewed at a distance, and the coast was not high enough to appear.

5 Lieutenant Porter, Lieutenant Blair.

posed
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 Jaok, 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 same distance, and Samuel Thornton something more; but it is in my estimation only twenty-four miles, to which if we add twenty-seven from Jaok 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 such 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 similar instances are not unfrequent; errors of addition there are none, but omissions have already occurred, and there are some more

""Mount de Choufe is eight leagues ""bareck."" 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 seems to consider the gulph of Persia as commencing at a line drawn between Cape Mussendon 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: these two "mountains, with their promontories, form the streights at the "entrance of the gulph of Persia." Pafabo is the Sabo and Afabo of Ptolemy, the Mussendon of our modern charts; and Strongylus, or the Round Mountain, is the Elbourz of d'Anville, transformed by our English navigators into Ehowers, Howres, Howfe, and Chowfe. McCluer has very improperly brought Bombareck to this cape and mountain, but I admit his delineation of the coast; and here, attracted by the Strongylus, I bring Nearchus to an anchor. The ancient name of Mussendon 14 is Makar 16, and Maketa, as well as Afabo, and the cape itself is the termination of a very high and broken island 16, partaking of the nature of a craggy ridge on the continent of Arabia, called the Black Mountains by Ptolemy. These,
with their adjunct Asabo, express the Black Mountains of the south; 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 freights, as I imagine, and the whole presents a frightful appearance, if the delineation of Reffende in the British Museum may be credited.

The sight of Mussenden 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 asserted that 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 reasserted 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

---

33 Sabo, with the article in Arabic, Al-Sabo. D'Anville Geog. Anc. vol. ii. 228.
Sabo signifies South: Bruce, vol. i. p. 381. So in Scripture, the queen of Sheba is called the Queen of the South. Mat. xii. 42. Mar- cian writes the name Psabo probably by a corruption of the text.
34 ΣΟ ΠΟ ΡΩ ΦΟ ΠΟ ΤΟ ΠΟΡΡΑΕΝΕΣ Ι ΦΩΝΟΝ- ΒΟΙΩΝ. It is not very evident what Onesicritus means; but as Alexander was master of Egypt, he might consider the gulph of Arabia as a sea known to the Egyptians, and more likely to afford them safety or protection than the Gulph of Peria, which had never yet been visited by his countrymen.
35 This dispute is not only detailed in the journal, but recorded in the history, p. 301.

whether
whether there were any towns bordering on the ocean; and whether the country was habitable or desert. 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 applause 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 refuse to subscribe who is acquainted with the coast of Arabia, and considers the total unfitness of the fleet for such a navigation.

Pietro della Valle, who resided some time at Mina, a town on the river Anamis, in this neighbourhood, has furnished some 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

\[22\] Probably a Mahometan title from some Imam, or sovereign.
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, Kuhfeleck and Bender Ibrahim are ports as well as Bender Abbassi or Gomeroon. Such a port as this was probably Neoptana, a place which the fleet reached the following day, after a course of forty-four 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.

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 consistent 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 Reffende, which was consulted, carries the Obremi, as Ibrahim is there written, much nearer toOrmuz.

The river Anamis is fixed by Arrian in the country of Harmozenia, an appellation which immediately suggests 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 Ase, 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 Moghoftan, or the date country, in Oriental geography, extending to Karpella, or perhaps Jaik; 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 residing 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 assistance 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 insolence of the soldiery, he kept at a distance from the coast, taking up his abode at Mina, the capital of the district, where he continued during the latter end of the year one thousand six hundred and twenty-one, and the commencement 23 of one thousand six 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 story are interpersed a variety of pathetic 24 incidents, painted with

23 Tom. v. in fine.
24 The writings of Petrarch formed a school of romantic lovers in Italy; and Pietro was an academician of the society called Humański, at Rome. His narrative is often poetical, and Madam Maani's horse Dervich is upon a level with Argus, the dog of Ulysses, without the appearance of imitation. Gibbon styles him, not without reason, an author intolerably prolix and vain.
the romantic gallantry of an Italian lover, and surpassing in reality all
the lucid fictions of a modern novel. I have not thought it in-
consistent with my design to mention these particulars, because the
geographical information dependant on them is important. He ac-
quaints us, then, that Mina is the capital of Moghoftan, and this
its name implies, for Mina signifies a fort, and Moghoftan is a
district of the ancient Karmania, extending from Cape Jafk to the
north of Gomeroon: he adds, that the heats are insupportable, and
the climate most unhealthy; but more particular circumstance he
notices is, that the river which rises in the neighbourhood falls into
the gulph at about two days' 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 consequently Ana-Min. I can-
not be persuaded, however, to believe, that there is no connexion
between the ancient and modern name, unless it shall hereafter ap-
pear 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 saint in the
neighbourhood; but the ancient appellation is consonant 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.

\[\text{Gambron, Niebohr. Combru, P. della Vallè. Gambron, Cameroon, &c. &c.}\]
\[\text{Mina, Minau, Minavé. Mina signifies a fort; as Minave the fort of Bafra.}\]
\[\text{From forty to fifty miles.}\]
\[\text{There is in Marcella a Tunis, rendered Addanis by Hudfon, which he supposes may be the Anamis.}\]
\[\text{Katò to συμφων "ANAMIN, p. 548.}\]
\[\text{Another sort of solution would account for Ana. By transposition, Anamis is A-Minal.}\]

I insist
GULPH OF PERSIA.

I insist 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 coast.

He informs us himself, that he found the natives hospitably disposed, and the country abounding in every kind of supply, but oil. The disembarkation 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 of a Greek vessel, 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 seems to have been filled with water from the river. Within this inclosure, the vessels were hauled on shore, and all the proper measures adopted both for their security and repair. It was the intention of the commander to leave his people in this camp, under the com-

30 Ulysses, in all his wanderings, never appears to have slept, ἐπειδὴ ὄπωρον οὔ, in the after-part of the ship, when he could find another bed. In Homer's galleries there was an after-deck, called ἅρον, on which the steerman was elevated above the rowers in the waft. ὄπωρον are properly the cables at the stern, but perhaps the after-part of the vessel likewise; whether, when they slept on board, ὄπωρον ἔπωνον, they slept on the ἅρον [deck], or under it, does not clearly 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 easy to recognise the name of Ormuz in the Harmozeta 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 subsequent ages by the title of Gerun; and however fanciful a recurrence to transposition 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 Perisa, 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 settled practice, as we are assured by Niebuhr. D'Anville finds two periods, when the Harmozelians on the main might have fled to Gerun, and carried their name with them to their new abode. One in the beginning of the thirteenth century, when Bahud-din, a native chief on the coast, fled from an inroad of the Atabek Turcomans, who about that time established themselves in Pharanitana and Kerman; and another in the year one thousand two hundred and seventy-three, when the descendants of Gengis-Khan were masters of the Persian empire. To these two periods I must add

---

33 So Smaragdus is from Zamrud, Zmagd. Bruce, vol. i. p. 207.
34 Persia and Carmania.
36 See Niebuhr under the head, Abu-Schahr.
a third: in the year one thousand four hundred and seven ", when Mahomet, the son of Timour, was sent 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 son of Timour took seven fortresses which were the defence of the Shah’s kingdom, and compelled him to fly to Geroun, exacting even there from him a tribute of six 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 observation 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, Ormuz, Hormus, Hormoz, Hormuzd, Harmozea, Armozusa, Armozusa, Armoza, are all applied either to the island or the neighbouring continent, and I conclude have all a derivation common also to Hormizdas, which is Oromasdes or Hormudsch the good principle in the superstition of the Parsees, and a name assumed by several princes of the fourth dynasty, and some of a later date. Mr. d’Anville has observed that there are four districts, two on the gulph and two inland, that take their titles from different Pers-

---

38 Really one thousand three hundred and ninety-seven; for there is an error of ten years in the chronology of Cheref-eddin.

40 Geroun is called by Petit de la Croix in the margin, Gomeroon; but it should rather be the island; not but that Geroun and Gomeroon may be mutually connected, like Ormuz, on the main, and Ormuz the isle.

41 It is worthy of notice, that Alfragani writes Harmuz with Ptolemy and Arrian. Gol. ad Alfrag. p. 115.

42 Mem. p. 156.

onian monarchs, Cobad**, Sabur, Darab**, and Ardesthir, from Artaxerxes as he is styled 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 Hormisdas or Ormasedes by the same connexion. All this is, however, a speculation rather curious than necessary, and our concern is with the tract called Harmozeia by Arrian, Armuzza by Ptolemy**, and with his Cape Armozon, which Strabo** has marked precisely as lying at the very point where the strait 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-Abbass) within its limits, cannot now be determined; but there is sufficient ground to conjecture, that it terminated within the limits of the modern Moghoftan at the river called Rud-sur by Pietro della Valle, 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 Kermeir, 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** and Moghoftan are, in modern

** 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.

** Darab-chirid is Dario-certa. Pietro della Valle, tom. vi. p. 130.

** It ought, however, to be noticed that Harmozeia is in Karmania, not in Persi.


---

** Strab. p. 765.

** Laristan, from Lar, a town much to the westward of Gomeroon, in the tract below the mountains. Pietro della Valle 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 skilful in physic. His route, if we were concerned with the interior of the country, is well worth pursuing. See infra.
estimation, to distinct from Kerman, that the province can hardly be said to commence till you are past the mountains. Moghoftan, or the land of dates, by its name implies the means of support, and though the air is wholesome, according to modern accounts, the soil does not appear to be barren. The whole district was flourishing while the Portuguese maintained their commerce at Ormuz; and Pietro della Valle, in his time, found an English factory established at Mina for the purchase of silk. The whole of this coast is desolated at present by the distracted state of Persia; and, according to Niebuhr, subject to Arab Scheiks, who have taken advantage of those troubles to pass from the opposite coast, and establish petty governments from Ormuz to Busher.

At the river Anamis, then, Nearc'hus took his measures for discovering the situation of the army, and he had the satisfaction to find, upon inquiry, that it had arrived in safety, 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 sum, if we be allowed to conduct Nearc'hus to Mina, we have two days' journey to subtract from our uncertainty, and only seventy-five miles inland from Mina, upon which a doubt would remain. My reason for conducting Nearc'hus to Mina is not wholly conjectural; for, in the first place, it is the capital of the district, which would naturally attract him; and, in

see French edition, vol. ii. p. 163,

the
the next, we actually hear that the commander of the district, upon the arrival of the fleet, flew up to the camp to anticipate the intelligence of its arrival. The seat of empire is subject to the caprice of the monarch in the east, and has frequently been changed; but in the provinces, or subdivision of provinces, the principal town having generally risen from local convenience, is not so 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 some convenient spot three days' journey from this town.

We left him at Poora in Gadrosia, which d'Anville considers 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 Phoreg, or Forq, on the western side of Karmania, in which he is justified by the Nubian Geographer, if I understand him right,

47 In Hindostan, Palibushra, Canouge, Agra, and Delhi, have been the seats of empire in different ages: but Lahor has continued unchangedly the head of a province. Rebahana, Periapolis, and Sufa, have all succeeded in Persia to Kshahar; but, Candahar, Herat, Balk, Lar, &c. are still principal places.

48 Geogr. Ancienne, vol. ii. p. 283. written Fahrag, Foureig, Pohreg, Poureig, Pergeg, or Pergeh. In all Persian words, f and g are interchangeable. Fars is Peris. G, h, and m, are all final aspirates, and hardly distinguishable. See Nub. Geogr. p. 159.


Kidge becomes Kuidj; from whence the Kutch of Europeans, and the Kutch Mekran of the Ayseh Akbar; and is sometimes confounded with Tidge, which is soon the coast. Petis de la Croix, from the historians of Gengis Khan, mentions that the army of that prince of ravagers almost perished in this province. Petis de la Croix's Hist. of Gengis, p. 337. Tza is a place on the coast in the bay of Chorbar, and possibly Petis de la Croix has confounded the two.

Otter says, Kie or Guié, vol. i. p. 458.

50 Called Phur or Purg by Pietro de la Vallé, vol. v. p. 361. Let the difference would appear in all these names if they were written with the instead of the , which letter, in other Oriental tongues as well as the Hebrew, is the same. D or E, with no other distinction but the point. Phoreg, Phoreg, Phoureig, Phourech, pass easily into Poora, the Greek pronunciation of Poora, by this method of writing.
and by Pietro della Valé, who was upon the spot. At Poora he was joined by Stefanor 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 beasts; the whole was distributed among the officers and their different troops as far as the supply would extend, and the army proceeded to Karmania as soon 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 assures us, not supported by Ptolemy, Aristobulus, or any other historian of authority. They both mention the exhibition of games and a solemn sacrifice in gratitude for the deliverance experienced. These were easily magnified into a Bacchanalian procession, by a fertile imagination, and exaggerated on the side of exultation, as much as the distresses in Gadrosia had been amplified by terror. That their sufferings 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 Giroft, a town of Karmania, which will stand as a point of union between the fleet and the army. My reason for fixing upon Giroft, or some place in its neighbour-
hood lying on the same line, is, because of its agreement with the distance of an hundred and twenty-five miles almost to a fraction⁵⁷, if d'Anville's map is correct. There is no town in Karmania, either upon this route or near it, except Valafe-gerd⁵⁸ or Valafe-cherd, which possibly has a better title to antiquity, if we may judge by its termination, for its final syllable is the same, though differently written, with that of Tigrano-certa and Pasa-garda⁵⁹, both ancient cities; the objection to Valafe-cherd is, its too great proximity to the coast. Now, it is remarkable that Arrian, Strabo, Plutarch, and Curtius, none of them assign 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 so void of any collateral support, that the learned commentator⁶⁰ of Diodorus abandons it in despair, and I have searched every authority in my possession without finding the most distant similarity 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:

⁵⁷ It measures almost, as exactly as the opening of the compasses will give, one hundred and twenty-five miles Roman, or 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.

⁵⁸ Written both ways by the Nubian Geographer; where observe, -gerd preserves the relation with Pasa-garda, and -cherd with Tigrano-certa. This termination signifies Fort, Town, or City, like the modern terms -abad, -patam, -poor, &c. Fat-abad, Jehann-abad, Melia-poor, Masuli-patam, &c.

⁵⁹ Pasa, written Phesa and Befa, which signifies the north-east wind; because it is cooled by that wind in a hot climate. Col. ad Alfragan, P. 14.

The Nubian Geographer mentions MAAUN, a small 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 say, 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 Peric, has two significations; by one it imports the shelter of a tent or house; by the other, a rampart. Would it not then, in either sense, apply as first, the camp at Maaun, and secondly, Fort Maaun; or, if it should be said I take advantage of a Greek 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 constantly implied. I give this merely as a speculation, without pretension to Oriental learning; but I am persuaded that an Orientalist who would pursue inquiries of this sort would find his curiosity 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 such a disguise, preserved 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 Scirdgian is the ca-

37 P. 130. Canut. Alciam, hinc ad MAAUN urbein-parvam sed commercia minime infrequentem, sitia. Ab hae ad urbein Valasegerd, quae et Valasecherd dicitur, sitia.

38 נְוָלִילְךָ, a rampart, from לַעַנְר, to shade or shelter, as a house or tent. Parkhard in voce.

50 ΣΑΛΜΟΥΣ, pronounced SALMOOS, and formed like Pessinus Pessinantis, Selinus Selinantis; written in Latin originally, Pessinus, Selinus, and so ΣΑΛΜΟΣ ΣΑΛΜΟΝΙΟΣ.

60 The Nubian Geographer. Giroft autem magna est habetque in longitudine duo fere millia, p. 129.
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 pleasant 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 son of Timour, invaded the kingdom of Ormuz, he made it a post 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, 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 district called the Harmozeian country, and probably the seat 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 places Phoreg at the commencement of the great desert which extends to Segeftan, and

63 Golius ad Alfraganum, not. p. 118. Did look one day from Harmuz; if so, it is the inland Ormuz.
64 There is an error in the Nubian Geographer, who says, first, that Hormoz is between Phoreg and Giroft, and afterwards that it is to the west of Giroft, which is impossible. D'Anville has placed Hormoz between the two, and therefore probably read Orientum for Occidens, the east for the west.
66 P. 129.
at two hundred and ten miles 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 Scirgdian 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 satrap of India, had been assassinated 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 satrap should be appointed. Stasanor, the satrap of Aria and Drangiana; Phraatesmanes, the son of Phrataphernes, satrap of Parthia and Hyrcania; Cleander, Sitalces, and Heracon, with a considerable 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 Arachosia and Drangiana, which Alexander had encountered in Gadrosia; 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 says, is the largest in the world. All these circumstances, though foreign to the voyage itself, are necessary to be mentioned at least, because they account for the delay of Alexander in the province, where so much business appears to

66 His account is not clear.
68 P. 148.
69 At Poora there was also the appointment of Sibiritus to the satrapy of Apolloniones, over the Oriza.
have been transacted, besides the recovery of his troops after the fatigue and distress of their march.

Thus having considered the march of the army and its present position, 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 sufficient evidence to shew, that he had passed the country of the Arabes and Oritæ, and had entered Gadrosia. The proof of this is, a circumstance mentioned of his encamping in that province, after a distressful march upon the bank of a torrent, which swelled suddenly from rain that had fallen in the mountains, and swept 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 Gadrosia, the sollstitial rains were not yet over in the mountains, which encircle that province on the north. Now Strabo says, that the rains end about the rising of Arcturus, that is, the second of September; and consequently 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 sixty days in passing Gadrosia, 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 six weeks, to which an additional circum-

stance; not noticed by the historians, must be added, that is, the remounting of the cavalry; for all the horses had perished in the desert. 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 Hephaestion, with the greater part of the army, the baggage, and the elephants, to proceed along the sea-coast of Kermania, because it was now Winter", and the climate was there milder", and supplies" were more easily to be procured: that is, Hephaestion passed the mountains, and traversed the modern Moghtoštan 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 Pashagarda. The direct mention of winter in this passage corresponds so precisely with the twelfth 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

34 Arrian, p. 270.
35 See a very long and angry note of Gronovius's upon this word, because Facius and some others had read, "ibid., ibid., ibid.
36 If we suppose Hephaestion to have passed the mountains at Minis, 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 line.
37 Niebuhr says, from Bender Abbafi to Delam; it is an arid plain called Kermesir, or the hot country, by the Persians. Vol. ii. p. 145. 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 gulf, as far as the river Groatost, is barren, hot, and exposed to violent winds for three hundred; or four hundred stadia inland: from thence, a fine country to the north, for eight thousand stadia!"
Nearchus's arrival at the Anamis on the tenth of December, in the year six hundred and twenty-six before the Christian era, in the eleventh year of the reign of Alexander.

The pleasure of being once more on land, after all the distresses they had experienced, is painted in strong colours by Nearchus; and as they were now in a friendly country, without apprehension either of famine or danger, the people were soon dispersed over the neighbouring tract, either from curiosity, or a desire of supplying their several 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 sound 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 assurances that the king was within five days' journey, and that the governor of the province was upon the spot, from whom farther intelligence might be obtained.

77 P. 348.
76 Μakedon.
77 The classical reader will call to mind the same natural sentiments attributed to Phileteles by Sophocles, l. 222.

Πολος στέγας ουκ εις γενέσθαι χειρι
Τέχνης του ευώδους προσφερεῖ ταμίον ηλικίαν
Στολής αειπέμμενα ματρικήν χαζεύον.
Φανής εις ανακριτο κελεύμα.

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 sound
Of your long-wished for voice.

FRANCILIN.

And afterwards,
Ο φίληταις φίλεις. Φίλε δι' αυτού.
Πρόσφυγεν του εις σωθής εις χρυσόν παραγω.
Oh happiness to hear!
After so many years of dreadful silence,
How welcome was that sound!

FRANCILIN.

This
This circumstance of good fortune occurred on the day of their arrival. Nearchus instantly 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 acquainted with the anxiety of Alexander on account of the fleet, and thinking to recommend himself 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 safe, and that Nearchus himself 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 succeeded to his doubts; day passed after day without confirmation of the fact; and at length when due allowance had been made, and calculation was exhausted, he dispatched parties different ways in search of Nearchus, either to find him out if he were upon his road, or, if found, to protect him from the natives: but when several of these parties returned without success, concluding the governor's information was a delusion, he ordered him into confinement, not without the severest reproaches for rendering his vexation more acute from the disappointment 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 five 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, scarcely roused 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, "Afflinded," says Archias, "this must be a party sent out for our relief; for on what other account can they be wandering about the desert? There is nothing strange in their passing us without notice, for our very appearance is a disguise. Let us address them once more, and inform them who we are, and learn from them on what service they are at present employed." Nearcibus approved of this advice, and, approaching them again, inquired which way they were directing their course? "We are in search of Nearcibus and his people," replied the officer; —and "I am Nearcibus," said 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, set off for the camp to inform the king, that Nearcibus and Archias were arrived, with five or six attendants, but of the rest they had no intelligence. This suggested to Alexander, that perhaps these only were preferred, and that the rest of the people had perished, either by famine or shipwreck; nor did he feel so much pleasure in the preservation of the few, as distress for the loss of the remainder. During this interval, Nearcibus and his attendants arrived. It was not without difficulty that the king discovered who they were, under the disguise of their appearance; and this
this circumstance contributed to confirm him in his mistake, imagining that both their persons and their dress bespeke shipwreck, and the destruction of the fleet. He held out his hand however to Nearchus, and led him aside from his guards and attendants, without being able to utter a word; as soon as they were alone, he burst into tears, and continued weeping for a considerable time; till at length recovering, in some degree, his composure, "Nearchus," says he, "I feel some satisfaction 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 safe, 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?" says he. "At the Anamis," replied Nearchus: "all safe on shore, and preparing for the completion of their voyage." "By the Libyan Ammon, and the Jupiter of Greece, I swear 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 loss 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 sight 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 asked.

The joy was now universal through the army; a solemn sacrifice was proclaimed in honour of Jupiter the preserver, 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 success of his enterprise was proclaimed by their acclamations, and celebrated in their songs. At the conclusion of the festival, the king informed Nearchus, that he should no longer expose him to the hazard of the sea, but send down some other officer to conduct the fleet to Sula. "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 gratify me in return, suffer 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, scarcely permitting him to conclude his request, granted all that he desired, and sent him down again to the coast, with a small escort; not supposing that there was any danger in the neighbourhood of the army, or in a country which seemed to be sufficiently subdued; but in this he was mistaken; the Karmanians resented the deposition of their satrap, and had in consequence taken up arms, and seized some 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 insurgents on his march, and reached his destination at last, not without considerable diffi-
cully. Upon joining again the companions of his voyage, he sacrificed to Jupiter the preserver, and exhibited the usual games for his success.

The interview of Alexander and Nearchus needs no comment; but I cannot let 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 straggling bodies who had secured themselves in the passes above Mina; it appears likewise that the strong posts they had seized were in the same part of the country, and perhaps occupied with a view of intercepting the communication between the army and the coast.

By resuming ten days from the journal, I brought the fleet to the Anamis on the tenth of December; and if we allow Nearchus to have set 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-sixth: he did not, however, fail immediately on his return; his sacrifice and his games occupied one day at least; the

---

79 The king celebrated an ἀγώνα μαστίκας ἀνιστάμενος; Nearchus's was only γυμνάσιον. The μαστίκας, or trial of mental talents, seems always to have made a part of Alexander's games; the γυμνάσιον, that is, the trial of bodily strength, or address, was suitable to the situation of Nearchus; he had probably no μαστίκας, butators, or musicians in his company.

80 Niebuhr writes this name Minas; and says it is some leagues from the coast. He did not visit it; and therefore his distance must be from report. Vol. ii. p. 142. Eng. edition. But I have no direct authority for fixing either Mina or the Anamis precisely. If d'Anville is correct, the site I give for the river is too much towards the south; and if I am mistaken, the measures of Arrian mislead me. His error, if proved, must lie between Neoptana and the Anamis. Some of our English officers who have been at Gonauroon must be able to determine the position of the river Ibrahim.

II

launching
launching of his vessels and preparation for sailing may be supposed to employ two or more; so that there can be no material error in assuming a date of some 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 Hephaestion proceeded on their separate routes a few days previous to this date; and this supposition will be sufficient to justify Arrian's assertion, that the march of Hephaestion 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 Oaraecta; in the course of which, a desert island was seen called Organa, the celebrated Ormuz of modern geography. Slight as the mention of this place is in the journal, it would be inexcusable to pass in silence one of the most extraordinary marts of commerce in the world. Oaraecta is the modern Kismis; between which and the Mina river, or Anamis, lie two small islands called Ormuz and Arek; the latter is usually written L'Arek, with the article; it is not mentioned by Arrian; and, upon consulting 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 so much confusion, that some ingenuity is requisite to develope them. Mercator's chart exhibits a Tylos and Arathos towards the entrance of

---

82 These two routes join again, according to Pietro della Valle, within a short distance from the modern Schiraz. Vol. v. p. 351.
83 Dieffen, Deje, Djas, of Niebuhr. Kismis, Khelem, written Querimo of the Portuguese.
84 Lardésij of Niebuhr.
85 Tab. vi. Afr.
86 The Tylos and Aradus of other authors. Dionysius Per. They are in reality the islands of Bahrain, however misplaced.
the gulf, intended for two small islands, but transposed to the coast of Arabia; and an Aracca, or Island of Alexander, far to the north. I shall first account for this variation of names. Salmasius says, that Arrian is mistaken in placing the tomb of Erythras, a king who gave name to the Erythraean Sea, in Oaraça; 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 Edom, or Esau, the Arabian patriarch; and Edom signifies red. The Arabians were doubtless the first navigators of the Indian ocean, and as they entered that sea by passing the straits of Bab-el-mandeb, they carried the name of the Red Sea, from whence they commenced their course to the utmost extent of their discoveries. Hence the Indian Ocean received the title of Red; and the Greeks,

68 The error is not Mercator's. He places them according to the longitude and latitude of Ptolemy.
69 Plin. Exercit. p. 113o. et seq.

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. דFootball. The seedy 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, signifying an end or extremity; and perhaps, therefore, um-soph 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.
71 The Arabs, or at least the Orientals, delight 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.
72 The gate of death, or mourning. Cosmas Indicopleutes, though he gives an account of Ceylon, seems never to have passed this freight.
73 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. The

who
who translated every thing rather than introduce a foreign word, made it the Erythraean 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 considered that Erythras, in order to give his name to the Erythraean Sea, ought to have reigned, or to have been buried, somewhere on the Gulf of Arabia; for that is the original Red Sea, and the source of that name, which was afterwards applied to so large an extent. Without respect, therefore, to Erythras, the utmost we can suppose is, that there was a tomb on this desert island visited by the natives of the coast; a superstition prevalent all over the East from the earliest ages, and still in full vigour, as well among the Mahometans as the other castes. Ogyris, therefore, we will assume, as one of the names of Organa, from Dionysius Periegetes; Tyrine as a second, from Strabo, Pliny, and Philostratus; and Turun as a third, which is a title of the moderns. Now it is remarkable, that Vossius proposes to read the Tyrine of Strabo either O-Gyrine, or Gyrine simply, 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

---

22 It is not meant to assert, that the Gulph of Persia is not comprehended in the general title Erythraean.
23 D'Anville D. iert. p. 147.
24 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 mori ò-Tépíou, or, Tépíou, for TYPINN. See d'Anville, ibid.
GULPH OF PERSIA.

"O-G'ran", or O-Gerana. Thus it is evident that Gerun, the name of the island previous to its taking the name ofOrmuz, is a native title as early as the days of Alexander; presenting, under one form, Gyrine and O-Gerana, and under another, that ofDjerun, Tyrine, and Turun", by the change of d into r. The palace of the kings ofOrmuz 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 Turun"; and Turun is no more than the name of the prince, derived" from the place of his residence, Turun, Tyrine, Djerun, Gerun; a practice universal in the East. Sal- mafius does not appear to know any thing of the modern Arek, and therefore confounds it with Oaraeta; and the same prevalent confusion among authors has turned Tyrine into Tyros and Tylos," Araca into Aradus and Arathos: hence it is, that the names of Tyrus and Aradus have been transplanted from Phœnicia," on the

---

"Strangely as these transpositions may appear 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. Aftarkan is by the inhabitants pronounced Aftarchan, by the Persians Agitarcan. P. della Vallé, tom. iii. p. 205.

81 So Ttor, Turus, Tyrus; and Sor, Sour, Sarz-anus; see infra Tarbou. See Michaelis’s Extra from Niebuhr, p. 34.

82 D’Anville mentions a Turun Shah, who was an historian. Turun Shah is king of Djerun. He wrote a history ofOrmuz, translated by Tereira into Portuguese; by him called Torunda. Dallymple.

83 Thus Taxiles from Taxila, Perun from Lo-Pore.

---

82 Tylos, in Arrian, p. 301: is the modern Bahrain, 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 confounded with Tyrine, or Gerun. If he has any thing like Bahrain, it is Ichara.

83 Strabo says, Tyrus and Aradus are ten days’ sail from Teseidon, and one from Mass. Mr. Goffelin makes a pleasant supposition, that they are ten days’ sail from Mass 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\(^{108}\) of Persia, as if mariners\(^{109}\) brought
from thence had carried the names of their country with them.

There is, in fact, a double error, for the Tylos of Arrian\(^{110}\) is un-
doubtedly the largest of the Pearl islands, now called Bahrein\(^{111}\),
and one of the smaller is named Arâd by Niebuhr\(^{112}\) at the present
hour. This Tylos and this Arâd give the Tyrus\(^{113}\) and Aradius of
Strabo, the Tylos and Aratus of Ptolemy however misplaced, and
both seem to have been brought down to the mouth of the Gulph
by an accumulated confusion with Tyrine and Aracca\(^{114}\), the modern
Ormuz and L’Arek. The site assigned by Strabo, and the latitudes
of Ptolemy, will prove this assertion as clearly as the distorted map
of Mercator, and the error of Strabo in deducing the Tyrians\(^{115}\) 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 vol-
cano, the vestiges of which still remain on a mountain, which ex-

\(^{108}\) There are different positions assigned to
these two islands by different authors, Eusta-
thius, dec.; but a view of Mercator’s map,
tab. vi. Astra, shows at one view the source of
the error. Aracca, Pto. p. 149. Tylos, Arab.
us, p. 156. in the margin, Tyrus, Aradius,
Islands in the Gulph of Persia. If further in-
formation is required, I refer to Salmasius,
p. 1380:—a very long and uninteresting
dissertation, with much learning and many
errors; he consulted every thing but modern
authority; and that alone could have set him
right.

