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ASIATICK RESEARCHES:

OR,

TRANSACTIONS

OF THE

S O C I E T Y

INSTITUTED IN BENGAL,

FOR ENQUIRING INTO THE

HISTORY AND ANTIQUITIES, THE
ARTS, SCIENCES, AND
LITERATURE,

OF

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TRANSACTIONS
OF THE
ASIATIC SOCIETY.

I.

OBSERVATIONS *respecting the remarkable Effects of*
* SOL-LUNAR INFLUENCE *in the FEVERS*©/ INDIA;
With the Scheme of an Astronomical Ephemeris for
the purposes of Medicine and Meteorology.

BY FRANCIS BALFOUR, ESQ. M. D.*

WHILST the interesting and successful researches of the Asiatic Society are exciting the curiosity and expectation of the learned in every quarter of the world, it is natural for those who are prosecuting discoveries in medicine and meteorology to look towards *India*, for some information respecting the nature and peculiarities of the climate in which we live. Possessing, as we do, the peculiar advantages of a tropical situation, with a more extensive field, and greater conveniency for making observations than any *European* nation ever enjoyed before, it is an expects-

* Mr. BALFOUR is the author of the Paper in the Second Volume of the Asiatic Researches, entitle I a "Treatise on the introduction of the Arabic into the Penian, and language of "*Hindostan*"

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tion-which they have, reason to entertain, and which, on that account, and many other considerations, we ought, if possible, to gratify.

One of the most; striking and interesting peculiarities of this climate is, the wonderful connection that subsists between the paroxysms of fevers, and certain relative positions of the sun and moon ; and as it is a peculiarity that leads to new ideas respecting the theory and treatment of the whole class of febrile diseases, and suggests *Desiderata* for meteorological research; and therefore presents to the physician and philosopher, one of the most important phenomena in nature, I have chosen it for the subject of this paper.

I. *Of the NUMBER and IMPORTANCE of the DISEASES that belong to the CLASS of FEVERS.*

As the terms *fevers*, *febrile diseases*, or *class of fevers*, cannot convey to those who have not professionally or regularly applied themselves to the study of medicine, any just or adequate idea of the great extent and magnitude of this subject, I have thought it expedient to take this occasion to observe, for their information, that the *class of fevers* or *febrile diseases* comprehends, not only the disorders that always receive the appellation of fevers, but a very great number of *others* that are never distinguished by this name, although the *fever* which accompanies them, constitutes the very *essence* of the disease. Diseases of this description, of which many are far more destructive to the human race than those expressly called fevers, are most of them included in the following catalogue.

The plague, putrid sore-throats, epidemic catarrhs, dysenteries, pleurisies, peripneumonies, cho

lies, cholera morbus, acute liver, the small-pox, measles, erysipelas, elephantiasis, rheumatism, gout, tooth-achs, ophthalmias, megrims, obstructions of the liver and spleen, diarrhoeas, consumptions, spitting of blood, and hemorrhoids; many species of hypochondriasis, insanity, epilepsy, tetanus and asthma; the state of teething in children, all local inflammations, external and internal, accompanied with fever of any kind, and all sores and ulcers, especially of the legs in warm climates. In short, all diseases attended with periodical exacerbations of fever, however obscure, &c. &c.

With whatever success, therefore, I may have acquitted myself in my *researches respecting the class of fevers*, it will appear from this explanation, that the object, at least, cannot, with truth, be represented as unimportant and useless. It cannot be unimportant and useless to investigate the nature of a class of diseases, by which the whole of the human race is sorely afflicted; and ultimately three-fourths of mankind are carried to the grave.

II. *Of the effects of SOL-LUNAR INFLUENCE in FEVERS, denominated Continued, Remitting, and Intermitting.*

A collection of all the observations I have made on this subject would be much too voluminous for a place amongst the researches of the Society. For my present object, it will be sufficient to state, as briefly as possible, the general conclusions that I have been led to draw from a view of the whole; and they are those that follow.

1st. *Of the PAROXYSMS of FEVERS.*

In *Bengal* there is no room to doubt that the human frame is affected by the influence connect-

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ed with the relative situations of the sun and moon. In certain states of health and vigour this influence has not power to shew itself by any obvious effects; and in such cases its existence is often not acknowledged. But in certain states of debility and disease it is able to manifest itself by exciting *febrile paroxysms*: and the propensity or aptitude of the constitution, to be affected with febrile paroxysms in such cases, may be denominated the *paroxysmal disposition*.

From the great variety that appears in the violence and repetition of paroxysms, in different cases, at the same juncture of time, when the exciting power must act equally on all, it must be inferred, that the paroxysmal disposition exists in different cases in various degrees of *propensity*.

It appears also, from the history of fevers, that there is a disposition in all of them, which gradually increases and advances to a state in which it becomes *ripe*, or prepared for that remarkable change which terminates in a solution of the fever; and is denominated a *crisis*. This tendency in fevers may be called the *critical disposition*; which distinguishes itself in different cases, and at different times by various degrees of *maturity*.

The constitutions that prevail in different kinds of fever discover obvious peculiarities with respect to the progress and *maturation* of the critical disposition. But that which is 'most important, and most material for the object of the present explanation, is a peculiarity that shews itself in the critical disposition of the common *typhus*. In cases of this fever, which is that which prevails in crowded cities, and in jails, ships, and hospitals, in all countries at all seasons, and is by far the most com-

mon, it is well-established by experience, that the fever being once commenced, the paroxysms are very rarely disposed to cease in less than four days, and seldom so soon; and are not in general inclined to continue more than twenty-one.

The laws that regulate the progress and *maturati*on of the critical disposition, in that constitution which prevails in *remitting and intermitting fevers*, which are generally attended with large secretions of bile, and are the endemic fevers of warm climates, have not been as yet ascertained by any precise rules respecting their duration. But it appears to me that, whenever there are free discharges of bile, there is always a greater tendency towards a crisis or solution of the fever than when there appears but little or none, which is generally the case during the height of the *typhus*; and until some approach towards a crisis either perfect or imperfect has taken place: and the peculiar paroxysmal, as well as the critical disposition in the *typhus*, and in *remitting and intermitting fevers*, giving occasion to forms of different type and duration, may perhaps be connected with different states of the liver peculiar to each.

2d. Of the TYPES of FEVERS.

Of Perfect Types.

Febrile paroxysms universally discover a tendency to appear and disappear in coincidence with those positions of the sun and moon that regulate the rising and falling of the tides.

The diurnal and nocturnal increase of sol-lunar power acting on constitutions, in which the propensity- of the paroxysmal disposition is complete

and perfect, produces paroxysms every twelve, hours in coincidence with the periods of "the tides*"; and constitutes types, which, on account of this regular coincidence, I have denominated *perfect*.

Of Imperfect Types.

The diurnal and nocturnal increase of sol-lunar power acting on constitutions in which the propensity to paroxysm is incomplete or imperfect, has power only to produce paroxysms in coincidence with every second, third, or fourth period of the tides, or others more remote; constituting *types*, which, on account of this irregular coincidence, I have called *imperfect*.

By the discovery of this simple and universal principle, we are able to unfold the whole mystery of types; and to explain all the diversities that have appeared under the distinctions of *continued*, *remitting*, and *intermitting* fevers. Fevers, hitherto denominated continued fevers, and supposed from the obscurity of their remissions to have none, are all of them to be considered as nothing else than fevers of a perfect type, in which two daily remissions may always be discovered, by attending to the remissions of sol-lunar influence, especially those of the morning; and fevers having paroxysms every twelve hours with obvious remissions, whether denominated continued or remitting fevers, are also evidently fevers of a perfect type.

* I express myself in this manner for the sake of brevity, meaning that the paroxysms occur in coincidence with the portions of the sun and moon that occasion the tides. The tides, it is well known, do not coincide with those exactly, but follow them a considerable time after.

Fevers in which the paroxysms do not succeed each other in twelve hours (and which have been hitherto denominated intermitting fevers when the remissions were complete, and remitting fevers when they were not) all belong to the class of perfect types.

For the purpose of illustrating these explanations respecting types, I have constructed Table I.

3d Of the DURATIONS and CRISES of FEVERS.

Of the durations and crises of Fevers of a Perfect Type

Febrile paroxysms shew themselves more frequently during the period of the spring tides than at any other time, and as these advance become more violent and obstinate; and on the other hand, tend no less invariably to subside and terminate during the neaps.

By the concurrence of the remarkable and sudden *remission* in the power of sol-lunar influence at the commencement of the neaps with *critical dispositions in a state of perfect maturity*, all the different perfect types, produced in the manner I have explained, are brought to a final termination or *perfect crisis*; and are thus limited to fevers of *(different durations)*.

The operation of this law is explained in Table II, which exhibiting examples of the different durations of perfect types, with the manner in which they are formed, unfolds at one glance, the dark and once impenetrable secret of *crisis*; and accounts for all the diversities that may appear in their duration at different times.

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An application of these principles enables us to explain in a similar and consistent manner the formation of *crises* that have been called *imperfect*. It is obvious that whenever the remission in the power of sol-lunar influence at the commencement of the neaps Acting equally on all, produces in some cases *perfect crises*, and in others *crises* that are *imperfect*, that the latter must be referred to the immature and unprepared state of the critical disposition to concur completely in that event. And although perfect crises, owing to the cause which I now mention, do not always take place at such junctures, yet *no fever*, as far as my experience goes, ever passes the commencement of the neaps without some evident abatement or remission in the degree of its violence; or without exhibiting some evident approaches towards a solution or crisis; and the\ are *apnactus* such as these, in which the eii'icai d:sj,osi*ion concurs only partially and inconp-eu ly whh the remission of sol-lunar power, tha' constitute those changes in the state of 1evers fliat have IK en hitherto denominated *imperfect crisis*.

This explanation respecting the nature of imperfect crisis being premised, I have now to ohseive, that although Table II, exhibits only such forms of perfect t\pes LS terminate by a linal and perfect crisis on the commencement of the neaps, ir will now be well understood, that all fewrs do not terminate finally and completely at this juncture; but that in many eases, the *crises* being *imperfect*, the paroxysms continue to return for some time in a more moderate degree, and generally postponing with the periods of the tides, subside, and at last disappear gradually and imperceptibly. The *imperfect crises of perfect types*, such as these which I have just described, being less distinctly marked

in their form, I have not attempted to represent them by any diagram.

Of the Durations and Crises of Fevers of an Imperfect Type.

For the same reason I have not attempted to reduce, to a synopsis or table, the *durations* and *crises* of imperfect types; and because I am perfectly satisfied that the same principles are equally applicable to explain the whole.

III. *The preceding THEORY extended to the whole Class of FEBRILE DISEASES.*

In prosecuting this analysis, we have obtained the knowledge of three very important principles in the pathology of fevers.

1st. That the paroxysms of fevers are produced by the action or *sol-lunar influence*.

2dly. That there is, however, a certain state of the human constitution, denominated the *paroxysmal disposition*, required to concur with the exacerbations of sol-lunar power in exciting and reiterating paroxysms, in such a manner as to form fevers.

3dly. That in the course of the disease there takes place in the constitution a certain state, denominated the *critical disposition*, which tending gradually to *maturity*, at length concurs with certain remissions of sol-lunar power in producing a crisis; by which salutary change the tendency to paroxysm is diminished or removed, so as to bring fevers to an end after certain intervals of time.

In my explanation of this theory, I have hitherto confined myself as much as possible to examples of the typhus, and of the endemic, remitting, and intermitting bilious fevers of this country; particularly those without local affection; and such therefore as are strictly denominated fevers. I now mean to extend it to every disease that is distinguished by febrile paroxysms, returning in coincidence with the periods of increased sol-lunar power, whether with or without local affection; and as there is no disease of the numerous list detailed at the beginning of this paper, excepting the plague*, catarrhal fevers, and one or two more, in which I have not myself distinctly observed the coincidence of concomitant fever with the exacerbations of sol-lunar influence; the whole of that catalogue, and many others, though not generally distinguished by the appellation of fevers, are to be considered as nothing more than so many different modifications of fever; in which the peculiar constitution of each is variously affected by the action of sol-lunar power, and in such a manner as to produce the great variety of febrile forms that daily appear.

The exacerbation and remission of febrile paroxysm in coincidence with the rising and falling of sol-lunar power constitutes the general and distinguishing character of fever or febrile disease;

* In several of the cases of the plague, recorded by Dr. PATRICK RUSSEL, the febrile paroxysms returned obviously every twelve hours in coincidence with the periods of the tides; and his predecessor and relation, the author of the *Natural History of Aleppo*, says positively "that the generality of fevers there, and "indeed almost all acute diseases, are subject to exacerbations "once or twice in twenty-four hours." *Vide Doctor, MILLAR'S Observations on the prevailing Diseases of Great Britain*, page 203.

and although the lowest* degree of this power acting on paroxysmal dispositions in, a high state of propensity, may happen to produce febrile paroxysms at an unusual period, such instances, though apparently exceptions, are no argument: against the truth or principles of the general law: but are consistent with it in every respect.

Combining therefore the operation of the principles we have obtained from this analysis, we are enabled to construct a *theorem*, which serves to explain in a new, but satisfactory manner, the whole *class* of febrile diseases.

THEOREM.

The. fluctuating force of .sol-lunar influence coinciding and co-operating in all its various stages and degrees, with the various modifications of the paroxysmal disposition, excites febrile paroxysms to attack on all the days of the neaps and springs, and supports and reiterates them, according to various types, until the commencement of different neaps; at which junctures the maturity of the critical disposition happening to concur with the periodical decline of sol-lunar influence, these paroxysms then subside and come to a termination or crisis: and thus form different successions of paroxysms constituting fevers of various length or duration.

It has been observed, respecting the various forms of durations, that some are apt to occur more frequently than others. To search for a solution of this question amidst the chaos of the incorrect and mutilated history that has been accumulated on the subject of fevers, would be unsatisfactory and useless. It will be far more profitable to

observe their course with attention in future, when the laws that directs it are explained and understood, and I have no doubt that any physician who will carefully attend to the diurnal and nocturnal returns of the tides, and will constantly hold before him the prevailing tendency of fevers to appear at the commencement, and during the period of the springs; and on the other hand their prevailing tendency to subside and terminate at the commencement and during the period of the neaps ; together with the observations that have been made respecting the propensity of the paroxysmal, and the maturity of the critical disposition, will soon obtain more information respecting the phenomena of fevers; and be able to form more just and certain judgments and prognostics respecting every event, than if he were to study the history of medicine, as it is now written, for a thousand years. In short there is no revolution or change in the course of fevers that may not be explained by these general principles, in a manner that is consistent with the laws of the human constitution, and those of the great system of revolving bodies, which unite together in producing them.

Before I conclude this article, I must also recommend to every practitioner who wishes to emancipate himself from the beaten track, to attend carefully to the appearance of the urine ; for I can assure them, from the experience of many years attentive observation, that there is to be observed, in the fevers of India, a constant and regular fluctuation in the colour and consistence of the urine in fevers. That is to say, regular diurnal and septenary changes in its character, coincident and correspondent with the exacerbations and remissions of sol-lunar influence.

The periodical fluctuation in the state and appearance of eruptions, sores, and ulcers in this country, being always connected with the periodical changes of a concomitant fever, an attention to these will be no less instructive than to those of the urine; and if the periodical changes of each were regularly and accurately delineated and expressed in colours with, a pencil, by a judicious and careful observer, they would form a record in medicine and surgery of a new kind; which I have no doubt, would place the whole of this doctrine upon the basis of ocular demonstration, and afford to the most incredulous and inattentive perfect conviction of its truth.

IV. *Deviations from the prevailing tendencies of FEVERS during the periods of the SPRINGS and NEAPS.*

Although the general theorem, which I have advanced in the preceding pages, describe the prevailing tendencies of fevers during the springs and neaps, it is necessary to observe, that those tendencies are liable to frequent and remarkable deviations from the various stages that the moon may happen to occupy on her own orbit; by which her distance from the earth may be considerably increased or diminished; and consequently her power.