\(^{110}\) Strabo supposes exactly the reverse,
p. 756. and p. 784.

\(^{109}\) See Arrian, p. 301.

\(^{111}\) Bahrein is the Ichara of Ptolemy. Olo-

\(^{112}\) See his map of the Gulph.

\(^{113}\) Liquidas s et 1. omnes scunt esse
maximè permutabiles. Bochart, Phal, p. 689.

\(^{114}\) Ptolemy’s Aracca is near Busheer, and
is possibly the Ara or L’Ara of d’Anville, the
Schitvar of the English charts, still misplaced.

\(^{115}\) Tyre is from Tlor, Tor, Tur. And
Michaelli’s Extraë from Niebuhr, p. 34.

fays, Niebuhr found a Tor in the Gulph of
Persia, of importance to geography. I can-
not find it in Niebuhr, as Michaelis quotes
from the German edition.
tends from one end of the island to the other; the soil is a white salt, hard enough to be used for building; the fort and the houses were constructed of no other materials; there is no spring or water but such as is saved from rain, and rain falls seldom; no plant or vegetable, but a few at the king's palace, set 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 sleep on the terrace of the house in the open air. Yet even here could commerce fix her seat, and the Portuguese who took it under Albuquerque, in the year one thousand five hundred and seven, kept possession till one thousand six hundred and twenty-two, when it was again reduced under the power of Persia by Abbas the Great, with the assistance of the English fleet. It had, from the convenience of its situation, become, in the hands of the Portuguese, an emporium second to none but Goa; and it is remarkable that they preserved the race of native kings from the same 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 Isphahan through Lar, at the time Pietro della Valle was resident in that city. He had the generosity 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 south-west side of the island with the garden Turun-bach, noticed before. D'Anville mentions a Turun-Shah, or king of Ormus, who was an historian. His history, I understand, has been translated into Portuguese by Teixeira. Dalrymple.
he thenceforth styled Bender-Abbasli, 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 assistance, and Bender-Abbasli soon became deserted from the usual oppression of the government. While Ormuz was the seat 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 success: the English commerce declined till they almost abandoned it from disgust, and the neighbouring provinces of Persia sunk under their natural aridity. A few vessels still continue to frequent the Gulph from the settlements 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 Indian-man, which mentions a similar 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 seems no immediate prospect.

Ormuz has two safe ports, one on the east and the other on the west side; it is three leagues from the coast of Persia, and three or four in circuit. Mr. d'Anville says 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, its

---

222 That journal is dated one thousand seven hundred and fifty-five; and Niebuhr was in Persia nine or ten years afterwards. If it is the same man, he has had a long reign, considering the time he lived in.

223 L'Arek is one league and a half from Ormuz. Cutler, p. 85. Dalrymple's Collection.

224 P. 38.
latitude is 27° 4' 22" north. The best "" passage is between Ormuz and the main, and by this I conclude Nearcchus failed, not only from its safety, but because he kept the shore in view. In his time Ormuz was without inhabitants as L'Arc had been at present, 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 sometimes fixed; and however the island itself may be displaced, the name of Aracha and Arakia is preserved 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 subject to the depredations of Arabs from one shore, or Persians from the other, it is highly probable, as they afford also asylums for any chief or tribe oppressed on either side, that they are both occupied and deserted occasionally. The tombs also of most eastern nations being built of materials more durable than their houses, places of sepulture would of course present themselves to all who landed on a deserted spot. Such may be the origin of the mythology concerning the tomb of Erythras; and the sight 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,

114 Cutler, p. 85.
115 Pietro della Valle mentions that the Captains of the English vessels on board which he sailed, went his boat afloat at L'Arc with dogs, which returned loaded with game and goats. We shall find Arrian mention goats on the desert islets of the Gulph.
116 Salmasius very rashly converts both names into Oaracla. 1180. Plin. Exer.
118 I am ignorant of the etymology. Niebuhr writes Tumb.
that the tradition of a tomb erected to some hero, king, or saint, 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.

The Oarahta of Arrian is written Ouorotha or Worotha by Ptolemy, being thus united with the Wroct or Vroct of the moderns; and Oracla, which is the older reading in Pliny, is as manifestly a corruption of the same, as the Dorahta of Strabo, however distorted from a different cause. The modern name is Kismis, varied by a multiplicity of orthography, and deriving its meaning possibly from the Persic, in which language Kismis signifies small grapes without stones, for the island is mentioned by Arrian as affording the fruit of the vine, and vessels from different parts of the Gulf still lade raisins in its ports. Niebuhr has added a name that throws every other at a distance, Desjéret

\[\text{annum, anu}.*\text{ See d'Anville.} \]

\[\text{Strabo, 767. Salmas. 1180.} \]

\[\text{Kesem, P. della Vallé; Kishmee, Khamsa, Kishmiche, Queixome. Portag. Æc. Æc.} \]

\[\text{Thavenot, part ii. p. 69. Eng. edit. Their official name in England is Sultana, or Sultane grapes.} \]

Drès;
Dras; and though we see that he expresses Kismee by Dajesine, we are at a loss for the final Dras, 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 joined in the attack with their artillery. The officer in command here, when Nearchus arrived, was Mazenes, 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 Paktigris.

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 McCluer. This islet, as the journal informs us, was inaccessible, and sacred to Neptune; inaccessible, perhaps, from some native superstition, like

---

Obaracta,
Second Anchorage.
Ninety third day.
January 2.
Day allowed.

---


135 In the year one thousand six hundred and twenty-one, and when P. della Vallé was here the following year, he was well received by the English, who caroused all night, and formed a hunting party for him the next day, on the island of L'Arek.

136 Called Amazenes by Strabo, p. 767. sufficiently confuting his own assertion, p. 732; where he makes Nearchus say, he had no guide; but the passage is suspected.
that attending the retreat of the Nereid in the Indian Ocean, and
sacred to Neptune in a sense we do not understand. The Greeks
attributed the names of their own deities to those of other nations,
adorned with similar symbols; and as there is a pagoda on this spot
at present, 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.

Nearchus makes the island of Oaraa fifty miles long, which
Mr. d'Anville considers as specifying that part of the coast only
which was passed by the fleet; but this solution 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 stand
out to the southward 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 eastern point of Kifmis, it appears as if
Nearchus was in doubt which route he should prefer, and was
determined in his choice by procuring the assistance of Mazenes.

There is still a passage open between Kifmis and the main, though
little used, and between Angar and Kifmis. Angar has good
water, with plenty of wild sheep and goats, as several of these
islets seem to have, for the supply of mariners, fishermen, and pi-
rates. We shall hereafter find one specified by Arrian, under the
protection of Mercury and Venus, and possibly both the gods:

---

187 M'Cluer, Lieut. Cant.
188 Eight hundred stadia.
181. The isle is a league in length.
and Neptune were presiding deities, who preserved 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 second 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.

Weighing from Angar, the fleet proceeded, apparently, with an intention to double the western end of Kifmis, 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 Ballidu, which runs out from the western point of Kifmis, and were so long detained, that they did not join the rest of the fleet till two days after. In consequence of this accident, such of the vessels as were not so near the shore, or so far involved in the difficulty, drew off to the south-westward, and extricating" 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 instance better than discussion; for they got on shore by standing too much to the north-east, and escaped by hauling 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

---

"χαλεπά τα διασχισμα τάς Φίτας, ετέρας βάθους διανομί να, p. 355; ἐρυθρός. locis navigantes; potius, ἐβραίοικι. I have already sufficiently noticed the perpetual error of the translators in regard to πέτας. It is evidently in this instance opposed to βάθος; and, what is still a greater confirmation, we have this shoal laid down in all our charts as a sand, and not as rocky or broken ground.

forty
forty miles, which marks the distance" 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 esteem Kismis as continent in respect to such an islet as Tumbo.

The two islets called Tumbo 117, 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 sandy 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' 126, 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

117 The first is also called Naze, and the second is Naghgioo, Naghian, Nabejou, &c., Namim by Niebuhr.

118 It is to be understood that I speak hypothetically of the two Tombs. Niebuhr writes them Tumb.

119 Lieutenant M'Cluer, from Lieutenant Cant, p. 40.
the right, with the island Polior on the left, direct us evidently into the bay formed by Cape Sertes on the east, and Cape Buftion on the west, in the first chart of McCluer. Other charts transpose these capes, as Mr. d'Anville has done, for his Buftion, 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 Bafidu, or Baffadore, at the western extremity of Kismis; for if it is natural that a Greek fleet should seek the coast again as soon as it was clear of the isle, 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 "sand, and not dangerous." This accords perfectly with the accident which befell the fleet, as well as the escape from it, and confirms the assertion made all along, that the Greek term rendered rocky ground, is every where mistaken; for wherever there is shallow water, a rippling, or a surf, there only, in this journal, it is applicable.

The island Pylora, seen in this day's course to the left, fortunately retains still its ancient name, and is written Peloro, Polior,

\[\text{Niebuhr, in Dalrymple's Collection, p. 52.}\]

\[\text{It is visible at seven leagues distance. McCluer, p. 19.}\]
Belior, in the several charts; it is described as six 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 said
to be deserted, but passed on to Sidodone, where no supply was found
but fish and water; the country being poor, and the people living
like Lathyophaigl. Strabo, who finds a Tyrus and Aradus in the
gulf, says by Gronovius and Ortelius to turn Sidodone also into
a city of the Sidonians, for such was the fashion of Greeks to re-
duce every found⁸⁷ to a relation with something 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 Tarfia⁸⁸. I have already noticed the disagreement of
d'Anville and M'Cluer, in the transposition of the two capes, which
is well worthy of consideration; for though Sidodone is an oblique
place, and the difficulties minute, the fixing of a position is ma-
terial, as an error at the beginning might vitiate the whole series.
To prevent deception, therefore, I must first state, that M'Cluer⁸⁹
mentions Surála, or Sarás, 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 such M'Cluer marks; and here he procured flocks 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

⁸⁷ Thus Nyia and Meros, or Merou, were
names they found in India, and immediately
made out a connexion with Bacchus.

⁸⁸ Jarfey, for Certes or Ghirde, appears
in one of Thornton's charts.

⁸⁹ P. 18.

west
west for the isle of Polior. If, therefore, we observe that Nearcclus was at Tumbo, we have here his course pointed out to the cape, and his island Pylora on the left, as distinctly as if McCluer had been on board the fleet. McCluer next points out a second cape twenty miles to the westward of Certes, which he styles Beftion (the Tarfia of Nearcclus); and between these two capes, he says, there is a town called Charrack. Now McCluer may have misnamed Certes, Beftion, 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 McCluer of mistake, but I am not qualified to decide. Charrack, for instance, I doubt, because Charrack Hill, the most conspicuous feature on the coast, is seen to the westward of his Beftion; 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 Beftion by d’Anville; and the Certes of McCluer, Cape Beftion: and now, though I am certain I have my geography right, I find it impossible to harmonize the names to any one system. I shall therefore give the authorities on both sides, and leave the decision to future navigators on the spot.

See this difference at large in Dalrymple’s Collection, tab. v.

and the site fixed west of Tarfia.
### Two Charts.

**Eastern Point.**
- Certes, or Sertes, M'Clier.
- Sertis, - Harvey.
- Sertes, - Cant.
- Sertes, - Mascall, 1773.
- Serte - Van Keulen.

**Western Point.**
- Beilson, - M'Clier.
- Girde "", - Harvey.
- Bustion, - Cant.
- Bustian, - Mascall, 1773.
- Batanas, - Van Keulen.

**Eastern Point.**
- Bustion, - D'Anville.
- Bifiana, - Bellin.
- Baison, - Holmes.
- Bifana, - D'Apres, 1745.
- Bifana, - D'Apres, 1776.

**Western Point.**
- Gherd, - D'Anville.
- Guelbre, - Bellin.
- Sertis ?, - Holmes.
- Guelbre, - D'Apres, 1745.
- Guelbre, - D'Apres, 1776.
- Râs-êl-Dsjerd, - Niebuhr.

In determining this question, therefore, the French authorities agree on one side, 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 coast ill defined; but there can be little doubt that his Dsjerd gives by the s, Sertes and Certes, and by the n, Derd and Tarfa.

**Footnotes:**
44. Harvey has made two points of Girde and Sertis, which are evidently the same.
45. Niebuhr is not perspicuous. Râs el Heti is too close to Râs-el-Dsjerd, and his edition;
edition; but d’Anville, who quotes it, writes, *La terre où finit ce demi-cercle est appelée Gherd*. Now, though this is not definite, for a semicircle 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 Bombareck to the wrong cape has been noticed before, there is less scruple in supposing him liable to a similar error in regard to the whole of this bay.

At Sidodone water was procured for the fleet, which, after weighing in the morning, proceeded somewhat less 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 so nearly with our nautical authorities, and the intervention of the cape marks so precisely the nature of the coast, 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, Guefs, Queche, Qaïs, 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 miles from the coast, there is no apparent

---

244 The classical reader will be more easily convinced of this fluctuation by reference to the writing of Tyrus. The Phœnician word is Tvor, with the two initials τ, corresponding to Niebuhr’s ṭau; and Tvor becomes by the τ, τη-τα, Tyrus; by the ς, Sor or Sar, the root of Sour Cerus; Συρία, Syria; and found in Virgil.—Sarrano indormi, osfro, where the scholia write, a Saro murice. By the same analogy, Tierd-Tarsh, Serd-Serres, Certes, Gherd, Sjerd.

245 I conceive that Tarsia is preferred in the Râ-el-Dsjerd of Niebuhr.

246 With the French pronunciation.

247 Niebuhr.

248 Eight by M’Cluer’s chart; nine by Thévenot.
reason for its attraction of Nearchus, unless it were the hope of procuring there a supply of goats for the fleet.

Kataia, says Arrian, is a low 89 desert island; and Thevenot 90 mentions it as about five leagues in circuit, very low and flat. McCluer adds, it is a very beautiful island, better planted with trees than any in the gulph, and about the size of Polior, but not so high. This is farther confirmed also by Lieutenant Cant, who calls it a low fruitful island 91: 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 Persian 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 stocked by the Spaniards in the South Seas. Nearchus has not informed us whether he violated the asylum 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 sacrilege, if committed, was revenged by Mercury or Venus in so severe a manner, as the companions of Ulysses were punished for feasting on the oxen of Apollo.

Keith 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

---

89 *Arrian.*
90 Part ii. p. 173.
91 Al-Edriš, p. 56. mentions Kis alío. D’Anville. But without any attributes except its distance from Kifmis. Hormosians
Hormusians of the continent when they were oppressed by the invaders 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; such emigrations seem to have existed in all ages, and some 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 served only for a temporary retreat, abandoned again as soon as the storm 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 supplying refreshments to the vessels which frequent this sea. Its latitude is fixed by Mr. Dalrymple at 26° 34' 52".

A line drawn from Kataia to the main, separates 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-Edrifi as a seat of commerce in his time, and connected with Keish, as Gomeroon was afterwards with Ormuz. In the ninth century Siraff was a port of importance; for it seems in that early

115 Moll probably upon the inroad of Timour's sons, about the year fourteen hundred.
117 See the voyage of two Arabians from Renandot, in Harris's Collection, vol. i. p. 543. The ships of Siraff went to Muscat to take their departure, i.e. they found that coast the best point for taking the advantage of the monsoons. Alfragani mentions its decay in his time, Gol. p. 116; but perhaps Golius himself, and not Alfragani.
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 Tsjarâk of Niebuhr) exists very nearly in the same site "", and is still the residence of an Arab Sheik. The measures upon this coast proving as erroneous from deficiency, as those on the coast of the Ichthyophagi 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:

<table>
<thead>
<tr>
<th>British Miles deduced from Arrian's Stadia</th>
<th>From Badis Stadia.</th>
<th>N. Miles by Chart.</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>to an open shore, Armozon, 800</td>
<td>43</td>
</tr>
<tr>
<td>43 1/2</td>
<td>Neoptana, - 700</td>
<td>69</td>
</tr>
<tr>
<td>6 1/2</td>
<td>Anamis, - 100</td>
<td></td>
</tr>
<tr>
<td>12 1/2</td>
<td>Oaraqa, - 300</td>
<td>34</td>
</tr>
<tr>
<td>18 1/2</td>
<td>Oaraqa, second station, 200</td>
<td>32</td>
</tr>
<tr>
<td>25</td>
<td>Tumbo, - 400</td>
<td>36</td>
</tr>
<tr>
<td>37 1/2</td>
<td>Sidodone, 600 (allowed)</td>
<td>36</td>
</tr>
<tr>
<td>37 1/2</td>
<td>Tarfia and Kataia, 600</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>231 1/2</strong></td>
</tr>
<tr>
<td></td>
<td>Allowed at Sidodone, 600</td>
<td><strong>3700</strong></td>
</tr>
</tbody>
</table>

"" There is just ground of suspicion that Charrack, Tsjarâk, Sharak, Sarak, is actually 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. Thefe
These three thousand seven hundred stadia agree with the total both of Strabo and Arrian; and the distance allowed at Sidodone not only makes the sum 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-six nautical 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 compensation is at hand to which we can have recourse, for the distance omitted at Badis cannot amount to ten miles". The great error lies between Badis and the Anamis, or round the coast of Oaraqia, 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 shown its general correspondence with the course of the whole voyage, I state facts upon the present occasion as they appear. Some advantages" might have been taken in measuring with the compasses, of which, though I availed myself in detailing particular stations, 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

"It is, I imagine, from Cape Jaffa only to the centre of the bay.

"In measuring the total, I necessarily took from point to point. In measuring from island to island, I have sometimes taken from the nearest side of each. This makes some distances correct in detail, but discordant in the total.

that
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,"7 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 distinguish the margin bordering on the sea, from the mountainous region inland. Kermesir, however, is not confined to Kerman, but prevails as applied to a territory of the same character, tending much farther to the westward, through the maritime part of Persia. 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 diffusion. There is little agriculture among them, as they depend for support on fishing and hunting, and export little except wood, or such commodities as the country yields without cultivation. The Sheiks,"8 he specifies as those of Seer,"9 Mogo, Tsjarrack, Nachelo, Nabend, Afloc, Taehric, 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 Ichthyophagi, principally upon fish, either fresh or preserved. Just such a town Arrian represents Sidodone"10 to have been in the age of Alexander; and though the decline of the Persian power had not been of sufficient continuance to allow of

---

477 Sannas and C. Nabon are the termination of ranges at the sea, coming from the chain which runs parallel with the coast.
478 Scheich. Niebuhr.
479 See also Otter, who relates the trans.

Arabian
Arabian intruders, as is the case in the present desolation of that empire, the manners of the people are very similar to those of the modern inhabitants, and their connexion with Arabs, I am persuaded, might be traced, by analysing "" the names preserved in our classical historians. That part of the province called Moghoftan, towards the mouth of the gulph, with the island of Kismis, and those in its neighbourhood, derived infinite advantage from the settlement of the Portuguese at Ormuz, and foresaw the ruin of their own happiness in the preparations of Abbas for the siege; they were consequently disaffected, and incurred the suspicion of their sovereign as strongly as the Portuguese provoked his hatred. The consequences have proved the justice of their reasoning; agriculture is lost 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 manufactur'd; they find nothing there at present but salt,"" sulphur, Kerman wool, and copper; native commodities, but not wrought. The nature of this country from Gomeroon to Lar, the capital of Lariftan, which is the district next to Moghoftan, cannot be described better than it is by Pietro della Vallé:"" he insists much on the total want of rain, a circumstance similar to that on the coast of Mekran,"" and mentions, that at Lar itself, where there is neither stream nor spring, it sometimes does not rain for several years following. I suspect that Lariftan terminates west upon the coast, near Kataia, as did the ancient limit

"" Bruce has great success in applying this analysis to some of Ptolemy's names in the Red Sea, Orteon, Portus Albus, &c. vol. i.
163 Journal of Houghton Indiaman, 1755.
164 Vol. v. sub fine.
165 The correspondence of the modern accounts with the ancient is worthy of remark. Strabo says, it never rains in Mekran below the mountains. Lieutenant Porter writes, that when he was at Churbar there had been no rain for six years.
of Karmania; or, perhaps, at Sanas: 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 disagree with Arrian in carrying the eastern
boundary to Molarna, and this river on the western border is not
very clearly determined by modern geography, it will, if not essen-
tial, 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 Keith, 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 Nbon 460, and a river
which falls into the gulph close to it; here I fix the Bagrada of
Ptolemy; and, by reckoning from Anamis to this stream, I can dis-
cover five rivers out of his seven, if not more.

2. Addanius 460. Saganus, } {Bender-Ser?
3. Akhidadama, Agedana Island, Akhidana, } Nagana Guda?
5. Kathrapus, Atapus, Araps, } Saraf?
6. Dora, Dara, } Dara-bin.
7. Bagrada, Bagrada, } Nbon.

1. The Saganus of Marcian is evidently transposed, which justifies
the liberty I have before taken with this author, in rectifying his

460 The Nabon river is a very large stream, and consequently fitter for a boundary. Mr. Jones.
460 Tuane, MS.
transpositions, and reducing them to the order of Arrian; for in this instance, though he is the professed copyist of Ptolemy, he deserts his original; I assume, therefore, his Addanius for the Anadanis of Ptolemy, the Anamis of Arrian, and the Mina river, or Ibrahemi, of our modern charts.

2, 3. Saganus"" succeeds 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"" rivers, or even torrents, at this place in any chart; but in Reffende'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 Reffende 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 some distant resemblance 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, since Marcian mentions nothing correspondent to Ormuz, that his A-Gedana is the O-Gerana of Arrian, the Gerun so often corrupted; and if so, 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"", or Korius, we may trace some resemblance to the Rud-chiur"" of our modern maps; a stream of some importance,
as it has a longer course than the others, forms the boundary between Moghfoftan and Larifitan, and falls into the Kiilmis 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. Chiuor, Kiour, or Schiur 725, signifies salt, and Rud-Chiur the Salt River; if, therefore, we observe that the Greeks had no sound like Sch 726, 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 727, that he mentions it by the very name of Salfo 728.

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 Sannas, or Sarafs; and Saraps is not a greater variation from Araps than the Kathraps of Marcian.

6. Dora 729, or Dara, presents a similarity of sound with the Dara-bin, or Derrabin, of our present charts, laid down almost op-

---

725 Schiour, Chiour, and Kiour, enters into the composition of many names of rivers; for many are silt in Persia, Karmania, and the Mekran.

726 Otter has a Roud-giur in his route from Hamadan to Iphasis. Vol. i. p. 192. And Giur, he says, signifies environ. It is possibly Giur for Kiour; but, if otherwise, Giur, environ, is from Geur, Gherd, or Certa; and signifies a town, not a river. The place, however, where he was, was called Guerdge, the town; and, if so, Road Giur is only the river of the town.

727 Pietro della Valle, when he writes Chiuor, naturally suggests the Italian pronunciation, answering to Kuer in English.


729 D'Anville carries this title of Salfo up to Sitacus; but if we observe that it is joined with others evidently in Karmania and at the easterly part of the gulph, why should it be transported into Persia, and so far to the westward? See Mem. p. 159.
polite to the islands Busheab "" and Schitwar. Here I must confess I looked for the site of Ptolemy's Bagrada, as lying nearest to the Kataia of Arrian; but the resemblance of sound induces me to fix Dara at Dara-bin, and if so, 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 safe 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 ""; Dahhr is as evidently, therefore, the Dara of Ptolemy as Dahhr-Afban is the Darabin of the moderns.

7. Bagrada "" I place at Cape Nabon, or Nabend, for the reasons 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 disembogue. 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 considered as foreign to this work, for one great object of it, is, to recon-

"""" See McLear's chart, Harvey's, d'Apres, &c.
"""" And Capper, who follows Niebuhr's orthography.
"""" D'Auville carries the Bagrada to the Agradat of Strabo in Cœle-Peris; but this implies the country between the mountains, and not on the sea coast. By the name of Dara, which precedes, and which I consider as demonstrably fixed, from its relation to Dahhr-Afban, I am fully persuaded that Nabon is the Bagrada. See d'Auville'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 McCluer.

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 fire. 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 assistance I have derived from d'Anville, and the correctness of our English charts, I have acknowledged at every step, and it is a

---

**See infra, Inderabia.**

pleasure
pleasure 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 present day. We are now to enter upon the province of Persis, and though I cannot promise equal perspicuity in regard to some 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 succeeds.

The fleet weighing from Kataia arrived, after a course of twenty-five miles, at Ila, an anchorage on the coast covered by the island Kaikandros. The name which McCluer gives to a place very nearly correspondent is Gillam", from which if we subtract the initial letter, which is the representative of an aspirate, we find Ila sufficiently allied to Ila; and if the antiquity of Gillam could be ascertained, 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 situation, styled Inderabia by McCluer, Inderabi" 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 "Keish-

"112 It is the same as Lieutenant Cant's Gella, which approaches nearer to Ila, or Ila; but Cant's Gella is ill placed. Ila becomes Hilla and Gillia, like Han, Khan, Cawn, Hendoo Gentoo.

"113 Anderipe, Inderuca, Hinderabi, &c. It is possibly also the Lameth of Al-Edriis, as he mentions Siraf and Tifac, i.e. Tjarack, in its neighbourhood, p. 120.

"114 Kili Klavus is likewise mentioned by Otter, vol. ii. p. 273, but fabulous.

After making this conjecture, I found in Golius, that Calcanus is aemus Cavaus, who obtained water and milk in this island or Keish. Gol. ad Altfrag. 117.
Andarvia is 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, says d'Anville, it is nearly six leagues; and he assumes 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 pleased to find that M'Cluer, in his second chart, has extended the distance from twelve to twenty geographical miles between Keish and Inderabia, and twenty geographical miles supplying upwards of twenty-three miles British, make an agreement with Arrian sufficiently correct. M'Cluer writes to Mr. Dalrymple: "I have altered the situation of Inderabia, as I found it too near Kenn."

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 second service in laying down this isle nearer to the main than it appears in most of the other charts, for so Arrian describes it, as covering the road and making the anchorage secure. Inderabia, according to Lieutenant Cant, 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

---

134 I have been the more confirmed in this opinion by observing in Golius, p. 117, which I have been enabled to interpret by the assistance of my friend Dr. Ruffell, 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 ebn Ameerat, Keis the son of Ameerat. In this manner, Keis might be easily made an accursary to Andarvia also. Andarvia, written in many ways, approaches the Greek more nearly in Portuguese, Anderoya; for so it appears in Reffende.

135 This licence is justifiable wherever a 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.

136 This distance is taken from the two extreme points nearest; so that by taking an anchorage in Keen, you may have twenty-five miles near.

137 P. 13. Pref. to Dalrymple's Collection.

138 Keith, written Kenn in several charts, but I believe always improperly.

139 P. 44. 7

seven
"seven to fifteen fathoms, nearest the island;" its mean latitude is 26° 49' 37".

From Kaikandros to a second island, no distance is given, and only two miles and a half to an anchorage on the coast; 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 so I find it in Reffende and Thevenot. We have now, however, two islands accurately placed in M'Cruer'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 and Busheab, and the latter is written Schech-Schailib by Niebuhr, equivalent to Abu-Schailib 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 says was inhabited, and possessed of a fishery for pearl; a circumstance not unworthy of remark, as several travellers inform us, that pearls were formerly taken at Karak and other places on the eastern side of the gulf, as well as on the celebrated bank of Bahr-ein. If I

p. 173. Thevenot mentions likewise that it is very near the coast, and a passage within. It is possibly the Araka of Ptolemy.

Capper writes this name Shudwan.

Thevenot, ibid.
am right; therefore, in assuming Schitwar for Arrian's nameless island, the remainder of this day's course is clear; for the forty stadia he allots for crossing from hence to the main, is nearly equal to the breadth of the channel between Schitwar and the eastern point of the river Darabin, where I suppose the first anchorage to be; and the second, only by crossing the river to the western point, or some convenient bay adjoining. This is the apparent reason why no distance is mentioned here, while the measure between Inderabia and Schitwar is an omission. McCluer marks an anchorage in a bay, and a town called Schitwar," just to the westward of the mouth; here 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 similar 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 second instance, and two more will occur, with a third, that possibly may be accounted for upon the same principle.

The mountain Okhus 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 distinctly specified in McCluer'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.

193. Chetwär.
194. Harvey's chart places Schitwar point on the eastward of the river, but marks a small town where McCluer's Schitwar or Chetwär is. Harvey 1778.
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 sides, and forming two streams, which appear to have some pre-
eminence above the torrents to the westward. In Dahhr-Afbin 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 side then I fix the station under Mount Okhus; and I must observe that McCluer's second, or corrected chart, coincides with the several circumstances in Arrian more nearly than any of the others, or even than that which is inserted in the present work.

Of the two islands, Schitwar lies nearer to the coast on the south-east of Bufheab, and the channel between Schitwar and the main was not passed either by Cant or McCluer; but they both intimate, from the information of their pilots, that the passage is clear, as well as the other between this isle and Bufheab, which is less than a mile broad. Bufheab is the largest isle in the gulph except Kishmis; it is low also as Schitwar, but has some 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 sufficient 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

---

859

GULPH OF PERSIA.

---


899 Ochus is the name of a river which falls into the Oxus, and I doubt not contains some relation to a river here. See Salmur, Plin. Ex. p. 216.