From observations lately made of the General Hospital at *Calcutta* by Mr. JAMIS Howisox, Doctor Joux CAMPBELL, and Doctor JOHN FULLAH-TON, it appeared that the moon during the period of her greatest horizontal parallaxes had sufficient power to suspend, in a very conspicuous manner, the common tendency of the neaps to produce a remission of fever. And when the greatest horizontal parallaxes happen to coincide with the power of sol-lunar influence during the springs, we *may*

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reasonably infer that the power of exciting and supporting paroxysms must then be considerably-raised above its usual force.

Besides the deviations that may arise from this cause, it is also reasonable to suppose, that the state of febrile paroxysms must be occasionally affected by every other change or perturbation of the moon's influence; but these are less remarkable, and have not been as yet ascertained by accurate

V. *Of the state of FEVERS in India, during the EQUINOCTIAL PERIODS.*

I am now come to take notice of the remarkable appearances observed in fevers about the vernal and autumnal equinoxes. On this subject I have received from others very little information; but I have not been inattentive myself to those periods; and can pronounce with confidence, although my observations have not been recorded with regularity, that fevers are apt to occur more frequently, and with greater violence about both of those periods, than during the intervals either of summer or winter.

From these observations I was induced many years ago to advance, that the power of sol-lunar influence was considerably greater during the equinoctial periods than during the intervals either before or after them. It has therefore lately afforded me considerable satisfaction to discover in DE LA LANDE'S astronomy, that DE LA PEACE has determined, from a very large collection of observations made by DE LA LAXDE. himself, that the tides *at Brest*, about the time of the equinoxes,

rise at a medium two feet higher-than at the time of the solstices*. This discovery is agreeable to the general law of attraction; and it is not to be supposed that the influence of the sun and moon under the tropics, acts with a force inferior to that which produces this difference in the height of the tides on the northern shores of *Europe*.

How far sol lunar influence affects the fevers of the higher latitudes of the globe, is a question that does not come within the scope of this enquiry. The annexed table, however, extracted from Dr. CURRIE, of *Liverpool's* medical reports on the effects of the water, &c. page 230, points so strongly to this subject; and is so immediately connected with the present article, that I could not resist the temptation of giving it a place ; conceiving that it may become a stronger inducement to observation than any admonition or exhortation that I could offer.

Dr. CURRIE'S table was formed by him to shew the number of typhus fevers admitted into the *Liverpool* dispensary in the course of seventeen years: and the admissions in that space of time amounted to no less than 48,367.

The great majority of patients admitted in the months of the spring and autumn, which I have denominated the equinoctial periods, compared with those admitted in the months of summer and winter, which I have called the inter-equinoctial intervals, cannot fail to attract the notice of every observer.

* *Astronomie* par JEROME LE FRANCAIS LA LANDE, Edition Troisieme Revue et Augmentee, Toms III, page 525,

Without attending to fractions, we obtain from the facts established in this record, the following statement of admissions.

For the mean of the equinoctial period, . . .	12,980
For the mean of the inter-equinoctial inter-	
vals, ...	• • • • 11,232
For the common mean of those periods and	
intervals, ...	12,091
For the <i>rise</i> of the equinoctial mean, above	
the common mean, ...	889, say $850 = +\frac{1}{14}$
For the <i>Jail</i> of the inter-equinoctial mean,	
below the common mean, . . .	859, say $850 = +\frac{1}{14}$

Those facts, expressed in other terms, amount to these;

1st. That whilst the temperature of the season in the spring was passing from cold to hot the number of typhus fevers *rose* about $\frac{1}{14}$ above the common standard.

2dly. That whilst the temperature of the season in the autumn was passing from hot to cold, the number of typhus fevers *rose* in like manner about $\frac{1}{14}$ above the common standard.

3dly. That: during the months of summer, when the heat of the season is greatest, the number of typhus fevers fell beneath the common standard about $\frac{1}{14}$;—and

4thly. That (during the months of winter, when the heat of the season is least, the number of typhus fevers fell in like manner below the common standard in the same proportion, about $-\frac{1}{14}$.

That the number of fevers should increase equally during the transition from cold to hot, as from hot to cold, and under the two opposite extremes of permanent heat and permanent cold, Should equally diminish, are facts that are no doubt curious. At present, however, I mean only to suggest, that, if the theory of sol-lunar influence should ever be admitted in *Europe*, those phenomena, apparently so very repugnant, may all be reconciled and referred to one common cause, without involving the smallest inconsistency of contradiction.

VI. *Testimonies respecting the effects of SOL-LUNAR INFLUENCE in the FEVERS of INDIA.*

AS it is impossible on this occasion to detail at full length the various observations and arguments from which I have been led to adopt this theory, it is necessary to state, that it has not been taken up rashly ; that it is now submitted to this Society after the observation and reflection of thirty years; and that it is confirmed, in its most essential points, by the concurring observations of a large body of respectable gentlemen, whose names are contained in the following list. And it is flattering to me to add, that Lord TEIGNMOUTH, who was then Governor General, conceiving that the correspondence of those gentlemen on this subject promised to be publicly useful, ordered my treatise, containing their letters, to be printed and circulated at the expense of government.

Besides establishing unquestionable evidence of the general influence of this law in *Bengal*, these testimonies serve also to correct a very erroneous notion advanced respecting sol-lunar influence by Doctor LIND, by shewing that its effects in fevers

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are no less manifest at the distance of many hundred miles from the highest reach of the tides, than at *Calcutta*, and other parts of *Bengal*, to which the tides flow daily. The distances marked in the column, appropriated to that purpose, are very nearly the number of miles in a direct line between the places where the observations were made, and the utmost reach of the tides at the springs. Doctor LIND'S theory made me anxious to ascertain these distances with precision; and the Military Surveyor General was so obliging as to direct it to be done at his office.

CORRESPONDENTS.	Resident in feet. Years	Stations.	s.sp
			Q § ? Miles.
Lieutenant L. Hook, ...	10	Ramnauur, • -	365
Lieutenant A. Black, ...	13	:Sylhet,	150
Captain R. Ogle, ...	24	Cooch-Behar,	270
Major James Pringle, ...	24	Benarts,	
Lieutenant Robert Cumming,—	14	Midnapore,...	58
Lieutenant S. Sinclair, ...	14	Ditto,	ditto
Lieutenant T. Hamilton, ...	14	Dato,	ditto
Captain S. KjiowJes, ...	21		
Mr. William Chambers		Cadeutla, ...	
Major Robert Bruce, ...	24	Cooch-Behar	270
Mr. James Ross Assistaint Surgeon	14	Dmagepore .	lfi0
Mr. Adam Burt, Assitant Surgeon			
J. G. Henderson, Surgeon, ...			
Lieutenant Fredk. Marten,	14	Reucoolen,	
Mr. J. J, Vaumore!, Assistant. Sur-			
on			
Mr. H. Mair, Head Surgeon,....			
Captain Bradley, ...		C lunar,	370
Mr. Ch. Desrouiuh, Assistant bur-			
geon, ...	4		
Captain George Woori, ...		Ramghur, • • •	210
Mr. James Wilson, Surgeon,		Moorshedabad,	
Colonel Gewrge. Dear's		Calcutta, ...	
Captain Richard Grutber, ...	23	Rohikund, . .	66o

INFLUENCE IN TAB FE^EES OF INDIA, &C. 1®

CORRESPONDENTS.	Years!	Stations.	Miles.
Mr. John Gilchrist, Assistant Surgeon, ...	11		
Major S. Farmer, ...	25	Midnapore,	58
Captain J. Rattray, ...	24	J^lasore, ••	
Mr. Chas. Todd, Assistant Surgeon,	11	Bauleah, ••	70
Mr. Chas. Campbell, Assistant Surgeon, ...	4	Fort Marlborough,	
Mr. P. Cochrane, Surgeon,	14		
Mr. W. Baillie, Assistant Surgeon,	13		
Lieutenant James Price, ...	12	Chunar, ••	370
Lieutenant John Towers, ...	12	Cawnpore,	530
Lieutenant Robert Dee, ...	11	Chitterporc,	500 ¹
Lieutenant Thomas Broughan, •	10	Juanpore, ••	400
Mr. W. Davidson, Assistant Surgeon,	10	Sylhet,	150
Mr. John Corse, ...	11	jTipperah, ••	50
Doctor J. Campbell, Assistant, ••	9	Calcutta, ••	
Doctor Alexander Campbell, Stirgeon, ...	15	Ditto,	
Mr. John Miller, ...	30	Ditto,	
Mr. W. F. Gardner, Surgeon, ••	17		
Mr. W. Boyd, Surgeon, ...	10	Buxar,	348
Mr. W. Allison, Assistant Surgeon			
Major Dunn, ...	23	Berhampore,	47
Captain N. Macleod, ...	25	Cooch-Behar,	270
Mr. T. Henekell, ...	21	Jessore, ••••	
Mr. James McDougal, Assistant Surgeon, ...		Dinapore, ••••«	315
Mr. John Hannah, ...		[Calcutta, —	
Dr. Robert Bruce, Surgeon, ••	10	'Lucknoiv,	530
Mr. W. Coote, Assistant Surgeon,	12		
Mr. George Davidson, Surgeon,* •	12	Dacca, •••••	
Doctor N. Fontana, Assistant Surgeon, ...	11	Calcutta, •	
Mr. James Laird, Surgeon,	17	Dacca, •••	
Mr. Robert Collins, Surgeon,	13	Rungpore,	
Mr. P. Ewart, Assistant Surgeon,			
Captain Dennis, ...		Ramgur, .	
Major A. Kydd, ...		iV-Uebeat,	6G0
Doctor P. Wade, Assistant Surgeon,		Assam, ••	
Mr. P. Toucher, ... •••	11		
Mr. W. Dick, Assistant Surgeon,		Calcutta, •	

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CORRESPONDENTS.	Resident in India. Years	Stations.	Distance from high- water. Miles.
Doctor G. Boyd, Head Surgeon,	12		
Doctor James Hare, Assistant Sur- geon, ...	6	Calcutta, ...	
Major Dickson, ...	25	Cooch-Behar, ..	270

The information sent to me by those gentlemen, was all of it received in the space of a *few* months, in consequence of a circular letter, requesting observations on this subject, and on any side of the question, from those who might be inclined to give it. Several of those gentlemen I had never seen in my life; and with many I had the honor only of a slight acquaintance. Had I continued longer to collect testimonies, I am confident, that notwithstanding the diffidence and reluctance with which people commit themselves upon a topic of this kind, that I might have obtained in *direct* proof of sol-lunar influence, a much larger body of evidence than is to be found in any single record in *direct* proof of the tides of the sea.

The order for printing and circulating my treatise on sol-lunar influence, along with my correspondence on this subject, at the expense of government, is contained in the following letter.

TO DOCTOR FRANCIS BALFOUR.

PUB. DEPT.

SIR,

The Governor General being always disposed to encourage the servants of the Company, in instances of publications that promote science, or are calculated to do a general service, directs

me to inform you, that the expense of your publication, entitled " a Treatise on Sol-lunar Influence," will be defrayed by government.

You will therefore be pleased to circulate copies of this work to the different parts of the country where you think it will be useful; and likewise transmit twenty copies to this office, to be forwarded to the Honorable Court of Directors.

I am, Sir, &c.

(Signed) C. SHARKSPEAR, *Sub-Secretary.*

CALCUTTA, COUNCIL CHAMBER,
the 7th April, 1794

To accumulate testimonies of the remarkable effects of sol-lunar influence in *India* is now almost superfluous. In the western parts of *India* it is no less generally acknowledged than in *Bengal*: and I shall conclude this article with an extract from a letter which I received some months ago, from a gentleman high in the medical line at *Bombay*; and no less so in the opinion of the public. His name however I forbear to publish, not having previously asked for his permission,

"BOMBAY, 6th May, 1801.

" The influence of the moon on the human body,
" has been observed in this part of *India* by every
" medical practitioner. It is universally acknow-
" ledged by the doctors of all colours, of all casts,
" and of all countries. The people are taught to
" believe it in their infancy ; and as they grow up,,
" they acknowledge it from experience. I sup-
" pose that in the northern latitudes this power of
" the moon is far less sensible than in *India*; and
" perhaps less so in *Bengal* than in our neighbour-
" hood. We here universally think that the state

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" of weakly and diseased bodies, is much influ-
" enced by the motions of the mood. Many peo-
" ple know the very day on which their intermit-
" tents will make their appearance; and every full
" and change increases the number of the patients
" of every practitioner. It is no argument against
" this influence, that diseases appear during every
" day of the month. The human body is subject
" to alterations from a thousand external circum-
" stances, and from many affections of the mind.
" These lay the foundation of disease at every pe-
" riod; but they do not overthrow the evidence of
" lunar influence: although they are apt to mis-
" lead with regard to effects that depend on that
" alone. That the human body is affected in a re-
" markable manner by the changes of the moon, I
" am perfectly convinced, although I cannot con-
" stantly pretend to see the operation of the gene-
" ral law; nor to account at all times for its per-
" turbation; and agree in thinking that an attention
" to the power of the moon is highly necessary to
" the medical practitioner in *India**."

VII. *Of Securing and Extending our knowledge of* SOL-LUNAR IXFLUENCE.

As those discoveries regarding the effects of sol-
lunar influence lead unavoidably to new ideas re-

* Having neglected to apply to the author of this letter for his permission to give his name to the public ; and being very unwilling to deprive the doctrine of lunar influence of the support, which it cannot fail to derive from such an evidence, I will now venture to discover, that he is no other than Doctor HELENUS SCOTT, of *Bombay*. From the information of Doctor HUTTON, who resided many years as Surgeon at *Penang*; and of Mr. JAMES LUMSDAINE, Surgeon for a number of years at *Fort Marlbro* ; I have now, also, the satisfaction to know, that sol* lunar influence shews its effects in a very conspicuous manner in the prevailing diseases of those islands; and that an attention to its laws, is of great importance on conducting their cure.

specting the nature and cure of fevers, it has become an object of real importance *first*, to secure the knowledge we have already obtained of this principle; that it may not succumb to any illiberal attempt to suppress or smother it, by representing it as insignificant and useless; or by ascribing to it, the wild and groundless delusions of astrology: *secondly*, to render the road to future observation and further discovery more easy and accessible, by removing the almost unsurmountable obstacles that present themselves, in the intricacy and labour of astronomical investigations: and *thirdly*, to render our knowledge of it so *precise* and well defined, that it may assume the form and attributes of real science, by furnishing precepts for the purpose of applying it to the improvement of useful arts.

1st. To place this theory on a firm and secure foundation, I shall follow the example of the learned ABBE' MAW, in his observations on the flux and reflux of the atmosphere*: and shall assume it as a principle requiring no further demonstration than what it has already received from astronomy, that the influence of that attraction, which regulates the motions of the planetary system, is continually and without ceasing exerting itself, in a proportionate decree, on every particle of this globe; and that it cannot be otherwise.

The existence of sol-lunar influence being demonstrated by astronomy, its action on the human frame is no longer a matter of doubt; and the only question that we have to consider is, not whether that power does actually exist, but whe-

* The Philosophical Magazine, Vol, V, page 105.

ther it tiianifests itself by the signs of any obvious effect or cliange in the human constitution.

With respect to this important question, I shall content myself with stating in a very few words, that all the observations I have made myself, together with, those that have been communicated by other gentlemen, concur to prove, not merely that sol-lunar influence manifests itself by evident effects upon the human constitution, but that the *Attacks, exacerbations, remissions, postponings, and relapses*, of the paroxysms of fevers, which comprehend the whole of the evidence that is necessary to constitute a complete demonstration, are, in a wonderful manner, coincident in time, and correspondent in degree, with the periodical changes that take place in the power of sol-lunar attraction. To reject, therefore, those accumulated proofs of its actual operation and efficiency, is to violate the principles and rules, by which we infer the existence of a connection or cause, in every question of philosophy, or common occurrence of life.

The proof of regular changes in the atmosphere corresponding with the revolutions of lunar attraction, being now cstabilished by the discovery of a regular *diurnal*, and a *septenary* flux and reflux in the mercury of the barometer, coincident with the diurnal and septenary revolutions of the same power, the theory of sol-lunar influence in fevers receives from this event all the support that can be derived from a fair *analogy*: and it may be inferred with reason, that changes such as these in the element in which we breathe and move, are not likely to take place without corresponding perturbations in the human frame,

The existence of a *diurnal* flux and reflux in the mercury of the barometer; is now "Sufficiently established by the observations of Father BOUDIER,* at *Chandtrnagore*; of Mr. TRAIL, Mr. FARQUHAR, and Colonel PEIRCE, ,at *Calcutta*; and those which appear in my treatise, on the barometer, inserted in the fourth volume of the *Asiatic Researches*; and on the Coast of *Coromandel*, by the observations of Doctor ROXBURGH † On the other side of the globe, they have been observed in *South America* ‡, and the *IVest Indies*; and also at different places in *Europe*§.

The proofs of a *septenary flux and reflui*x, in the mercury of the barometer, is confirmed by the observations of Mr. TOAIDO, Father COTTE, and others; but still more pointedly by those lately made in *England* by Mr. HOWARD, to be found in a paper read before the *Ashman Society* in *London*, anil published in the seventh volume of the *Philosophical Magazine*,

Such is the support and security which the doctrine of sol-lunar influence in fevers derives from evidence *direct* and *analogical*. From the sublime discoveries of LAVOISIER respecting the composition of the atmosphere it receives protection of another kind. In the present imperfect state of our knowledge regarding the component parts of at-

* Traite de Meteorologie, par L E P. COTTE, page 313.

† Vide die Transactions of the Royal Society, Vol.—

‡ Traite de Meteorologie, par L E P. COTTE, page 395).

|| Doctor MOSRLEY'S Treatise on the Diseases of the West la-dies, and L K P. COTTE.

§ At *Berlin*, by IVI. CiiANGEUX, vide Traite de Meteorologie", par L E P. COTTE, page 6 IS, at *Padua*; by Mr. TOALDO and his Nephew, ride Traite de Meteorologie, par L E P. CoTTE, page 610", 6cc. &c.

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mospheric air, and the mode of their combination, who will pretestimate or define its connection with solar influence? Who will be satisfied so regardless of his own reputation as to pronounce, without proof, that this influence has no power to produce any change whatever in the nature of this compounded fluid; in the smallest degree connected with useful knowledge; or necessary in any respect to be known?

Qdly. For the purpose of removing the obstacles that arise from the intricacy and labour of astronomical investigations, in which those who are employed in the study and practice of medicine can have no leisure to engage, it will be sufficient to present a plain and simple idea of this power, with the common changes to which it is liable, abstracted from all the complicated circumstances by which those changes are produced: The consideration of which, though indispensibly necessary for the nicer purposes of astronomy, are by no means required for those of medicine and meteorology.

It was determined by DR LA PLACE*, in 1790, that the force of the moon to excite those perturbations that manifest themselves on the surface of our globe, by the elevation, of the tides, is three, and that of the sun one. Assuming this as a foundation, we have only to conceive that those two quantities of power, sometimes assisting and sometimes counteracting each other according to the varying positions in which they are placed, produce the corresponding changes that are observed

* Astronomic par JEROME LE FRANCAIS LA LANDE, Tome III, Troisième Edition revue et Augmentée, additions et corrections, page 737.

in the paroxysms of fevers; remembering, at the same time, that those are occasionally subject to certain perturbations of inferior consequence, from the attractions of the planets. To conceive this, is all that is required.

3dly. To render our knowledge of this principle sufficiently perfect, by giving it all the advantages of *numerical precision*, without which no physical principle can ever acquire the form and efficiency of science, it is necessary that all the various degrees of increase or decrease that sol-lunar influence is liable to undergo at various hours of the day and night, should be accurately ascertained, and *expressed in number?*

It is to attain this end that I am now led to propose the scheme of an *astronomical Ephemeris* for the purposes of medicine and meteorology, containing a column for the *heral variations* of sol-lunar power both day and night, ascertained and expressed with all the precision that can be obtained.

The perturbing force of the moon being found by DE LA PLACE to be three, and that of the sun one; and four, therefore, being the whole of the perturbing power with which they can act upon this globe, we shall obtain by dividing this sum into forty parts or degrees, a scale sufficiently extensive and minute for expressing all the different degrees that can possibly occur.

By means of this *Ephemeris*, every phenomenon that appeals being instantly and easily compared with the existing corresponding degree of sol-lunar power, certain general truths will at length be obtained, respecting its agency and interference in

the different processes of nature, and operations of art. We shall ultimately discover where it assists, where it counteracts, and where it produces no effects at all; precepts and cautions will thence arise to direct our conduct: and thus assuming the real character and office of science, it will become an instrument of improvement and perfection in the useful occupations of life. In our native country the respectable tradesmen, who are employed in the important national concerns, of supplying our fleets destined for distant voyages and warm climates, with wholesome and durable provisions, are often unaccountably disappointed in the quality of the different articles which they provide. Perhaps they may discover that all the days of the month are not alike favourable for the important processes of brewing, and baking, and of preserving meat. And perhaps abroad, the manufacturers of indigo, sugar, saltpetre, and opium, may find out hereafter, that the success of their different operations are not altogether unconnected with certain periods of time.

To those who are proficient in astronomy it will readily occur, that the construction of an *Epikmcris*, such as that which is proposed, is not merely speculative or impracticable. It will occur to them that there is no hour or division of the column appropriated to the variations of sol-lunar power, for which the precise degree or quantum of its force is not either ascertained by astronomical theorems already demonstrated, or readily deducible from such demonstrations. On those gentlemen, whose studies have qualified them, and whose zeal may incline them, from a sense of its utility, to complete the construction of this instrument, I must for the present rest my hopes. My own imperfect knowledge of astronomy, and the precarious state of my health, render me at this time totally unequal to such an exertion.

CONCLUSION.

In concluding this paper, I hope it will not be deemed disrespectful, if to prevent future mistakes, I should take this opportunity of declaring explicitly my own sentiments respecting the *result* and *success* of these investigations.

" Having discovered *the lazes of febrile paroxysms*, and having marked their course and periods in a manner that was never explained or done before, I conceive that I have been able to unfold a history and theory of fevers entirely new; consistent with itself in every part, and with the other appearances of nature; perfectly conformable to the laws discovered by the immortal Newton; and capable of producing important improvements in medicine and meteorology."

Should these pretensions prove groundless and visionary, having submitted them to this Society, I shall at least obtain the credit of having sought investigation. If they be fair and just, the harmless vanity of proclaiming them will not obliterate all their merit.

EXPLANATION OF THE TABLES.

Of all the phenomena that occur in the contemplation of animal nature, it will be readily acknowledged, that the *Parexys of fevers* are the most interesting to mankind. The history, of every age declares the dreadful desolations they have made in every country; and by far the greatest portion of the human race continues to be swept away by this terrible disease.

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•The cause, however, that produces these remarkable effects, and determines the *paroxysms of fevers* to appear in different cases in various order and succession, constituting fevers of *different types*; and that again which determines different types to come to an end after certain intervals of time, forming these into fevers of *different durations*, are questions which have hitherto defied the research of physicians; and cannot be explained, except by the laws of sol-lunar influence.

T A B L E I .

Explains the Types of Fevers.

The different types that occur in fevers are formed by febrile paroxysms continuing to return in succession for a certain number of days, at an interval of twelve, twenty-four, and forty-eight hours; or some other larger multiple of twelve hours; and almost invariably in coincidence with the period of the tides. The types of fevers, therefore, are formed by the action of sol-lunar influence producing paroxysms in coincidence with the periods of the tides, at the intervals I have described: and differ from each other, only in so far as their paroxysms return in succession at intervals formed by different multiples of twelve hours.

To convey a general idea of this discovery, I have constructed Table I, observing that it applies to explain all the types that I have ever met with in India; and agrees perfectly with the types that are described by other authors. The first of these examples, from the perfect coincidence of its paroxysms with the period of the tides, I have called a *perfect type*; and all the others, from their imperfect coincidence with those periods, *imperfect*.

feet types. But as the paroxysms of the imperfect types, after the commencement of the neaps, are generally" disposed to become less distinct in their form, and therefore not so easily reducible to the figure of a diagram, I have confined my representation of types to the period of the springs; when the paroxysms or fevers happen towards the middle of the day and night; and are most regular and distinct.

1st. *Dags* are represented by the divisions of the horizontal lines of the table.

2dly. The paroxysms of fevers are represented by dots placed above and below these lines.

3dly. Single dots above the line represent single paroxysms happening towards the middle part of the day, and are pointed out by the letter *d* (for *diurnal*) placed at their beginning on the left.

4thly. Single dots below the line represent single paroxysms happening towards the middle part of the night, and are pointed out by the letter *n* (for *nocturnal*) placed at their beginning on the left.

5thly. Two dots in one division, the one above, the other below the line, denote a diurnal and nocturnal paroxysm on the same day.

6hly. The different successions of dots on the different horizontal lines of the table, proceeding from the beginning of the line on the left to its termination ON the right, exhibit examples of various successions of paroxysms; constituting specimens of *different* febrile *types* that occur daily in the course of nature.

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T A B L E D

Explains the Durations and Crises of Fevers.

Fevers of all the different types that are produced in the manner described in Table I. are limited to forms of *different durations*, by the remarkable remission which takes place in the power of sol-lunar influence on the commencement of the neaps ; and which brings them at these junctures to a termination, or *crisis*, whenever the state of the body is sufficiently disposed to concur in that event. This is illustrated by the variations produced in the *duration of perfect types* as exhibited in this table; which will also serve, without any other diagram, to give an idea of the variations produced in a similar manner in the *durations of types that are imperfect*.

1st, Days are represented by the divisions of the horizontal lines of this table.

2dly. The paroxysms of fevers are represented by dots placed above and below these lines.

3dly. Single dots *above* the lines represent single paroxysms happening towards the middle part of the day, and are pointed out by the letter *d* (for *diurnal*) placed at their beginning on the left.

4thly. Single dots *below* the line represent single paroxysms happening towards the middle part of the night, and are pointed out by the letter *n* (for *nocturnal*) placed at their beginning on the left.

5thly. Two dots in one division, one *above* the line, the other *below*, denote a diurnal and nocturnal paroxysm on the same day.

6thly. The successions of dots on the different horizontal lines of the table, proceeding from the beginning of the line on the left to their termination on the right, represent the different successions of paroxysms that occur in fevers of a *perfect type*, (or what are commonly called con-

tinned fevers,) which ceasing on the commencement of the neaps, constitute *different durations of perfect types*; and those will serve also to give an idea of the variety that maybe produced in a similar manner *in the duration of types that are imperfect*; commonly called remitting and intermitting fevers.

7thly. Although single paroxysms will appear from the disposal of the dots in this table to be confined to the neaps, and *double* paroxysms to the springs, it must however be understood, that this is not always rigidly or invariably true; and they are represented here in this manner, only to denote their general and prevailing tendency and course; which must always be liable to certain deviations, not only from uncommon perturbations in the state of sol-lunar influence itself; but also from the usual and regular action of this influence happening to exert itself upon extraordinary degrees of paroxysmal propensity.

8thly. The daily postponing of the paroxysms cannot be easily represented on a fixed or immoveable diagram of this kind. But the effects which it has of *shifting* their accessions from night to morning, about the middle of the neaps, is denoted by shifting the single dots, that represent the paroxysms at this time, from the nocturnal to the diurnal side of the line. The postponing of the paroxysms is a phenomenon that has been too little attended to in the history of fevers.

EXPLANATION OF TABLE III.

This is the second Table in Doctor CURRIE'S Medical Reports on the effects of water, &c. arranged agreeably to the doctrine of sol-lunar influence.

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In order to accommodate it to this idea, the coludrii of the *January* and *Webruary* admissions are reiiioved from the left to the right-hand side of the Table; so as to bring all the three months of the winter interval together, and to preserve the natural order in which the admissions followed each other, the whole of these two columns is raised one step higher: so that the *January* and *February* admissions of 1781, are brought upon the same line with those of *December* 1780, and therefore follow them, in this Table, as they really occurred; and so also with all the rest.

By this arrangement the admissions of *January* and *February* 1780, are thrown out of their proper place at the top of their respective columns, but are inserted at the bottom; and thus fill up the vacancies that were occasioned by raising the columns in the manner described; and by this means the amount of these columns is preserved the same as in the original Table.

The elevation, however, of the *January* and *February* admissions above the lines in which they stood in the original Table, makes a small alteration in each of the annual amounts; but as that does not alter the sum *total*, nor affect, in the smallest degree, the present question, it is of no consequence.

II.

EXTRACT *from a JOURNAL, during the late Campaign in EGYPT.*

BY CAPTAIN" C B. BURR.

ABOUT three miles to the westward of *Ginnfe*, on the opposite side of the *Nile*, are situated, the ruins of the ancient temple of Isis, now better known to the *Arabs* by the name of *Dendera*; being a corruption of *Tcntyris*, which name was once borne by a city, of which the present temple is all that remains to denote its former splendour. That part which still exists, is surrounded by such heaps of rubbish, broken walls, and fragments of an *Arab* village, long since mouldered on its parent ruins, that little is perceptible in approaching, except five clumsy pillars forming part of a detached temple at some distance from the gate, with which it is in a right line, though now separated by a tank, filled by the inundation of the *Nile*. These columns are connected at their base by a stone wall in which there appear to have been eight, one at each corner, and one on either side of an entrance in front and rear of the building; which is about forty feet long, and possessing nothing worthy attention.

Beyond this, on the summit, and partly buried in the mound of rubbish, is a gateway much ruined on the side we approached from, but whose internal face is an object of peculiar admiration: its high state of preservation, the excellence of its sculpture, the simplicity of the style, the excellent execution of the figures, chiefly female, the hieroglyphics, and other ornamental parts, excited my surprise beyond what I had expected or thought

possible. It is probably rather an advantage to the temple, its being so surrounded with ruins as to be secreted till you approach sufficiently near, to receive a more perfect impression of its beauties. The rubbish, however, with which it is choaked up, confines the sight too much, and almost precludes the possibility of viewing the building with so good an effect as would arise from a greater choice of situation on the part of the spectator. Passing this gateway, the passage through which is also beautifully sculptured, we reached on the right hand a temple, surrounded by a gallery still entire, though almost buried; the whole ornamented with a variety of figures, surrounded with hieroglyphics, which doubtless explain the meaning of the various objects, some human, others of a less definite nature; the workmanship is in very great preservation, but the gallery so filled as to prevent our standing erect, though the body of this temple, into which we descended, was near thirty feet in height, covered with large slabs of stone. 'flic entrance to this edifice is through a corridore supported on pillars almost buried in the ruins.