900 And I suppose Bahrein.
than three miles by Arrian, makes me adhere to Mc'Cluer rather than any other authority; and as he lessens the usual distance specified between Buheab 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 to Okkus, 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 Okkus 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 finds a bay called Effernadie 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 Asselo and Apostanos in the same place, which is evidently incorrect, as Asselo or Aslo, is fixed by all the best charts to the north-westward of Nabon, while Apostani is evidently

---

Footnotes:
- ^99 Memoir, p. 20.
- ^100 Okkus, N'. Okhe-lo ?
- ^101 Has he not confounded Asselo with the Asstow of our charts ?
- ^102 So d'Anville writes, and Anamin, Ilan, &c. from the Latin authorities, he follows.
- ^103 See Niebuhr, Mc'Cluer writes Assula, like the island on the coast of Guadal.
twenty-five miles to the east. But before we can determine upon a site, we must dispose of a town called Chewroa, Chetow, or Sherouw, which takes a variety of positions from the eastward of the Darabin, almost to Cape Nabon.

The resemblance of these names, however written, would induce a supposition that they all relate to the same place; but Sherouw, or Sherouwe, in the Dutch charts placed eastward of the Darabin, is the Shirav, or Siraf, of the Eastern geographers, opposite to Keihs, and formerly a place of great commerce; and Chetow is the place written Ghetwar by M'Cleer evidently related to the island Schitwar, and placed by him with an anchorage just to the westward of the Darabin. The same site is given to Asetow, in Lieutenant Harvey's chart 1778, and As-Setow is Setowar and Ghetwar in another form. This same chart, which marks a village here, marks a second without a name, half way between the Darabin and Cape Nabon; and this second is the place called Shevoo by Captain Simmons. "About half way from hence [the Darabin] to Cape Nabon is Shevoo", where good water may be got." These are his own words, and here, unless Shevoo is misapplied, we get a situation 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 sufficient reason for finding it frequented by the country vessels in the age of Nearchus, or at the present hour. The general distance given from

—— In a chart comparing Harvey with Cant, and C. Ruffell by Dalrymple.
—— Ives, p. 205, mentions Shevoo previous to Nabon, as a small fishing-town. His account is not distinct.
—— See Dalrymple's Preface, p. 13, note.

307 The reason for supposing Shevoo may be misapplied is its resemblance to Sherouw and Chetow, at Sherouw below Darabin. Van Kaulen writes,—hier is water van Kaulen, in pits or tanks.
Mount Okhus to Nabon by the journal is fifty-three miles divided into two courses, one of four hundred and fifty **2**, 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 former, in placing Apostani by the measure given, or reducing it to the Shewoo 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-flan **3**, like Abushaib, Abu-flâûhr, and other similar compounds on the coast; or to assume a corruption justified by its locality, and derive it from Abân. 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 Darabîn of modern geography, and the Apostani of Arrian, all from Dahhr-Abân **4**.

From Apostani the fleet weighed at night, and proceeded twenty-five miles to a bay, on the borders of which were seen scattered villages, adorned with palm-trees, and others yielding fruits **5** similar to those of Greece. Here Nearcitus 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

---

2 Twenty-eight and twenty-five miles.
3 The Sheikhs’ country. Abu and Sheek are equivalent in Abu-Schaib, Schech-Schaib.
4 In addition to what has been already said upon Bah and Dah, it appears from Ludolphus, that they have an opposition in the Abysinian language, as phâ, the Dar, the head officer; Dahhr, the summit of a mountain. See Ludolphus Abysiniam, book i. c. 4; book iii. c. 4. And Bruce paffian.

Z.Z.
river which bears the same title. The point of this cape** is very remarkable, being flat table land, which extends a considerable 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 master of a few small vessels, which he employs in piracy. Thevenot*** mentions it as a place still abounding in palm-trees, 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 ****, 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***** or Nabon. The latitude of Nabon is fixed by Dalrymple for 27° 27' 26".


***D’Anville; but I have not found the passage in Thevenot.

****Mr. Jones mentions the Nabon as a large river; and such it ought to be from the extent of the mountains. Ives notices the same circumstance, p. 205. Here Providence seems to have allotted a spot of ground amidst 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.

Upon departing from Nabon, the fleet proceeded upwards of thirty-seven miles to Gogana, a distance which answers within a mile to the position of the modern Konkūn or Congoon, remarked by McCluer for a high ground over it called Barn-hill from its appearance, and as being the northernmost town in the bay,"" which curves to Verdisstan. Between Nabon and Konkūn lie Asselo and Tahrie; whence, he says, this bay runs deep up to Konkūn. The whole of this day's course is sheltered from the north-west blasts by the projection of Cape Verdisstan, and the soul 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 side of a winter torrent called Arcon, 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,"", or the insignificance of the stream, it has not drawn the attention of our English navigators. It is some satisfaction, however, to find a name resembling Konkūn so nearly as Gogana; and as Niebuhr makes it the residence of an Arab Sheik, it is perhaps of more estimation with the natives than with those who frequent the gulf, and whose only object is commerce.

""A vessel must be cautious of landing up too far in this bay."" McCluer, p. 22. See Niebuhr also, who says it is the most dangerous part of the gulf.
The course of the following day was fifty miles to the Sitakus, which it would be well if the journal had increased considerably, 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 passage 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, lying to the eastward of Verdistan, only three miles from the main, within which if there be a passage, it must have been seen 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 sort 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 passage, it is the first on this coast which has been deficient. Mongella is the Palmeira of the Portuguese; the Om-en-châle of Niebuhr, though he marks no island, and his Raf-el-chân, or Cape Chân, is the Kenn of our English charts, the Kanieh-Sitan of d'Anville, remarkable for the hummocks over it, which form a landmark to vessels 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 rises ten feet here, it is possible that Nearchus found his way through the

\[\text{Om-en-châle of Niebuhr.}\]
\[\text{Rather an island. Om-en-châle, answering to an Om-en-châle on the continent.}\]
\[\text{M'Cluer.}\]
\[\text{M'Cluer, p. 25.}\]
\[\text{breakers.}\]
breakers, shoals, and oozy channels, he so graphically describes: such, he says, 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 vessels were consequently 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 supply of corn, sent down by the command of Alexander. From this circumstance we may conclude, that the detachment under Hephaestion was in the neighbourhood; and, (as I collect from Alfragani, Golus, d’Anville, and Otter,) at Giuvar, or Firozabad, an inland city, the capital of the district Ardešir, celebrated for its gardens, vineyards, and roses, as pre-eminent in Peršia as those of Paestum in Italy. I fix upon this place, because I learn from Otter, that the river of Giuvar receives a stream called Sita Rhegian, which may be interpreted the sandy Sita, and, with a final aspirate, becomes Sitahi, 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 Hephaestion might have taken it by this method; and the permanence of the tradition affords some sort of proof, that Hephaestion was at this city, as I have stated. The roads which branch out from this centre evidently mark it as a capital; and when

---

332 ἄραξας, shoals; ἥμαρ, broken water; Tādža, shoals with ooze or mud.
333 Goli ad Alfragani, p. 114. Founded by Ardexir, son of Babec, son of Safun. An Elburz, or fire-tower of the Parfes, was in this city. Gour signifies a sepulchre.
344 Otter, vol. i. p. 191. I found this account by accident in Otter, strangely placed in a route from Hamadan to Ispahan.
355 Raiguan. Otter.
we reflect that Siraff and Keish were formerly the Comeroon and Ormus of the gulph, we see 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 Hephaetion, with his division of the army, moved. We have before attended him across the mountains from Girioft to Lar, and we have here a route from Lar through Giouar and Kazeron to Ragian on the river Tab or Endian, which is the boundary between Persis and Susiana. In Susiana Hephaetion rejoined the main army under Alexander, who seems to have moved by the route of Velaz-Gherd, the western Phoreg Paigardar, and Persepolis, till he fell into the march by which Timur came from Susiana to Shiraz, and trod this ground in a contrary direction, till he reached Susa or Shusser, 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 supply. The reason of this must evidently be, that the distance from Girioft 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 Hephaetion moved on the same day with Nearcous;

---

*In the route of Al-Edrisi, from Shiraz Giouar, though Lar is on the left, and not to Siraff, we discover the road from Lar to mentioned. See infra.*

*eleven*
eleven "" 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 Verdisan "" 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 Buheer, or Baïra, having no other business but to avoid "" 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 Sitian, he informs us, signifies the habitation of Satan; and the river Sita-Reghian "" has evidently an allusion to the same 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 such ill omen. Reghian is not quite peripatetic, 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 signifies fand, will explain all three; but I have looked in vain for more Reghians than one in the Nubian Geo-

237 Twelve days inclusive.
238 Bardefan, Bardefrand, Van Keulen, Babeleian, D'Apres, 1745. Burdian, Capper; who calls it a mountain.
239 See M'Cler, p. 24, 25. All his directions are how to avoid it with safety.
240 Lieutenant Cant gives a bay here, and Harvey, a river. Claud Roetler's chart calls the river Jareu.
241 The Sinagoge of Pliny, p. 136. lib. vi. 22. deserves no notice; he says it is navigable up to Palaguda.
grapher. The Giouar of that author on this river"""" throws great light on the march of Hephaldion, and the supply received by the fleet, because the measures taken from Shiraq, 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 Asia 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 sea; 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 truly, who shall assert that the journal before us is the production of a Greek sophist 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 Cherfonelus at Butheer, or Bender-Richer, his Brisoana ought to be the river at Kierazin, to which it bears a relation, however corrupted; his Auvniza"""" naturally becomes Auvizan, or Verdi-ulan, and Bagrada of course is the next river"""" at Cape Nabon. In tracing Ptolemy's catalogue thus from Cape Jacques to the termination of Persis, I persuade myself that I not only add perspicuity to this immediate work, but perform a service useful to geography, and acceptable to every lover of the science.

[211] Al Edrifi does not mention the river. [212] Written Staufinda by Marchant, p. 19. [213] There is no other between Verdiulan and Nabon but the torrent Arecon, too minute for all our charts and maps to notice.
An interval of one-and-twenty days passed at Sitakos, 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'Cleir, with a sufficient degree of correctness, and where d'Anville finds the Kierazin 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; and Kazeron as undoubtedly is the root of all the corruptions which appear under the form of Kierazin, Hieratis, and the Zezarene 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 by Thevenot, and was passed by him in the neighbourhood of Karzerum (as he writes it), in his route from Schiras to Bender-Regh. The variations occurring in this name show two different ways from the same source, for Kazerone first becomes Kazerene, Kezarene, Zezarene, Brizene; and secondly, Kierazene, Kierazin, Kierad-fin, Hierat-fin, Hierat-is, and perhaps Heraten-is, or Heratemis: but I do not maintain that both are the

---

231 This is the only mark I find in his chart. Gilla is a town. Halilah, or Halilat, a hill, which serves as a direction for entering Buheer harbour. It takes its name from the town marked Halil in Niebuhr.

232 Nothing certain can be fixed on the interior course of these rivers.

233 Thevenot, part ii. p. 149. It flows within a mile and a half of the town, and was apparently passed by a bridge about six miles lower. The town is large, but ill built.

234 Written Kazarun by Al-Edrisi, p. 125.

235 This is, I conjecture, the relation which Ptolemy's and Murcia's Thitoana has with Kezarene; but it is mere conjecture.
fame, for Kazeroon is upwards of fifty miles inland, and the Kjerazin of the Turkish Geographer is on the coast; but I suppose both to be connected by means of the district or the river. D'Anville has observed, that Kjerazin 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 islet nearly fifty miles out at sea. This is true; but at the time he wrote, neither this isle, nor another called Kenn, were laid down with any degree of correctness. We have since obtained their position, from an observation of Captain Moore; Kenn in latitude 27° 54', and Zezarine in 28° 8'. Kenn is a round bank of sand scarcely half a mile in length, and Zezarine something larger, with a rock in the middle; both are sixteen or seventeen leagues from the coast. Kenn is likewise 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 Kanche sitan, the Kenn of our English charts. There is another solitary isle called May, upwards of sixty leagues from the coast, 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 islet is nearly opposite, and

---

After making this conjecture, I was gratified in finding a demonstration of it in Otter, vol. i. p. 310. where he writes Kiaziran, Kiaziroun, as the strict 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 Kiaziran, unites it with Kazareen and Zezarine, most perfectly. The connexion, therefore, of the town with the river and the shoal is established.

---

Dalrymple’s Collection, p. 46.

Keen and Zazareen, McClure.
to which it is probably related. I expected to find a Kierazin also
in Al-Edrisi, but his routes are always the journals of the caravans,
and we seldom 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 sort, 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 The-
venot. He did not land here; but he says it is a pretty large island,
and enables us to form a conjecture of its distance from Buheer, by
mentioning that he passed that port between two or three o'clock in
morning, and was off Cousher at half an hour after seven. I trace
an account which corresponds with this in Niebuhr, who upon his
arrival at Kormudish, in his route from Buheer to Schiras, men-
tions an arm that runs up from Buheer 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 presents us with Khöre-Efferi, and as Khöre sig-
nifies a channel, or division, I have little doubt but this is the Her-
temis of Arrian, and that Khor-esser is the Koucher of Thevenot.
It is true that Niebuhr is not accurate in his account of the arm
which comes from Buheer, for there is no such arm, as Mr. Jones affirms me, who resided at Buheer many years; and it is
extraordinary that Niebuhr should insert this arm in his own chart.

---

3 A 2

---
and yet give us Captain Simmons's chart**, in which no river larger than a brook is to be found. As Niebuhr never saw 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-Efferi. This, for want of further information, he was obliged to lay down with uncertainty; but that some 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 shallow arm of the sea running inland near Halila; and though he doubts the circumstances here attributed to it, it is not impossible that this arm should send off a channel to the eastward.

From Hieratis the fleet proceeded the following morning to Mesambria, and anchored at the mouth of the torrent called Padargus. The whole place, says Arrian, is a peninsula, which points out Busheer or Bender Ritscher most correctly; and here there is no distance given, a circumstance recurring constantly whenever the 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 soon as they had day-light. These circumstances do not greatly disagree with the situation Thevenot gives to Koucher, and

---

** Vol. ii. p. 75.
** See anchorages after passing Mount Eirus, Jâl, and Tarfa.
contribute to relieve the obscurity attendant upon this part of the coast.

Busheer varies as much in its orthography as any place within the gulph, for it is written Rusheer and Rischcher, 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\(^{33}\), 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 noos in Greek, we may be assured its origin is not from that language. Arrian describes it as a Cherbene, and Ptolomy 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 hereafter that Mefen signifies an island, and is applied as such to a Mefene on the Schat-el-Arab, to another in Mesopotamia, and to a Munzan in the Sinus Mesanius of Ptolomy. This word, therefore, with the addition of Bar, a continent\(^{34}\), which we obtain from Montfaucon, produces Mefen-bar-la, corresponding literally with the Greek term Cherb-nefe\(^{35}\). 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\(^{36}\) of Busheer, by whose assistance I can

---

\(^{33}\) Reixel by the Portugese, who had a fort here. Abbeeleer, Van Keulen.

\(^{34}\) From noos, a continent; rula, an island, a peninsula.

\(^{35}\) Or Abu-Skâhhr.

\(^{36}\) See supra, p. 248.

\(^{36}\) 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 spot; for in that plan there is a place marked as the watering village, within a mile of an insignificant 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 sixty-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 sometimes Richer, 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 Chersonese mentioned by Ptolemy and Arrian; but Niebuhr observes, that the country is sometimes overflowed, so that the town is situated alternately on the continent and on an island; but it is not a little remarkable, that out of three witnesses who have been on the spot, two** should assert 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 in a pointed manner, as if the goodness of the soil had produced the same cultivation so many ages ago, as cheers the country in the present declining state of Persia. This, however, is denied by

---

Thurston calls it an island, Part ii. p. 172.
Dalymples Preface, p. xviii.

*360* Captain Simmons and Niebuhr.

*361* is nai̇s kai̇n i̇ ti ou̇lȯs, 61 ἀνθρωπος εἰσι̇τη

M’Cluer,
McCluer, who calls the neck a sandy desert, and never cultivated, which is a second instance of contradiction in two eye-witnessesses, and respecting the same place. Mr. Jones also confirms the testimony of McCluer, and contradicts the assertion 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 see in the drawings here the high land of Halila, as we do at several other points along the coast, at Kenn, Nabon, &c., but which are not sufficient to invalidate the title, or perhaps worthy to compare with the grand 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 Goree-ron to Konkun, but by two clans of long standing, and a third which has intruded itself into the government, named Matarish, the head of which was in his time Sheik Nafer, a chief who had degraded himself by marrying a Persian, and professing himself of the sect 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 is commodious, and vessels ride close to the houses, which induced Nadir Shah to have a fleet here in the latter end of his reign, when he had quarrelled with the Sheiks on this side of the gulf, and wanted to interfere with those of Oman and Mafcat 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

---

185 Every route and journal bears testimony to the course of this ridge, and the branches from it. Consult Thevenot, Tavernier, Franklin, Cherf-eddin, and Al-Edriu, Ras-al-Ach, summamatem montis, p. 125.
187 McCluer does not speak so well of it.
188 See OUTER, vol. ii. and J. Hamway's Nadir Shah; but he had no better success against the Arabs than others who have attacked them.

MCluer
GULPH OF PERSIA.

M'Cler carries it above 29° 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.

When the fleet left Mesambria 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 double distance of twice twelve miles and a half to Rhogonis, or Bender-Regh, approaches very nearly to correctness; for the bay of Bulheer is fourteen or fifteen miles across to the northern point called Rowlia and Rohilla by M'Cler; 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 singly 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 seems apparently to have floated up to Rohilla point, and to have grounded on the sands 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 162 a cubit in thickness, becket with shell-fish, barnacles 163, and sea-weeds, and attended by dolphins larger than are ever seen in the Mediterranean. As this is the second appearance of the whale in these seas, I have not thought myself authorised to omit the circumstance; but as this animal was seen 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.

162 Limpets, per-cep-ta-tion, but I have not dared to admit it.
163 Patella genus.
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 Tawag of the Nubian Geographer, who places it not upon the coast, but, as Arrian does, a few miles up the stream, thirty-six miles from Kazeron, and the same distance from Gennaba, on the river of that name. Ptolemy has a Taoké, which is farther to the north; and Strabo mentions a palace of the kings of Peria on the sea-coast of Persis, by the name of Oké, which is either a corruption or an integral part of Ta-oké. Thevenot 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 southward of that town, and correspondent to the Granis of Arrian, appears from the circumstance of Thevenot’s crossing it to the right for the last time, in his way to that town, after having travelled on its bank at intervals for some time, and crossing it repeatedly in the higher part of its course; in winter, he says, it is not fordable.

This river is marked with great precision in M’Cluer’s small chart of the head of the gulph, with a place called Nuchlat at its entrance, and here, allowing for the error of half the course, there

---

156 Two hundred fathoms, almost thirteen miles.
156 Called Ab-Shirin by d’Anville. The distance corresponds not at all.
158 D’Anville.
160 Colonel Capper’s journal mentions a ruin still visible from the sea, inland on the mountains of Bang, which the natives say was built by the Greeks, and formerly impregnable. Greeks or Persians are to them alike, and it is possible here may be the remains of Taoké seen from Bang, which is Ptolemy’s Taoké, and yet approachable by the river: agreeable to Arrian’s account.
161 Capper, 232.
162 We do not find the title of Bender Boschavir, which d’Anville gives to this road in any of our English charts.
can be no mistake in fixing the Granis of Arrian. Whether the
Grinis is the same stream as the Boschavir of d'Anville and Thevenot I cannot positively determine, but that it is the river that comes
from Gra, and takes its name from that place, I have the testimony of
Niebuhr. " On the second of March," he says, "we passed a
river which joins several others, then takes its course towards
Grà, 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 Butheer and Bender-Regh,
and it can be no other than the Granis of Arrian. So far as con-
cerns the mouth of this stream I have no hesitation, but a great
difficulty arises from the position of Gra and Kazeron inland. By
their site, the river 1 at Kazeron ought to come to the westward of
Butheer, and the river at Gra to the eastward, but I carry the Ka-
zeron stream to Hieratis, and that of Gra to Taoké or Nuchlat;
and this I am persuaded is their course; but I dare not assert 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 crosses these
several streams at right angles; and, till that shall be accomplished,
their relative situation cannot be determined.

From Taoké, I make the fleet proceed the same day to Rhogonis,
the modern Bender-Regh 427, and the Bundereek of our charts; its
name implies the Sandy Port or Harbour, for such it is, and the soil

---

324 Niebuhr, vol. ii., p. 91. Amst. edit. This passage is totally inaccurate with his
map, where he brings the river from Gra into the bay of Butheer.
325 This is true only if Niebuhr's map is
correct; for d'Anville places Kazeron, as I
do, at the head of the stream Hieratis. Nie-
buhr's map is so incorrect on the coast, that
there is reason to doubt its precision inland.
326 Bender Righ. Niebuhr.

about
about it is all sand. Thevenot, who came down from Shiraz to
embark here for Basra, informs us, that the town is built along the
sea side, 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 cir-
cumstance in conformity with Arrian, he could not have succeeded
better, for here the journal indicates a winter torrent and a 'safe
road'**, which in our charts is protected by an island in the form
of a shuttle. On this head, the journal is silent. It is remarkable
that Thevenot should add, that it is a day's sail from Bender-Rilher,
or Bufheer, as I have made it; and though I allow that four hun-
dred stadia, or twenty-five miles, is a short day's work, yet it should
seem that, as it is from port to port, the natives consider it as such
in the present age, as well as in the time of Nearchus. In the term
Regh***, or sandy, 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 McChuer, 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 Basra, but was always out of the way of ships bound up
the gulph, which took their pilot at Bufheer, or Karack; besides
this, there has been another reason of late years for their not fre-

---

*The road is formed by an island, and covers a narrow winding channel as Thevenot
describes: 'The river falls in as near as possible to the south-west angle of the town. Thus
it is described in a manuscript draft of Lieutenant Macauley in Mr. Dalrymple's possession.
**The same term as occurs in Bomba-reek, Bomba-regh, Sable della Valle, and this name is usually written
Benderaas, like Bombareek.
***It is the same term as occurs in Bomba-reek, Bomba-regh, Sable della Valle, and this name is usually written
Benderaas, like Bombareek.
quenting it, for it was subject to a petty tyrant Mir Mahenna, whose hands were imbrued in the blood of a father, a brother, of two sisters, 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 sixty-five, after they had been in possession of it about eleven years. The Dutch appear never to have found the advantage of holding this island equal to the expense of maintaining it; or else we may well suppose it would have been better fortified than to permit such a chief as Mir Mahenna to wrest it from them. There was, indeed, some trade here, and some confluence of the natives from both sides of the gulph; for they are willing to settle wherever they can find protection; but the reduced condition of Persia, and the perpetual fluctuation of authority at Bafra, must, as long as they shall continue, keep the commerce of the gulph in a precarious state, and prevent the rising of any establishment, either here or on the other islands, to the dignity or rank of Ormuz. Karack is the larger of two islands which lie between latitude 29° 10' and 29° 22', off the headland between Bafra and Bender-Regh, abounding in fish and dates, but without corn; and here it has long been the practice of the gulph to take a pilot for Bafra. The smaller of the two is named Corgo in our charts, and Khoucri by Niebuhr; at the north end is the watering place, where forty English were cut off by Mir

---

356 Niebuhr says, he did not kill his father, but suffered him to be killed in his presence.  
357 See the detail of this in Niebuhr, French edition of Amsterdam, p. 149, vol. ii.  
358 Charedich of Niebuhr; and Chargédich in Foscar's Vocabulary, signifies au dehors, off the island.  
359 M'Cleer. But Therevot says it produces corn.  
357 Khoucri means difficile or difficult; the isle, perhaps, separate from Karak.  

Mahenna
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-five, 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. 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 fifty 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 to eight feet water.

At Brizana I anticipate the objections which will be made to my fixing the Brizoana of Ptolemy at Kierazin, which, from its similarity of name to the Brizana of Arrian, demands a position here; and one part of the objection will be very strong, for neither Pto-
lemly, 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 Brīsana 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 Taōkē at Cape Bānc, 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 himself, his Brīsana succeeds Busheer, or the Chersonese, and not the Chersonese, Brīsana. His order stands thus:

Taōkē, - Cape Bānc.
Rhogomanis, - Bender-Regh.
Chersonesus Prom. - Busheer.
Ionaca, -
Brīsana, - 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
on his lift, is in 21° 54', and the source in 35° 15'. What stream can there be in the Kermesir, the source of which is fourteen 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 fifty fadia. Another circumstance confirms this; for the Brizana of Arrian lies between the Arois 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 223, or Hieratis; and if I err, it is from my desire to make Ptolemy consistent with himself.

In settling 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 Bendar 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 224, 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 right than the ear; for Guenowa is Gennaba, with the w for the Persian v or w, and the open sound of the vowels

223 D’Anville has not discussed this point, but he assigns Brisoana to Kierazin.
224 Not fifteen in d’Anville’s map.
produced the insertion of sea in Guenara, in whatever chart it appeared. Gennaba makes a conspicuous appearance in Al-Edrīji, Cheref-eddin, and Alfragan; 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 second consideration 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 Bafra, 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'Cruer, and he adds, in a letter to Mr. Dalrymple, that he found it necessary to shorten the distance between Karack and Bafra Bar, ten miles. I mention this as a ground of uncertainty in respect to this coast: but M'Cruer assures us, that Bender Delem is still a place of resort for the country vessels, which favours d'Anville's opinion; and though M'Cruer does not place it upon the river north of Cape Bane, still that river must be the Brizana of Arrian, though we cannot reconcile the distance. The best proof of this is, the position of Taoké by Ptolemy, for he ends the province of Susiana with Oroatis, the Arofis of Arrian; and he commences Persis with this promontory, which, though not prominent, is the first characteristic feature on the coast: this is the Cape Bane of Niebuhr, the Bang of our English charts; and though Ptolemy omits both the rivers Delem and Gue-nowna, which fall in on different sides of it, a circumstance not usual,
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 station between Delem and the Arofis, there can be little hesitation in assigning 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, sailing in a country ship from Bender-Regh to Bafra, undoubtedly pursued the same course as that by which Mazenes carried Nearchus; but as Thevenot notices Bender Delem while he passes Gennaba 392, or Guenowah, in silence; the former is to be preferred for Arrian’s Brizana, however the distance may fail. The river called Guenowah in our charts is supposed by d’Anville to be the Ab-Chirin 395 of Cheref-eddin 299; and such, by the march of Timour, it appears; but the names of all these rivers are lost to Europeans, because our navigators name them all from the town they are near, in the same manner as Guenowah receives its title from Gennaba. It is in this respect that the geography of Cheref-eddin is valuable; for whatsoever 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 below;

392 Gennaba of Al-Edrīš.
395 Scīnīz of Al-Edrīš, 125. A mari non multum distant.

In the word Ab-Chirin there is something 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, Bushehab, &c; and if Ab-Chirin be really the river of Gennaba, or Guenowah, then this anchorage must be south of Cape Bane, and not north; that Brizana is a resemblance of Ab-Chirin, the river Chirin, I think for this reason: Chirin would be written Chirin in Peric, and the pās; pāses generally into 2; 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 insist upon this; but if the course of the Ab-Chirin should hereafter be fixed, I should certainly assume Brizana as its representative.

396 Vol. ii. p. 185.
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 sinews
of geography. I leave this station unwillingly without satisfactory
elucidation; but, all circumstances considered, I at present subscribe
to d'Anville's settlement of it at the river Delem.

From Brizana, the next day's course is to the Arofis, a river suffi-
ciently conspicuous, as being the boundary between Susiana and
Peris; 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 preserves but a single syllable, and
that perhaps not legitimately, for Ab-Argoun is "", as I suspect, Ab-
Ragoun, the river of Ragoun or Ragian, a town of considerable
importance on this stream, near five-and-thirty miles from the sea.
In its lower part it is called Tab "" 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
sixteen miles from the sea, from whence this stream derives the
name by which it is known to the Europeans. The course and na-
ture of the Arofis "" will be considered hereafter, with the other
rivers of Susiana, when we come to treat of that province; at pre-
fent our concern is with the coast, and as no distance is given from

283 Araphian. D'Anville. On the Tab
there is a bridge a bow-thor from the town.
Al-Edrisi. Ragian terminat Fares et Chur-
selian etque urbs pulchra, p. 123.
284 The Tab receives several rivers out of
wants, that the province is very hot, but
abounds Kedates, grain, fruits, sugar, &c.
285 Ex parte meridionali Churianan, fuit
annis Tab, divident ipham Churianan a Fares,
et omnes aquis Churianan in uno confluentes
exumerant se in mare prope urbe Mahrian,
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 sufficiently elucidated by our modern charts. It is however necessary, as we are arrived at the termination of the province, to consider the total of Arrian’s stadia, and examine how far they agree with, or differ from, the actual extent of the coast. The numbers, such as we have them in the journal, stand thus:

From the Centre of Kataia, or Keish

<table>
<thead>
<tr>
<th>Ancient Name.</th>
<th>Modern Name.</th>
<th>Stadia</th>
<th>Miles</th>
<th>Stadia allowed</th>
<th>Miles 2ieg. allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Ila or Kaikandros</td>
<td>Inderabilia</td>
<td>400</td>
<td>25</td>
<td>320</td>
<td>20</td>
</tr>
<tr>
<td>To an island⁵⁸⁴</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To the main ⁵⁸⁶</td>
<td>Schitwar</td>
<td>40</td>
<td>2 ⁷/₈</td>
<td>40</td>
<td>2 ¹/₂</td>
</tr>
<tr>
<td>To Ochus ³⁹⁸</td>
<td>Darabina</td>
<td>450</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Apolloi</td>
<td>Albina, Shevoo ²</td>
<td>400</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To a bay</td>
<td>Nabon River</td>
<td>600</td>
<td>37 ⁷/₈</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Gogana</td>
<td>Konkun</td>
<td>300</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Sitakus</td>
<td>Kerm</td>
<td>750</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Hieratis</td>
<td>Kierazin</td>
<td>400</td>
<td>25</td>
<td>400</td>
<td>25</td>
</tr>
<tr>
<td>To Melambria ³⁹⁷</td>
<td>Butheer</td>
<td>200</td>
<td>12 ⁷/₈</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Taeke</td>
<td>Nuchlat</td>
<td>200</td>
<td>12 ²/₈</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Rhogonis</td>
<td>Bender-Regh</td>
<td>200</td>
<td>12 ²/₈</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Brizana ³⁹⁸</td>
<td>Delem</td>
<td>400</td>
<td>25</td>
<td>800</td>
<td>50</td>
</tr>
<tr>
<td>To the Arofis ³⁹⁸</td>
<td>Endian</td>
<td>4240</td>
<td>264 ⁷/₈</td>
<td>1560</td>
<td>97 ²/₈</td>
</tr>
</tbody>
</table>

| Stadia allowed     | 1560         |        |       |                |                    |
| Total of stadia     | 5880         |        |       |                |                    |
| Miles allowed       |              | 97 ²/₈ |       |                |                    |
| Total of miles      |              | 362 ²/₈|       |                |                    |

¹⁵⁸⁴ Distance by the chart.
¹⁵⁸³ From the point of Schitwar (ἀςχω) to the eastern side of the Darabin.
¹⁵⁸⁶ From the eastern side of the mouth of the Darabin to the western.
¹⁵⁸⁷ Allowed from the eastern side of Kouther, but dubious.
¹⁵⁸⁸ If Brizana is Delem, this day’s course is too short by ten miles, compensating for half the difference on the coast of Periss.