The grand temple, retired from the gateway about fifty yards, presents a front of one hundred and forty feet at the base; at least what is now the ter-replain : and about sixty feet in height, the rest being invisible. This part is in the most perfect state ; the fillet, torus, and almost every ornamental part, save what the bigotry of the *Arabs* has induced them to deface, being in excellent preservation. In the centre an entrance of nineteen feet leads into a peristyle divided by three rows of columns on either side of twenty-two and a half feet circumference, the front row connected to each other, at their bases, by a wall; which, from a part that has been cleared

away by the *Savans* to ascertain the elevation of the building, exceeds ten feet in height; from the top of this to the entablature of the columns, the space is left open; within are nine pillars to the right and left, (tallying in size and design with those in front,) that support the roof of the peristyle; which is ornamented in the most beautiful style, with a vast variety of figures, and representations of aquatic scenes. Many groupes of men and beasts are here represented; some perfectly of a terrestrial and familiar nature, others allegorical, amongst which is a fine figure of a bull butting at the new Moon. The dresses, the utensils, canoes, and many of the articles of the domestic ceconomy of the ancient *Egyptians*, are herein represented in the most minute and pleasing manner; and the entire state of these figures, not only in shape, but colouring, conveys the most perfect idea of the habits of the times. A vast resemblance exists in the dresses with those at present worn in *India*; the *ckotic* of the women, the *moond*, and many others, claiming a direct comparison. It has often struck me, and never more forcibly than in contemplating this temple and its sculptures, that there must have existed a much greater affinity in the customs of, and of course a more friendly intercourse amongst, the nations of the *East* formerly, when they pursued one system of worship, than since the introduction of *Christianity* and *Mahomctaimm*; which, by generating the most rooted and inveterate prejudices, have estranged the affections of mankind from those, whom no political difference could ever have affected. Of this we had an example even amongst the present inhabitants, who, regarding us as infidels, hate us, though we came as friends. Their dislike, however, they found it prudent to conceal; but they were not equally reserved with respect to the *Hindoos*, whom they often expressed their abhorrence of. This detestation of *Paganism* has in-

duced them, and doubtless been their sole motive for taking so much pains, to mutilate every figure of Isis, whose features are chiseled out; and many of the other figures, whose situations were not so elevated as to preserve them from the destructive contact of the Arab, have suffered almost perfect annihilation. AU beyond it, however, are extremely perfect, and the whole ceiling, with one or two trifling exceptions, is entire; the capitals of the pillars are square, each face having had a representation of Isis's head on it, which, though so roughly handled, the turban has in no instance been destroyed, and the colouring of it, the bandeaus, and other decorations, are still in the greatest perfection. The stone of which the temple is built is a kind of free-stone. As this would not receive either polish or paint, figures and hieroglyphics, with which every part of the peristyle, both internally and externally, is covered, have, in the interior, been plastered over with a fine cement, which has not only received a polish that has stood the test of ages, but has retained the brilliancy of the tints, particularly the blue, in a manner almost incredible. The mystic symbol of the winged Orb, of which reiterated representations decorate the ceiling of the central division of the peristyle, extending entirely across, bears the brightest hues; the same mysterious type adorns the entablature over the entrance, and the interior face of the same part of the gateway; the walls are covered with various sculptures, representing different parts of the history of Isis. one or two of the principal figures in each, being evidently the same, though each compartment into which the wall is divided, represents some separate event: but above the head of Isis, on each of the sides of each column, the two central from ones excepted, is the Deity's birth, without vanity all most elegantly executed, and exact counterparts of each

other. The interior length of this peristyle is one hundred and-twenty-three feet, and sixty-four deep; the walls, at either end, near nine feet thick, decreasing externally as they ascend; the slabs of stone forming the roofs, are over the centre columns, twenty-five feet long, about six broad, and extremely thick.

Hence, by a large portal of elegant architecture, we entered the vestibule, the roof of which, considerably lower than that of the peristyle, is supported by six pillars, three on either side; their decorations much mutilated: the liule that, is visible, shews them to be tinted. This room is about half the length and breadth of the outer one, but being nearly filled with rubbish, we passed through another large door, into a room of the same length and height, but narrow enough to admit of large slabs reaching across without the intervention of pillars. Apertures are cut in the ceiling to admit air and light; and a passage or door, to the right and left, leads to other parts of the temple. Facing the door where we had entered, is another which led into a third room rather larger, arid-lighted in like manner from above; from these there are four doors leading to different parts of the building, to the rio'ht and left; and a portal faeing; that bv which we had entered, which led us into a dark recess about thirty feet long, and twenty-five broad, whose roof in like manner consisted of transversal slabs. This probably was the great sanctuary, at the further extremity of which was a hole, through which we were enabled to descend info a vault, which, like' the rest of the apartments, is nearly filled with earth. We, however, ascersaiued by our lights, that the floor above was formed of numerous small slabs of stone cemented to each other, and destitute of any other support than what they derived from the judicious manner an whch they were united, Re-

40 EXTRACT FROM A JOURNAL, DURING

turning hence, after visiting **Some rooms to our right, we** went through a passage **to the left that led to an** apartment, where we in vain endeavored to maintain our ground against a host **of** bats, that finally obliged us to resume the course of this passage, which led by many steps of easy ascent, and many windings round their centre, to the summit **6f** the temple; in approaching which it branches off* to the right and left, the latter opening to a corridor, within which was a sanctuary, through the **floor** of which a perforation afforded light to apart of the tempie which had not fallen under our observation. On the ceiling of this eorridore, which is **about** twenty feet long, and half that breadth, is a curious female figure sculptured in relievo, represented in a *bent, extended* posture. The limbs, though disproportionate, are particularly beautiful: it is in the **E**ignest preservation, and worthy peculiar attention. By some steps projecting from the rear of the peristyle, we ascended to its summit, whence we commanded a fine view of the country, *Girnrie*, our camp, and the nicanderings of the river; in our **rear** was a spacious burial ground; beyond an extensive desert. The intervening distanee to the *Nile* was covered with rushes, and a thorny weed which gave the country a verdant appearance, and supplied the place of a luxuriant cultivation. The numerous villages, each shaded by its grove of dates, afforded a faint conception of an *Indian* scene, but the sterility of the neighbouring deserts that botinded the contracted landscape, forbade the indulgence of. the pleasing comparison.

On the slabs are cut the names of several *French* travellers, who visited the place in 1/79, and one of a democrat, dated the year eight.

Leaning over the temple, I discovered, on the

fillet, a *Greek* inscription in a state of great preservation, which I transcribed, and afterwards revised from below; unfortunately the information it conveys is trifling, and the obliteration of a part prevents its being of that utility I had at first anticipated.

Though we had ascended by the stairs, the **mound** of ruins on one side, presented a more ready descent; and industriously profiting of the moment, **we lost** no time in completing our observations.

The *French* have been digging round, **and within** the temple, in different places, to ascertain its dimensions, and we were indebted for our access to many of the rooms, to the pains taken by them to discover their entrances; for which purpose they have removed a great deal of rubbish. The whole exterior of the temple is in perfect preservation, except the defacement which many of the figures within reach have suffered. On the south and west faces are some very elegant spouts for carrying off water, issuing from the mouths of couchant lions, decorated with rams-horns. The whole summit of the temple is disfigured by heaps of rubbish, and fragments of walls, as also the mounds which surround it, which probably owe their existence to a colonade, or some range of buildings with which it was enclosed, and which are now buried. To the southeast, at some hundred yards distance, is a ruined gateway boasting little beauty; it is situated at the foot of the eminence on which the temple is built, and being almost beyond the range of the present ruins, might have belonged to some other edifice. Some wretched *Arabs*, who employ themselves in digging amongst the ruins, brought us a few *Roman* coins, which we purchased.

Though we had been several hours in **content****

plattg the beautiful monument before us, yet we had conceived but an inadequate idea of its varied perfections; so many objects occurred to arrest our attention, each discovering some peculiar attraction, that it would have afforded ample occupation during our remaining* stay at Ginnie, to have bestowed on each the consideration they merited; a circumstance which greatly damped the anxiety I had before felt to visit Thchcx, where such an infinity of matter presents itself to the inquisitive traveller.

Our *Indian* followers, who had attended us, beheld the scene before them with a degree of admiration bordering on veneration, arising not only from the affinity they traced in several of the figures to their own deities, but from their conviction of its being the work of some *Racshas*, who they conceived had visited the earth to transmit to an admiring posterity a testimony of supernatural talents.

I shall dismiss this subject by observing, that though the contemplation of these surprising monuments of the genius of the ancient *Egyptians*. QTeates a high idea of their civilization, and respect for their antiquity and progress in arts, it is obvious they are greatly indebted to a beneficent providence, which by placing them in a temperature, where the frequent and sudden transitions of climate seldom if ever occur, has given to their works a permanence they could never have derived from the combined power and art of man; though it must be allowed, that, notwithstanding the apparent aridity of the atmosphere, owing to the almost perpetual absence of rain, the exhalations* from the circumjacent in-

* It is an opinion in *Egypt*, that the fall of these dews, not only averts the plague, but cures those who are affected with it.

N. B. SONINI, in vol. III, of his *Travels in Egypt*, gives very correct deliaruions of sinrie of the most remarkable sculptures of this temple.

undatibn arc so great as to occasion, at one period of the year, a humidity little inferior to that which would proceed from actual immersion; and which in their consequences would equally affect that brilliancy of colouring which has stamped a characteristic pre-eminence on these *chef d'awvres*.

TO ROBERT HOME, ESQ.

Strct'iry to the Asiatic Scicly.

S[K,

THE ingenious and learned author of the inquiry into *the* life and writings of HOMER speaks of *abstracted* mythology, as the result of great search and science: being a comparison of the harmony and discord, the resemblance and dissimilitude, of the powers and parts of the universe, it often consists of their linest proportions and hidden»aptitudes, set together and personated by a being acting like a mortal.

It is from this and similar observations of this instructivc writer, and from the history of the *Ilea-ve?Mh* the *Abhe* FLUCI-IF, that I have been led to investigate the mythology oF' *Lul>n*; and to apply their mode of reasoning to a system which has generally been considered as a heap of wild and extravagant table.

In fact we must view the images of *India* in the light of hieroglyphics, and endeavour to clevelopc the allusion: this is the object of the accompanying attempts; but I only offer my conjectures; I insist upon no hypothesis.

If these essays should be deemed acceptable by

the-society, it will be an inducement to me to continue the research.

I am, Sir, your Obedient Servant,

J. D. PATERSON.

DACCA, the 4th January, 1803.

Of the ORIGIN *of the* HINDU RELIGION.

BY J. D. PATERSON, ESQ.

THE *Hindu* religion appears to me to have been original!}' a reform of existing systems, when **the** arts and sciences had arrived at a degree of perfection; that it was intended to correct the ferociousness and corruption of the times, and to reduce mankind to an artificial order on a firmer base of polity; that it was the united effort of a society of sages, who retained the priesthood to themselves, **and** rendered it hereditary in their families, by the division of the people into separate casts; that it was supported by the regal authority, which, while it controlled, it supported in return: that it was promulgated in all its perfection at once as a revelation of high antiquity, to stamp its decrees with greater authority; and that it was founded on pure Deism, of which the *Gayatri*, translated by Sir WILLIAM JONES, is a striking proof; but to comply with the gross ideas of the multitude, who required a visible object of their devotion, they personified the three Great attributes of the deity.

The first founders of the *Hindu* religion do not appear to have had the intention of bewildering their followers with metaphysical definitions; their description of the deity was confined to those attributes which the wonders of the creation so loudly attest: his almighty power to create; his provi-

dence to preserve; and his power to annihilate or change what he has created,

In fact, no idea of the deity can be formed beyond this: it is simple, but it forces conviction upon the mind. This simplicity, however, was destroyed when they attempted to describe these attributes to the eye by hieroglyphics; perhaps letters had not then been invented, in which case they could have no other mode of instruction than by signs and emblematical figures.

In order to impress on the minds of men a sense of their total and absolute dependance on him, by whom they live, and from whom they have their being, they invented the hieroglyphical figures of
 BRAHMA—————VISHNU—————SIVA.

As emblematical of
 Creation————•————Preservation————Destruction.

These are referred to
 Matter—————Space ~————Time.

And painted them
 Red—————Blue—————White.

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BRAHMA had originally five heads, alluding to the five elements; hence in one of the forms given to SIVA, as the Creator, he is likewise represented with five heads. But the introduction of images soon led the mass of mankind to consider these personified attributes as real distinct personages; and as one error brings with it many others in its train, men separated into sects, each selecting one of the triad, the particular object of their devotion, in

preference to, and exclusive of the others: the followers of VISHNU and SI'VA invented new symbote, each to ascribe to their respective divinity the attribute of creation. This contention for pre-eminence ended in the total suppression of the worship of BiiAUMA, and the temporary submission of VISHNU to the superiority of SI'VA; but this did not last long; the sects raised crusades against each other; hordes of armed fanatics, under the titles of *Sannyasis* and *Vairugis*, enlisted themselves as champions of their respective faith; the former devoted their lives in support of the superiority of SI'VA, and the latter were no less zealous for the rights of VISHNU: alternate victory and defeat marked the progress of a religious war, which for ages continued to harass the earth, and inflame mankind against each other.

Plutarch has said of the *Egyptians*, that they had inserted nothing into their worship without a reason, nothing merely fabulous, nothing superstitious (as many suppose); but their institutions have either a reference to morals, or to something useful in life; and many of them bear a beautiful resemblance of some facts in history, or some appearance in nature; perhaps in the commencement to lead mankind into superstition was not intended nor foreseen; it is a weed that, springs up naturally when religion is blended with mystery, and burdened with perplexing ceremonials. The mass of mankind lost sight of morality in the multiplicity of rites; and as it is easier to practise ceremonies than to subdue the passions, ceremonies gradually become substitutes for real religion, and usurp the place of morality and virtue.

This seems to have been the case with the religions of *Egypt* and *India*.

In the course of investigating the ceremonies of the *Hindus*, and in attempting to develope their meaning, it will be found necessary to compare them with the ceremonies and rites of *Egypt*: the resemblance is striking; they mutually serve to explain each other; and leave no doubt in my mind of their connexion, or rather identity.

The annihilation of the sect and worship of BRAHMA, as the ISWARA or supreme lord, is allegorically described in the *Casic hand* of the *Scanda Puran*, where the three powers are mentioned as contending for precedence. VISUM:, at last, acknowledges the superiority of SI'VA; but BRAHMA, on account of his presumptuous obstinacy and pride, had one of his heads cut off by SI'VA, **and** [mpuja](#) abolished.

The intent of this fable is evidently to magnify the sect of SI'VA above those* of BRAHMA and VISHNU ; and if, instead of the *Dfratds* themselves, (who are described as the actors in this allegorical drama) we substitute the contending sects, the fable will appear not destitute of foundation in historical fact.

Of the VA'HANS, or VEHICLES OF the GODS.

When the symbolical worship was introduced, the vehicles of the new deities were necessarily allegorical: the *Vdhans* of the three supreme personified attributes were purity, truth, and justice ; the first was typified by the *Sican*, which, clothed with unspotted whiteness, swims amidst the waters, as it were distinct from, and unsullied by them, as the truly pure mind remains untainted amidst the surrounding temptations of the world.

GABU'JDA and ARU'NA are two brothers; the one remarkable for his strength and swiftness, the other (Ajtut'fA) is described as imperfect, and, on account of his defects, destined to act as *charioteer* to the Sun. ARU'NA is the *dawn*, the morning twilight, which precedes the Sun: GARU'DA is perfect light, the dazzling full blaze of day, the type of truth, the celestial *Vidian* of VISHNU.

Justice, typified in the sacred bull, is the *Vdhan* of SIVA. The Bull, whose body is *Paramfo'wara*, and whose every joint is a virtue; whose three horns are the three *Vedas*; whose tail ends where *Ad'herma*, or injustice begins.

O/OSIRIS, HORUS, TYPHONT, and BRAHMA, VISHNU, and SI'VA.

IF we consider the *Egyptian* OSIRIS not as a name, but as a title of supremacy, which each sect, as their doctrines became in turn the established religion of the country, applied exclusively to the object of their worship; and if we consider it as the same with the *Sanscrit* ISWARA (THE Supreme Lord), it will greatly illustrate the identity of the religions of *Egypt* and *Hindostan*, by a close coincidence of historical fact. The three great attributes of the Deity had in course of time been erected into distinct Deities, and mankind had divided into sects, some attaching themselves to BRAHMA, some to VISHNU, and others to SI'VA. The contention of schismatics from the same stock, is always more inveterate than where the difference is total, the sect of BRAHMA claimed exclusive pre-eminence for the object of their choice, as being *the creative poicer*, the ISWARA, or Supreme Lord, The two other sects joined

agamst the followers of BRAHMA, and obtained so complete a victory as to abolish totally that worship; the sect of SI'VA, being the most powerful, rendered theirs the established religion, and claimed for SI'VA, in his turn, the exclusive title of IVWARA. The sect of VISHNU, or HERI, at length emerged from its obscurity, and, in concert with the followers of the *Sacti*, or female power, destroyed and abolished the sect and worship of SIVA; thus VISHNU, or HERI, became the IVWARA, and his worship the established religion. This seems to have been the case in *Egypt*; for, if we substitute the name of OSIRIS for BRAHMA, HORUS for VISHNU or HERI, TYPHON for SIVA, and Isis for the female principle, the history agrees in all its parts. A proof of the identity of SI'VA and TYPHON is the title of BABON. Mr. BRYANT says, that "BA-
" BON was thought to have been the *same as* Tr-
" PHON, by some esteemed a *female*, and the wife
" of that personage." One of the titles of SI'VA is BHUBAN, or rather BHUVAN-IVWARA, the Lord of the Universe; his consort, in this character, is styled BHUVAN-IYWARI', which may have occasioned the uncertainty mentioned by Mr. BRYANT, with respect to the sex of that Deity, since *Bhuvan* (world), or the *Universe*, is a part of the title of either.

The Sun is one of the forms of HERI, or VISHNU; OSIRIS and HORUS are both supposed to have been the Sun. The *Indian* expedition of OSIRIS coincides with the adventures of RAMA, one of the incarnations of VISHNU. The four months sleep of HORUS tallies with the four months sleep of VISHNU.

The sacred Bull, the vehicle of SI'VA, was the emblem of justice, and peculiarly sacred to him amongst the *Indians*; and the living animal itself

SQ OF THE ORIGIN OF

was venerated at *Memphis* and *Thebes*, under the names of *APIS* and *MNEVIS*. The *Phallos* of *OSIRIS* was an object of worship, and it is known to be the hieroglyphic of *SI'VA*: and lastly, *OSIRIS*, like *BRAHMA*, is described as a great lawgiver.

If the conjecture I have set out with in this article, be considered with attention, it will account for the mixed character of the *Grecian BACCHUS*.

The word *Surd* in *Sanscrit* signifies both wine and true wealth; hence in the first *Chand* of the *Rdm-dyanof VA'LMI'C* it is expressly said, that the *Dēvatds*, having received the *Surd*, acquired the title of *Suras*, and the *Daityas* that of *Asura* from not having received it. The *Veda* is represented as that wine and true wealth; and the *Dfoatas* as enjoying it in a superior degree, being termed *Suras*: the *Prince*, or supreme leader of the *Suras*, became in the *Grecian* Deity (by a confined translation of the word), the god of wine and drunkards.

BACCHUS, or *OSIRIS*, was represented by an equilateral triangle; *Si'vA* has the same hieroglyphic: the worship of *BACCHUS* was the same as that which is paid to *SI'VA*; it had the same obscenities, the same bloody rites, and the same emblem of the generative power.

In *BACCHUS* may be traced the characteristics of each of the personages in the *Indian* triad; and this may be accounted for by supposing the *Greeks* to have been deceived by the title *OSIRIS*; they, considering it as the name of an individual, mingled the characters and adventures of all the three in one personage. *BACCHUS* may possibly be derived from a title of *VRIHASPATI*, *VA'G-IVA*, the lord of speech, which might be applied to *BRAHMA* as the

usband of SARASWATI', the goddess of speech
Hht Greeks called him BROMIOS, as Sir WILLIAM
 JONES says, without knowing why; and he was
 styled by the *Romans*, BRUMA : his feasts were cele-
 brated for several days at the winter solstice;
 from him they were called *Brtamalia*, and the win-
 ter solstice itself *Bruma*

The crescent of SI'VA may have suggested the
 horns of BACCHUS ; and his army of Satyrs, and vic-
 tories in *India*, shew the resemblance of this part of
 his character to VISHNU as RA'MA, who, with his
 army of monkies, overran the peninsula of *India*.

It was a common practice with the *Greeks* to dis-
 guise their own ignorance of the purport of a fo-
 reign word, by supplying a word of a similar sound,
 but different meaning, in their own language, and
 inventing a story to agree with it: thus *M6ru*, or
 the north pole, the supposed abode of the *Devatas*,
 being considered as the birth-place of the God,
 gave rise to the fable of BACCHUS'S second birth
 from the thigh of JUPITER, because *Aferos*, a *Greek*
 word approaching *Mkru* in sound, signifies the
 thigh in that language. SI'VA is described as taking
 the form of a *Sink*, in the battle of DURCA' and
 MAHISHA'SURA; he seizes the monster with his
 claws and teeth, and overthrows him, while DUFT-
 GA', with her spear, finishes the conquest by his
 death. Thus BACCHUS, under the same form, is
 described as destroying the giant RHCECUS.

Jthcecum rttorsisti Ltonis
Unguibus horribilique Mate,

The *Hindu* sacrifices to DURGA' and CA'LI' resem-
 ble those of BACCHUS. When the stroke is given,
 which severs the head of the victim from its body, the
 cymbals strike up, the *Sane ha* or *Buccinum* is blown,

and the whole assembly, shouting, besmear their faces with the blood; they roll themselves in it, and, dancing like demoniacs, accompany their dances with pbscene songs and gestures. The *Abh6 PLUCHE* mentions the same particulars of the assistants in the sacrifices of BACCHUS. The winnowing fan, the

Mystica vannus iacchi,

is always used in the rites of CAL, CA'LI', and DURGA'; but the *Hindus* at present affix no other idea of mystery to it, than its being an appendage to husbandry; they use it as a tray, on which they place, before the image of the Deity, the *Sesamum* or *Til*, the *Mundir*, with its lamp, and all the other articles used in the ceremony. A tray could serve the purpose; but on all solemnities the rituals prescribe exclusively the use of this van or fan, which they call *Surp*.

Of VISHNU, as the CREATIVE POWER.

The *Vaishnavas*, in order to appropriate the creative principle to VISHNU, make BRAHMA, whom they acknowledge as the immediate agent of creation, to derive his origin from a *Lotos*, which sprang out of the navel of VISHNU whilst sleeping upon the vast abyss of primeval waters; thus VISHNU becomes superior to BRAHMA, as being the cause, first, of his existence, and secondly, of all created things through his agency. The *Argha* is a vessel of copper used by the *Brahmtns* in their *puja*; its shape is intended to represent the universal Mother, but in the centre of it is an oval rising embossed, and by this the *Vaishnavas* assert, is meant the navel of VISHNU, from which all things originally sprang; and by the mystic union of these two principles of production, it is intended to describe them as identically one. The *S'aivas*, however, insist, that this Omphalic rising is meant as the emblem of the

Ling; hence SIVA'S title of AUGNATH, and in the *Agama*, ARGHA-IVA, both meaning the Lord of the sacred Vessel *Argha*.

VISHNU is represented, in the tenth *Avatar*, as the destroying power, thus ascribing to him the attribute of SIVA.

VISHNU is represented by the *Vaishnaws* with four arms, and in each hand lie bears a symbol. These symbols seem intended to unite the three great attributes in him, and to express his universal supremacy. The *Lotos* typifies his creative power, (in allusion to the *Lotos* which sprang from his navel). The *Sane ha* typifies his attributes of preservation, and the mace that of destruction; while the *Chakra* expresses his universal supremacy, as *Chacru-Varti*, or Lord of the *Chakra*, when applied to a monarch, indicates universal empire; applied to a *Pundit*, the possessor of the whole circle of Science.

Q/'SIVA, as the CREATIVE POWER, and BHAVA'SV.
Of CA L—————and—————CA'LI'.

When the personified attributes of the Deity ceased to be considered as mere hieroglyphics; when mankind began to view them in the light of distinct persons, and attaching themselves to the worship of one or of the other exclusively, arranged themselves into sects, the worshippers of SIVA introduced the doctrines of the eternality of matter. In order to reconcile the opposition of assigning the attribute of creation to the principle of destruction, they asserted, that the dissolution and destruction of bodies was not real, with respect to matter, which was indestructible itself, although its modifications were in a constant succession of mutation; that the power which continually operates these changes, must necessarily unite in itself

the **attributes** of creation and apparent **destruction**; that this power, and matter, are two distinct and **co** existent principles in nature; the one agent, the other patient; the one *male*, the other *female*; and that creation was the effect of the mystic union of these principles.

The hieroglyphic of this union was worshipped under a variety of names, BHAVA and BHAVA'NI', MAHADEVA and MAHA' MA'YA', &C. Thus the attribute of creation was usurped from BRAHMA, BY the followers of SI'VA, to adorn and characterize their favorite Deity.

This seems to have been a popular worship, for a great length of time. Two sects, however, sprang up out of it: the one personified the whole universe, and the dispensations of providence in the regulation thereof, into a Goddess; this sect retained the female symbol only, and denominated themselves *Sdcta*, as worshippers of *the Sacti*, or female power, exclusively, which they called *Pracriti*; and which we, from the *Latin*, term nature.

The other sect insisted, that there was but one, eternal, first cause; that every thing existing, derived its existence from the sole energy of that first cause (*Niranjen*).

In order, therefore, to express their ideas of the absolute independence of this supreme power upon any extra co-operation, they took for their symbol the male emblem, unconnected with that of the female; a third sect likewise arose, which intended to reconcile the idea of the unity of godhead with that of the existence of matter and spirit; they, therefore, contended, that the union of those two principles was so mysteriously intimate as to form but one being, which they represented by a figure

half male and half female, and denominated HARA-GAURIV and ARDHAXA'HI' IS'WARA. It is probable that the idea of obscenity was not originally attached to these symbols: and it is likely, that the inventors themselves might not have foreseen the disorders which this worship would occasion amongst mankind. Profligacy eagerly embraces what flatters its propensities, and ignorance follows blindly wherever example excites : it is, therefore, no wonder that a general corruption of manners should ensue, increasing in proportion as the distance of time involved the original meaning of the symbol in darkness and oblivion. Obscene mirth became the principal feature of the popular superstition, and was, even in after times, extended to, and intermingled with, gloomy rites and bloody sacrifices. An heterogeneous mixture, which appears totally irreconcilable, unless by tracing the steps which led to it. It will appear that the ingrafting of a new symbol, upon the old superstition, occasioned this strange medley. The sect of VISHNU was not wholly free from the propensity of the times to obscene rites ; it had been united in interest with that of SIVA, in their league against the sect of BRAHMA, as was expressed by an image, called HARKRT, half SIVA and half VISHNU. This union seems to have continued till the time when an emblem of an abstract idea, having been erected into an object of worship, introduced a revolution in religion, which had a violent and extended effect upon the manners and opinions of mankind.

It was then that a gloomy superstition arose, which spread its baneful influence with rapidity amongst mankind; which degraded the Deity into an implacable tyrant; which filled its votaries with imaginary terrors ; which prescribed dreadful rites ; and exacted penances, mortifications, and expiatory sacrifices. In short, it was the worship of CA'L

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and CA'LI', introduced by the sect of SI'VA, which caused a total separation of the sect of VISHNU, and introduced those religious wars which, in distant ages, seem to have distracted mankind; and of Which traces are, even at this day, to be found.

With a view to unite the three great attributes of creation, preservation, and destruction in one symbol, the A *divas* personified the abstract idea of time (CA'L), which may, figuratively, be said to create, preserve, and destroy. They therefore distinguished artificial time and eternity with peculiar emblems, in which the attribute of destruction, the characteristic of SX'VA, evidently predominates. The personified *Sacti*, or energy of each of these allegorical personages, was decorated with corresponding emblems. The contemplation of the distinctions of day and night; of the light and dark divisions of the month; of the six months night and six months day of the Gods (occasioned by the apparent obliquity of the Sun's path); and lastly, the contrast of the visible creation with eternal night, suggested the idea of painting CA'L white and CA'U' black,

To SI'VA they have given three eyes; probably to denote his view of the three divisions of time, the past, the present, and the future. A crescent on his forehead portrays the measure of time by the phases of the Moon. A serpent forms a necklace to denote the measure of time by years. A second necklace, formed of human skulls, marks the lapse and revolution of ages, and the extinction and succession of the generations of mankind. He holds a trident in one hand, to shew that the three great attributes are in him assembled and united, in the other hand is a kind of rattle, called *damaru*, shaped like an hour glass: I am inclined to think, it was really, at first, intended as such; since it agrees with the character of the Deity; and a sand

gheri is mentioned, in the *Sastra*, as one of the modes of measuring time, and of ascertaining the length of a *gheri*.

In the hieroglyphic of the *Malta Pralaya*, (or grand consummation of all things, when time **itself** shall be no more,) he is represented as trodden **under foot** by MAHA' CALI, or Eternity.

He is there deprived of his crescent, trident, and necklaces, to shew that his dominion and powers are no more. He is blowing the tremendous horn, **which** announces the annihilation of all created things.

MAHA' CA'LI', *black* and dreadful, is encompassed by symbols of destruction: two of her hands seem employed in the work of death: of the **other** two, one appears pointing downwards, alluding to **the** universal havoc which surrounds her: while **the** other, pointing upwards, seems to promise **the** regeneration of nature, by a new creation.

When the Sun begins his southern declination, the night of the Gods begins: that is, when their supposed abode, *Me'ru*, (the north pole) begins to be involved in a night of six months: and, as this period may be considered as a type of *Maha Pralaya*, the worship of MAHA' CA'LI' is celebrated at the commencement thereof.

MAH/V' C A M ' is represented without a crescent, (the artificial measure of time,) because it is unnecessary to her character as the hieroglyphic of eternity, hint, the belief of the *Hindus* in successive destructions and renovations of the Universe, accounts for her wearing a *Aland Mala*, or necklace of skulls, as emblematical of those revolutions.

MAHA' CA'L, as represented in the caverns of

***Ekphmta*, had eight arms. In one hand he holds** a human figure; in another a sword, or sacrificial axe; in a third he holds a basin of blood; and with a fourth he rings over it the sacrificial bell: two other arms are broken off; but with the two remaining he is drawing behind him a veil, which extinguishes the sun, and involves the whole Universe in one undistinguished ruin. One of the titles of this tremendous Deity is BHAIUAVA, the horrific, but his principal designation is CA'L AGNI RUDRA.

If the contemplation of the grand consummation of all created things struck the mind of the initiated *Brahmen* with awe; the uninformed mass of people would not be less affected with the dreadful appearance and implacable character of this Deity. To appease and reconcile so tremendous a Being would naturally become an object of the greatest necessity and anxiety; the personified metaphor of all-devouring time, presented to their eyes a divinity delighting in blood and slaughter; the zeal of worshippers encreased in proportion to their terrors. The unenlightened mind dwells with disturbed and anxious attention upon horrors of its own creation; and superstition takes its form and colour from the objects which excite it: hence arose those bloody rites, those consecrated cruelties, and those astonishing penances, which not only obtained in *India*, but pervaded almost every part of the ancient world. Thus a new superstition was grafted upon the old, as much adapted, by its vain terrors, to degrade the human mind, as the former had been to corrupt it.

If it was intended to instruct mankind in the hieroglyphic language of former ages, and to shew them how absolutely necessary it was, to make a sacrifice of their vices and depraved appetites, before they could render themselves acceptable to the Deity, could any way be mere natural than to typify

those vices by animals whose propensities are analogous to them; and by the allegorical slaughter of them before the altar of the Deity, to denote the sacrifice required. To the uninformed multitude such an hieroglyphic would seem to prescribe the actual sacrifice of the animal. The emblematical apparatus of CA'L and CA'LI' would confirm then in the error; and when once the idea was admitted, that the blood of animals was acceptable to the Deity, fanaticism would soon demand human victims. Humiliation and presents appease earthly princes; but the divinity of fanaticism was supposed to require more costly offerings, and the severest mortifications which inventive zeal could suggest; a false pride, and vain ambition of displaying superior sanctity, excited an emulation amongst the deluded zealots, which steeled the heart against pain, and supported the sufferers under all their self-inflicted torments. This artificial insensibility acquired the reputation of inspired fortitude; and the admiration of ignorant multitudes repaid the fanatic for his voluntary tortures.

Such were the disorders which arose out of the worship of emblematical Deities.