Between Arrian and the charts.
¹⁵⁸⁹ The distance 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, 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 Ephyophagi, in cases of extreme distress.
From this table we are first to observe, that 362½ 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, so 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 some advantages may be taken in measuring single 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. Strabo\textsuperscript{300} 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\textsuperscript{301} the measure of the whole gulph. I shall do a pleasure to those who have not seen d'Anville's Memoir, in producing here a specimen of that geographer's penetration. "Doubtless, (he says\textsuperscript{302},) 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 divisor produced exactly 550 miles, as it stands in his text." If Pliny had calculated the omissions, and found the whole amounting

\textsuperscript{300} Strabo, p. 717. There is an error in the reading, but it seems to indicate four thousand four hundred or four thousand three hundred stadia.

\textsuperscript{301} He makes the whole gulph eleven hundred and twenty-five miles. According to d'Anville's method, he must have read nine thousand stadia, equal to five hundred and sixty-two miles, in reality.

\textsuperscript{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 anything 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 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 sea, 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 seems 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 Bosbair of Thevenot is elucidated with great attention in his route, but it falls into the sea just to the north of Bulbeer, as d'Anville gives it. I still suspect it is joined by the river from Grâ, and becomes the Granis of Arrian: it is by Thevenot's account no ordinary stream. The Ah-Chirin of d'Anville, which he brings in at the Guenowa of our charts, is not, as far as I can judge, correct; it seems to be the stream of Delem, the Brizana of Arrian. Of the Arois more hereafter. Almost all these streams Arrian calls Winter Torrents; and, so far as they all rise from the range of mountains inland, such 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

---

201 See Niebuhr's map, vol. ii. Amst. edit. Where, however, this junction is not verified. I sometimes suspect that the Bosbair is only another name for Bulbeer, the Bulbeer River.
GULPH OF PERSIA.

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 Nearechus, 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.

Nearechus has preserved likewise most admirably the general features of the province, which he divides into three parts; that division which lies along the side of the gulph, he says, is sandy, parched, and sterile, 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. Here the kings and nobles have their parks and gardens; the streams are pure and limpid, issuing 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 chase. Such is the picture set before us, and such ever was this country while it was under the

---

209 The same division is made by Strabo and Dionysius Perieq.
209 Strabo, p. 737.
209 This minute circumstance, noticed by Arrian, is mentioned also by Le Bruyn.
209 Sheeb Bewan, rivulet Bewan, near Noubendian, is one of the four Eastern paradises. D’Anville, p. 176.
209 Even in the present decline, the country is so beautiful, that Franchèse, after passing the last ascent, and obtaining a view of this part of the province, bursts 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 streams which terminate in these, and never find their way to the sea, are as evidently the pure and brilliant waters he describes with the same luxuriant fancy a poet of Schiraz might have painted them at the happiest period of the empire. But how is this picture now reversed! War and tyranny has spread desolation all around; it is not the destruction of Persepolis 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 Pasagardae plundered and overthrown by an avarice natural to soldiers 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 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, a robber both by birth and profession;

210 Schiraz is famous for the best Persian poets.

214 Arrian, p. 131, says, that Alexander 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 Thasus, but accords with Arrian, p. 730.

215 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.

216 Kerim Khan, in Niebuhr's time, in the year one thousand seven hundred and sixty-five. Franklin describes Kerim Khan as a benefactor to Persia, and in a better light than Niebuhr; but Franklin 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
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 summits covered with snow. The barbarians are the ancient Uxii, or modern Afciacs; and the range called Louristan divides Persis from what the ancient historians in a large sense 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, and send down those streams which pass through that province either into the Tigris or the Gulph of Persia; while the more eastern part furnishes the torrents which water Persis, and all sink into lakes, or are exhausted by derivations for the purposes of agriculture. One of the largest of these streams, called Bend-emir, flows near Persepolis, and corresponds with the river passed by Alexander in his approach to that city, when he came from Susiana, as the fort Kalaa Sefid, taken by Timour, answers to the fortress where Alexander defeated Ariobarzanes in his approach to that river. Arrian, in his third book, has unfortunately confounded Persepolis with Pasagardae; but the former was the

---

217 Eum. a Partharum. p. 732.
218 Strabo has sometimes confounded Susiana with Persis, as p. 727, but he distinguishes, p. 738.
219 The Arazes of Strabo, p. 719; but he errs strangely about the course of it. See d'Anville's Memoir.
221 See Arrian, p. 130. Cheref-eddin, vol. ii. p. 189. Alexander seems to have marched more to the north than Timour, in order to attack the Uxii, Afciacs.
222 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.
223 The error is natural, for Pasagardae is Persepolis, literally translated. The Persepolis fixed at Effakar is determined by Alexander's march.
residence of the Persian monarchs, and the latter apparently their place of burial. It is near sixty miles distant from Persepolis, in the tract called Koilé-Peris [Peris between the mountains] by Strabo, which ought to produce other torrents and another lake 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 Phaia, or Phaia-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 Phaia.

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 mistakes, and to explain difficulties for which he had no clue, I shall be thought less adventurous in combating Cellarius and Salmasius, who have enveiled 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

---

114. There is something-like this in d'Anville's maps. Also première partie, &c. Strabo mentions an Agradatus, or Agradater, here, which was changed into Cyrus, p. 729. This is noted by d'Anville, and refuted.
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 passage 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 classical geography an object of importance.

After the whole business was completed, I was informed by Major Rennell that he had been long engaged in disentangling the same intricacies, and treading the same ground; a cause of no small apprehension to me, if his conclusions should appear upon publication to differ from mine; of no small 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 system, I can, upon better information, retract as freely as I have asserted. Truth alone ought to be the object of research; and those, who are not so fortunate as to attain it, ought to subscribe to those who do.

Sofiana is sometimes regarded as a district of Persis, and sometimes enumerated as a distinct province. We can hardly trace a time in which it had an independent sovereignty of its own, unless it be in the mythology of the Greeks; and nature seems to have connected it with Persis, by a variety of local circumstances, as

---

323 I subscribe to the sentiment of the modest and ingenious Niebuhr:
Il n'y a point de description de voyage sans défaut, n'y aucun voyageur exempt de tout préjugé, ainsi le parti le plus sage c'est de ne pas défendre les opinions avec obstinateté. Niebuhr, tom. i. p. 85. Arabic edit. Amsterdam.

324 In their accounts, Memnon, son of Tithonus, was the founder of Sofi.
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 strong; 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 southern face of these mountains; the Coileai and Elimaite, on the north; the Uxii, lie on the left, between Susa and the Arofis; 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, the Tigris. In this interval, Mr. d'Anville brings down the Gunedhi, which is the Gyndes of Herodotus too 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 soon as the mountains rise, they run in one uninterrupted chain, covering not only Susiana and Persis, but extending much farther towards the east. This chain sends down all the numerous streams which water the fertile plains below; and there is an error common to Strabo, Al-Edrisi, 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 sense true; for all the

235 Otter, coming down from Baydat, marks them at a distance, where they first begin to throw themselves between Amara and Gorno. 
236 Herodotus, in his first book, brings 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 post-road from Sardis to Susa, and where he seems to say there are four Statthali from Opis to Killa, [the mountains of Susis,] it seems to agree with Gorno, or some place near it.
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 Peris; and if this were true, the intercourse between Perlis and Mesopotamia, by an inland course, was complete.

The A RO S I S.

The Arofis, which is the Oroasis of Strabo, Pliny, and Ptolemy, and which Cellarius supposes to be properly the Arois, Ares, or Araxis, is the boundary between Peris and Susiana; its modern names are almost as numerous. T'Ab, or the river, is the title it takes by way of pre-eminence among the Persians, for it is the largest river 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 Rhegan, sometimes written Ar-Rhegan, I cannot trace: and Endian is the name it bears in our

Cyrus, and so into the Caspian Sea, is the most celebrated. This is the poten insignitas Araxis.

The Arofis, which is a name common to a variety of rivers in different provinces of the Eaff. The Armenian Aras, which falls into the

modern

137 Who shall give us the etymology of rivers? Bruce found a Skelti, an Arvon, or Avon, in Abyssinia. Aar is a river in France, Arno in Italy. What language shall we find that shall furnish names common to Abyssinia, Media, Italy, France, England, Scotland? I have an obscure reason for thinking that Ar, or Aar, usually denotes confluence.

138 Araxis is a name common to a variety of rivers in different provinces of the Eaff. The Armenian Aras, which falls into the

Cyprus, and so into the Caspian Sea, is the most celebrated. This is the poten insignitas Araxis.

139 and is the expression of Arrian, not very accurate.

132 Argoun I find as the proper name of a man. Otter, vol. i. p. 189. Argoun, son of Ibka, fortified Kalvin; but it must be observed that the termination des passes into des; for Otter writes Kiestrain for Kafepun, and thus Argehan may become Argoun.

144 Niebuhr writes it Hindian.
modern charts, from a town upon its banks, a few miles distant from the sea.

This river is formed from a variety of sources, which spring out of the mountains of Louristan; and as the chain is of greater breadth in that part of its range, the river seems to be large in proportion. Alexander and Timour, in their march from Sula to Peris, both inclined to the mountains, in order to attack the Uxii, or Ates, who lie in that direction; and they both passed the sources of this stream, at a considerable distance 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 Eu-
læsus, but which, I agree with d’Anville, ought to be carried into the Arois. Alexander and Timour both proceeded across this river, to attack a fortress in the mountains, which formed the northern frontier of Peris, and which is called Cala-sefid by Cheref-Eddin. This fortress corresponds with the post Ariobarzanes defended against Alexander; but at the same time Alexander marched through the mountains on the north, he detached Parmenio, with the gros of the army, by the ordinary road to Peris. This is the road which continues to this day, if there be any road, which Al-Edrifi describes as cutting the Arois at Ragian, about thirty miles from its mouth, and where, he says, there is a bridge called Baccar, at a bowshot’s distance from the town. He gives a variety of routes

332 Timur at Kerdistan, 79 miles from the mouth, according to d’Anville. See Cheref-Eddin, vol. ii. p. 185.
333 Cheref-Eddin calls the river of Sula, Ab-Zal; in which d’Anville says he is mistaken.
334 Cala-al-Seif, the canal or cut of Seif; alluding to the dyke upon the Bend-Emir.
335 Le Bruyn mentions a tradition of this siege still existing among the natives.
through Persia, 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 sea, nearer than the neighbourhood of Rhesian; but seem to
leave a low country on the coast, corresponding with the Kermefir
on the gulf. This must have always left Susiana open to the Per-
sians, and have been the means of keeping it in dependence, as was its
constant flate; but on the north the range sweeps round till it unites
with that chain which forms the back ground of the Kermefir, and
this chain, according to d'Anville, no river passes. The sources,
therefore, which Alexander and Timour found in the neigh-
hood of Calae-seid, 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 Bagteghian, or ex-
hausted in adorning and fertilising the beautiful country of Koile-
Persis. We have now the Arofis distinct, according to d'Anville;
and I have found nothing in ancient or modern history to con-
trict his system; nor do I think that any future discovery will inva-
lide it, farther than perhaps to find a different issue for some of
his minuter sources. This Arofis is the eastern boundary of Sus-
iana, where Neanchus is now anchored; and deferring the interme-
diate streams for the present, I shall proceed to consider the Eu-
phrates and the Tigris united in the Schat-el-Arab, which forms the
western limit.

* Cœle-Persia, like Cœle-Syria, Persia between the mountains.
SCHAT-EL-ARAB, or MOUTH of the EUPHRATES and TIGRIS united.

The Euphrates and the Tigris both preserve to this day, among the natives, the same appellation assigned to them by Moses 379 in the book of Genesis, for he styles the one Hu-Pherat, or Pherat, and the other Hid-Dekhel 380, two names which are still preferred in the country with no greater variation than Ph'rat and Dehel, 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 Melopotamia, unite again, like those two streams, at Gorno or Khorna, about a hundred and thirty miles distant from the Gulph of Persia, D'Anville has strangely curtailed 381 this distance; for in his map of Asia he makes

379 Gen. ii. 14. Pherat is used frequently in Scripture with the pronoun, as לזר פֶּרֶץ. Hu-Pherat, The Pherat, or that Pherat, by way of pre-eminence; and is derived by the commentators from הֶרֶץ to produce fronds, on account of its fertilising the country by canals, &c. from ר to burn or scorch, because it overflows its banks, and from דָּהָל, דָּהָל to divide, because it separates or bounds the desert. The Greeks, as Hoffmann justly says, moved so, derive Euphrates from דָּהָל.

380 Hid-Dekhel is written אֵד-דֶּכֶל Kid-Dekhel, and by the Samaritan MS. אֵד-דֶּכֶל. Hid-Dekhel, as we are informed, from לֶכֶל to dart, shoot, or from לֶכֶל to penetrate; with the addition of הַלֶּכֶל, which implies a forceful motion; a sense agreeable to the opinion of the Greeks, who interpret the Tigris, sometimes λεκτη, and sometimes an arrow. It is remarkable that the pronoun Hid should preserve itself in the Greek Euphrates, which it certainly does, unless Ee is from Ab, Av, Au, water or river; and that none of the authorities should suffer us to write Hi-Dekhel, so as to search for a primitive of Đekhel rather than Kbalal. [See Bochart. Phaleg. 119. Dikla, vrb. palmarum. Child. Deut. xxxiv. 3. Quaer enan Melopotamia regio Palmarum? Dekhel is surely the Dekhel of the Arabs, the Dilgath of Josephus, and Dilgho of Pliny; and from Dekel (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 (אַל הָיָה), there might have been some allusion to the confidence, or the marriage of the rivers; or that Dekhel was marked by the feminine pronoun, as Pherat is by the masculine; but I am forced to abandon this suggestion by authority that I ought not to dispute.

381 From the mouth to Basfora 100 miles, to Khorna. 75
it less than seventy miles, and in his two latter maps has extended it to something less than an hundred; but M'Cruer can hardly be mistaken in making it seventy up to Basra only; for he navigated this channel more than once, and has given directions for the course up to that city. Khorna signifies an horn 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 vessels, is called Collifia-Bony, or Bonna, in opposition, as I conceive, to the farthest channel eastward, called Dereec-Bonna, from Dereec, an island, at its mouth; and in treating of this western stream, I shall be obliged, for the sake of perspicuity, to call the whole channel from Khorna to the sea by the name of Schat-el-Arab. The junction formed at Khorna was certainly known to Ptolemy, and, I am persuaded, 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 seems unacquainted; and hence he has been led into a variety of

348 He makes it ninety from point to point, that is by the windings, p. 33. Ivel, p. 227, makes 100.

349 The ara of Dil-kharnim, or Alexander, from his figure with the horn of Hammon, as is supposed by some, is well known in Asia; and in this compound we find the plural of Kharnim, or Khorna.

The Greeks and Latins described rivers by a bell, as some imagine from the roar of waters; but Achelous lost an horn by Hercules, that is, as mythology informs us, had one of his sources intercepted, and other rivers are styled Tauri formis.

348 Bonna, or Bourna. I suspect to signify a stream. Bournahachi is the head of the stream, in Chevalier's account, of the Tros. Whence is the connexion with our English Bourne? which signifies a stream, or a boundary.
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 Susiana is much more properly than the Delta of Egypt inclosed and divided by seven streams, which are called, 1. The Coiilla-Bony; 2. The Bamishere; 3. The Caroon, or Karün; 4. The Secle; 5. The Mohilla; 6. The Gaban; and, 7. The Dereec-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 Kureck pilots. This chart explains the journal of Nearcous 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 surface, extending out twelve, and in some places seventeen miles, from the coast of the Delta. The Meidán is rarely or never dry, even at the time of ebb; but the channels which pass between it have a considerable depth of water; these are styled Khores, that is, limits or divisions of the land; and thus Khore Gufgah is the issue of the Bamishere channel, Khore Mufah of the Karün, and Khore Wastah of the Secle. The general name of the land they

---

244 Small channels are sometimes cut for purposes of communication or agriculture, but they vary with the fluctuation of the government. These are natural channels.
245 Ten streams according to Pliny, lib. vii. c. 27.
246 Khore Ædete. Niebuhr.
247 Niebuhr writes this Backmefshir, which is done by adding k to the guttural in Bahmefsher, the natural consequence of a deep sound in the throat; so Hán, Khán, Cawn.

---

249 The Backmefshir of Niebuhr, as next in order to his Khore Schle ought to be the Karün; but of this, from Mr. Jones's intelligence, I have reason to doubt.
250 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 Coastra-Beny and the Ba-
mithere is particularly called Meun and Mu'can, corresponding
with the Mefene of Xiphilinus, and Khore Moafah, with Ptolemy's river Mofaus, which none of the modern geographers know where to place. At the head of this Mefene, near the Haffar Cut, was placed the Spasini Charax, or fort of Spasinus. Mr. Dalrym-
ple's anonymous chart has a fort there at present called Old Haffar Fort; with another on the opposite shore; both existing when Thevenot went by this course up to Bastra, and both intended by Spasinus, and all his successors 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 site; and, secondly, because Cellarius is at a loss, and d'Anville is

313 I suspect, but have no means to prove it, that Baah-Mithere is related to Bakh-
mefene, which extended perhaps to the Karun.
314 See M'Cluer, p. 30. with Dalrymple's query, Meun or Mu'in? and see p. 32. note. Marcius writes Mofaus for Ptolemy's Mofaus, see p. 17.; so that the difference between Mu-
gan and Mu'an is ancient as well as modern. Salmaius reads Mo'ana.
315 See Cellarius in Susiana, and d'Anville's Dissertation. To make Khore Moafah exactly correspond with the Mofaus of Ptolemy, it must be the issue of the Karun, as it is in M'Cluer's chart. The Orientals write Mofa, pronounced Moofa, for Moes; the Greeks wrote Moear; Moe, and in this form we easily find the Mofaus of Ptolemy. Mohaf, or Mâfah, is pronounced, as we should utter Moofa, and not Mufa, or Mufa. An Arab would doubtless attribute Moofa to Mo-

316 Pasins, Pasines, &c. &c. It is the name of an Arab before the time of Pliny, like a Sheik Soleiman of the present day.

It is not necessary to fix on this identical spot for the fort; by Pliny's account it ought to be nearer the sea.
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
Goslia-Bony and the Bambishere. The Bambishere 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 Goslia-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 Bafra, and is recorded by Niebuhr as happening
to the Khore Sable," which is perhaps his name for the Bami-
there.

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 dis-
cover clearly, that on approaching the Delta the western branch
takes its title from Karin, a town ten or twelve miles above the
Delta, as the eastern channel does from Deurak, Dorak, or Derev,
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 Karin through
the Delta to the sea. This was the channel navigated by the coun-
try vessels in Thevenot's time, from Bender-Ragh to Bafra; and the
three others are the Selege, the Molilla, and the Gaban. The Do-
rack stream of the Eulæus, after separating inland, comes to the
cast, and, as it touches the Delta, joins on one side with the Gaban
river, and with another arm, which we may call a sixth channel,
encircles an island named Dere'e, from this Dere'e, or Dorchack stream; and there is a tract within land styled Dorac-Stan, or Dorgestan, from the same origin. Now it is remarkable that Ptolemy notices a Dere inland, which Cellarius knows not how to fix; wherever it is, it gives a title to this river, as Karun does to the western branch; it communicates its name also to Dere'e, the island, where we are to look for the Kata-Derbis of Arrian, which d'Anville has mistaken; and in Dorgestan I find the Margastan of Arrian, which he calls an island at Kata-Derbis. The Dorchack river is no very considerable 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 Waftah there is a shoal, corresponding with the Ali-Meedan, called Carahab, or broken ground, because the soundings vary in an instant. The native pilots say, there is a town sunk under water here, and that the lead is sometimes dropped upon the tops of houses, and sometimes into the streets, which makes the difference so 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 Dorchack, there is another shoal named Barcan, extending to the mouth of the Arofis. The extent of all these shoals naturally obliges vessels to be careful how they approach the coast, and the ground of the Delta being proportionally low and level, is rarely visible except by the rushes which grow upon it. When Thevenot went up the Karun, he compares the country to Holland;

---

316 Mr. Jones. 317 The Sinus Aresolus of Ptolemy, or that part of it nearest Dere'e. and
and a Holland it would be, with industry and a good government; for a soil, which is the accumulation of slime, ought naturally to be fertile. In his time, there were only a few mean villages dispersed here and there, with a small quantity of cattle and some 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, under a Sheik called Soleiman; he seems to have bettered the cultivation, and, by the possession of a piratical fleet, to have rendered himself formidable to the Turkish government of Basra on the one hand, and to the Vakeel of Shiraz on the other. He was afterwards involved in a quarrel with the English, on account of two considerable vessels which he had taken, but at last fell by the hands of his own people. Such is the nature, and such are the inhabitants of the Delta, and such are the branches of the Tigris and the Eulaeus which form it. There may have been a time when these two rivers flowed into the sea 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 Basra, and runs eastward till it touches the Eulaeus, or Karun, 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 passed through it into the Tigris, when Alexander came down the Eulaeus to the sea. 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 Mosœus of Ptolemy must be

---

228 Kaab of Otter, and Kaab.  229 Niebuhr.  230 Mr. Jones.
between the Tigris and Eulasus, cannot comprehend how this canal of Hassar 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 a Tigris and Eulasus, with the Mosæus between them, and the Hassar canal passing at the head of the Delta from the Tigris to the Eulasus.

Mr. d’Anville has been led into a greater error; for he places the Mefene 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 Mefene, and he has himself placed this fort eastward of the Schat-el-Arab, though he places Mefene on the west. Upon considering this opinion, I am induced to think that Mr. d’Anville is misled by Ptolemy’s Sinus Mefaminus; 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 Mefene is the Gezirat Khader of Thevenot, the Damasir of Niebuhr, lying between the Schat-el-Arab and the Khore Abdillah; but Ptolemy’s Sinus Mefaminus is certainly not the coast of this tract; for his two mouths of the Tigris are mani-

---

[Notes and references added, but not shown here for brevity.]
fifty the Schat-el-Arab and the Khore Abdillah, as appears by his placing Terédon between them; and his Sinus Mefanius as manifestly commences not between them, but at the mouth of the Khore, and extends down the western side of the gulf. On looking down the gulf in this direction, I find the bay of Grane 297, with three islands at the entrance; one of these nearest the shore is called Muchan; this, I apprehend, gives name to the Sinus Mefanius; 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:

<table>
<thead>
<tr>
<th>p. 144. Sinus Mefanius,</th>
<th>79° 0'</th>
<th>30° 10'</th>
</tr>
</thead>
<tbody>
<tr>
<td>p. 154. Sinus Mefanites,</td>
<td>79° 0'</td>
<td>30° 10'</td>
</tr>
<tr>
<td>p. 149. Ostium Tigris Occidentale,</td>
<td>79° 0'</td>
<td>30° 34'</td>
</tr>
<tr>
<td>p. 145. Teredon,</td>
<td>80° 0'</td>
<td>31° 10'</td>
</tr>
<tr>
<td>p. 149. Ostium Tigris Orientale,</td>
<td>80° 30'</td>
<td>31° 0'</td>
</tr>
<tr>
<td>p. 149. Vallum Pañini,</td>
<td>81° 0'</td>
<td>31° 0'</td>
</tr>
<tr>
<td>p. 149. Mosaeus,</td>
<td>82° 0'</td>
<td>30° 40'</td>
</tr>
</tbody>
</table>

The error of these longitudes is foreign to the inquiry; but their relation and congruity prove that the termination of the Sinus Mefanius 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

297 There is a Grane noticed by Ptolemy, of Sufana; it can have no relation to this but in long. 37, which brings it to the middle Grane. See p. 157.
eastern Tigris; and that the fort of Palinus is between the Schat-el-Arab and Meseus or Karun.

This bay, consequently, cannot be on the coast of d'Anville's Meseus, for it is south-west of the Khore instead of north-east; and if we could obtain the interpretation of Munan, 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 Karun, which is the Meseus of Ptolemy, and which gives name to the Meseus of Xiphilinus, Josaphus, 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 ethnology 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 Meseus of Pliny is so confused, that I should be thankful for a conclusion of the passage. Mr. d'Anville says, he carries it above Selucia; if so, it is another region with which we have no

---

384 Une bande de terre, isolée par un canal, D'Anv. Geog. Anc. tom. ii. p. 201. If this be true, it accounts for both, and for the Meseus of Pliny.


In the course of four lines here is a defunctary sepulchre from the Cerd mountains to the mouth; but d'Anville, by the help of Apamia, finds out this Meseus. See Geog. Anc. tom. ii. p. 200. Cellarius, vol. ii. p. 462. See Armen. Marcell. lib. xxiv. p. 399; where Meseus evidently means a tract between the two rivers; but this Meseus is above Babylon, unless by joining it with Marc Magnum, we should prefer the lower. By ubi remanerat aquis, he seems to mean as high as the tide flows, in which he is not correct, for the tide flows above Khoma.

concern.
concern. But let us consider next the Mefene of Xiphilinus. These are his words: "After Trajan had taken Ctesiphon, he determined to navigate the Red Sea, that is, the Gulph of Perhia. There is an island there formed by the Tigris, called Mefana, under the government of Athambilus; this Trajan reduced without difficulty, but was himself brought into great hazard from the seafon of the year, the violence of the stream, and the inundation of the tide. The inhabitants of the fortresses of Toisiphinus relieved him, however, by their friendly reception of him into the place. This fortress is under the government of Athambilus." D'Anville places the fort of Spaïnus where I do, but the district of Mefene on the other side of the Schat-el-Arab. This passage proves that the fort is in Mefene, and the Mefene between the mouths of the Tigris; that is, between the Tigris and the Mofanis. It is possible I may be mistaken in ascribing a position to the fort. But there is no error in replacing the Mefene east of

270 Postquam Ctesiphontem cepit [Trajanus], fluituit mare rubrum traiicere . . . appellavit Mefanam: quoque inulam Tigris in qua Athambilus regnabat, nullo labore cepit atque in locis propius vix hyemis et rapidum Tigrum affundisse mariis in magnum periculum venit. Qui vallam Toisiphini habitabant (nam ita ab incolis appellabantur eratque in circulo Athambillii) Trajanum amice recerentur. Xiphilin. Traj. p. 55. Ed. Bat. Toisiphini is, I conclude, a corruption from the Greek τοῖς Ἀθαμβιλίταις; 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 Tοῖς contrary to my supposition.

271 Trajicere.

272 Rather in the territory of Athambilus, in

273 See the map to his Memoir, and that of the Tigris and Euphrates.

274 See Josephus, lib. i. Antiq. c. 7. Stephan. 

275 See Josephus, lib. i. Antiq. c. 7.

276 See Josephus, lib. i. Antiq. c. 7.

277 See Josephus, lib. i. Antiq. c. 7.

278 Rather in the territory of Athambilus, in

313 I build much upon the modern name of Mofan, and the Khore Mofa, and perhaps it ought always to have been written Mofene, or Mofana, from Mofa, which the Greeks made Mofene, because they had a Mefene of their own. It is rarer practice in a thousand instances. I have, however, found reason to suppose that Mofa signifies an island, or perhaps more properly land surrounded by the arms of a river. See note 359.
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 passed by Old Bafra, and fell into the Khore Abdillah, has been mistaken by Pliny and Arrian for the real mouth. Arrian is so persuaded of this, that when Nearchus anchors at Diridotis, or Terédon, in the Khore Abdillah, he calls it anchoring in the Euphrates: and he says 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 system, 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 ° 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 inland, as Khorna does at this day. Strabo doubtless thought the Khore Abdillah to be the mouth of the Euphrates, by placing Terédon ° on its bank; but Solinus asserts, that the

375 P. 149.
376 So Mercator understands it, as appears by his distorted map.
377 P. 80.
Tigris carries the Euphrates into the Persian Gulph, and Pliny, who
joins it to the Palatigris, (by which he means the Schat-el-Arab,) evidently alludes to the original mouth at the Khore Abdillah, which
the Orchoeni 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.

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 more than six days'
journey above Babylon, till it fell into the sea at the Khore Abd-
dillah. This is an extent of more than five hundred miles; and,
however great, is not superior to the magnificent designs of the
age to which it is attributed. It is countenanced, likewise, by

---

272 Lib. vi. c. 27. Euphratem praecelere Orchoeni, ncc nisi Palatigris detertur in mare.
280 C. 28.
311 Het is on the wind of the river, near Kunaxa, where the ten thousand fought Artaxerxes, according to d'Anville.
322 The language of Al-Edris is very strong in confirmation of this opinion. After bringing down the Euphrates to Het and Enbār, he adds,

Reliqua vero pars Euphratis fluens e Rahaha a tergo defert in varia dividitur brachia quorum unum perget ad Tāhar alīt ad Alcāf (Al Khadīr), alīt elism ad Sura quantum
denique ad Kufam (juxta Pallaugam), et omnia ida brachia varios in lacus se immergent, p. 197.

If we can interpret this as a canal commencing at Rahaha, that place is not far from Thapsacus, two hundred and fifty miles higher
up than Niebuhr carries his canal.

323 That age of the Anakim, or Giants, as Bryant styles them, produced the Pyramids, the Lake Māris, the Obeolēti, the walls of
Thebes, Babylon, Tīrēs, and Orchomenus, with other monuments of magnificence in various parts of the world. Were there the
effect of numbers or mechanic power?
the accounts we have in Herodotus and Diodorus, of the reservoirs formed above Babylon, to withdraw or feed the stream at pleasure; by the existence of the two lakes below Babylon, near Mefched Hoffein and Mefched Ali 334, the Palladopas of Arrian; and by a variety of cuts, some of which remain to this day, and still fertilize the desert; the remains of towns also noticed by almost every traveller in the caravans between Basra 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 such a canal as this existed, it communicated with the parent stream at various points; and such a communication as this, d'Anville has pointed out at Nahar Salieh, about five-and-thirty miles above Khorna; he brings this down parallel to the Schat-el-Arab, gives it another communication 335 with that channel, near Basra, 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 assistance of Texeira, finds this channel now dry, and styles it the Choabedeh 336, which I suspect 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 son of

334 Bahre-nedjef is the name of this lake. Niebuhr, vol. ii. 194. Ambl. ed.
335 See Niebuhr, ibid. El Khuder, ten or twelve leagues from Mefched Ali.
336 By means of a cut called Oboleh, or Obolia, sufficiently noticed in Oriental geography.
337 Which he derives from Bedek, a tent of the Bedouins.
SUSIS, or SUSIANA.

Anna, who was porter to the prophet himself; his tomb is in the neighbourhood of Zobeir, and this Khore is a Grisian Gulph for such votaries as come to pay their devotions to his relics. At Zobeir, or Ghibel Senām, 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 same circumstance mentioned by Arrian, in the neighbourhood of Pallacopas, or Bahr-Nedjef, and every ancient testimony whatsoever, except Ptolemy, places Orchoe in the same situation. Ptolemy says, it is near the gulph; but this assertion seems to indefinite to Mercator, that he has carried it up to the lakes; and there, the latitude assigned to it authorises him to place it: but d’Anville is not content with bringing Orchoe here, unless he annihilates Old Bastra. Bafra, Bozra, and Bafara, is a name applicable to any town in the desert, it signifies rough or stony ground; and thus we have a Bafara 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 site of Zobeir, ten or twelve miles west of the present Bastra, but confirms it by the common belief and tradition of the country; he adds, what amounts

34. It brings them within fifteen miles.
35. Niebuhr writes Dejabel, which signifies a mountain. That Anna hill 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.
38. Col. ad Afrig. p. 120. Terra isassa et lapsata. But see נְזֵר בֶּן, under בֶּן. Botrata deliturat a Batsar clausa; quasi clauduntur aquae.

Bozra is mentioned as early as the age of Abraham. Gen. xxxvi. 31. II. 111. 1. &c. &c. From hence Bazaar for an emporium, and urbis montibus, quasi circumdantur; to which the Batsa of Carthage is allied.
to proof, that Hassan, Zobeir, and Tella, are buried here, and their tombs visited, who are all mentioned in Oriental writers as interred at Basra. Zobeir gives his name to the present town, and his tomb is still frequented. This, then, is the ancient city by which the channel passed, which is still called Djarri Zaade, and Hassé Zaade, 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 Salch, as d’Anville supposed, 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 does signify a river, its sense 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 Nahr Malcha, the Royal Canal; and a great number of others which branch out of the Euphrates on both sides. To what degree this stream was choked in the age of Pliny or Arrian, is not easy to ascertain; it might only have ceased to be navigable; for that it continued to convey water to Old Basra, as late as the beginning of the Mahometan æra, is evident; as that place was still inhabited, and still a city. When the supply failed, the desert was no longer habitable, and another Basra rose on the banks of the Schat-el-Arab, the foundation of this new city is attributed to

---

385 Tavernier confounds Zobeir, or Old Basra, with Teredon, and mentions a canal to it in his time, which is either the Oboleh of d’Anville, or the canal of New Basra continued. The same canal is mentioned by Texeira.
386 I lay usually restrained; because Nahar is applied to the Euphrates itself, in Joshua, i. 4. and Gen. xv. 18.
Omar, the second khalif in the fourteenth year of the Mahometan era.

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 Dauasir, the lower part of which I must sink under water, to find the lake Nearchus failed through in his return to the Pastigiris.

Nearchus, according to the journal, anchored at Diridotis in the mouth of the Euphrates, the Teredon of other authors; that is, at the entrance of the Khore Abdillah, which they consider as the Euphrates. From hence he returned back, across a lake into the Pastigiris, to a town called Aginis. The length of this lake is thirty-seven miles, according to d’Anville; but this will be considered hereafter. I now observe that the Dauasir 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.

397 Gol. ad Alf. p. 120.
398 Echewm.

'Αντικύρης μετὰ Βασσηλία περιπετείαν:

Περιηγητής τοῦ Εύχριστον Περιηγητή κ. α. χρον.
Τεκτάριος περίπτωσις τοῦ Περιηγητή κ. α. χρον.
Diosyl. Per. 980.

The
The Tigris and Pasitigris Inland.

The name given to the Tigris by Oriental authors is Degela, which Bochart informs us they would write almost indifferently Degel, or Deger; and from hence sprung the Greek Teger, or Tigris, by their usual assimilation of sound to sense. Al-Edrissi does not change this title upon the junction of the two rivers at Khorna, but makes it prevail quite to the issue of the Shihel-el-Arab into the Persian Gulph. The breadth of this river at Bafra is near a mile, according to Niebuhr, but McCluer's chart makes it almost double that breadth; and, in some parts of its descent, still more. It is extremely rapid in its course, particularly when the waters come down swelling from Armenia; and the tide, which rises about nine feet, prevails considerably above Khorna. The junction of this river, by means of the Hassar 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 sea; consequently, if his Aphle is Hassar, 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 preserving

320 Didujile. Niebuhr.
322 And, from him, Cellarius.
323 They knew that Tigris, or its root, signified an arrow; but as they had got a Lycaes, or στέεες, higher up, they were some of them not displeased to find a Teger in this stream.
441 Capper states it at a mile and a quarter.
482 Pietro della Valle does not esteem it so rapid as the Euphrates.
484 According to Niebuhr, much higher in the Euphrates than the Tigris, which seems extraordinary, as the Euphrates ought to have the higher level, for all the irrigations are derived from the Euphrates, and none from the Tigris, by Arrian's account.
Diglito as an appellation of the Tigris. This canal of the Hassar, Arrian affirms, is artificial, and such the natives esteem it at this day, as appears by its title Kallá-el-Hassar, the Hassar cut. At the point where this cut leaves the Schat-el-Arab, about eight-and-twenty miles below Bafra, d'Anville makes Nearchus enter the Pahistigris, but Arrian knows nothing of a Pahistigris equivalent to the Schat-el-Arab, which is the Pahistigris of Pliny. Strabo mentions that some had applied this term in the same way as Pliny, to the union of all the streams, but he does not countenance this opinion himself. This is a source of great error, and arose from the Greeks assimilating all sounds 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 Pahistigris is compounded like Pasa-Garda, and Pasa, Phasa, Phéfa, or Befa, as Golius informs us, signifies north-east. If this is a derivation we may rely on, Pahistigris is the north-eastern Tigris, the channel or source from that quarter. Such it is in respect to the Schat-el-Arab, as will appear hereafter; but Arrian's Pahistigris is the Karun, while the Pahistigris of other authors is the Schat-el-Arab. This variation has led Salmacius into a mistake, unworthy of his erudition; for he finds a Pahistigris inland, in the neighbourhood of Sulia, and not knowing how to account for it, attributes this title to the Arois, and gives two rivers of the same name, as boundaries of Susiana, though it has but one, and that no boundary, but central. Cellarius certainly saw a difficulty in acceding to this opinion, and

465 Herodotus, lib. vi. p. 447. mentions Ampe as the place where the Tigris falls into the gulf. Whether this has any relation to Aphle, Abadan, or Hassar, may well be doubted.

466 Euphrates non nisi Pahistigris deficient in mare. Lib. vi.

467 Strabo, p. 718.
468 II. and V. are equivalent.
470 See vol. ii. p. 434.
yet has not ventured to depart from it. D'Anville* has sanctified this error by his suffragement.

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 Eulaeus in its source. Geographers are generally agreed that the Choaspes and Eulaeus are the same. It is probable they are; but it is probable also they are from two sources**, united either at or above Sufa, which pafs close to the city in one stream, on its western side. Daniel*** mentions his being at the gate of Shushan on the Uhlai, or Eulaeus, where the expression is Oubal**** Ulai, which the LXX and Jerom translate, at the gate of Ulai; but the letters are Aubal Aulai, and Aub-al-Aulai is the Aab*****; or river, of Aulai, Eulai-us. I produce this as a testimony that the Eulaeus was close to Sufa, but the Pashi-gris was at some distance to the east. On this Eulaeus, Alexander embarked in his descent to the sea; on this river west, Timour encamped in his march from Dez-foul******, in view of the city; and

---

** Otter brings the Eulaeus from Kloubi-Zerd, Kho-Zerd, the green mountain. It is the same which, I apprehend, Al-Edrisi calls Adervan: and as he says this mountain, or this part of the range, is thirty miles north of Sufa, here is consequently a length of course sufficient to render this river navigable. Otter, vol. ii. p. 54.
*** Cap. viii. 2.
**** خلبي
***** So, in India, Gen-Aub is one method of writing Chem-ab.
****** Dez-Phoul, the bridge of Dez, or Dodos. I conclude, was erected on the stream that Otter calls the river of Dechet-abad [the city of Dechet, or Dodos]. This bridge, he says, was built to raise the water a mile high! in order to furnish Tuffar. This account is too Oriental; but it proves at least the connexion of the stream at Dez with the stream at Tottar, and confirms the opinion, that one is the Eulaeus and the other Choaspes, uniting at Tottar. The bridge at Haviza was, in the same manner, both bridge and dyke. Otter, vol. ii. p. 56. But Otter evidently does not understand his authorities. He makes Kho-aza and Haviza two distinct places; and this bridge he carries both over the river-Dechet-abad and Abi-defek, 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 Dodos.

Des-
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 Sufa"; and on his authority there is reason to conclude that this is one source of the Eulæus, and comes into that river close to Sufa, 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-Danke; Dankë, as being common to several other streams, seems an adjunct

Dez-Phoul* is a celebrated bridge, twenty miles or more west of Sufa, constructed on the Ab-Zal by Sapor Zulectaf, 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 arches, each accompanied by a smaller.

* Phoul, or Pane, is a bridge constantly in the writings of Le Brun and Thermos.
† Sapor Zulectaf is the Sator of the native Persian dynasty restored by Ardashir, or Artaxerxes, anno 226; which dynasty continued above 400 years, and which the Persians reverence more than any other, as re-establishing their power after the subjugation of Alexander, the Seleucian and the Parthian race. It is much to be questioned if they have any authentic annals prior to this family, Ardashir, Kobot, Sapor, Durab, occurs in this list, who give name to the four districts of Periis, and Humilis to a fifth in Kermanis. Only it is to be observed, that Harriman and Aristarchus are named prior to the whole rest.

418 By a reference to Otter, vol. ii. p. 39, it will be equally dubious; but there is full proof, that the communication is open one way to the gulf, and the other to the Schat-el-Arab.

419 I have met with another scale of Tchar in Ludolfus or Bruce, but cannot now recover it. Is it not the Hebrew "yar, a rock?"
like Abb, and Roud; and Tchar is Djar, or Dahr, a mountain; I conceive, therefore, that Tchar-Danké and Kho-afpes are synonymous, and both signify the mountain stream. If it were certain that the Ab-Zal of Cheref-eddin comes to Sufa, as he affirms, I should consider this proof as decisive.

Upon Timour's departure from Sufa 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 Kopras and Pafitigris** of Diodorus, who reckons them as the two rivers immediately cast from the Eulæus; and in one place says, the Pafitigris*** was four days' march from that river. Dou-danké I am not able to interpret, but Courou-Khan-Kendé is the river of Khan Koorus, or Cyrus, as we write it. This is the river Cyrus** of the ancient geographers, so often mentioned with the Eulæus and Khoafpes, and sometimes confounded with them.

** Diodorus calls it the Tigris in every instance but one.
*** Lib. xix.

** Kendé, and Denké or Danké, I conclude are the same word, each by a different process, from Djenk, a river. See supra, Tulmena. Otter, in enumerating the rivers of Mekran, vol. i. 408 gives them all the adjunct Kienk, or Chienk; which form pass into Denké, Danké, and Tanké, a stream noticed in that province by all the geographers; while the Kand-riskes of Ptolemy prefers the other form, Kendé, or Kandé. I will not deny what Mr. d'Anville affirms, that Kand is an adjunct expressing a footstep, as Samar-kand, Kand-ahar, Mara-kanda; but I should look to the river in all those sites. For the passing of Chienk into Djenk I appeal to Ptolemy, who writes Jomna, Diamanna, p. 170.

I shall.
SUSIS, or SUSIANA.

I shall now take the passages adduced by Salmantius\textsuperscript{428}, and shew that they all apply to the Psaitigris, as a source joining the Euæsus, and cannot be applied to the Arois. Diodorus\textsuperscript{429}, in the march of Alexander from Sufa to Persepolis, places the [Pal.[] Tigris at the distance of four days' march from Sufa. Q. Curtius, who evidently follows the same authorities, gives us almost a translation of this passage, and agrees in the distance; both unite in deriving this stream from the mountains of the Uxii, both correspond with Chereffeddin's distance of the Koourus, and with the progress of Timour when he proceeded to attack the Afeiacs\textsuperscript{430}, who are the Uxii that Alexander invaded by the same identical course; but Diodorus in another passage\textsuperscript{431}, where he gives an account of the war between Antigonus and Eumenes, mentions this [Pal.-] Tigris as only one day's distance from Sufa; 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 discordance. Strabo's testimony agrees with Diodorus in naming the two rivers immediately east of the Khoaipes\textsuperscript{432}, Ko-pratas, and Psaitigris, and he every where marks the navigation of Nearchus up the stream by the title of Psaitigris; he adds, likewise, a manifest distinction between the Psaitigris and Arois\textsuperscript{433}, by stating that they are two thousand stadia a-part; by which he means, at their issue into the gulf.

\textsuperscript{428} Plin. Exer. p. 701.  
\textsuperscript{429} Lib. xvi. vol. ii. p. 311. Ed. Weffel.  
\textsuperscript{427} A an U are interchanged in the Persic. Uffice's approaches nearer to Uxii.  
\textsuperscript{431} Diodorus calls it Euæsus; a proof that Euæsus and Khoaipes, at Sufa, are the united stream, and that both are west of Sufa.  
\textsuperscript{432} Strabo writes Oratius.
GULPH OF PERSIA.

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 Pasi-Tigris\(^411\), 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 Pasi-Tigris, we find Alexander again upon his return from the East, in his route from Persepolis to Sufa; 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 Arois, 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 Sufa, in correspondence with Alexander's departure from it. This renders both the passages of Arrian consistent, and reconciles his account with those of Strabo, Diodorus, Q. Curtius, and Cheref-eddin. And so far is it impossible to confound this river with the Arois, that Cheref-eddin\(^412\) mentions two others between this and the Arois—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 Arois. 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

\(^{411}\) Lib. iii. p. 138.

\(^{412}\) Vol. ii. p. 185.
is navigable. The Kopratas⁴⁴, he says, rising in the mountains [of Louristan] falls into the Paftigris⁴⁴, and the Paftigris is impassable without a bridge; it is four hundred feet wide⁴⁴, and as deep as the height of an elephant; all these circumstances are so perfectly consistent 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 Salmasius, Cellarius, and d’Anville have been entangled, I have done a service to the science.

**Susa. Shushan. Tuster.**

<table>
<thead>
<tr>
<th>Longitude</th>
<th>Latitude</th>
</tr>
</thead>
</table>
| 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° 30' 0" | 31° 30' 0"
| Ibid. Etvals, | 74° 20' 0" | 31° 30' 0"

This longitude operates strongly against Mr. Gosselin’s system, (and there are many similar ones,) because, if Ptolemy’s error is always in excess, the error ought to increase in proportion to the distance from Alexandria; but here the error is in default, and not in excess.

⁴⁴ If a derivation of Koprates were requisite, I conjecture that it is to be found in Kho-Petar, or Petar, the mountains that limit or divide: the boundary of the Uxii.

⁴⁴ Tiberius Capito. See Salm. Pl. Rq. ¹⁵² This is the only passage where Diodorus uses the term Paftigris. Immediately before he names it Tigris. Lib. ix. p. 331. vol. ii.
GULPH OF PERSIA.

Susa is the Shufian of Daniel, the Shufter, or Toflar, of the Oriental writers, and Susiana is their Chusitan, 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 Bafra it is styled Altwaz, or Haviza, from a town now become the capital. Susa is said by the Oriental writers to be the first city founded after the flood by a prince called Husheng, who is the grandson of Calumara, the first name in their mythology. The Greeks call the founder Memnon, son of Tithonus, which amounts nearly to the same, implying that it existed before there was any real history to appeal to. Its name is said to signify a lily, from the abundance of that flower in the neighbourhood; but I cannot help noticing that Hoo-chenk, the founder, is related to Tchar-danké, meaning the Mountain River; and Kou-reftan, Kho-reftan, and Khu-sftan, all relate to a country.

412 The Greeks have no such sound as in our pronunciation of church, as if it were ch. Consequently Susa, Susiana, was written by them for Shufian. By a change similar to one in our own language, Church, Kirch, Chouftan becomes Khoufistan.

417 Khoufistan, so called from the Khouz, a nation which inhabited it. Otter, vol. ii. 49. But Khouz signifies mountains, or mountainers; and Susi, Kiffi, and Koffi, are no doubt originally the same. Strabo, p. 728, quotes Aristophanes to prove this of Susi and Kiffi, and the passage is in point:


420 Khoob-Kienk, Tchar-Kienk, or Chienk, are synonymous. I consider also Hoochenk and Shufian as the same word identically. Hoochenk, however, must be a fabulous personage, for he is reputed founder of Babylon as well as Susa. Otter, vol. ii. p. 200. There are not wanting those who rather deduce Romulus from Roma, than Roma from Romulus.
surrounded with mountains **48**. 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 confusion 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 **49**, furnishes a convenience for this improvement; and there is a canal, called Mesercan by Al-Edrisi, which united the Eulans with the river that passes by Afsar-Mokram **50** 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 **51** than another, and then carries vessels of a considerable size. This canal d'Anville conducts into

---

**48** In affting this, I always suppose that Sufis and Susiana are softened forms of Khufitan, in which Kooh, or mountain, is the root. But if they are from qu or soo, that word means water or river, as Kara-Sou, the Black River, etc. etc. The name is Khorestan, Khorestan, Cuzitan, and Curitan, for the Arabic ج without a point is ج, with a point ج is ج, so that the confusion in orthography is Oriental. See a very judicious discussion of these difficulties in a note by the English translator of Remondot's account of two Arabian travellers in the ninth century. Preface, p. xxiii. This work was searched in consequence of the report made of it by Dr. Campbell in his extract inserted in Harris's Voyages, and hopes were conceived that something 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 Persia from Siraf to Mactar, and then stood over to the coast of Malabar with the monsoons. This is the general course at the present hour from the gulph to the coast, and almost constantly from the coast to the gulph.

**49** Suf is itself seems to be on an eminence.

**50** Afsar Mokarren, ten leapers from Elwars, eight from Tuder. Otier, vol. ii. p. 52.

**51** Et vero cum aqua in incremento est, quod erat initia mundi, navilesque transcursi; cum autem in decremento, transfire ne quaquam polluent. Nub. Geog. p. 123. He adds in another place: Grandiosus fulcitus navigis,

---
the river which he calls the Ab-Zal, or, more strangely, the Molaeus. The Ab-Zal he unites with the Gyndes, and so conveys it into the Tigris above Khorna, while he opens another communication with a stream he calls Sahaib, or Soweib, which comes into the Tigris below Khorna. This is the mouth of Niebuhr’s Su-ab, which he calls the port of Ahwaz, or Haviza, the modern capital; and it seems to maintain its ancient title, as Su-ab is the river of Su, or Susiana.

It may not now be navigable to Toftar, or Toftar is a village; although there cannot be a doubt but that it is the original issue of the communication formed by the Melercan; and I have great reason to suppose that there was a similar union of the Euzeus easterly, with the Arosa, and that this is the ground of the assertion common to Strabo, Al-Edrisi, and Cherif-eddin; that all the rivers of Susiana communicate with the Tigris. That Susiana was a favored 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 expense of twenty thousand talents, celebrated the nuptial feast of the Macedonian officers with their Persian brides, and rewarded the services of all that had a particular claim to distinction; out of this, he made the donation to the veterans he discharged at Opis, under-

444 In the collection of voyages by Melchisedec Thévenot, (Paris 1663.) a map of the territory of Bahr is inserted, from the authority of a native, intended to shew the numbers and situation of the Saibans, 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 perfect conformity to what I had previously collected from other authors. This conformity gave me no little satisfaction. The only difference is, it places Haviza (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 seems 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 raised 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 single province, though the province itself was productive above all others. Strabo says, that the return of the crop was an hundred or even two hundred fold. Cotton, sugar, dates, rice, and every grain of the finest species are enumerated amongst its natural productions; damask, silk, cotton, linens, and cloth of gold, amongst its manufactures. Such was Susiana in the early ages, and such it continued to the time of Sapor, and almost to the dissolution of the empire by the Agwains. It is now a prey to every Arab invader, harassed by the Turkish arms from Bastra on the west, and by the Persians from Shiraz on the east: a settled despotism protected the provinces it oppressed; the transient usurpations of the present day ravish not only the produce, but destroy the flock.

If I have dwelt longer upon the description of this province than the following short narrative of Nearesus'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 confident, and rendered it applicable to the voyage

---

434 Thirty thousand came out of Persia only.

435 Linteum, virgatum Corcobrum, niliped under Peucellis.

436 See Otter, vol. ii. p. 90. Who says the country is hot in the summer, and unhealthy to foreigners. The natives are lawless, barbarous.
GULPH OF PERSIA.

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 jeopard his life to resolve questions of curiosity?

PASSAGE of NEARCHUS from the AROSI to SUSA.

We left Necharus at anchor in the mouth of the Arosi, 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 Arosi and Kataderhis, called Barcan; a second between Kataderhis and Khore Moosá, called Karabah; and a third between Khore Moosá 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 Arosi on the sixth 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 crossing the mouths of the streams which divide the Delta; for the coast

---

430. Orontis, Tab, or Endian.  
431. Query, Whether Khore Waflah?  
432. See supra, and McCluer, p. 30.  
433. When the pilot first makes the lands, they are called Karabah on the Estuf, and towards the Well Ali-Meidan.  
434. μυνάς... γεγονόσα μυνιν τοιοῦτον, So I read with Gronovius, in this part.
was low, as they said, 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 42 from shore. The first day's course, indeed, partook not of these dangers, for the shoal Barcan 43, between the Arotis and Kataderbis, is not of so 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 present day 44. 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 45, rather than an harbour, where there was abundance of fish. This may be considered as marking the nature of a shoal coast, but the point is not material to insist 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 Dorgheitan; but of the Bender Madjour which d'Anville, from the Turkish Geographer, allots to this station, I find no traces in any English chart. One-and-thirty miles, measured upon McCluer'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 consequently have no cause to mention

424 See the note of Gronovius in loco, where he shews that the translators were as bad interpreters as they were leamen.
425 The Tebagues Areomamus of Ptolomy is the shoal Barcan in this very position between the Eulaxus and the Arotis.
426 See McCluer's chart, three fathom on the bar.
427 *i.e.* ; 'taine мног изводи.
more. Their modern names are such as they have from the pilots; but, however applied, certainly relate to the inland Dera of Prolemy, which gives name to the eastern channel of the Eulœus, evident in Deurak, still existing, and in the tract Dorgheftan, allied, if I may vary the orthography, to the Morgheftan of Arrian.

The river Dorack, I have already marked as the eastern branch of the Eulœus 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 Prolemy at this place, observing that he mentions the mouth of the Eulœus immediately next to the Arofis, and has the Mofœus only, without noticing the other channels between the Eulœus and the Tigris, I am more confirmed in my opinion, that his Mofœus is the branch we now call the Karûn, with Khore Moola at its issue; and that the Melene comprehends, not only the strip between the Bamithere and Coffsâ-Bony, but perhaps as far as the Karûn also.

The two islands at the mouth of the Dorack are not accurately named, for Bonna is apparently a channel rather than an island, and seems to correspond in contradistinction to the Coffsâ-Bony, either as such, or as a boundary and termination of the Delta. The Oriental geographers place a fort here, called Medhi and Modhi, perhaps in the situation of Mofhaure, 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

---

4* I do not search for an error in the initial letter; for I believe the change to arise from Caffellum, Gol. ad Aldrag. p. 248. Xina. some Oriental orthography, which I cannot identify. the
the coast there is covered with the "coal Barea," and d'Anville's three maps are all particularly incorrect on this part of the coast. I make the less scruple of affecting this, because McCluer 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 McCluer, I conclude, his own observation; for he has added the soundings, and that he would hardly have ventured to do without sufficient authority, on a coast where the land cannot be approached near enough to be seen, and where the course must principally, if not wholly, be directed by soundings.

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 sailed as soon as it was light; and, forming a line by single ships, each followed in order, without deviating to the right or left, through a channel marked out with flares in the same manner as the passage between Leukas and Akarnania, in Greece: but, says Arrian, at Leukas there is a firm land, and if a vessel grounds she is easily got off again; but in this passage it was a deep mud on both sides, so that a staff could find neither support or resistance; or if, when the vessel grounded, the people got overboard to cast her off, they found no footing, but sunk in higher than the waist. Now it is true that a muddy shore, and the flaking out a dangerous passage, is not peculiarly characteristic of one coast more than another, for the practice is sufficiently general; but it is very extraordinary that this

---

445 And many other passages in different 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 463 the Moeæus 464 and the Euleæus called Sinus 465 Pelodes in Ptolemy, and Sinus Ste- loas in Marcian. Salmasius 466 and Hudson will not allow Marcian to retain his own reading, but reduce him to the standard of Ptolemy. The truth is, however, that he has preserved one feature and Ptolemy another, both belonging to the same 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 sometimes also a commentator. Pliny bears testimony to the former circumstance, and Thevenot 467 mentions the entrance of the Karûn as still marked by a stake of palm wood, when he arrived at the mouth. Let us now consider 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 468 applied to this shoal arises from the irregularity of the soundings and overfalls on it, and the fiction of a city sunk here is noticed by several authors. The soundings, according to M’Cluer, vary from twelve to seven and eight,—to ten, seven, and five fathoms. As soon as the modern pilot finds these, he keeps away west for the Ali-Meidan; but the course of Nearchus seems to have been across 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

463 An additional proof that Ptolemy’s Euleæus is the Dorack channel. His Moeæus, the Karûn.
465 In p. 16.
466 Kurabah, broken; from the Persian root Karab, to break. Mr. Jones.
natives. An attention of this kind is perfectly consistent 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 ac-
complishment 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 sort, Nearchus conducted his
fleet 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 fix this anchorage in the Khore Waftah, the issue of the Selege
stream, for there the measure given agrees perfectly with M'Cler,
and there he seems to terminate the Karabah. It is a minute cir-
cumstance, but worth noticing, that both Ptolemy and Marcian
agree in making the eastern commencement of the bay, Pelides,
at some distance from the Eulæus, or Dorack, and their termina-
on of it is at the Mofæus, or Karúm, which would naturally happen,
as they take no notice of the intermediate channel, or Khore
Waftah.

From this anchorage the fleet weighed in the night, after allowing
a short respite from fatigue, but they had no longer a shoal to
crofs; they sailed in deep 20 water, say Arrian, manifestly marking

449 It amounts to thirty-two geographical
miles, equal very nearly to thirty-seven miles.

20 1 200 to a Greek foot.

English.
the course along the border of the Ali-Meidan, which every vessel bound for the Basra Channel still pursues. They sailed 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-six 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 measure of my own.

D'Anville.
Memoir. Measure from the Karun 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

McLuver.
Large Sheet from Wafah to Khore Abdillah, 40
Small Sheet from Wafah to Khore Abdillah, 34

Dalrymple.
Anonymous Chart from Karun to Khore Abdillah, 46
from Wafah to Khore Abdillah, 60

Niebuhr.
From Karun to Khore Abdillah (dubious), 40. add 7 = 47

Upon this shore there are six fathoms on the southern edge, five fathoms on the middle, four at the upper end. The pilot seldom goes under five, or five and a half.

McLuver, p. 30. "When you come within two fathoms, you are still near ten miles from shore, and this part is dry at low water.