The doctrines of the *Saivas* seem to have extended themselves over the greatest portion of mankind; they spread amongst remote nations, who were ignorant of the origin and meaning of the rites they adopted: and this ignorance may be considered as the cause of the mixture and confusion of images and ideas which characterised the mythology of the ancient *Trecks* and *Romans*.

In fact, foreign nations could only copy the outward signs and ceremonies: they could not be admitted beyond the threshold of the temple: the *adytum* was impenetrable to them. CA'L and CALF

assumed various names: CA'L became CRONOS, MOLOCH, SATURNT, DIS, PLUTO, and TYPHON; CA'LI' became HECATE, PROSERPINE, and DIAISTA, who was worshipped with bloody sacrifices at *Tauris*. It was to the barbarians that the *Greeks* were referred, by their own writers, to learn and understand the names and origin of their Deities.

SIVA, in his character of the Creative Power, became the ZEUSTRIOPHTHALMOS, JUPITER, and OSIRIS; his consort, BHAVA'NI', became JUNO, VENUS, CYBELE, RHEA, the *Syrian* Goddess, the armed P'ALLAS, Isis, CERES, and ANNA PERENNA. This multiplication of Deities arose from the ignorance of foreign nations as to the source of the superstition which they adopted, and the original meaning of the symbols; they supplied their want of information by fables congenial to their own national character and manners: hence arose those contradictions, which made their mythology a labyrinth of confusion.

When the *Saivas* intended to ascribe particularly, to the object of their worship, the benefits arising from any operation of nature, they decorated the image with suitable emblems, and assigned to the Deity a corresponding title.

For instance, S'ANCARA (which signifies the benefactor,) is a title of one of those forms of SIVA or CA'L. TO him the gratitude of the *Saivas* attributed the blessings which are derived from the waters of the *Ganges*, which rolls its fertilizing stream through various countries, bestowing life and happiness on millions of created beings.

They therefore adorned the image of CA'L with emblems applicable to the mountain whence that stupendous river flows.

As this beneficial stream makes its way from the tops of that mountain through the creepers and underwood, which seem to obstruct its passage to the plains, it is represented to flow from the head of the Deity, through his *jat'a* or clotted hair: and as tigers, elephants, and serpents, infest the skirts of the mountains, he is surrounded with serpents, his lower clothing is the skin of the elephant, and he is seated on that of the tiger. He is likewise called NI'L-CANT'HA (blue neck), from the appearance which the clouds assume when arrested in their course by the overtopping summit of the mountain.

He has likewise the title of *Giri IVWARA*, or lord of mountains; and this union of the attributes of SI'VA with those of the mountain, is more distinctly pointed out in his marriage with PA'RVATI', a derivative from *parent*, a mountain.

As the image of SI'VA, in this character, was an object of local veneration, its worship was probably confined to the banks of the *Ganges*. Had it reached the nations of *Europe*, he would have been considered as a distinct and separate divinity, and ranked amongst the river Gods. This symbol is admitted by the *Vahhnavaa*: but in order to ascribe this inestimable gift to VISHNU, and to assert his superiority over SI'VA, they insist that the river first flowed out of *Valeuntha* (the heaven of VISHNU), from the feet of VISHNU; that when it had descended upon the mountain *Cadets*, it was received by SI'VA, and placed on his head amongst his plaited locks.

On JAGAN-XA'TII, &C.

The temple of JAGAX-NA'TH is a famous resort for pilgrims of all sects, for it is revered by all, it is a converging point where all the contending parties unite in harmony with each other, What is the

secret spring of this concurrent of sentiment in sects, otherwise so irreconcilable **to** each **other?** **What is** intended by a representation, so extraordinary, of the Deity of the place: a figure that resembles nothing in the heavens above, or the earth beneath, or in the waters under the earth.

These questions will naturally arise upon a view of the accompanying drawing, taken from a large picture brought from the temple, in possession of *Raja* PARAS'U RA'M.

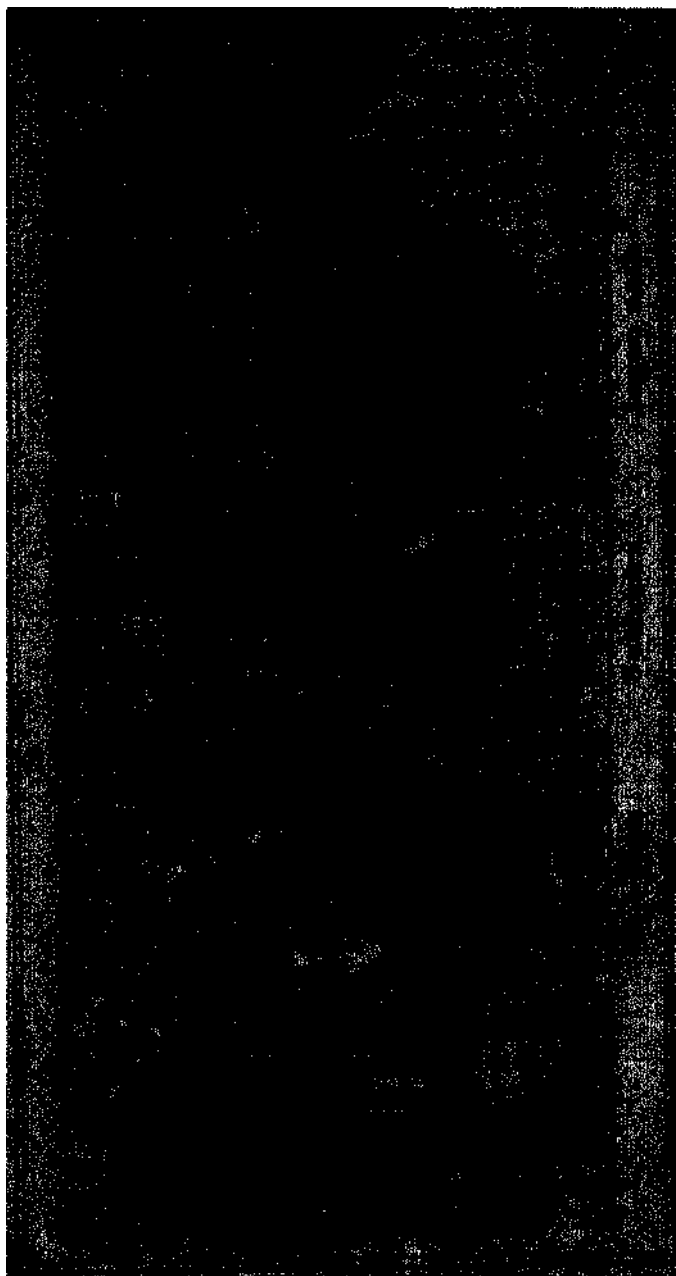
It is a representation of the SNA'N- JATRA, when the images, stripped of their ornaments, are bathed **But** it is this unadorned condition of the image that leads to the discovery of the mystery.

The *Pranava*, or mystical character which represents the name of the Deity, is thus expressed

30 . By making a cypher thereof in this manner, ^ filling them up, and giving a body to the central and connecting part of the cypher, you have



From this cypher, they have made three distinct Idols; probably, to prevent the original allusion from being too obvious to the multitude. SUBHADRA'S place is, however, always between the other two, for she represents the connecting participle of the cypher; the propriety of her being so situated is therefore evident; and as the actual connection



is dissolved, by the separation of the figures into distinct idols, we see lib reason of her being represented without arms.

CRISHNA, as PARAME'S'WARA, is JAGAN-NA'TH, or Lord of the Universe; his half brother is BAL-RA'M (a terrestrial appearance of SI'VA); and SUBHADRA' is a form of DEVI.

To me it appears a stroke of refined policy, in the first founders of the temple, to present, as an object of worship, the personification of the trilateral word which is held in reverence alike by all sectaries; and to give it a title which each sect might apply to the object of its particular adoration. The intention of the foundation was evidently to render the temple a place of pilgrimage open to all sects, and to draw an immense revenue from the multifarious resort of devotees. The ornaments and apparel with which they cover the image, conceal the real figure from the multitude, and give it an air of mystery; the fascination of mystery is well understood by the *Brahmens*.

JAGAN-NA'TII and BAL-RA'M have both the same form, to shew their identity, and their faces have the respective colours of VISHNU and SI'VA. Considered in this point of view, this temple may be considered as the rallying point for the three great sects. It is upon this principle, that JAGVN-NA'TH and BAL-RA'M appear sometimes with the attributes of GANE'S'A, to shew that it is one and the same Deity who is worshipped under so many names and forms.

On CRISHNA.

When the *Vaishncvoas* separated themselves from the *Saivas*, they introduced a new symbol of the Sun, under the name of CRISHNA, as a contrast to the horrid rites of CA'LI', which had so disgusted them.

CitiSHNA, being an incarnation of VISHNU, is depicted with the same characteristic complexion of dark azure, to identify the Deity in the symbol

The Earth is represented as a Cow, the cow of plenty; and as the planets were considered by the *Hindus* to be so many habitable Earths, it was natural to describe them by the same hieroglyphic; and as the Sun directs their motions, furnishes them with light, and cherishes them with his genial heat, CRISHNA, the symbol of the Sun, was pourtrayed as an herdsman, sportive, amorous, and inconstant.

The twelve signs are represented as twelve beautiful Nymphs; the Sun's apparent passage, from one to the other, is described as the roving of the inconstant CRISHNA. This was probably the groundwork of JAYADLVA'S elegant poem, the *Gita Govinda*. It is evidently intended by the circular dance exhibited in the *Ras'ijatra*. On a moveable circle, twelve CIUSHXAS arc placed alternately with twelve GO'PI'S, hand in hand, forming a circle; the God is thus multiplied to attach him to each respectively, to denote the Sun's passage through all the signs; and, by the rotary motion of the machine, the revolution of the year is pointed out.

CRISHNA obtains a victory on the banks of the *Yamwid* over the great serpent *Caltya Naga*, which had poisoned the air, and destroyed the lierds m that region.

This allegory may be explained upon the same principle as the exposition given of the destruction of the serpent *Python* by the arrows of APOLLO. It is the Sun which, by the powerful action of its beams, purifies the air, and disperses the noxious vapours of the atmosphere.

Both in the *Padma* and *Garuda* We find the serpent *Cdliya*, whom *CppHNA* slew in his childhood, among the Deities " worshipped on this " day; as the *Pythian* snake, according to CLEMENS, " was adored with APOLLO at *Delphi*."

Perhaps this adventure of CRISHNA with the *Cdliya Ndga*, may be traced on our sphere, for we find there *Serpentarius* on the banks of the heavenly *Yamuna*, the milky way, contending as it were with an enormous serpent, which he grasps with both his hands.

The identity of the APOLLO NOMIOS and CRISHNA is obvious: both are inventors of the flute; and CRISHNA is disappointed by TULASI in the same manner as APOLLO was deluded by DAPHNE, each nymph being changed to a tree; hence the *Tulasi* is sacred to CRISHNA, as the *Lauras* was to APOLLO.

The story of NA'REDA visiting the numerous chambers of CRISHNA'S seraglio, and finding CRISHNA everywhere, appears to allude to the universality of the Sun's appearance at the time of the Equinoxes, there being then no part of the Earth where he is not visible in the course of the twenty-four hours.

The Demons, sent to destroy CRISHNA, are perhaps no more than the monsters of the sky, which allegorically may be said to attempt in vain to obstruct his progress through the Heavens.

Many of the playful adventures of CRISHNA'S childhood are possibly mere poetical embellishments to complete the picture.

Perhaps the character of CRISHNA should be regarded in a two-fold light; in one as the symbol of
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the Sun, in the other as an allegorical representation of the rise and progress of the doctrines of the persecuted *Vaishnavas*, from the infancy of the sect till its full establishment. CANSA is represented as a S'ALVA; he appears to have persecuted the sect of Visaxu: but that oppressed sect seems to have multiplied under persecution, till the increase of their power enabled them to overthrow their oppressors; and, finally, to establish the doctrines of VISHNU upon the ruins of SI'VA.

OF CA'RTICE'YA, *the supposed MARS of INDIA.*

He is represented as a warrior with *sir* faces: he is armed with arrows and spears, and he is drawn riding upon a peacock. I suppose this figure to be an emblem of the sun, invented by the worshippers of the *Ling*, when they first separated into a distinct sect; or, in the hieroglyphical language of the *Brahmcns*, when he was produced from the seed which MAHA'DEVA shed upon the Earth, after he had been separated from UHAVA'NI', with whom he had been in strict union a thousand years. My supposition, however, contradicts the present received opinions of the *Hindus*; for they do not consider CA'RTICE'YA as the Sun. But, if we examine the figure, we shall find that it can only be applied to the Sun; and it will be found to agree in all its parts.

The *Hindus* divide the year into six *Rilus*, or seasons, in each of which the Sun appears with a different aspect. There are six stars in the lunar constellation, *Crifica*; and, as he derives his name from that *Nacshatra*, those stars are represented as his nurses, one for each month. Probably the symbol was invented either when the Sun was itself in that lunar constellation, or in the month *Cartica*,

when the Moon was full in-Critia. His arrows and missile weapons represent his rays; the APOLLO of the *Greeks* had also his bow and quiver of arrows. The worship of CA'KTICE'YA takes place on the last day of *Cdrtica*, as preparatory to military expeditions, which ought to commence, according to MENU, in the month *Agrahdyana*, the Sun being more propitious at that period for such undertakings.

The setting Sun seems followed by the host of Heaven; but how can this be expressed in a single hieroglyphical figure? It was done by giving him a peacock for his *Vahan*, or vehicle, in which the tail of this beautiful bird, studded with eyes, and expanded behind the God, portrays the firmament spangled with stars. The *Egyptians* sometimes represented the Sun in the character of a warrior, and he is said to have been addressed as such in the mysteries. But CA'RTICEVA is not now considered by the *Hindus* as the Sun : to account for this, I suppose, that whenever any new sect arose amongst the *Hindus* in former ages, the leaders invented new symbols, exclusively peculiar to themselves, with a view to render their separation from the parent stock more complete, and to mark their worship with distinguishing characters. This practice would give rise to various and different representations of the same object; and, in course of time, as the heat of religious animosities cooled, these various symbols would come to be considered as separate Divinities, and be all blended in one mass of superstition. Thus the Sun, under the name of CVRTICE'VA, becomes the god of war; and, under the name of CRISIINA, the shepherd god of *MaChurd* and *Vrinddvana*. The Sun is now separately worshipped under the names of *Suriia* and *A'ditya*.

Of INDRA the Emblem of the Visible Heavens.

I am led to believe, that many of the fables, inserted in the *Purdnas*, were invented, either after the real meaning of an hieroglyphic had been lost, to conceal that ignorance, or purposely to mislead the mass of people, and prevent too curious and close an inquiry.

INDRA is described, like ARGUS, covered with eyes; to account for this, the fable relates, that INDRA, having seen the beautiful wife of a certain *Riski**, was anxious to be more intimate with her; but the watchful husband prevented the intercourse, by arriving unseasonably for the god; the enraged saint uttered an imprecation, and wished that the god might be covered all over with representations of what had been the object of his desires; the curse took immediate effect. The god, full of shame, repented, and, by his entreaties, at last prevailed on the holy man to mitigate the curse, by changing the marks of his shame to as many eyes.

I consider this fable as an instance of the foregoing observation: for INDRA is a personification of the atmosphere and visible Heavens; and, of course, the eyes with which he is covered describe the stars. The rainbow is the bow of INDRA. The water-spout is the trunk of his elephant; thunder, lightning, and rain, and every phenomenon of the atmosphere, belong to his department; and, like the JUPITER of the *Greeks* and *Romans*, he has his Heaven, a mansion of sensual delights and enjoyment

Of JUPITER and EUROPA, and JUPITER and LEPA.

The *Hindus* have eight representations of female figures, which, except in sex, exactly resemble the

* AHILYA', wife of G6TAMA.