*** I have eighteen draughts to consult, but these are all worth specifying. Seven miles are added for the difference between the Karun and Wafah; but some of the charts make it ten.
If such 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 sea, and evidently both forms mark its connexion with the Digiloto of Pliny, and the Tigris of the Greeks, as they are both related to the Oriental Degela, or Didsjile. Digiloto, intimating a town situated near the Degela, will give the two forms of Diridotis and Terédon, with the usual interchange between ř 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 considered d'Anville’s Choabecheh, as a mouth of the Tigris, and not of the Euphrates. And as I have before accounted for Pto-
lemmy's Sinus Melanius, the whole of ancient geography is thus rendered consistent with itself, and with our modern charts.

It will seem extraordinary that, when the course of Nearckhus lay up the Tigris, or Schat-el-Arab, he should pass the mouth of that channel, and bring his fleet 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-five 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'Auville'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'Cruer describes the course:

"After these soundings in Khore Gufghah, you will quickly shoal to four one-half fathoms, and this the pilot calls "Mucan"; and from that, three one-half or three fathoms to "Bufforah Bar". With these soundings, he still stands across [the mouth of the Schat-el-Arab], west or west by north, till he deepens to five fathoms in Khore Abdillah, and there he anchors till the next flood tide; or, if he has sufficient tide to carry him over, he stands away to clear a bank between Khore Abdillah and the Bufforah river."

I now beg leave to notice, that the pilot on board Nearckhus steered exactly the same course as M'Cruer's Karack pilot two

---

475 The bar at the mouth of the Colissa-Bony, or Schat-el-Arab, as I use 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 Susa. He determined, therefore, to return back; and then, by pursuing his course up the Pali-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 fix hundred stadia from Diridotis to Aginis. d'Anville places Aginis at Zeine, in the Schat-el-Arab. I lay that Nearchus never entered the Schat-el-Arab, and I place Aginis at the mouth of the Kairn, or Khore Moofa. This is the difference between us. D'Anville's best argument is the similarity between Aginis and Zeine; and, when the local circumstances are first fixed, 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.

477 Eich. de Mons. C., 7.74a., p. 357.
GULPH OF PERSIA.

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 same.

2dly, Arrian's Paitirgis 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 said to go up the Paitirgis, Alexander is said to come down the Eualeus.

5thly, Nearchus, in his course from Diridotis to Aginis, failed with Sufiana on his left.

10. The CHALDEAN LAKE.

Nearchus failed across a lake into which the Tigris falls at its issue 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 same as Pliny's Chaldean Lake; for that commences below Ctephon, and ends at Aphie; and he adds afterwards, that the waters, after spreading in this form, are again collected into a stream, and in that shape take their course to the sea. His Chaldean Lake,
therefore, is not at the mouth of the Schat-el-Arab, but inland, and its termination at Aphle; which, if Aphle and Hassar are the same, is upwards of sixty miles from the mouth. This, I conceive, is the first source of d'Anville's mistake, and Pliny's error in assuming Pafitigris, as the appellation of the Tigris and Euphrates united in the Schat-el-Arab, is the ground of his making the fleet go up that channel, instead of the Karun, or real Pafitigris. D'Anville follows him in this assertion, and here is his second mistake.

For, 2dly, Arrian's Pafitigris is always that stream which, flowing east of Sula, joins the Eulæus at some distance below that capital. I have proved this by the concurrent testimony of Strabo, Diodorus, Q. Curtius, and Chereb-eddin, all according with Arrian. It did not approach the city; it was a broad, deep, and navigable river: it crossed the road from Persis; and, after its junction with the Eulæus, the united stream separated again, sending off one branch eastward, now called the Dorack, and another westward, which is the Karun; and, finally, its characteristic distinction is the title of Pafis, or Northern Tigris, in opposition to the great stream of that name, which is now styled the Schat-el-Arab. This is manifestly the system 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 manifestly confirms the system of Arrian, and proves the concurrent opinion of all the authors in the age of Alexander.

480 I mean to the bar of the Colifs.
481 The Schat-el-Arab is always styled De
dela, or the Tigris, by Al-Edrisi.
481 The Eulæus of Ptolemy.
3dly, If Nearchus had gone up the Schkat-el-Arab, he could have entered the Eulæus, or Pasitigris, only by the Haffiar Canal; is it then not remarkable that, when at Aginis, he specifies the progress of the following day as up the Pasitigris\(^{467}\), 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 himself, (where it is not specified,) than in the descent of Alexander, where it is mentioned, and in which he was not so immediately or personally concerned. This, considering 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 similar circumstance is preferred at Heratemis, though the passage was neither explored, or made any part of the navigation. An omission, it is true, is only a negative proof, but in an instance of this kind it must have considerable weight.

4thly, There is no inconvenience in mentioning Alexander's descent by the Eulæus, and Nearchus's ascent by the Pasitigris, for Nearchus entered the river from the sea where it bore this appellation in contradistinction to the Tigris, and Alexander embarked at Sufa, where that source, which passes the capital, is called the Eulæus. The various heads\(^{468}\) of this stream cause confusion in the interior; the various arms, as it approaches the sea, create disorder upon the coast. It is thus that the Eulæus and Choapses are transformable, and that the Eulæus of Ptolemy is not the same as Arrian's at its mouth, but the Dörack. If Alexander embarked at

---

\(^{467}\) *Arr. p. 357.*

\(^{468}\) *En Turquie et Parle et aux Indes une meme riviere prend le nom de toutes les villes et villages ou elle passe, et ainsi il est mal aussi que les voyageurs s'accordent bien pour ces noms.* *Taxeim, lib. v. p. 733. Amst. edit.*
Susa, the stream was necessarily the Eulaeus 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 Eulaeus. 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 asserts that Nearchus failed back again from Diridotis to Aginis, if Aginis is in the Delta on the Khore Moosa; 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 instead of the Tigris? No. It was always styled Arabia, by the concurrent testimony of historians and geographers, as it is to the present day, and it was always possessed by Arabs, whose influence reaches to the very walls of Basra.

*52. The Khore Abdollah is the Euphrates of Arrian.*
GULPH OF PERSIA.

If, however, it can be supposed that Nearchus made his **Euphrates** the boundary of Susiana, the difficulty will be increased; for then, in sailing up the Schat-el-Arab, the expression ought to have been, that he proceeded up the Schat-el-Arab **through Susiana**, not with Susiana **on his left**; for, if the Tigris is the boundary, in going up it, Susiana must be on the **right**.

The whole of this error originates with Pliny; he knew, from the historians of Alexander, that the fleet went up the Pafitigris; but his Pafitigris 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 said 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**, intelligence was received that Alexander was advancing to Susa; the fleet, therefore, returned back again from Diridotis, in order to proceed up the Pafitigris, and join the army. They failed accordingly on their return, with Susiana on

---

434 The Khore Abdillah.
437 It originates actually with those Greek writers whom Strabo reproves for the same mistake.
438 **Εὐπρατησ** ἐγγύδεα τῆς Σουσίας ἐγένετο τοῦ εὐπρατηστοῦ τοῦ Αλέξανδρου, ἱδίως ἐν τῷ περιβάλλοντι τοῦ Σουσίας, καὶ οἷον τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλοντα τοῦ Σουσίας, καὶ τὰ περιβάλλο

---

The refutation of any such confusion, and the confirmation of that which I adopt, is contained in the following passage. That is, when the fleet proceeded the next day from Aginis; ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλοντας τοῦ Σουσίας, ἢ ἐπὶ τὰς περιβάλλο
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 [Parsitigris], the distance was six hundred stadia; at the termination of their course was a village of Susiana, 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 "" stadia, though the text says directly the reverse. "" They baffed the lake, and from the lake to the river the distance was six 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 Schat-el-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 Daunir 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, if I am not mistaken, implies inundation; and Niebuhr supposes the whole level as high as Hascinad, the burial-place of Hassan-ben-Hânefic, to have been under water, and even that it would be so at this day, if the inun-

180 La traversée de ce lac pour la dotte d’Alexandre est de six cents stades. Mem. 381. Kermesefir, the watery country. But P. 719.
dation were not prevented by dykes. "Every where, (he says;)" "canals are cut to convey water to the date grounds; and as the "water of the river is saturated with lime, the land here must, in "a succession of ages, have been raised considerably to have ob-"tained its proper level." This supposition of Niebuhr's is in perfect harmony with an allusion 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 rising 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 a
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 said, however, expresses himself thus: "Near this part of Susiana lies an island called Apphadana", which some attribute to Arabia." This seems 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 separated it, seems to have taken place in a later period; for that it was united in the time of Al-Edrisi is evident. "Abadan, (he says;) is a small fort, but still in good condition,

---

439 Non alió loco plus profeceré aequæ terræ
invest. Plin. lib. vi. c. 92.
Hudson.
441 The Paæini Charax.
442 The translation reads Apphana. There
is a coin in the possession of Mr. Cacheredes,
and in Dr. Hunter's Museum, inscribed
APPANA, which is by some imputed to
Apennus; but if it should appear that the
Syrian Greeks possessed the mouths of the
Euphrates, this word would read ESSEDANS.
not far removed from Apphana.
443 Est autem Abadan Ars parva quidem,
sed integra, ad litus maris apposita, quæ in-
servat ad observandos aequæ prope glandos eos,
quibus mare prædictum jactante Abadan
ab occidentali parte. Degele [Tigris] annis
qui secuc loci maxime diluiscitus super terram.
Al-Edrisi, p. 131.
444 "Situated
SUSIS, or SUSIANA.

"Situated near the sea, which is intended for watching and protecting 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." The same author adds a remarkable circumstance, which, though not connected with the inundation, is so uncommonly local, that it is worth inserting.

"Six miles below Abadan lies Al-chafiabat, which signifies a stage raised upon piles in the sea, where there is a watch kept, and those who are appointed for that service 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 signals, or affording pilotage; it marks strongly the attention paid to the security 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 Dauafir at its termination, and such is the evidence to prove that there was a lake in the age of Nearchus, 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

408. Tout le pays est si bas que sans une digue qui regne le long de la mer il secerait souvent en danger d'être submergé. Tavernier, lib. ii. p. 243. I find nothing of this dyke in other authors, unless it be the dyke in the river mentioned by Nebukar. But the passage concurs in the lowness of the land. In p. 245 he mentions the breaking of this dyke, and that then the waters came up to Baira.

name of Abadan still exists at the mouth of the river, in the Tschabde and Tschwabde of Niebuhr, which he makes two villages, possibly out of one. M'Cluer 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 relating all the circumstances relating to this point of the Daouafir, on account of the numerous errors attending it: and I must now observe that I am not bound by the text of Arrian to fix upon any particular extent of the lake; for he mentions only that the fleet crossed it, and that, from the lake to the Paftigris, 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 Hassleinad; for Mr. Jones, who has passed frequently up the channel and down, seems to think, that the western bank is everywhere 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 confirm all our written evidence.

The map will now conduct us, after passing the lake, across the Ali-Meidân, back again to the Karûn, which I consider as the Paftigris, and Aginis as a village at its mouth. The general depth of water on the Meidân, nearest to the coast, is two fathoms at high water; and consequently, if Nearchus sailed upon the flood, there is ample allowance for the draught of his vessels, which was certainly not more than nine feet, and probably less than six: and

\[\text{Source: } \text{See Tab. i.x. vol. ii. Amst. edit.}\]
here, at Aginis, I make him anchor with the view of pursuing his course up the Karun 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 Arohis 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 Karun, as I state, six or seven 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 sorry to add, that the disagreement of our modern charts enables me to produce nothing certain upon the subject. Mr. Dalrymple's anonymous chart is the only one that gives thirty-seven miles between the Schat-el-Arab and the Karun, agreeable to Nearchus. The others vary so much, that I prefer a statement of the whole to any explication of my own, and I am constrained to take the measure from the Arohis 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-seven to forty-seven miles, the supposed distance between Diridotis and Aginis.

With much diffidence, then, I submit the following statement.

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:

<table>
<thead>
<tr>
<th></th>
<th>Stadia</th>
<th>Miles Eng.</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the Arofis to Kataderbis</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>to Khore Waftah</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>to Diridotis</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>125</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Nautic Miles</th>
<th>Miles Eng.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrian from the Arofis to Diridotis</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>D'Anville's Map of Asia</td>
<td>105 nearly 122</td>
<td></td>
</tr>
<tr>
<td>D'Anville's Memoir</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>M'Cruer's large Sheet</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>M'Cruer's small sheet corrected</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>D'Apres</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Gough's chart</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Niebuhr(\sup{202})</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Dahrymple's anonymous chart</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Pliny</td>
<td>265</td>
<td></td>
</tr>
<tr>
<td>Pliny, by another estimate</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Pliny, halved by d'Anville</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Marcian of Heraclea, 3430 stadia</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>Marcian, by Salmatis, 1830 stadia</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Ptolemy, six(\sup{391}) degrees</td>
<td>417</td>
<td></td>
</tr>
</tbody>
</table>

Such is the fluctuation of this estimate, and perhaps, out of the whole lift, M'Cruer is the only one who formed his statement from

\(\sup{202}\) Niebuhr possibly saw M'Cruer's papers at Bafla.

\(\sup{391}\) In reality six one-half.

Terodón, 30\(\sup o\),

Oroatis, 85\(\sup o\) 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,
Nearshus 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 Olym-
pian 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 elu-
cidating 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 M'Clerc may be
deemed dependent upon the information of his pilots, and though
their estimate is sufficiently just to answer their purpose, it is far in-
ferior to the observation of an English navigator.

From Aginis, Arrian reckons it only five hundred stadia, or
thirty-one miles, to Sufa, 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 fifteen hundred stadia
would carry Nearshus to Sufa; but that sum is still too small, and
Sufa 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 Sufa is something short of an
hundred and thirty miles, which Pliny states at two hundred and

554 Mr. Dalrymple is never accountable for
the accuracy of the charts he publishes. The
author is alone responsible; and in this case he
is anonymous.
fifty; this, by the usual reduction, is an hundred and twenty-five, agreeing sufficiently with some comparative measures of Al-Edrilli, who has no direct route between these two points; but Strabo has evidently copied the same 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 sixty to Sufa. This is out of all proportion; but it is immediately followed by an estimate of five hundred stadia from the Sufian village to Sufa, 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 submit. I shall now carry the fleet up the Karun, which Arrian calls the Paistigris.

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 Paistigris, and proceeded little more than nine miles to a village, where Nearchus waited till he should receive intelligence that the army was approaching, which was to determine his progress, 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 assigned to the distance between Aginis and Sufa. This is

---

A Village in the Paistigris.  
February 10.  
One hundred and thirty-second day.

---

508 He has one from Arsac Makram to Dd’Anville’s to Aginis.  
508 On leaving Aginis, his words are, ‘Give nearly the same measure as Pliny’s and I shall not have the advantage of either,’ p. 357.
not more peculiar to my system than to Mr. d'Anville's; for if they entered the Hassar from the Tigris, as he supposes, the passage through that canal is thirty-five\(^\text{309}\) 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. In assuming the Karun for the Pazitigris of Arrian, no error can be incurred but such as has already been discussed \(^\text{110}\); 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 Valle both passed this way; and though Thevenot describes the country of the Delta as almost depopulated, and little cultivated, the natural property of the soil 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 Nearcibus found it, and describes it as populous and flourishing; and the village they reached, as capable of supplying, 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 Karun, at nine miles from its

\(^{309}\) These measures are taken from Mr. Dalrymple's anonymous chart, and are both apparently too long.

\(^{110}\) It has been suggested to me, that Nearcibus might have sailed up the Bamlhers Channel, instead of the Karun. My objection to it is, that the Karun branch has been always navigated by the native vessels in preference to the others. It is only since European traders have gone to Basra, that the Ceisla-Bony or Schar-el-Arab has been much used; the Bamlhers, lying between the two, least of all.
mouth, if we adhere to the hundred and fifty stadia of the journal; or, if we abandon them, to carry the fleet through the whole level to the head of the Delta, at the point where the Karún crosses the Hassár 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 Safá, however erroneous that estimate may be.

At this village, Neæarchus performed sacrifices to the gods for the preservation of the fleet, and the succes of his expedition. These were attended with games as usual; and the festivity natural to plenty and security succeeded to the fatigues of the voyage.

Having brought Neæarchus 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 Héphæstion on their march to Sufiana. 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 filled 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 Héphæstion with the elephants and gros of the army, with orders to cross the mountains, and proceed along the coast of the gulph, through that level which is called the Kermeh. I ought not to know more than my director, and he says, that Héphæstion 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 unwholesomeness. 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 subdue; that is, because he was desirous of obtaining a knowledge of his empire; and he detached Hephaestion through the Kermesir for the same reason: he had ordered Crateris to proceed through Arachedia from the Indus, and Nearchus to subdue the coast.

However this may be, Alexander himself appears to have moved from Giroft before the conclusion of the year, some days previous to the falling of Nearchus, and the first place to which we trace him is Paphgarde. for at Paphgarde is the tomb of Cyrus, whether he

A barren list of names will afford little information; but I subjoin the route from Giroft to Paphgarde, extracted from Al-Edriis, and shall continue it afterwards to Rājian. It has probably been the common road in all ages; for the principal places mentioned are of considerable antiquity, and existed in the age of Alexander.

<table>
<thead>
<tr>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Giroft to Canat Alciam.</td>
</tr>
<tr>
<td>to Mazin *.</td>
</tr>
<tr>
<td>to Virdj-gord</td>
</tr>
<tr>
<td>to Abdercan</td>
</tr>
<tr>
<td>to Giraman</td>
</tr>
<tr>
<td>to Katala</td>
</tr>
<tr>
<td>to Rafaq-Dirjafea</td>
</tr>
<tr>
<td>to Zamn Al-modir</td>
</tr>
<tr>
<td>to Diradjere</td>
</tr>
<tr>
<td>to Seban</td>
</tr>
<tr>
<td>to Bencan</td>
</tr>
<tr>
<td>to Nacean</td>
</tr>
<tr>
<td>to Fakhun</td>
</tr>
<tr>
<td>to Thumais</td>
</tr>
<tr>
<td>to Fadj or Paph-garde</td>
</tr>
</tbody>
</table>

[N.B. The names in Italics alone are found in the modern maps.]

* Mazin is the town, perhaps, where Alexander received Nearchus; the Zal-Mous of Diodorus.
perished in the war with the Maslagetes, or was gathered to his fathers with the Euthanaia so beautifully described by Xenophon: and at Pasargadæ we find Alexander punishing Orines for embezzlement, and plundering the tomb of a native sovereign. It is foreign to my purpose to enter into this tranfauction, 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 debacles 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 sacrifices truth, not to the love of falsehood, but to warmth of imagination and brilliancy of expression.

Pasargadæ is confounded 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 Pharsa-gerd would regularly be Persepolis, and Pharsa-gerd differs from Phasa-gerd by a single letter. The former, however, signifies the city or capital of Phars; the latter a city, as Golius informs us, cooled by the north-easterly gales.

On the present occasion, Arrian distinguishes this city from Persepolis; for we trace the progress of the army regularly from Pasargadæ to the capital; and it would be well if we had any characters to

---

513. Phasa still exists, and Golius makes it bad, Sapor, and Ardebrar. See d'Anville, the head of the district Darab, (so named But Niebuhr says this distortion is now from Darius,) one of the four into which the left.

mark the route, but these will be searched for in vain; we learn only that Alexander was there, by the circumstance at his arrival of his constituting Peucillus satrap of the province, who had saved his life in India, and who was now so prudent a courtier as to assume the habit, and learn the language of the country. He had before been raised to the rank of Guard of the Royal Person, and afterwards conducted to Babylon a body of twenty thousand native troops, raised in his province, and armed in the Macedonian manner. This is a circumstance which develops the future designs of Alexander more than all the conjectures of his historians.

Persepolis, in its Greek form, evidently marks Pharisa-gard as its Persian original; but the name was not preferred even in the middle ages, nor does any other name appear but Itakhr, or Estakhar, which declined into a village as Schiraz 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 at the ruins, now called Chel-minar or the Forty Pillars, or at Nakh-Rustam in the neighbourhood, both which bespeak the magnificence of the ancient capital, and the workmanship of that age, which is discoverable in the Egyptian ruins. The consequence is, that Al-Edrisi has no route to Estakhar, but to Schiraz.

514. The Σπάρταρας, or body guard, were originally only seven: Leonatus, Hermonthion, Lyphimachus, Aristonous of Pella, Perdiccas of Orestes, Ptolemy and Python of Borsa. To these Peucillus was added when Alexander was in Karmania. Arr. lib. vi. p. 260.
515. Others say thirty thousand.
517. Niebuhr resided as a village in the neighbourhood.
only, and Esfakhar lies thirty-six miles\(^{130}\) south-east of Schiraz. The route, therefore, which I insert serves only to shew a comparative distance, and the difference between Schiraz and Esfakhar 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 fleet at the Pafitigris; the route, however, is evidently the same as the modern one, which enters Susiana at the bridge on the Tab or Arasis, called Baccar, within a small distance\(^{131}\) 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 Hephaestion, who came along the coast; and by this road Parmenio\(^{132}\) 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\(^{133}\); and at Ragian let his army halt, till I have brought up Hephaestion 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

---

\(^{130}\) Gellius ad Alfrag. p. 126. D’Anville gives the same distance, but makes it north-east.

\(^{131}\) See Al-Edrisi, p. 126. He says a bow-shot.

\(^{132}\) Arrian, lib. iii. p. 130. κατά τὰ ἄρα.

\(^{133}\) Route from Schiraz to Ragian. Al-Edrisi, p. 126:

<table>
<thead>
<tr>
<th>From Schiraz to Giouan</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>to Chalan</td>
<td>15</td>
</tr>
<tr>
<td>to Charrara</td>
<td>12</td>
</tr>
<tr>
<td>to Kurcheman</td>
<td>15</td>
</tr>
<tr>
<td>to Horaidan</td>
<td>12</td>
</tr>
<tr>
<td>to Rafian</td>
<td>21</td>
</tr>
<tr>
<td>to Ragian</td>
<td>112</td>
</tr>
</tbody>
</table>

which
which it is not impossible to mark the greatest part of its general direction: and if the work of Beton and Dioghenus 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 Valle's travelled from Mina to Lar, but labouring under illness, and in a litter; and Le Bruyn has a route from Gumeroon to Lar. From Mina to Lar, the route to Gionar falls into a journal of Al-Edrisi's, probably at Mai.

### Route from Mina to Lar

<table>
<thead>
<tr>
<th>Distance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From Mina to Ciniculadeh,</td>
</tr>
<tr>
<td></td>
<td>to Lina,</td>
</tr>
<tr>
<td></td>
<td>to Kuber, perhaps? Rulciius,</td>
</tr>
<tr>
<td></td>
<td>to Kaharidus,</td>
</tr>
<tr>
<td></td>
<td>to Gali-bisirgo,</td>
</tr>
<tr>
<td></td>
<td>to Tenghi-dalan,</td>
</tr>
<tr>
<td></td>
<td>to Kosmos,</td>
</tr>
<tr>
<td></td>
<td>to Baodini, a Caravanferei,</td>
</tr>
<tr>
<td></td>
<td>to Basili,</td>
</tr>
<tr>
<td></td>
<td>to Lar,</td>
</tr>
</tbody>
</table>

The route from Mina and that from Gumeroon join at Kaharidus, which Le Bruyn writes Korefion, and from thence to Lar, the name, however disfigured, are the same. This course consequently continued unchanged from 1620 to 1693. In Al-Edrisi, p. 125, we can only discover that the route went to Sciura, that is, Rulciius, the salt river of Pietro della Valle, the Karius or Keri of Ptolemy, the Salmos of Pliny.

### Route from Siraf to Gionar, or Firus-abad

<table>
<thead>
<tr>
<th>Distance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From Siraf to Bocana,</td>
</tr>
<tr>
<td></td>
<td>to Asherkan,</td>
</tr>
<tr>
<td></td>
<td>or Ras-Al-acbe,</td>
</tr>
<tr>
<td></td>
<td>to May,</td>
</tr>
<tr>
<td></td>
<td>to Kambred,</td>
</tr>
<tr>
<td></td>
<td>to Chan-Arademerd,</td>
</tr>
<tr>
<td></td>
<td>to Giar,</td>
</tr>
<tr>
<td></td>
<td>to Dalt-Surab,</td>
</tr>
<tr>
<td></td>
<td>to Gionar,</td>
</tr>
</tbody>
</table>

---

- *Because he mentions a salt river here.*
- † *Tawmey, Lib. v. p. 747, etc. has the same route as Le Bruyn, and with equal variation in the orthography.*
GULPH OF PERSIA.

Passing from hence to Giousar, in the road to Schiraz. From Giousar there are two routes to the Tab, or Arodis; one along the coast noticed by Al-Edrifi, through Gennaba, and another inland, as I conceive, by Kaferon. It is apparently the latter that was pursued by Hephaestion; for at Sitakus, where the fleet lay for one-and-twenty 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 Kaferon 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 Persépolis and Sufa, as it is at this day between Schiraz and Toftar, if it exists; and, from the bridge at Ragian to Sufa or Toftar, 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 Giousar ought to fall into this at Adhercan, or Ras-Al-achbe, which are the same; for Ras-Al-achbe signifies the top or passage of the mountains. These mountains are the chain, which I suppose to run inland from Dahr Ablam, and to produce both the Naban and Darabin rivers.

320 Route from Giousar to Giannaba. Al-

Edrifi, p. 125:

<table>
<thead>
<tr>
<th>Route</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Giousar to Kazeron (Kassarun)</td>
<td>48</td>
</tr>
<tr>
<td>to Rashe</td>
<td>12</td>
</tr>
<tr>
<td>to Taung</td>
<td>24</td>
</tr>
<tr>
<td>to Giannaba</td>
<td>36</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
</tr>
</tbody>
</table>

From Giannaba to Ragian by estimation, 38

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 say; they come out in proportion, but are not entirely to be depended on; for I cannot discover Al-Edrifi's mile. I have tried it by several known distances, but it exceeds sometimes, and sometimes falls short. I once saw an estimate of this mile in Mr. Howe's papers, communicated to me by the Bishop of Rochester, but could not find it upon a second reference to them.

* Giannaba is the Gennaba of d'Anville, the Gunowah of McCluer.
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 Susa: this appears, by something more than conjecture, to be the Kouroucan-Kendé of Timour, the second 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 same end, which is by drawing a line from Ragian to Susa, and fixing the bridge where this line intersects the Pasitigris; 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 Toftar, but d'Anville makes the distance about an hundred and forty-five geographical miles, and this, from other comparative measures in the province, is apparently

---

257 Diodorus, lib. xix. p. 334. says, 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... 118

to Persepolis... 36—248

Eumenes
parenently just. From this sum, if we deduct forty or fifty miles, to give the distance 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 Giroift to Sufa, which stands thus:

| From Giroift to Phafta | - | - | 242 |
| From Phafta to Schiraz | - | - | 60 |
| From Schiraz to Ragian | - | - | 112 |
| Allowed distance from Ragian to Sufa | - | 145 |
| **Total** | | | 559 |

In the same space, d'Anville allows eight degrees, or four hundred and eighty miles, which, with a seventh 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 sixty miles to the sum. This we compensate, however, by taking the measure, not to the Pasitigris, but to Sufa; so that if we fix the total at five hundred and sixty geographical miles, equal to six 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 Giroift 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-seven days; and then the num-

Eumenes moved, therefore, at the rate of seven miles a-day; but Diodorus mentions that it was in the height of summer, and the heats intolerable.

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 stayed at Phasa-gardæ and Persepolis, where he had business to transact, or for the necessary halts of the army; but we are to consider that Nearcitus stayed at the village till he heard of the approach of the troops, and, therefore, any interval that will coincide with their arrival may be assigned 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 consistent date, if not the true one; and as no real day is assigned in any author", 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 same 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 to four stadium broad, and its depth correspondent.

555 A Macedonian army, upon occasion, marched from twenty to twenty-five miles 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 Sura, three hundred miles; forty days consequently give six hundred miles; but he then moved to seize the treasure: he had now no particular object in view.

556 Pliny says seven months.

557 According to the stadium of Arrian, one-fourth of a mile. See supra, p. 475. Waghre, I have said the breadth was 400 feet; perhaps Diodorus assigns this breadth to the Koperus. See p. 371; compared with p. 330, and p. 227.
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 passage could not be less than from an hundred to an hundred and twenty miles, it would scarcely require less than three days, and possibly more, notwithstanding they might have the advantage of the tide at the commencement of their progress. The fleet seems to have reached its destination before the army; but no sooner did Alexander arrive, than he embraced Nearchus with the affection of a friend, and the acknowledgments of a sovereign. 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 satisfaction 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 saluted with acclamations; while gratitude and admiration united in weaving the wreath and the chaplet to crown him for his success. Sacrifices, games, and universal festivity, closed the scene of this happy union. Thus have I conducted the several divisions of the forces and the fleet from Nicæa on the Indus, to the termination of their labours in Susiana; and I conclude the expedition on the twenty-fourth of February, in the year three hundred and twenty-five before the Christian æra.

The time employed in accomplishing this voyage from the mouth of the Indus is an hundred and forty-six days, or somewhat short
of five\textsuperscript{533} months, which Pliny has extended to seven\textsuperscript{534}, and in which he is neither consistent 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\textsuperscript{535} 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 Pactygris, 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\textsuperscript{536} the debts of the army, which are estimated, not perhaps without exaggeration, at twenty thousand talents, equal to three millions eight hundred and seventy-five thousand pounds sterling; an enormous sum! But if we suppose the Macedonians alone to partake of this favour, and estimate them at forty thousand\textsuperscript{537}, it amounts to

\begin{itemize}
\item \textsuperscript{533} Five lunar months and six days.
\item \textsuperscript{534} Lib. vi. p. 136.
\item \textsuperscript{535} Dios. Ind. p. 207.
\item \textsuperscript{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.
\item \textsuperscript{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.
\end{itemize}
less than an hundred pounds a man: we must observe moreover, that
the debts of the officers were included in this estimate, and the ex-
cess of their proportion must subtract from the quota of the private
soldier. Many of them had lived with the luxury of Oriental satraps, and possibly Antigones 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 second 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 Oechus. Eighty marriages of this sort 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 expense of the solemnity, and furnished the mar-
rriage portion for every bride.