Deity, of which each is a *S'acti*, or power, with the same attributes and *vehicle*: MA'HEYWARI is the *S'acti* of MAHE'SA, or SI'VA; BRA'HMI, or BRAHMA'NI, of BRAHMA'; NA'RA'YANI, of NARA'YENA; AINDRI, of INDRA; CAUMA'RI, of CA'RTICE'YA; VA'RA'HI, of VISHNU, in the *Varaha Avatar*; NARASINHI, of VISHNU, in the *Narasinha Avathr*; and APARA'JITA', a form of BIIAVANI, the female principle: this last may be the aphrodite of the *Greeks*. It is probable that the representation of MA'HE'S'WARI, or a female SI'VA, riding on a white bull, may have given rise to the story of EUROPA'S rape: and the representation of BRA'HMI, or the female BRAHMA', with the swan, may, in like manner, have occasioned the fable of JUPITER and LEDA. These explanations were, perhaps, invented by the *Greeks* to account for symbols, of the meaning of which, they were ignorant.

ANNA PERENNA.

The *Romans* themselves were ignorant of the history of this goddess, and the origin of her rites, although she was an object of their veneration and worship. From whence did this ignorance proceed? Was it that the memory of the institution was lost in its remote antiquity? Or was it an adoption of a foreign ritual, without adverting to its origin?

According to some authors, she was the daughter of BELUS, and sister of DIDO, who fled to BATTUS, king of the isle of *Malta*, after the death of her sister, when HIERBAS, king of the *Gttuli*, attempted to take *Carthage*. Not finding herself safe with BATTUS, on account of the threats of HIERBAS, she fled to LAURENTUM in *Italy*, where ÆNEAS was settled: he met her on the banks of the *Numicius*, and received her into his palace,

treating her with the respect due to her quality. LAVINIA considered her as a rival, and sought her destruction; but ANNA being admonished of this in a dream, fled to the river *Nwnicius*, whereof she was made a Nymph, as she told those who sought for her, and ordered them to call her in future ANNA PERENNA, because she should for ever remain under those waters.

—————placidi sum Nympha Numici:

Anne perenne latens Anna Perenna vocor.

OVID, *Fast*, Lib. 3d, Vers. 653.

The *Albans* instituted rejoicings on the banks of the river, with dancing and feasting; and the *Romans*, in imitation of them, did the same on the banks of the *Tiber*. The dances and sports were very indecent and lascivious. OVID has described these festivals, which were celebrated on the 15th *March*: they sacrificed to her for long life; *annarc et perermare*.

It is probable that this legend was a popular tradition, merely local, peculiar to the *Romans* and *Albans*; but it was not the sole conjecture, for, according to OVID, some supposed her to be the Moon, some THEMIS, and others Io; some imagined she was the daughter of ATLAS, and some took her for AMALTIKA, who nursed JUPITER in his infancy; while others conceived her to be an old woman of *Bovilla*, who was supposed to have fed the people of *Rome*, in very ancient times, when oppressed by famine, in a miraculous manner, and to have then fled and disappeared in the holy *Aventine Mount*, and in gratitude for this relief this festival had been instituted by the *Romans*.

Amidst so many conjectures, perhaps we may at this distance of time discover the mystery at *Be-*

nares, in ANNA PU'RNA' DEVI, the *Hindu* Goddess of Abundance, whose name is derived from *Anna* (food), and *Purrii* (abundant); let us regularly weigh each conjecture mentioned by OVID, rejecting only the local story of the deified sister of DIDO, and we shall find none that is inapplicable to the *Hindu* goddess. 1st. The DIANA of the Romans was represented with a crescent on her forehead; it was her characteristic mark. The *Hindu* goddess, as being the consort of SIVA or CA'L, is decorated in like manner; tins may account for her being considered as the Moon. Cdly. The attributes of THEMIS, whether she is considered as CERES, which was the supposition of CLEMENS of Alexandria, in his description of her obscene mysteries; or as the goddess of justice, piety, and virtue, as described by DIOBORUS SICULUS, are equally applicable to ANNA PU'RNA' DEVI; the conformity of her name and office to the attributes of CKRKS is strikingly apparent. But, if THEMIS is justice, piety, and virtue personified, the character will equally suit the consort of the god of justice, VRISHA ISWARA, and the lord of the sacred bull, DIERMA RA'JA'. Sdly. That she was Io, the daughter of INACHUS, under the form of a cow, is a supposition which will not be found inapplicable to ANNA PU'RNA' DEVI, when it is known that the Earth, symbolized as, a cow of plenty, is one of the forms of the *Hindu* goddess. 4thly. That she was the daughter of ATLAS, MAIA, who was beloved Wy JUPITER, is a conjecture for which a foundation may be traced in the *Hindu* goddess. Might not the name of MAYA or MAHA MAYA- (the beloved consort of SIVA) have given rise to this conjecture; the *Hindu* term being applied to signify the mother, the great mother! 5thly. The image of ANNA PU'RNA' is represented sitting on a throne, giving food, with a golden ladle,

to an infant SIVA, who stretches out his little hand to receive it. Is not the resemblance particularly striking between this representation and the character of AMALTHEA, who nursed JUPITER, when an infant? Lastly, the tradition of her being the old woman of *Bovilla*, which OVID himself seems inclined to adopt, is equally applicable to ANNA PU'RNA' DEVI, who, according to the *Puranas*, under the form of an old woman, miraculously fed VYA'SAMUXI, and his ten thousand *Pupils*, when reduced to the extremities of distress and famine by the anger of SIVA, because VYA'SA had presumed to prefer VISHNU to him.

It may not, therefore, be an unfounded conjecture, that the consort of SIVA is the point in which all those opinions meet, and that they were founded on confined and confused traditions of the goddess of abundance.

Description of ANNA PU'RNA' DEVI, from the AN-NADA' CRIPA'.

She is of a ruddy complexion, her robe of various dyes, a crescent on her forehead; she gives subsistence; she is bent by the weight of her full breasts; BHAVA, or SIVA (as a child), is playing before her, with a crescent on his forehead; she looks at him with pleasure, and seated (on a throne) relieves his hunger; all good is united in her; her names are ANNADA', ANNA PU'UVA' DEVI, BHAVA'NI, and BHA'GAVATI.

EXTRACTS.

Sunt cjuibus bcec luna est, quia mensibus impleat annum:	657
Pars Them in, Inachiam pars putat esse bovem.	
Invenies, qui te Nymphen Atlar.tida dicant;	
Teque Jovi priinos, Anna, dedisse cibos.	660
Usee quoque, quani referani, nostras pervenit ad anres	
Fama: nee a vera dissidetilla fide.	

Plcbs vetus, et nullis etiaranum tuta tribunis,

Fugit; and in sacri vertice raontis abit.

Jam quoque, quem secum tulerant, defccerat illos

665

Victus, et humanis usibus apta Ceres.

Orta suburbanis quscdam fuit Anna Bovillis

Pauper, sed mundx sedulitatis, anus.

Ilia, levi mitra canos redimita capillos,

Fingebat tremula rustica liba mauu.

6j0

Atque ita per populum ftinnantia mane solebat

Dividere. Haec populo copia grata fuit.

Pace domi facta sigimni posuere Perennue,

Quod sibi defectis ilia tulisstt opem.

674

OVID, *Fast. Lib. 3d.*

Of the Four Months Sleep of TIORUS and VISHNU.

The Abbe PLUCHE (to whose ingenious work I am so much indebted), mention two hieroglyphics, one taken from the *Isiac* tabic, and the other described upon a Mummy. They both relate to the sleep of HORUS.

The one represents a couch, in the form of a lion, with lionus swaddled up and sleeping* on it. Beneath the couch are four jars: an ANuHIS IS standing by the side of the couch; and an Isis at the head of it, in the act of awakening IIOKUS.

When AxuBis, or the Dog Star, rose helh-ically, the *Egyptians* considered it as a warning to them of the approach of the inundation, during winch the operations of husbandry were suspended; this suspension was deemed a period of rest: to express that inaction, IIOKUS was described as swaddled up, unable to use his arms, and sleeping upon this lion-formed couch. ANuBIS is putting him to rest, because the rising of the Dog Star proclaimed that cessation of labour. The four jars denote the four months. When, by the operations of nature, the water has subsided, and the river has been reduced

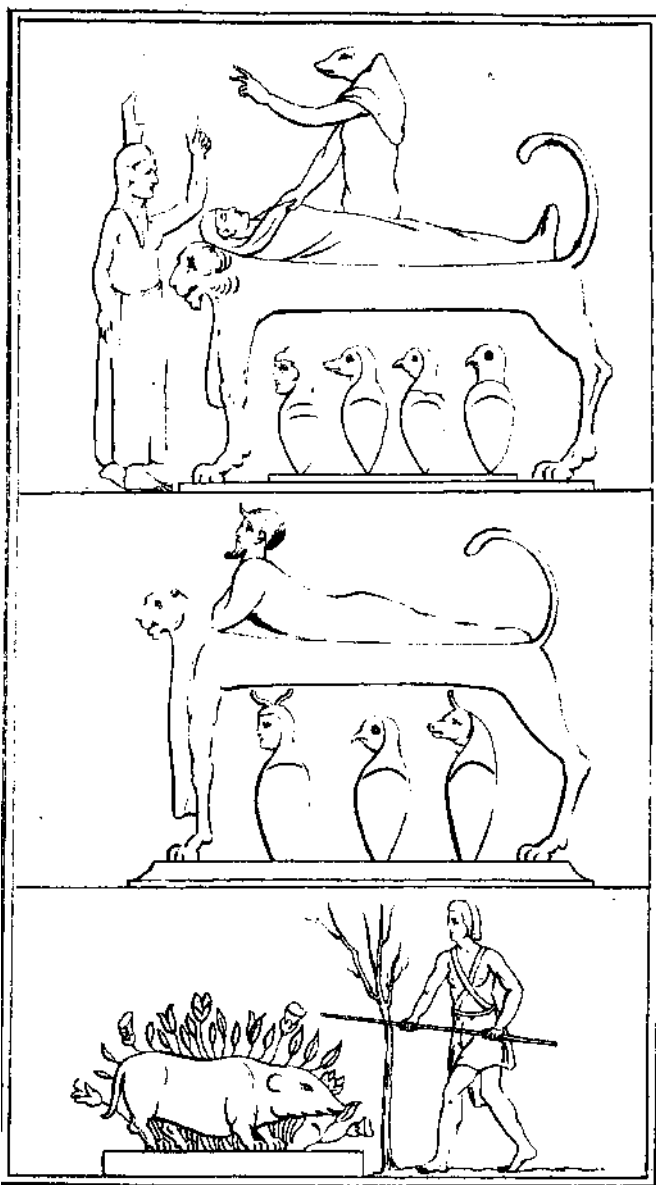
within its banks, labour **is** resumed, **and HORUS is awakened** by **Is** is, or personified nature.

In the other hieroglyphic, we have the same couch with Jloitus swaddled up, but in the act of **turning** himself: there are only three jars under this couch, to denote, that this action of turning himself to sleep, on his other side, takes place at the commencement of the third month. This interpretation I have given, because what follows, respecting the sleep of VISHNU, seems to justify it. Let us therefore turn to the *Hindu* representation of the four months sleep of VISHNU or HERI.

On the eleventh day of the enlightened half of the lunar month, *Asurh*, VISHNU begins his repose on the serpent, *Shha*. On the same day of the bright half of the lunar month, *Bhadra*, *he turns on his side*; and on this day the *Hindus* celebrate the *JalYlitra*, or the retiring of the waters. On the eleventh day of the bright half of the lunar month, *Carlica*, he is awakened, and rises from his sleep of four months.

The allusion will be made perfectly clear, when it is known that water is considered as one of the forms of VISHNU,

The water, rising till it covers the winding mazes of the river's course, is personified by VISHNU sleeping upon the serpent *Stslut*, whose hundred heads are the numerous channels which discharge the waters into the sea. As long as it continues to rise, he sleeps on one side. When the inundation, having risen to its height, begins to subside, *he turns on the other side*. When the waters have run off, and the winding banks of the river are completely cleared of the swoln waters of the inundation, he



Egyptian Hieroglyphics.

is said to have arisen from his sleep, being invoked, and awakened with this *Mantra*, or incantation.

" The clouds are dispersed, the full moon will appear in perfect brightness, and I come in hope of acquiring purity, to offer the fresh flowers of the season; awake from thy long slumber, awake Lord of all Worlds."

Let us compare the *Hindu* legend with the *Egyptian* hieroglyphic, and I think no doubt can remain of the identity of HORUS and VISHNU, or HEUI; and if this position be admitted, we shall find ourselves in possession of the Key to the *Egyptian*, *Grecian*, and *Roman* mythology.

Of the DURGA' PU'JA'.

The Abbé PLUCHE mentions an *Egyptian* hieroglyphic from the *Mac* table. HORUS, armed with an arrow, is slaying a river horse, or *Hippopotamos*, which is surrounded with the leaves of the Lotos, and other aquatic plants. He says, " By this monster, which dwells in the *Nile*, and comes out of it to lay waste and devour whatever it meets with, we can understand nothing but the inundation." HORUS is the same with HERI or VISHNU. If the *Saivas* admitted in this country a similar victory over the inundation, they would substitute SIVA, or his consort, for the *Vakhnava* symbol HORUS,

The sphinx, an emblem of the Sun's passage through LEO and VIRGO, would suggest the idea of decorating CA'LI, like the armed PALLAS, AS VIRGO, attended by her *Sink*, or Lion, who is SIVA himself in that form; and they ascribe to her a victory over the monster *Mahish A'sura*, a giant, with the head of a buffalo: this animal delights in water; and, when he comes out of it, is as des true-

tive fey laying waste and devouring-the harvest, as the *Hippopotamos*; the latter animal not being'a native of *Hindustan*, it was natural to supply its place with one which had similar characteristics. If the *Hindu* religion was brought from *Egypt into India*, the importers of it would see the same phenomenon of the annual rising of the river; but they would observe, that in this country it was accompanied with heavy rains, thunder, lightning, and storms of wind, an apparent war of the elements. Hence the buffalo-headed symbol of the inundation was erected into a giant, at the head of a vast army, warring against the Gods: the novelty of these phenomena, to the first comers, would suggest to them this poetical personification. The title borne by CA'LI, in this character, is DURGA', or rather DURGATI NA'S'TNI, the remover of difficulties; as she is a form of CA'LI, she has the same bloody rites.

The Abbe mentions the *Canopus*, as a jar or pitcher of water, intended to make the people acquainted with the exact progress and increase of the inundation: he adds, that they used to mark these jars with the figure I , or a small cross

to express the increase and swelling of the river. *Canob* is the *Egyptian* word, which is rendered *Canopos* by the *Greeks*; the information, which this seems intended to convey, was so particularly necessary to the *Egyptians*, that it is no wonder it should, in course of time, cease to be considered as a, mere sign, and acquire a place amongst the Deities themselves. The word *Canob*, by the analogy of the *Sanscrit* language, becomes *Cumbh*, which signifies a jar or vase: it gives name, in the *Hindu Zodiac*, to the sign *Aquarius*. This *Cumbh*, *G'hat'a*, or jar, is the principal object in the celebration of the *Hindu* worship. It is considered as almost the



DURGAS combat with MAHISH-ASURA.

Deity itself- It cannot be dispensed with; while the image of DURGA' may be omitted entirely. The *Vaishnavas* use **the** sacred jar, which they mark

with several crosses in this manner 1 * . The

Saivas mark the jar with a double triangle, thus

: one triangle signifies SIVA, uniting in himself the three great attributes: the other triangle is his consort, with the same character and attributes*

The worshippers of the *Sacti*, or female principle, mark the jar with this figure . These marks

are called *j antra*: they are, in fact, hieroglyphic characters; and there is a vast variety of them. The above are only mentioned here, because of their use in this *Puja*, and as they distinguish three principal sects of the *Hindus*.

This coincidence between the *Hindu* ceremonies and the *Egyptian* figures, is remarkably striking. They appear to me to explain each other: and we can scarce doubt of the identity, when we consider that this ceremony takes place at the autumnal equinox, at which time the season of storms and inundation is over, and they are supposed to have been subdued, during the Sun's passage through the signs *Leo* and *Virgo*.