Next succeed 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 Leon-
natus for his victory over the Ortyx, and Peuceflas for his service
in preserving the life of his sovereign. In this honour Nearchus
alone partook as admiral, and Onesicritus as the navigator of

---

333 Ninety-seven pounds, all but a fraction.
350 See Athenæus, lib. xii. p. 549.
365 Statira.
the fleet. Nearchus was likewise continued in his command, and
dedicated to a future service 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 de-
sign 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 na-
tural course of events, it afterwards became, and such it continued
for eighteen centuries; but this plan was defeated by the unex-
pected death of the monarch; and the fate of Nearchus in the
ensuing struggle for empire is no farther discoverable, than that he
was made governor of Lycia and Pamphylia, and that he
attached himself to the fortunes of Antigonus. We find him
with that general crossing the mountains of Louriistan, out of
Susiana, after his contest with Eumenes, and two years afterwards
as one of the advisers Antigonus had given to his son Demetrius,
whom he left in Syria. I have looked for the conclusion of his
life in vain; but this event possibly took place at the battle of
Iphus,

543 The first mention of Nearchus, as go-
vernor of Lycia and Pamphylia, occurs in
Julian. This, however, does not greatly in-
terfere with the divisions of the empire given
in Photius, p. 270; for both these provinces
are assigned to Antigonus and Nearchus, as
being high in his favor and confidence,
was probably appointed by him to these pro-
vincies. It is remarkable, that in Photius's
extract from the ten books of Arrian, (παντα
ταναγραφον,) concerning the transactions after
the death of Alexander, the name of Ne-
archus is not once mentioned.

545 Julian, lib. xiii. cap. 4. Orosius,
lib. iii. c. ult. See Q. Curtius, Snakenborck:
Divino Imperii.

546 Diodor. lib. xix. p. 333.
548 I dare not pronounce that nothing is to
be found relating to Nearchus after the battle
of Iphus, but I have searched Diodorus,
Plutarch, Arrian in the extracts of Photius,
Julian, Q. Curtius, and the indefatigable commnentators of that author, Freiherrm and
Snakenborck, without success. Neither have
I found any anecdotes relating to his life pre-
vious to the expedition, except what the Baron
de Sante Croix has anticipated, Baum, p. 250.
Ipsus, where Antigonus fell; or, after the battle\textsuperscript{148}, 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.

\textit{ΟΥΤΩ ΜΕΝ ΑΠΕΣΩΘ ΑΛΕΞΑΝΔΡΟΣ, ΕΚ ΤΟΥ ΙΝΔΟΥ ΤΩΝ ΕΚΒΟΛΕΩΝ ΟΡΜΗΘΕΙΣ Ο ΣΤΡΑΤΟΣ.}

by which it appears, that he was a native of Crete, and enrolled a citizen of Amphipolis, as we may conclude, at the time when Philip, 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 so ingratiated himself with Alexander, that in the family divisions which arose upon the secession of Olympias, and some secret transactions of her son in regard to a marriage with the daughter of Pexodorus, satrap of Caria, Philip banished Nearchus, with others whom he supposed too much attached to the interests of Alexander. Upon the death of Philip he was recalled, and his sufferings in the cause naturally secured the affections of his sovereign. See Plutarch in \textit{Vita Alex.} p. 669. edit. Franckfort, 1599.

\textsuperscript{148} This battle ought to have been found in the 21st book of Diodorus, but the extract only is extant.

\textbf{SEQUEL}
SEQUEL

TO THE

VOYAGE OF NEARCHUS.

The military character of Alexander dazzles the mind so 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 Hephaestion, with orders to proceed towards the Tigris; but

* Arrian, lib. vii. p. 281. It will immediately appear that Alexander met
* Arrian says, to the Gulph of Peræa; but them again on the Tigris. Alexander
Alexander himself determined to take a view of the Gulph of Peræa; 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, says Arrian, on the Eulæus; and, if this be true, the fleet must have been brought down the Parthigris to the junction of that river with the Eulæus, or even from that junction up the Eulæus, to Susa. This supposition is not contradictory to anything which appears in Arrian; and, if it is allowed, solves 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 sea. 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 Pafî [or eastern] Tigris: this, at its issue, is styled the Khore-Moosâ, (the Mosâ of Ptolemy,) and above the Delta, Karûn: but Nearchus, having entered the Parthigris, 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, preserves its title to Parthigris. 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.

N.B. The Hypaspists alone are three thousand. Arrian apud Phœnian, p. 610. Diod. lib. xviii. and xix. p. 339.; but the Argyraspides are mentioned separately. Companions. Sisârus, Macedonian horse. In Strabo, Diodorus, and Q. Curtius, as The Hypaspists are Macedonian infantry, in contradistinction to the Greek Hoplites;
VOYAGE OF NEARCHUS.

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 Sulis, 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 Pasitigris 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 artificial 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. Συλεοπόρος.
9. D'Anville conjectures Haffar may be the Apkh of Pliny. May they not both be the the Asphar of Herod. Lib. vii. p. 447, edit. Wetz.; for the situation of Herodotus's Ampé, at the mouth of the Tigris, is more precise than Pliny's Apkh?
11. Thouret and P. della Valle went up it. The Khore Bamilha has been since 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 Mecene, 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 Mučan, 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 Karun branch, or Khore Mooa, through the Delta to the sea. From this khore, his passage to the Tigris [Schat-el-Arab] would naturally be across the Ali-Meidan, 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 four lines to conduct him into the Tigris, to convey him up to the camp of Hephaestion, 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-

"What perpetual inundation may have done is not to be calculated; otherwise, if this site were searched for, it would indubitably be found."

"Hackluit, vol. ii. p. 272, 270. Sometimes sixty days, as Tavernier and P. della Valle affert."
ing to the state of the river. Otter \[\text{18}\], who performed this voyage himself, has few materials to supply; he embarked in June\[\text{19}\], 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 Dgefiré, or island, inhabited by the Arabs Bení Lamé. To this barren account Colonel Campbell\[\text{20}\] adds, that the river itself is grand, but the country furnishes scarcely an object for reflection. "I do not remember (he says) "to have ever passed through such a vast extent of country, to "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 season 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\[\text{21}\], who found similar dykes\[\text{22}\] both in the Euphrates and Tigris still

\[\text{18}\] Tom ii. p 39. et seq.


\[\text{21}\] He notices the heat as intolerable.

\[\text{22}\] This is mentioned at Lemoou, on the Euphrates; at Higré, Högkne, and Eki Moful, on the Tigris. Niebuhr, vol. ii. p 307. Edit. Amir. Travels. He supposes the mound at Higré to be in the very place of that demolished by Alexander.

\[\text{23}\] Tavernier mentions one of these dykes one hundred and twenty feet high in the fall, between Moful and the great Zab. Vol. 1. p 227.
exciting, 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 destruction; but the situation of Opis 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 Hephaestion was the principal circumstance which occurred. Paroxysms of grief occupied the Conqueror during the autumn; in the indulgence of which, like another Achilles, he disdained himself, while he intended to honour the memory of his Patroclus. Upon the commencement of winter, he is said to have resumed his arms in order to soothe his sorrow; and the

\[\text{**In hoc Chaldæorum tractu fuit Opis, em-}\]
\[\text{ordine respectu oppidorum a Ptolemaio mem-}\]
\[\text{poriwm ad Tigrim, sed incertum quo loco et}\]
\[\text{Cellarius, vol. ii. p. 462.}\]
quest of the Kofri was completed in forty days. They are the same tribe still called Kouz 22, or Cosles, inhabiting the mountains of Louri flor; and, by the invasion of them from the north, ought to be on the northern 44 face of that range which inclosed 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 sent into Hyrcania [Mazanderan], with orders to cut timber and prepare a fleet of vessels built after the Grecian manner, for the purpose of exploring the Caspian Sea. It seems extraordinary, that in the age of Alexander it was still doubted whether this sea was a vast lake, or communicated with the Northern Ocean; but the information of Herodotus, as it appears, had not been sufficient to convince the Greeks of its real state. The solution of this doubt was a sufficient motive to influence the conduct of Alexander; and the desire of obtaining a knowledge of his own empire, or the situation of the nations on his confines, had always been an inducement to the boldest of his undertakings.

After crossing the Tigris, he proceeded to Babylon 44, and entered the city much against 44 the inclination of the priests of Belus.

22 Plutarch writes this name Kofri, Kofri; and hence Kifri. Alexander, p. 704.
24 As the Uai are on the southern. Zee, 422, 450. Arr. lib. viii. p. 293.
44 It is remarkable that Nadir Shah was building a fleet on the Caspian, and forming one on the Gulph of Peria, 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 is likewise noticed by Hanway, Otter, and Sir William Jones, &c.
44 Babylon is four German miles from Hilleh. Niebuhr, p. 253. The Euphrates, at Hilleh, is four hundred yards wide, with a bridge of thirty-two boats, p. 254.
44 Omens occur as usual; and Nearchus is mentioned by Plutarch as the officer who came out to meet the king, and forewarn him of his danger.
They had embezzled the revenues allotted for the restoration of the temple \(^{22}\) demolished by Xerxes, and wished to avoid the day of account. The situation 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 Basra, and whence they have a journey of only three or four days\(^{23}\) across Mesopotamia to Bagdat. The remains of this capital are not so obliterated as some travellers would make us believe; they are, however, mountains of rubbish \(^{24}\) rather than ruins, with caverns and hollow ground extending over a space of fifteen or sixteen 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 \(^{25}\) 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

\(^{22}\) It was not the temple or tomb of Belus, 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 stop to the progress of the work. Lib. xvi. p. 738.

\(^{23}\) It is little more than fifty miles. Ives.

\(^{24}\) The boat which carries dispatches is only ten days between Baira and Hilleh. The ordinary passage about twenty-one days. Niebuhr. Voyage, vol. ii. p. 197. et seq. The ride serves to Arjaje, seventy miles above Khorna, p. 198. \(\ldots\) fourteen German miles.

\(^{25}\) Niebuhr trod the ground of Babylon almost without knowing it; he mentions hollow tumuli for three or four miles, and some trees still growing there not natives of Baby-
up the Tigris; and, by the language of Arrian, it should appear that Nearchus had taken charge of this division. Either also had been brought from Phœnicia seven-and-forty vessels, which had been taken to pieces, and so conveyed overland to Thaspacus. Two of these were of five banks, three of four, twelve of three, and thirty rowed with fifteen oars on a side. Others likewise were ordered to be built upon the spot, of cypress, the only wood which Babylonia afforded; while mariners were collected from Phœnicia, and a dock was directed to be cut, capable of containing a thousand vessels, with buildings and arsenals in proportion to the establishment. To effect this design, Mikkalus had been sent down to Phœnicia with five hundred talents, and a commission to take all mariners into pay, or to buy slaves who had been trained to the oar.

Extensive as these preparations may seem, they were not too large for the designs of Alexander; he had conceived the idea of conquering Arabia, and colonising both sides of the Persian Gulph.

30 2

The
The conquest, perhaps, might have been as precarious as all other attempts which have been made against that singular nation; but a fleet on the Euphrates in the summer, while the stream is full, and another on the gulf, 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 fanaticism enabled them to act in concert.

It was either with a view to this expedition, or, as the historians rather intimate with a design of re-establishing the canals, and benefitting 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 researches of d'Anville, and the visit paid by Niebuhr to the spot, 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 son Hoefzin than by any appellation of their own. The upper lake lies nearly on the parallel of Babylon; and at its northern extremity stands the.

77 Galleys of five banks of oars, such as 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 service either in the gulf, or to attend the army on the proposed expedition to Arabia. They could hardly have been useful to Nearchus, in his circumnavigation to the Red Sea.

78 Gronovius, in a very long and angry dissertation, defends the sense which Vulcanius has given to this passage of Arrian, in opposition to the perversion of it by Isaac Volius; and Volius seems to deserve every reproof, from the perversity of his antagonist. The criticism of Gronovius on the word ἀπερεπτημένος, 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 obscurity which enveloped this passage. The dissertation accompanies Gronovius's edition of Arrian.

"Gronovius, with great vehemence, rejects all consideration of Arabia, or Arabians, from the account; but there is some 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, but only the voyage and the clearing of the firth.
VOYAGE OF NEARCHUS.

town of Kerbelai, containing Mechid Hosein, or the tomb of Hosein, 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 Mechid Ali a little to the east. Kufa, where Ali was murdered, is not more than six miles from this spot. It stood in a south-east direction between Bahr Nedsjef and the Euphrates; but is now totally ruined, and without inhabitants. It is this lower lake into which the Euphrates was diverted by the cut at Pallacopas, in the season of its inundation; and the opening or closing of this canal was committed to the satrap of Babylon, as a part of his office. In a tract like that on both sides of the Euphrates, where all is desert that cannot be watered, and every spot 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 control of the waters invigorated all the contiguous districts; but when the Persian conquerors dwelt on the other side of the

26 Hosein was killed at Kerbelai. 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. Mechid means the tomb of Ali, Hosein, &c.

It is the death of Hosein which gave rise to one of the most celebrated facts of the Persians, and the murder of this family, which makes the distinction between the Schiites and Sonnites, the two great sects of Mahometanism. The Persians curse Omar Abubeker and Ommawiah. Nadir Shah, notwithstanding his attempt to introduce the Sonnite tenets into Persia, adorned these two Mechids of the Schiites at the expense (as Niebuhr says) of 66,666 German crowns for the service only of Mechid Ali, and 13,133 for the service of Mechid Hosein; and yet neither of these Mechids is in his own kingdom, but both under the Turkish government. See Niebuhr, vol. ii. p. 206. Am. ed.

27 Mechid Hosein, or Kerbelai, is five German miles from Kufa and five from Mechid Ali. Niebuhr, vol. ii. p. 217. This canal from the Euphrates is still preserved.

28 Niebuhr mentions a dry canal at Kufa, (Djurré Zarde,) which would answer very well to the cut of Pallacopas, as I wish to fix it. Niebuhr himself calls it Pallacopas, vol. ii. p. 183.
Tigris, at Ecbatana, Susa, or Persepolis, as the due attention was discontinued, Mesopotamia, Chaldaea, 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 vicissitudes 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 constantly been preserved; and, even under the desolating 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 sovereigns 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 superfluous waters of the Euphrates, by withholding them at one season and dispensing them at another, and by making the abundance of the summer subservient to the deficiency of the winter.

To these views we may attribute the expedition to Pallacopas, which was a canal issuing into a lake or marsh on the Arabian side of the river, fifty miles below Babylon. This lake is the Bahr

While Ives was on his passage up, he met a Paša coming down, with commission to direct the places where the bank was to be opened, or the outlets closed, p. 225. This is still an office of dignity, for this Paša was a commander of 30,000 men; and as we may conclude that under the Turkish government, every drop of water is paid for, though the service will be performed badly, it will still be performed.

Nedsjef
Nedsjef of Niebuhr, the Rahemah of d'Anville; it is now dry, in the winter season at least wholly, for Niebuhr seems almost to have passed through the centre of it, and found nothing like a lake, though several cuts and channels now totally neglected: if the water ever enters them at the height of the increafe, 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 desert, till it issued 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 something 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. One proof of this is still existing, for no

40 Niebuhr landed at Mâschwira, on the western bank, a little above Lemnoon, and went by land to Meschid Ali. He must either have gone along the bed of the fia, or have seen it, if it existed. He was here in December, Vol. ii. p. 151. P. 209, he says, the lake was dry. Another name he mentions, El-Boheire.

41 D'jarie Zaade.

42 Arrian's testimony is express. Εν Ἡράν, ἐν Σαλαμεία κατά πολλά τις παλαις εἰρήνης ἔσπερα μελετήσας: Lib. 7. p. 503.

The reason why these mouths were undiscoverable [Σωατίς] to Arrian, was, because he had conceived the mouth of the Euphrates to be where we now find the Khore Abdillah; and when we read in Pliny that the stream no longer flowed through this Khore into the sea, because the inhabitants of Orchoe had stopped its course, we ought to conclude, that between the age of Alexander and Pliny, the Arabs of the desert in the neighbourhood of the Bahr Nedsjef had diverted its waters in the time of the inundation, to irrigate their own lands, and consequently exhausted them instead 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 Babylonia, the extent of Niebuhr's canal would be increased to eight hundred miles.
traveller passes the great desert between Basra and Aleppo, without encountering the remains of towns, 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 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 aqueduct 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 Niles, and brings in at the northern angle; but there is respectable authority to appeal to, that the higher one 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

---


** Some springs or pools may have supported a few scattered villages, and some source, may have maintained a Palmyra: but the few waters found in the desert are usually brackish, as the soil is salt.

*** Mentioned by Niebuhr, and Ockley calls it the river of Kerbelai. Hefelin 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. 322.

---

* The canal into the upper part of the lake, d'Anville calls Niles: it passes by Bsh-Hubeira, and the lake itself sometimes takes that name. This is the Pallacopas of Niebuhr, and with great reason; for Al-Edrih says, p. 204, "A calileo Bsh-Hobaera profundit idem Euphrates in univeriam ditionem Kufa, residui ejus aquae in lacus influenta, basin." No character can suit Pallacopas better than this. Mr. Howe's Papers.

entered
VOYAGE OF NEARCHUS.

entered at the bottom, and sailed north; but if we suppose him to enter from the north, to sail southward, and then come out at the lower end, this course brings him very nearly to the marshes of Lemnoos, in which Niebuhr\(^{47}\) supposes him to be involved, and where all the peculiarities attendant upon his situation naturally take place.

But the immediate object of this expedition was a survey of the canal itself; it seems 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 soil was soft, yielding, and oozzy; the difficulty, therefore, was enhanced, when the season arrived for closing it, and the satrap 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 secured. By a survey of the ground it appeared, that at the distance of two miles lower down, the bank was firmer and the soil a rock, if the opening were made here, and a channel carried from this point into the original cut, it appeared easy to effect the stoppage of the waters when requisite, as the solidity of the bank would hinder the ravages\(^{48}\) of the inundation in the first instance, and


\(^{48}\) The rapidity of the Tigris is noticed by all travellers, and its name derived from that quality by the Greeks. Pietro della Valle thinks the Euphrates faster, which proves the violence of both. Ctesias, Indeocrutus, has a pleasant solution of this; for he asserts that the north of his plane of the earth is higher than the south, which is the reason that the Nile flows so slowly, up still, while the Tigris and Euphrates run, rapidly, even still, to the south. All that Ctesias saw he reports truly, though ignorantly; but he saw little except Abydos, and was never beyond the straits of Babel-Mande. (See p. 132, and 137.) It is a pity that his hypotheses and his theology had not perished, and his topography been preserved; the reverse unfortunately is the truth.
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 Mezchid 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 failed 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,


There is a very odd connexion between the Christian Cosmas and the Mahometan Al-Edrīn (if he was a Mahometan). See Zocotoa, p. 178. and the account of Christians sent there by the Ptolemies.

The Euphrates rises twelve feet perpendicular. The difference of its breadth at Bir is from 630 yards to 214. Poenck, p. 164. Howe's Papers. It rises sometimes in marzo, but the season 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 Nusjeft; for he says, the fleet left its course for three days and three nights. This could hardly happen in the Bahr Nusjeft, which is not fifty miles in extent. Vol. ii. p. 252.

Teixeira makes it thirty-five or forty leagues in circuit, and six broad, as I learn from Mr. Howe's Papers. If he saw it himself, 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 Valle's time; on his route from Bafra to Aleppo he notices marshes on his left, nearly in this tract. I am not convinced 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. In winter, there are a variety of channels very narrow, where even the boats of Bagdad 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 situation 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 Bagdad to Hilleh and Bagdad, 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 Asfca.

It is a superstition of the oldest date to build tombs on islands in rivers, or in the sea, or in sequestered spots in the desert. There is, perhaps, hardly the Mechish of an Imam now, where there has not formerly been the tomb, the mosque, or the shrine of some ancient hero, king, or fabulous deity. It is a profitable 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 saints, as still visited in the neighbourhood of Lemlooe. Haleb, Hafeq, Imam Kafaq.

Lemlooe lies in lat. 31° 40', better than half way between Bagdad and Hilleh. See Ives, p. 256, et seq. The whole is a low wet country, the sides of the river full of grass, and very distressing to the travellers; p. 257. See also Howel's Journals, p. 48.

See Niebuhr, p. 198, et 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 dissensions of the great officers, which commenced upon his decease.

With his designs 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 deserved, of being the greatest captain of his age, wherever he had directed his arms the invasion must have been formidable, and his success far from dubious.

As to the omens also that preceded his departure, or the immediate cause of his death, I shall be silent; 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 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 conspiracy.

---

31 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 some favourite member or other. I neither ridicule or believe them; but must observe, that sacred history is as sparing upon this subject as profane history is profuse.

32 Plutarch, who generally believes enough, does not believe the story of this poisoned cup. He says it was not heard of till some years after, when Olympias wished to render the family of Antipater odious.

But
VOYAGE OF NEARCHUS.

But while I decline all inquiry on these subjects, I must glean the few remaining facts that characterize 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 vessels which had been conveyed overland to Thapfucus, were still at Babylon; the prosecution 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 single vessels had been dispatched at different times down the Arabian side 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 present 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 fathoms from the mouth of the Euphrates [the Khore Abdillah], which was sacred to Diana, where a breed of goats and sheep was preserved, and

34 See d’Anville’s chart of the Gulph of Peria. Niebuhr has since supplied a map of Oman, but from oral information only. Alexander doubtless received a better account from his officers than the historians have preferred. He had established an office for these records, and the accounts they contained were not generally divulged.

35 The perpetual error of the Greek historians, in attributing the deities of their own country to the superstitions of Asia, is as 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 instead of inquiring for that of the Parthian or Arabian mythology. Thus Caesar attributes Mercury, Mars, &c., to the Celts, now known to be Woden and Thor.

Lib. vi. c. 17.
never molested but for the purpose of procuring victims for the deity. 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 seven miles and a half, while the real distance 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 sail in a light vessel, and with a fair wind. This, indeed, is a vague estimate; but ancient geographers consider a day's sail 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 distance is upwards of two hundred: but that these are the two islands seen by Archias, notwithstanding the defect of the estimate, can hardly be doubted; for Tylos is described as large, well-wooded, and productive, circumstances which suit no other island on the western side of the gulf but Bahr-cin.

A second vessel had been sent out under the command of Androthenes, 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 Muffendon, or Makr, seen by Nearchus and Oneiceritus upon their approach to the Gulf of Persia. The orders he had received from Alexander were, to circumnavigate Arabia, to go up the Red Sea, and make the bay of Heteropolis, on the Egyptian coast; by which is implied,

36 Whether it has now word I cannot discover.
37 Suez is supposed to occupy nearly the site of Arfinoe, built at the western extremity of the Gulf of Arabia by the Ptolemies, at a later period. The actual bay was styled Klyfma, or Klufma, from which the Orientals still call this sea, the Sea of Kofiam, by a transposition congenial to all their corruptions of foreign terms. Heteropolis was inland from Suez, and capital of a Nome from which the sea of Suez was named the Bay of Heteropolis;
plied, that he was actually to go to Suez, the extreme point of the Red Sea nearest Alexandria. These orders developed 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 Muscat, and to have come in sight of Cape Raf-el-Had, 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 Nearcirus; these vessels had failed at different times in the interval since Alexander's first arrival at Babylon; they were all galleys 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, who had possibly failed with Nearcirus; 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, Nearcirus 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 to high in the Red Sea; and that Alexander viewed this point of communication with Alexandria with the eye of a master. The sea of Suez is not only practicable, and the Ptolemies afterwards fixed upon Myos Hormus, from which point there was a caravan road to Ghina on the Nile, which Bruce travelled, and has described most admirably with all that relates to Myos Hormus, Caffar, Portus Albus, and Ormnon. There is a beautiful map of the Red Sea by Mr. de la Rochette.

38. The Raphelgate of our charts.

39. Archias only is known to be one of Nearcirus's officers. Nearcirus has not done justice to his followers, or, if he had done, Arrian has neglected them. Andrianes is considered as an officer under Nearcirus by Plutarch.
the fleet; and, if he had prosecuted 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 passage good to Maks during the latter part of the summer; and the experience he had obtained would naturally suggest to him the expectation of the monsoon from the north-east in November and December. With the assistance 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 Raif-el-Had; the winds fluctuate near shore; and, except Mafkat, there is hardly an inlet which a vessel can enter without hazard of shipwreck, when the wind is boisterous. From this experiment, Nearchus was relieved by the death of his master: 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 preferred both by Plutarch and Arrian, and does not materially differ in the account of the two reporters, except that Arrian has preserved more notices of the fleet, to which he was perhaps peculiarly attentive, as being more appropriate to the nature of his work. The diary itself is subjoined, with some small degree of licence, in order to harmonize the accounts of the two different authors.

It appears from Plutarch, that Alexander had given a splendid entertainment to Nearchus and his officers, two days preceding the account contained in the diary, which commences on the 28th of

---

62 The army was to move on the fourth lib. viii. p. 508. The feast might be only one day, the fleet on the fifth.
64 Plutarch. in Alexandro, p. 706. Arrian,
the Macedonian month Dæsus, 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 Medius⁸⁵, 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 fever were the consequence of the excess.

The diary commences here, and contains the following particulars:

Dæsus.

18th. The king bathed, and, finding the fever upon the increase, slept at the bathing-house.

[The sleeping 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.]

⁸⁵ This is the account from Plutarch; and Arrian no otherwise disagrees than by softening the excess a little, and dividing it into two meetings instead of one continued.
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.

19th. The king bathed; went from the bath to his chamber; passed the day at dice with Medius; bathed again in the evening; attended the sacrifices in a litter; took nourishment in the evening; the fever increased, and the night was passed in great perturbation.

Orders were issued for the officers to attend on the next morning.

20th. The king bathed; attended the sacrifices as before; conversed 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 sacrifices 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 sacrifices; the fever now ran very high, and oppressed 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 sacrifices with great difficulty; but issued fresh orders to the naval officers, and conversed about filling up the vacancies in the army.

---

43 In conversation. Arrian.
44 See Kainon, a bed or Lettuce; a palanquin rather than a sedan.
45 Are hardly, according to the translator of Plutarch; but the author himself omits the adverb, and Arrian says, sparingly; theys oikeosai.
24th. The king was much more oppressed, and the fever much increased.

25th*. The king was now sinking fast under the disorder, but issued orders for the generals to attend in the palace, and the officers of rank 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 soldiers 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 file 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 designs 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

---

* Plutarch has an interval here from the 21st to the 24th, from 16,000 ships to of a thousand and five hundred.
of his mind almost to the last moment that he had the power of speech.

The date of his death is the only point which now remains to be fixed; and as perfect satisfaction does not occur upon this subject from consulting 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 Pythodorus. The day of his birth is assigned 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; so that he was somewhat 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 seven 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 Midsummer 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 so perplexed, that having fixed the Voyage of Nearchus for 327 A.C. and brought Alexander

---

50 See supra, b. i. p. 31.
51 And to Falkner's Chronology, 1796, p. 168, 169.
VOYAGE OF NEARCHUS.

to Sufa in 326 A.C. he is obliged to interpolate a year," to give a false archon, and repeat the same consul twice, a reproach which his learned commentator" 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" which Arrian followed; so that both the historians agree on the year of the Olympiad ex. i. or 324 before Christ, in the archonship of Hegesius.

It is here that the addition of seven months by the one, and eight by the other, raises a difficulty which it is not easy to obviate.

Petavius has a dissertation" expressly to solve this question, which he does by supposing that Darius, in the time of Philip and Alexander, answered to Hecatombaeon, though it was afterwards made to correspond with Thargelion. Unfortunately, Hecatombaeon 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 affirms.

Usher agrees with Petavius in supposing that Darius originally answered to Hecatombaeon, and afterwards to Thargelion; but in

---

" Olympiad cxxii. 4.
Note 9, in his Audacie Specimen, &c.
his Ephemeris he assigns the 1st of Dæfius to the 25th of April: the 28th of Dæfius 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 easily admissible, 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 cxxiv. r. commences, according to Dodwell, on the 23d of July, and consequently Hegesias continued archon till that day. This statement brings all the calculations so nearly to a consistency, that one objection only remains, which is, that I cannot discover in any of the historians two winters after Alexander's return to Sula: one is evident; that, in which he subdued the Koflæi; 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 busy spirit of Alexander.

If, after the reduction of the Koflæi, he entered Babylon in the spring of 324 A.C. we have nothing to employ the remainder of that year but the visit to Pallacopas, which must have taken place during the increment 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-

17 The inundation seldom takes place so early as May. Ives, p. 251.
VOYAGE OF NEARCHUS.

mediately, that, if there was an interval of eight or nine months, it does not appear. The opening of a campaign, indeed, suits better with the spring following, as Usher fixes it; and that he was going to set out on an expedition to Arabia appears from the orders issued to the troops and the fleet during his illness. If this consideration, therefore, appears reasonable, we may fix the death of Alexander still in Olympiad cxiv. i., 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 era. The difficulty of unravelling the intricacies of the Greek calendar, and the digestion of Greek months must apologise for such a degree of obscurity as may still remain upon this question; and even an acknowledgment of ignorance may be pardonable, since it has been lately proved by the Choiseul Marble, that, after all the learned labours of Petavius and Corsini, the arrangement of the Attic months by Scaliger is finally confirmed.
ON THE

SITE OF OPIS.

ARRIANS 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 furnishes 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 years, 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 Seleucidae, 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 Phycus, a stream which falls into the Tigris at the distance of twenty parangons, or sixty Roman miles, from the place where the ten thousand crossed that river. The fixing of the passage, therefore, would give the position of the Phycus, or, if we can find the Phycus, 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

From BAGDAT.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Zabatus</td>
<td>Odorneh.</td>
<td>Odoine.</td>
<td>Gorgas.</td>
</tr>
<tr>
<td>The Zathes</td>
<td>Aloum Sou.</td>
<td>Little Zab.</td>
<td>Caprus.</td>
</tr>
<tr>
<td></td>
<td>Lycus.</td>
<td>Great Zab.</td>
<td>Leuces.</td>
</tr>
</tbody>
</table>

* Xenophon, ed. Lennec. p. 371, et seq.
* Expedition of Cyrus, 401 B.C. twelfth year of Strabo, lib. xvi. p. 739.
* Alexander, 323 B.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 Physicus 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, prefer the route by Hilleh, Bagdat, and Mosul, to the passage over the great desert between Basra and Aleppo. Any one of those who would descend the Tigris, from Mosul to Bagdat, in a kelek, may fix the mouth of the third river on his left, by observation; this must be the Odoine, or Physicus, 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 it can be shown 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-six miles to the Tigris; but if Opis is sixty miles above Bagdat on the eastern side, the wall of Semiramis cannot be left on the western; and consequently this cannot be the rampart which Xenophon calls the Median Wall. ThisMedian wall, however, did exist; it exists in ruins at the present hour, and is seen by every traveller as he approaches.

4 A wall supported on the water by inflated skins, used on these rivers from the age of Xenophon to the present hour. See Taverner, tom. i. p. 216. et seq.
5 The passage must be made by water to obtain this object; as the road between Bagdat and Mosul leaves the Tigris. Iver, when three days’ journey from Bagdat, found a stream called Chula Harpas, which he says, led into the Tigris; this, by the distance, might be the Odoine, but Niahibz carries it into the Dhuza. Stümmer, that a traveller should not notice whether it flowed east or west! This must go by Yanks, Kar-take, etc. Dr. Howel’s Journal agrees with Iver.
6 D’Anville, p. 393. 354. D’Anville differs only three inconspicuous.
8 Eight parasangs, fifteen stadia.
9 Ives went to visit Nimrod’s tower; it lies west by north, about nine miles from Bagdat. 11 We passed the bridge of boats, and rode through Old Bagdat, from whence, quite up to the tower, ruins of buildings either wholly above, or somewhat 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 Tabké Kehir, 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 dubious; the district called Sirakene is east of the Tigris. Ives, p. 297. Tavernier, tom. i. p. 218.
10 Some of the public buildings at Bagdat contain the old Assyrian bricks from this wall, or the ruins of Sittaké.
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’Ile, 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 lost his life. D’Anville places Kynaxa on a curvature of the Euphrates marked by the modern Hit or Hit. 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 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 situation of d’Anville’s Makepraché and the wall of Semiramis, where it touches the Euphrates; but of this wall Xenophon takes no notice. On the second 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 second the direction of their course must be different from that of the first, for they did not dare to quit the Euphrates, lest they should fail in a supply of water; and that they kept the river on their right, and followed its winding to the south-east, is proved by their approach to Babylon, from which Xenophon says they were not far, when some days after they pulled 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 parangos to each, it produces seventy-five miles Roman; a space which brings them to the point where the Euphrates approaches nearest to the Tigris.
and makes the Median wall, if we place it here, seventy miles nearer Babylon than the wall of Semiramis, that is, sixty 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 parafauns each to Sitake, and two miles from Sitake to the Tigris, this gives twenty-six miles, following the direction of the wall to Bagdad; and this, at a point where d’Anville makes the space between the two rivers less than thirty, and where Niebuhr makes it only from eighteen to twenty.

By this process, the movements of the army west of the Tigris point to Bagdad, as the measures from Opis end at the same city, taken on the east. The bridge of boats would be as necessary for Sitake in that age, as for Bagdad 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 the number 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 Bagdad, 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 Bagdad and Ctesiphon, and the site of Ctesiphon is fixed by two ruins at the distance of a quarter of a mile from each other, called Tahki Kheira, the throne of Khors, 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 and returning. It is nearer, indeed, to Ctesiphon, but Ctesiphon is little more than sixteen miles from Bagdad, and consequently the mouth of the Diala must be less. Now it has

94 Ctesiphon, the Tiber of the Orientals, was built on the eastern side of the Tigris, opposite to Seleucia, which was in Mesopotamia; it rose under the Arsacian dynasty during the second century. See Gibbon, Vol. I. p. 217.
And the remains of the two cities are still called Al-Mad-alin, the double city; from Mashhi, Mashi, or Mashli, a fortress, and in or in; so Bahur-in, the double sea.
95 The Alvan Kheira of Pietro della Vallé, built of burnt bricks, 1400 paces long; middle side 62 paces long, 33 wide. Ives gives a drawing of this building, p. 299, 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 Seleucid DIRECTORY, who might prefer a situation on the opposite side of the river to their capital, Seleucia. Ives says, the earth front is 500 feet, breadth of the arch 55, height 166, length of the arched room 139.
96 Pietro della Vallé, tom. II. p. 258. He saw the Diala as large as the Tiber, slept at a village somewhat lower down, and proceeded next day to Soleiman Pac. A proof that there is some considerable distance between the Diala and Ctesiphon.
97 Ives is not quite correct. He says, he passed at Yealla instead of the Yealla; but such Diala founded to his ear, agreeably to the information of Djallat, to often notice, like the Diamna of Ptolemy, for Junna or Jumana.
98 D’Anville makes it near twenty; but Ives left Tahki Kheira about midnight, sailed half an hour at the ferry of Diala, and reached Bagdad between six and seven in the morning. Suppose him to travel five hours, and it will scarcely amount to more than fifteen or sixteen miles, p. 297. Al-Edrisi says fifteen 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 island 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 result of this inquiry serves 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 Gymnus falls into the Tigris, and the Tigris after passing by Opis, issues into the Gulf of Persia. If we are to understand by this that Opis is near the gulf, it is evidently not the same city. He mentions in another passage, that the Tigris falls into the Gulf of Persia at Ampce, 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 sort, and I must leave the venerable father of history to his commentators.

---

---

---

---
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 failed 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 assistance 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.
APPENDIX.

In that Ephemeris, Usher, upon the authority of Euclemon, places the evening rising of the Pleiades on the eighth of Dios, 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 assistance of Dodwell, came out the second 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 unrestrained, I have a right to expect absolution 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 fleet from its first station in the Indus as fixed for the first instead of the second of October.

DISSERT-
Dissertation I. i.

On the Rising of the Constellations.

Dear Sir,

Having at last finished the calculations which are necessary to enable me to resolve 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 lay something concerning a branch of astronomy which was much cultivated by the ancients, namely, the risings and settings of the stars, as they respect the rising and setting of the sun. The points chiefly attended to were, the times when certain fixed stars, or constellations of stars, rose or set with the sun; the times when those stars set as the sun rose, and the times when they rose as the sun 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 seasons, and even estimated the length of the year.

As the sun, 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 sun comes into conjunction; that is, into the same part of the heavens,
heavens, with the Pleiades about the middle of May, and, in consequence, rises and sets about the same time that they do; in this position, the constellation was said by the ancients to rise cosmically and set achronically. But it must be observed, that in all places which have northern latitude, a star, which is to the northward of the sun when they are in conjunction, will rise at the same instant that the sun rises a few days before the sun comes into conjunction with it, on account of the obliquity of the sphere; and will not set 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 rises cosmically happens some days before that when it sets achronically; and the number of days by which the first of these circumstances 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 sun at the time of conjunction. On the contrary, if the star be south of the sun at the time of conjunction, the star will set achronically before the conjunction, and will not rise cosmically till after it is past. The contrary to both these positions takes place in southern 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 the tropics, there are cases in which these two general rules do not hold good; but they are very limited, and not worth considering here.
flar may be visible at its rising; and, as soon as this was the case, the flar was said to rise heliacally. The number of days that this circumstance happens after the time when the flar rises cosinically depends partly on the latitude of the place, partly on the declinations of the sun and flar, and partly on the flar's brightness; it can therefore only be determined, like the beginning and end of twilight, by observation. For the same reason, the flar 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 flar 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 sun advancing still eastward in the ecliptic, while the flar keeps its situation, will have got so far beyond it, that some time in the beginning of November the sun will set as the flar rises; and the flar is then said to rise achronically. Moreover, the sun and flar 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 flar south or north of the sun at the time of conjunction, the flar must set as the sun rises; and when it did so, it was said to set cosinically.

The longitude and latitude of the Lucida Pleiadum was determined with great accuracy by the late Dr. Bradley to be 5° 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 cosinically on or about the 10th of May, and set achronically about the 20th of
the same month: and that they rise achronically about the 12th, and set coformically 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, Nearcirus failed 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 crosses the plane of the earth's equator are called the Equinoctial Points. That which the sun 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 flat 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 $50\frac{1}{4}$ 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.
Dissertation I. i.

As the vernal equinoctial point is carried backward by the above-mentioned quantity yearly, while the fixed stars retain their places, and as we continue to reckon the longitudes of the stars from that point, it is manifest the longitudes of the stars will be increased every year by $50\frac{1}{2}$ seconds. 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 sun is in the vernal equinoctial point; from which it will be evident that it is later, by a small quantity, every year than it was the year before, when the sun comes to the same longitude with any particular star, or to that point of the ecliptic where it rises or sets 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 Pleiadem* was $8^\circ 26^\prime 38^\prime 38^\prime$, 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 $50\frac{1}{2}$ seconds in a year, amounts to $86,472\frac{1}{2}$ seconds, or $24^\circ 1^\prime 12^\prime 12^\prime$, which being taken from $8^\circ 26^\prime 38^\prime 34^\prime$, leaves $8^\circ 2^\prime 37^\prime 21\frac{1}{2}^\prime$ for the longitude of η Pleiadem in the year 42 after Christ: and, as the longitudes of the stars remain the same, the point of the ecliptic which then rose with this star was $\lnot 29^\circ 7^\prime 9^\prime$, the obliquity of the ecliptic being at that time $23^\circ 41^\prime 24^\prime$. Hence the point which set as the star rose was $\lnot 20^\circ 7^\prime 9^\prime$; and this point, I find by Mayer’s Tables, the

---

*I take no notice here of the very small fixed stars by the actions of the other planets change which is caused in the places of the sun on the earth.*
fun was in on the 19th of October. By a similar process, I find that the point of the ecliptic which rose as the Pleiades set was in 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 assigned 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 sun would set a short time before the star would rise, and on the 8th of November the star would set some time before the sun rose; both which circumstances appear to be necessary if these phenomena were determined by observation, as, most probably, was the case. For it is manifest the star's rising cannot be observed when it rises exactly as the sun sets; nor can its setting be seen when it sets exactly as the sun rises, on account of the daylight, as hath been already observed; but, perhaps, the one might be seen 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 failed 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 failed 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 1/2", which being taken from 8 2° 37' 24", the star's longitude in the year 42 after
42 after Christ, leaves $\pi 27^\circ 23' 38\frac{1}{2}''$ for the longitude of the *Lucida Pleiadem* 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 $23^\circ 41' 13''$, was $\pi 19^\circ 26' 41''$: but as the sun was setting when the star rose, it must have been in $\pi 19^\circ 26' 41''$, the opposite point of the ecliptic, which point the sun 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 sufficient to render the rising of the Pleiades visible at Rome, we are certain that more could not be requisite to render their rising visible at the place Nearchus sailed from, which is in a much lower latitude; we are therefore led to suppose, 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 set 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 rejected. 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 era 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 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 $5^\circ 8' 42\frac{1}{2}''$, 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 five 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 sincerely,

WILLIAM WALES.

Christ's Hospital,
Jan. 14th, 1796.
D I S S E R T A T I O N I. ii.

On the Rising 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 says, that Nearchus sailed from the mouth of the Indus as soon as the Etesian ceased, in the eleventh year of the reign of Alexander, according to the reckoning of the Macedonians and the Asiatics, and on the 20th of the Athenian month Boëdromion.
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 assert, it cannot be of more than a single day.

Strabo's account is, that "the fleet sailed in autumn about the season of the evening rising of the Pleiades, before the winds were fair, the barbarians attacking them and forcing them to sea."

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 sort 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 sort of date no greater accuracy is to be expected,) they saw the Pleiades risen in the east, some short space of time after the sun was set in the west; or rather, since the star could not be seen when the sun was yet upon the horizon, they saw the star about an hour after sunset with that altitude, that they concluded it had risen at the moment when the sun set.
Dissertation I. ii.

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 phenomena 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 8 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, v 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 rising. Let the ecliptic intersect the horizon, on the eastern side in O; and on the western, in o. Let v be
Lucida Pleiadum upon the eastern horizon; then $O$ will be the point of the ecliptic, which comes to the eastern horizon, and rises 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 $* B S$, we have the angle at $B$ right. $B \times S$, the obliquity of the ecliptic, $= 23^\circ 44' 14''$; the side $\times B$, the longitude of Lucida Pleiadum, $= 27^\circ 30' 39''$. Therefore, by the resolution of the triangle, we find the angle $B S \times = 69^\circ 4' 57''$, and the side $B S = 11^\circ 28' 56''$.

But the arc $* B$ is the latitude of Lucida Pleiadum, $= 4^\circ 1' 36''$; and $* S = * B + B S = 15^\circ 30' 32''$. Therefore, in the spherical triangle $* S A$, we have the side $* S = 15^\circ 30' 32''$; the angle $* S A$ (or $B S \times$) $= 69^\circ 4' 57''$, and the angle $* A S$, the complement of the latitude of the place, $= 66^\circ$. Therefore, by the resolution of the triangle, we find the angle $S * A = 43^\circ 24' 29''$.

Before we proceed further in the calculation it is proper to observe, to save unnecessary trouble, that it will not serve our purpose to
to ascertain the longitudes of the points $O$ and $o$, which the resolution of one triangle more would give. But the longitude of the point $o$, which sets when the star really comes to the horizon, would give us only the day, which would be the day of the acronychal rising of Lucida Pleiadum, if the atmosphere possessed no refractive power. But when the star 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 sun at the same time were setting upon the western horizon, he would appear, from the same cause, at the height of about half a degree above it; so that on the day when the sun is really upon the western horizon, at the same instant when the star is really upon the eastern, the star by the effect of refraction will have risen, and the sun will not be set. What we want to find is the day when the star would be seen rising, and the sun seen setting at the same instant, if the star could be seen in the light of the setting sun; which will be an earlier day, than that whereon the rising star and setting sun 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 sun. The effect of refraction upon the star will easily be ascertained 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 $*$ draw a vertical circle $*V$, and let off an arc $*R = 30'51''$. Through $R$ draw a great circle of latitude, meeting the ecliptic in $\zeta$; and through $*$ draw a small circle parallel to the ecliptic, and let this small circle meet the great circle of latitude, drawn through $R$, in $\sigma$.

Now since the light of the rising 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 $R\zeta$. 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 $R\sigma$, and the longitude diminished by $B\zeta$.

In the triangle $*R\sigma$, right-angled at $\sigma$, which for the smallness of its sides may be treated as a rectilinear triangle, the side $*R = 30'51''$; the angle $R*\sigma$, which with $\sigma*O$ makes a right angle, must be equal to $O*B$ (A+S of Figure 1.), which with the same $\sigma*O$ makes a right angle; therefore, $R*\sigma = 43^\circ 24'29''$. Therefore, by the resolution of the triangle, the side $R\sigma = 21'12''$, and the side $*\sigma = 22'24''$. This is the length of $*\sigma$ in parts of a great circle; whence $B\zeta$ will be found $22'28''$. Hence $R\zeta$, the apparent latitude of the refracted star, $= R\sigma + \sigma\zeta = 4^\circ 22'48''$, and $\tau\zeta$, its apparent longitude, $= \tau B - B\zeta = 27^\circ8'11''$. 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 $SB$, which is right-angled at $B$, put $\gamma B = 27^\circ 8' 11''$; the angle $B = 23^\circ 44' 14''$ as before. Then, by the resolution of the triangle, the angle $BS\gamma = 69^\circ 0' 30''$, and the side $BS = 11^\circ 20' 29''$.

But $\gamma B$ is to be taken as the star's refracted latitude = $4^\circ 22' 48''$; and $\gamma S = SB + BS = 15^\circ 43' 17''$. Therefore, in the spherical triangle $\gamma SA$, we have the side $\gamma S = 15^\circ 43' 17''$; the angle $\gamma SA = 69^\circ 0' 30''$, and the angle $\gamma AS$, the complement of the latitude of the place, = $66'$. Therefore, resolving the triangle, we find the angle $\gamma A = 43^\circ 29' 34''$.

Then in the spherical triangle $\gamma BO$, which is right-angled at $B$, we have the angle $\gamma O (\gamma A) = 43^\circ 29' 34''$; and the side $\gamma B$, the star's refracted latitude, = $4^\circ 22' 48''$. Whence, resolving the triangle, we find the side $OB = 4^\circ 8' 39''$.

Now $\gamma B$, the apparent longitude of the refracted star, = $27^\circ 8' 11''$; and we have found $OB = 4^\circ 8' 39''$. Therefore, $\gamma O = \gamma B - OB = 22^\circ 59' 32''$; 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 $\gamma$ 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 \( \approx 22^\circ 59' 32'' \).

But if this were the true place of the sun, 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 \( \gamma \cdot O \cdot A \) (Figure 1.) or its equal \( \equiv O \cdot B \).

The angle \( \equiv O \cdot B \) is easily found, by resolving the spherical triangle \( \equiv O \cdot B \), in which the angle at \( B \) is a right angle; the angle \( B \cdot O \cdot B = 43^\circ 29' 34'' \), and the side \( B \cdot B = 4^\circ 22' 48'' \). Hence the angle \( \equiv O \cdot B \) comes out \( 46^\circ 39' 57'' \).

Now, to avoid confusion, draw the spherical triangle \( O = B \) by itself in Figure 3. Through \( O \) draw a vertical circle \( O \cdot V \), and take the arc \( O \cdot R = \) horizontal refraction = \( 30'' 51'' \). Through \( R \) draw a great circle of latitude, and let it meet the ecliptic in the point \( \alpha \).

Then, if the sun 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
at R upon the circle of latitude R φ; φ will be his apparent place in the ecliptic; and the arc of the ecliptic, O φ, 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 φ, which for the smallness of its sides, may be treated as a rectilinear triangle, the angle at φ is a right angle. The angle R O φ, being the complement of O O B, is 43° 20′ 3″. Hence O φ comes out 22° 26″; and this, as has been said, is the effect of the horizontal refraction upon the rising sun's apparent longitude, his true place being O, in the latitude of 24° north. And the same will be the quantity of the effect upon the setting sun, in the opposite point of the ecliptic φ, in the same latitude; for the quantity of the effect in any given latitude, upon the rising sun, in any given point of the ecliptic, and of the effect upon the setting sun 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 rising sun west of his true place, and the apparent longitude of the setting sun east of his true place.

Hence, that refraction might throw the light of the sun to the point φ 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 φ.

The point φ has been found to be 22° 59′ 32″; therefore the sun's true place, in order that the required effect should be produced, must have been 22° 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, 1053 23′ 9″.
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,) 4° 16'; add also 4° 36'; for the difference between the meridians of Greenwich and the mouth of the Indus, and we have October 19th, 13° 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 rising 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
rulings and settings; nevertheless, there will always be a day, when
the rising will be nearer to acronychal, than in any other. And this,
physically speaking, is the day of the acronychal rising; 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 pursued 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 re-
fractions, because the effect of refraction upon the longitude and lati-
tude of celestial objects, though a matter of no difficulty to mathema-
ticians, 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 acro-
nychal 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 failed), 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 Cycle.
I make use of a very compendious Table of my own, by which I can,
in a very few minutes, ascertain, on what day of the Julian year the
1st of Hecatombaçon, in any given year of any given Metonic Cycle,
fell, according to the principles upon which my Table is formed.
And the 1st of Hecatombaçon, i.e. the beginning of the year, being
once determined, the whole year is easily reduced to the Julian
reckoning.
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 Embolismaen 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 exaeclimal 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 say, five Cycles were completely run out, since 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 Boëdromion in this year was a hollow month, and the exaeclimal 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
By Scaliger's principles, the 20th of this Boedromion 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 term.

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 suspect an error in the name of the month in Arrian; and I tried a conjectural emendation; but the severe test of a strict calculation compelled me to discard it.

After various conjectures, and many long calculations, I am entirely persuaded, that Mr. Wales's very ingenious conjecture, by which he reconciles his calculation of the acronychal rising of the Pleiades at Rome, in the year of our Lord 42, with Columella's date, is the only solution, and the true solution of the difficulty. The perfect agreement that it will produce between Arrian and Strabo, in the time of Nearchus's sailing, is indeed astonishing.

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 sun
sun is sunk somewhat 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 sunk when a star first becomes visible, is different according to the magnitude of the star. Lucida Pleiadum is a star of the third magnitude; and Ptolemy says, 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 sun was 14° below the western horizon, at the same instant of time when Lucida Pleiadum came to the eastern horizon, its true place must have been 3° 33' 56"; and he came to this place in that year, September 30, 12 hr 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, 13 hr 14' mean time under the meridian of Greenwich. Add 4 hr 36', and we have September 30, 17 hr 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 six in the morning of the 1st of October.
On the evening, therefore, of the 30th of September, the sun (setting in that latitude about 5° 57' 26'', apparent time after noon) would be many minutes more than 14° below the horizon, when Lucida Pleiadum was rising. The rising of the star, therefore, that evening might be seen a minute or two later than 1 hr 0' 24'' after sunset; but the next evening, the 1st of October, the sun would be only 13° 37' 15'' below the horizon, when the star was rising, wanting 22' 45'' of the full depression of 14°. This evening, therefore, the star could not be seen upon the horizon. But as the sun sunk at the rate of 13' 40'' in 1' of time, he would link to the limit of 14'' in 1' 45'' of time after the instant 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 star, 1'' 0' 24'' after sunset, and 1' 40'' after the moment of its own rising, would break through the expiring twilight with the apparent altitude of 21' 58'' (I say with the apparent altitude, for the effect of refraction upon the star is included in these calculations). This altitude is very sensible to the naked eye, being scarce less than ½ of the whole diameter of the sun: 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 sensible altitude of 1° 2' 48'' at the moment of its first apparition. Whence our mariners would conclude, that the sensible acronychism was past. It appears, therefore, that what these mariners would call the acronychal rising 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 considerable length and labour, but of the greatest certainty, and pursued with the most scrupulous accuracy, by the help of Mr. Wales's suggestion, the ingenuity
ingenuity of which I cannot sufficiently 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 servant,

S. Rochester,

Deanery,
June 6, 1796.

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 1760 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 inadvertence, 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 latter is the true interval, you must know that it is the uniform error of chronologers, reckoning by the era 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 interval,
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 seldom 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, 0; and it
appears by the epochs ascribed to this year of Christ, 0, that it is
the year of the Julian period 4713. Now, the year of the Julian
period 4713, chronologers call, as you will see again by their tables,
the year before Christ 1; at the same time they call the next suc-
cceeding 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 consisting 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 con-
clusion 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. “Euëtemon vesperina apparent Pleiades.”
The 8th of the month Dius, according to Usher’s reduction of the
Macedonian year, was the 1st of October (St. Jul.). Euëtemon the
astronomer is mentioned by Ptolemy as Meton’s assistant, in the ob-
servation of the summer solstice. He flourished, therefore, in Greece,
about a century earlier than the time of this expedition.

I imagine that Archbishop Usher took this date of Euëtemon’s
evening rising of the Pleiades from Geminus, reducing Gemi-
nus’s date to the Macedonian year; for in Geminus’s parahegm
which,
which he gives in the 16th chapter of his Hagoge, I find this entry:

\[ \text{Ton de euyon dauporuyetai 6 ylios en hemerais \lambda.} \]

And a few lines lower,

\[ \text{Ev de tv E Euclunmon Plavaides evwirion fainvotaet ev te pro\'s e\'a.} \]

The numeral \( E \) denotes the 5th day of the sun in Libra. The sun entered Libra, according to Euclemon 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 consult Usher's Ephemeris, or Geminianus'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 Euclemon, without regard to Columella describing the phenomena 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 aeronychial risings, they are to be understood of the sensible aeronychism: 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 Stadion 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 ½; whereas the proportion of 5 to 8 makes it too large by no more than ⅑.

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 furlongs 76 yards 2 feet, or 4850 feet London measure.

Call the Roman passus P, milliare M, Olympic stadium Σ.

Now (by Polybius as quoted by Strabo) \( M = 8 \times \Sigma + \frac{1}{2} \Sigma \).

Hence \( 125 \times P \left( = \frac{1}{5} M \right) = \Sigma + \frac{1}{4} \Sigma = \frac{5}{4} \Sigma \).

Hence \( 5 \times P = \frac{1}{4} \Sigma \); and \( 120 \times P = \Sigma \).

Hence \( \Sigma \), or Olympic stadium, = 582 feet London, or 194 yards.

or Olympic stadium, = 0,110227" 27' miles London.

\[ 8 : 5 = 0,110227" 27' : 0,068892045'45" \]

Hence Aristotle’s stadium = 0,068892045'45" miles London.

\[ 3 \times 2 \]

Hence


Hence from Jamad to Mouth of Indus, = 10000 = 689
Coast of Arabitæ, = 1000 = 68,9
Oritæ, = 1600 = 110,24
Ichyophagi, = 10000 = 689
Karmania, = 3700 = 254,93
Perlis, = 4700 = 323,83

Total, 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 x 31000 = 2135.652, the actual measurement by the moderns, gives 1908 miles; the difference is 227,65 miles London, or 7/10ths of the whole distance.

But if 8 Olympic stadia were exactly a Roman mile, and Polybius's addition of 1/5 of a stadium was an error of his, arising from the difference between the Roman and the Olympic foot; then 1 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 x 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 foot, making the former greater than the latter, in the proportion of 25 to 24, must be erroneous. It seems to have been current among
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 assigned to it by Pliny. But it was very well known, that this stadium was but 600 of its own feet. It was concluded; therefore, that 600 Greek feet make 625 Roman, whence the consequence 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, \( \frac{1}{4} \) of a stadium, more than eight stadia, the length of the stadium turns out exactly 120 Roman passus, or 600 Roman feet. And since 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.

To Dr. Vincent's question concerning Ptolemy's longitude, I 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 fadlia 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 Ferro, according to Ptolemy,
According to Dr. Maskelyne's Tables,
Error of Ptolemy,

Longitude of London from Alexandria, according to Ptolemy,
According to the connaissance des temps,
Error of Ptolemy,

Which ought to be, 10° 13' 51" if you follow the editions which place Alexandria in 40° 30'.

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°.
APPENDIX.

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 Gaffendi (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 era.
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 grounds for conjecture, that the Nulla Sunkra, or Sengueré, the eastern channel, may assume its name from conducting the navigation to Sunkra, Sucker, or Sekier.

Page 276. Note 270.

In the History of the Discovery of India, by Manuel de Faria y Souza (English edition 1694, vol. i. p. 27.), it appears, that previous to Gama's expedition, Peter de Covillam and Alfonso 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 soldans 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 Hydranties read Hydrantias.
34. note 70, line 1, for an see read one.
45. line 3, for scribe read Sibson.
48. — 14, for Pleomey read Ptolemy.
51. — 12, for Krocole read Krocole.
69. note 4, line 2, for Kuttriri read Kuttriri.
81. line 3d from the bottom, for A-ken-ites read A-khen-ites.
97. — 16, for plain read plain.
123. — 3d from the bottom, for th read the.
139. note 159, line 2, for in read in.
141. line 18, for in read into.
142. — 16, for rains read rains.
145. — 7, for Gedrofa read Gadrofa.
153. — 3d from the bottom, for Mr. Rennell read Major Rennell.
219. note 149, col. 2, line 3, for written read written.
228. line 2d from the bottom, for and from Ferro read add from Ferro.
256. note 236, line 2, for 70 71 read 70 71.
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 thought this.
311. note 77, line 7, for Babamun read Babamun.
320. note 100, line ult. for Bahr-ain read Bahr-ain.
328. line 12, for of Baffidu read off Baffidu.
334. — 14, for latitude 28° 4' 30° 6' read latitude 23° 54' 35° 15'.
348. — 4, for Shiras read Shiras.
356. note 332, line 2, for ingenious read ingenious.
422. line 5, for orthography read orthography.
434. note 117, line 2, for orinates read originates.
462. line 17, for the separate narrative read the narrative.

An error which affects the series of days occurs p. 36, where the date assumed is October 2 instead of October 1. This is accounted for, and corrected p. 395, 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 Macedonian coin of the age of Severus, and is believed to be a copy from a bust of Alexander. It is remarkable that Alexander's own coins do not bear his image, for his gold coins have the head of Minerva, and his silver the head of Hercules.]

This coin is of brass, 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 Neocorze; 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. Vailiant. Numismat. Græc. p. 216. Dr. Combe.

The sentence 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; sketch of the Indus—to front Book II.

III. Two Charts.
   Chart No. I. by Mr. Dalrymple, of the coast of Mekran, from the Indus to the Gulph of Persia—to front Book III.
   Chart No. II. by Mr. Dalrymple, of the Gulph of Persia—to front Book IV.

[N. B. These two Charts are from actual surveys of Commodore Robinson, Lieutenants Porter, Blair, McCluer, M'Call, &c. with the ancient names added.]

IV. Sketch by Captain Blair—to front p. 253.

V. Map of the Euphrates, Tigris, Suffana, &c.—to front the Sequel.
<table>
<thead>
<tr>
<th>Borrower No.</th>
<th>Date of Issue</th>
<th>Date of Return</th>
</tr>
</thead>
</table>

**Archaeological Library, 2 4467**

**Call No.** 910.4/ Vms

**Author:** Vincent, William

**Title:** The Voyage of Nestor

"A book that is shut is but a block"

**CENTRAL ARCHAEOLOGICAL LIBRARY**

GOVT. OF INDIA
Department of Archaeology
NEW DELHI

Please help us to keep the book clean and moving.