On the HU'LI of the HINDUS, and the HILARIA of the ROMANS.

The *Romans* celebrated the *Hilaria* at the vernal Equinox, in honour of the Mother of the Gods. It was a festival which was continued for several days, with great display of pomp and rejoicing: it began the eighth day before the *Calends* of April,

or **the** 35th of *March*; the statue of CYBELE was cairied about in procession, and the attending crowds assumed to themselves whatever rank, character, or dress, their fancy led them to prefer: it was a kind of masquerade, full of mirth and frolic. In fact, it was the Earth, under the name of CYBELE, which was worshipped at the commencement of that genial season, when she receives from the Sun those vivifying rays, which are so adapted to the production of fruits and flowers. Let this ceremony be compared with the *Hindu* celebration of the *Huli*, at the same period of the year. The epithet of *Purple* is constantly given to the spring by the *Roman* poets, in allusion to the blossoms, which nature, as it were in sport, scatters over the Earth with such variety and profusion. The *Hindus* design the same idea in the purple powder (*Abir*), which they throw about at each other with so much sportive pleasantry: the objects of worship with the *Hindus* are the Earth and Fire; that genial warmth, which pervades all nature at that period of the year: the licentiousness of the songs and dances, at this season, was intended to express the effects of that warmth on all animated objects.

The *Hindus* have likewise their masquerading processions, in which Gods and Goddesses, Rajas and Ranis, are represented; and the ceremonies are concluded, by burning the past or deceased year, and welcoming the renovation of nature.

Of the VA'STU PU'JA' of the HINDUS, and the VESTA of the ROMANS.

On the last day of *Faush*, the *Hindus* make sweet-meats, with 77½ *ovsesamum*: it is therefore called *Tiliasancrant*. It is the day when landholders worship the Earth and Fire. The sect of *SIVA* sacrifice a sheep to the Earth; and the *Vaishnavas* offer up

their bloodied oblations to fire. The ceremony is called the *Vastu Puja*. *Vastu* is the habitable Earth, A great *Raja* was called VA'STU PURUSH; the expression is used by a *raiat* to his *zemindar*, as a title of the highest respect. I think, that, in the name of the ceremony, and in the objects of worship, may be traced the Goddess VESTA of the *Romans*: the Goddess of Nature, under whose name they worshipped the Earth and Fire.

The Fable of BIR BFIADR, invented by the SAIVAS to exalt their OPINIONS and SECT.

This fable, I conceive, is descriptive of an attempt to abolish the worship of the male and female symbols; of the struggles of the contending sects ; and (as it is the nature of fanaticism to increase and spread in proportion to the opposition raised against it) of the final establishment and extension of that worship. It seems a story invented by the *Saivas*, to shew the imbecility of their oponents, and to exalt their own doctrines.

DACSHA celebrated a *yajnya*, to which he invited all the *Dexatas*, except his son-in-law, SIVA. His consort, the Goddess, being hurt at this exclusion, went into the assembly, and remonstrated, but in vain; she expired with vexation upon the spot. SIVA, upon hearing this, throws his *Jeta*, or plaited hair, upon the ground, and from that produces BHIBUADR, a furious being, armed with a trident, who immediately attacks, and disperses the whole assembly; puts a stop to the sacrifice; and cuts off the head of DACSHA. SIVA took up the body of his deceased consort, and placing it upon his brad, in a fit of madness, danced up and down the Earth, threatening all things with destruction. VISHNU, at the request of the other *Dvatih*, with his *Chacra*, cut the body of *sati* into fiiYy one pieces, which SivA,

in his frantic dancing, scattered in different parts of the Earth. Each place where a part fell became a place of worship, dedicated to the female **Power**; and the frenzy of SIVA subsiding, he ordained, **that the** LING A should likewise be worshipped **at each of** those places ; and DACSHA, on condition of embracing the doctrine of SIVA, was restored to life, degraded with the head of a goat instead of his own. I should imagine that the furious Bin BHADLI, produced by SIVA, was a vast body of fanatics, raised by the *Bmhmcns* of that sect, who might, at that time, have been both popular and powerful; probably this was a vast body of fanatic *Sannyasis*, interested in the dispute by personal motives, as well as instigated by their *Bralunens*.

The attempt to abolish the worship failed, and served to establish it firmer, and extend it farther than ever. The Gods themselves are represented as the actors, instead of their votaries; but it may allude to some commotion that really happened. Probably the heads of those sects, which had introduced this symbolic worship, were alarmed at the progress of it, and at the effects produced on the morals of the people: they wished to abolish it when it had taken root too deeply; and as they had introduced it, SIVA is described as the son-in-law, and SATI as the daughter of DACSHA.

On Hie VKNKHA'ITOX paid to KINE..

This superstition appears to me to have arisen from the humanity of the first legislations to prevent the horrid practices which were prevalent in the ancient **world**, and which exist to this day in Abyssinia I mean **the** savage custom of decerning the flesh of the living **animal**, torn *with rearing* with against and **expiring** in protracted! : To 'dW-ate a practice so detestable,-and .d.'d^ cried, they might

consider difficulty if -not impossible in the then existing state of society without interweaving the preservation of so useful an animal, with the indispensable duties of religion. They therefore rendered it sacred.

The Bull was made the emblem of Justice, the vehicle of S'IVA; and the Cow, a form of BHA'VANI, and the emblem of the Earth. A mere civil institute, might have been deemed inadequate to work the intended reform. But an indispensable duty, enforced by all the sacred obligations of religion, was thought more likely to produce the effect; as having more hold upon the human mind: especially when that religion was promulgated as the immediate revelation of the Deity.

Mankind naturally rush into contrary extremes under the impulse of religious zeal; and the animal, which had been the subject of voracious cruelty, became the object of religious veneration and worship.

When these animals were thus exalted, the slaughter of them was considered as a sacrilege: it was a natural consequence. But superstition did not stop there; the dung came to be considered as pure; the *Hindus* use it diluted with water, and mixed with earth, to purify their shops and houses: the spot, on which they eat, is plastered with this composition; and the idols are purified by a mixture of the dung, urine, milk, curds, and butter of the animal; nay, a small quantity of the urine is daily sipped by some: every part of the animal is dedicated to some divinity with appropriate invocations; and what originated in policy, has ended in gross superstition. The horrid repasts of the antient world are frequently alluded to. It is said of ORPHEUS, *Cedibus et victu fado deterruit*: notwithstanding which, the *Grecians* are reproached by JULIUS FIRMICUS with perpetrating these horrid repasts, as part of the ceremony

in the *Dipnyswcs*—*Vivum lanianf dmtibus taufum, crudeles epulis annuls commemorationibus excitants*;—and again—*Ittic, in orgiis Bacchi, inter ebrias puellas et vinolentos senes, cum Scelerum Pompa prederet, alter, nigro arnictu teter; alter, ostenso angut terribilis; alter, cruentus ore, dum viva Pecoris membra discerpit. Jul. FirmU. De errore profarum Religionum.* This horrid custom was very antient; and I suppose, with Mr. BRUCE, that the prohibitions in Deuteronomy were particularly levelled at this execrable practice; and this evidence, I think, strongly corroborates my supposition. The *Egyptians* seem to have extended this policy to sheep and goats: for the ram was worshipped at the vernal equinox, and the goat was worshipped at *Memphis*.

REMARKS ON THE FOREGOING ESSAY.

BY H. T. COLEBROOKE, Esq.

SEVERAL points, relative to the religious ceremonies of the *Hindus*, and their mythology, which the preceeding Essay has touched upon, seem to require elucidation, independently of the purpose, for which they have been there mentioned. The following remarks are therefore subjoined, with a view of adding some information on those subjects.

P. 68. The eight *S'aciis* or energies of as many Deities, are also called *Matris* or mothers. They are named BRA'HMI, &c. because they issued from the bodies of BRA'HMA and the other gods respectively *.

* RAY A MUCUTA on the *Awtracosha**

In some. places, they are, thus enumerated: BKA'HMI', MA'HE'S'WARI', AINDBIV VA'RA'HI', VAISHN'AVI', CAUMA'RI', CHA'MUN'DA', and CHARCHJCA'. However, some authorities reduce the number to seven ; omitting CHA'MUN'DA' and CHARCHICA'; b\it inserting CATXVB'RI'.

PRAYERS are addressed to the *Matris* on various occasions ; especially in the *Cavachas*, or defensive incantations, I shall cite two by way of example ; and subjoin extracts from the *Marcaride'ya furdn'a*, descriptive of these goddesses.

" MAY BRAHMA'NI', conferring the benefit of all benedictions, protect me on the east; and NA'RA'YAN'I', on the south-east, for the sake of realising every wish MA'HE'S'WARI' too, on the couth, rendering every thing auspicious; CHA'-MUN'DA', on the south-east, discomfiting all enemies; and, on the west, CA.UMA'RI', armed with her lance and slayer of foes: on the north-west, A P A - HA'JITA', the beauteous giver of Victory; on the north, VA'RA'HI', granter of boons; and on the north-east, NA'RASINHI', the banisher of terrour. May these mothers, being eight Deities and active powers, defend me."

Another incantation simply enumerates the same eight goddesses ; and proceeds thus: " may these and all *Mdtrh* guard me with their respective weapons, on all quarters and on every point.

In the *Devi mahatmya*, the assembling of the *Mdtris* to combat the demons is thus described. 'The energy of each god, exactly like him, with the same form, the same decoration, and the same vehicle, came to fight against the demons. The *S'acti* of BRAHMA', girt with a white cord and bearing a hollow gourd, arrived on a car yoked with swans: her

title is BRAHMANI. MA'HBVWABI' came riding on a bull, and bearing trident, with a vast serpent for a ring, and a crescent *for* a gem. CAUMA'RI' bearing a lance in her hand, and riding on a peacock, being *Ambica* in the form of CA'RTICE'YA, came to make war on the children of DITI. The *S'acti* named VAISHN'AVI' also arrived, sitting on an eagle, and[bearing a conch, a discus, a club, a bow, and a sword, in her several hands. The energy of HARI, who assumed the unrivalled form of the holy boar, likewise came there, assuming the body of VA'RA'HI'. NA'RASINHI' too arrived there embodied in a form precisely similar to that of NRISINHA, with an erect mane, reaching to the host of stars. AINDRI' came, bearing the thunderbolt in her hand, and riding on the king of elephants, and in every respect like I N - DRA, with a hundred eyes. Lastly, came the dreadful energy named CHANDICA', who sprung from the body of DR'VI', horrible, howling like a hundred shakals : she, surnamed, APARA'JITA', the unconquered goddess, thus addressed IS'A'NA, whose head is encircled with his dusky braided locks.'

The story, which is too long for insertion in this place, closes with these words: 'Thus did the wrathful host of *Mains* slay the demons.'

In the *Uttara Culpa* of the same *Puran'a*, the *Mdtris* are thus described, 'CHA'MUN'D'A' standing on a corpse, VA'RA'HI sitting on a buffalo, AIJTDRI' mounted on an elephant, VAISHN'AVI' borne by an eagle, MA'HEVWABI' riding on a bull, CAUMA'RI' conveyed by a peacock, BRA'HMI carried by a swan, and APARA'JITA' revered by the universe, are all *Mdtris* endowed with every faculty.'

It may be proper to notice, that CHA'MUN'DA CHARCHICA', and CHAN'DICA', are all forms of PA'EVATI'. According to one legend. CHA'-

MUNDA sprung from the frown of PA'RVATI, to slay the demons CHAN'DA and MUN'DA. According to another, the mild portion of PA'RVATI issued from her side, leaving the wrathful portion, which constitutes CA'LI or the black goddess.

CAUVE'RI is the energy of CUVE'RA, the deformed god of Iliches. NA'RA'YAN'I, mentioned by Mr. PATERSON, and also in the prayers or incantations above cited, is the same with VAISHN'AVI.

P. 69. ANNA-PU'RN'A' DE'VI, or, the goddess who fills with food, is the beneficent form of BHA-YA'NI; and very similar to LACSHMI or the goddess of abundance, though not the same Deity. She is described, and her worship is inculcated, in some of the *Tantras*; but not in the *Purāṇas*, so far as I can learn, except in the *Siva purāṇa*; and the legends, concerning her, are not numerous. She has a temple at *Benares*, situated near that of VIS'WE'S'WARA,

In addition to Mr. PATERSON'S quotations, it may be observed, that SILIUS ITALICUS (*Punic.* 8, v. 28, 184) makes the nymph, who was worshipped in *Italy*, to have been ANNA, the sister of DIDO: and MACROBIUS says (*Sat.* 1, c. 12), sacrifices, both publick and private, were offered by the *Romans* to ANNA PERENNA; *ui annare, perennareque, commode Uceat.*

Perhaps ANNA-PU'RN'A' may bear affinity to AN-NONA. Certainly this term, either in its literal sense, or as a personification (SPENCE'Polymetis, dial. 10), is nearer to the *Samcrit anna*, food; than to its supposed root *annus*, a year.

P. 74. The *Jalayatra*, here mentioned, is not universally or generally celebrated; and accordingly it is not noticed in various treatises on the calendar

of *Mndu* feasts and holidays. The *Vishnud heronof-tara*, cited on the *Madam raina*, does indeed direct, that, on this day (1th *Bhadra* in the bright fortnight), a jar of water, with certain other specified articles, be given to a priest; and the *Bhawishya* requires, that JANA'RDANA, or VISHN'U, be worshipped with appropriate prayers : but the ceremony, to which Mr. PATERSON alludes, must be a different One ; and, if I am rightly informed, a festival, which bears the designation mentioned by him (*Jalayahdj*), is celebrated at the temple of JAGANNAVHA, and perhaps at some other places.

P. 77- At most festivals, no less than at that of DURGA', a jar of water is placed," and consecrated by prayers, invoking the presence of the deity or deities who are on that occasion worshipped : adding also invocations to *Gangd* and the other holy rivers. When the celebration of the festival is completed, the holy water, contained in the jar, is employed by the priests to sprinkle or to bathe the person, who commands and defrays the celebration.

Various *yantr-as*, or mystical figures and marks, are appropriated to the several Deities, and to the different titles of each Deity. Such figures are usually delineated on the spot, where a consecrated jar is to be placed. These *yantras*, which are supposed by superstitious *Hindus* to possess occult powers, are taught in great detail by the *Tantrasox A'gama Sdstra*: but seem to be unknown to the *Vedas* and *Puranas*.

P. 73. The *Holica* is said, in some *Purana*, to have been instituted by the king AMBARISHA (the great grandson of BHAGFRAT'HA), according to instructions from NA'KEDA, for the purpose of counteracting a female demon named D'HUN'D'HA', whose.

practice it was to destroy children. In its origin, this festival does not seem to have had any connexion with the vernal equinox, nor with the close of the year ; but with the close of winter and the beginning of *Vasanta*, or the *Indian* spring. However, it now corresponds with the end of the lunar year, and the approach of the equinox.

P. 79- The *Tila sancranti*, or day on which the sun passes from *Dhanush* into the sign *Macara*, is the festival of the winter solstice. It must have been so fixed, at the period when the *Indian* calendar for the solar year was reformed, and the origin of the ecliptick was referred to the first degree of *Mesha*. It derives its name from the ordained use of *tila* or seed of *Indian* sesamum, six different ways, in food, ablutions, gifts, and offerings: or, according to a vulgar explanation, it is so called, because thenceforward the days increase at the rate of a *tila* or grain of sesamum in each day. A similar festival is regulated by the lunar month ; and has several times shifted its day. It is kept on the twelfth of the bright half of *Magha*, according to the *Vishnu dhermottara*; and on the eleventh, according to other authorities. Probably it once belonged to the first day of the lunar *Magha*.

The *Vastu puja*, as an annual ceremony, is peculiar to *Uhaca* and districts contiguous to that province : but is not practised in the western parts of *Bengal*; and, so far as I am informed, is altogether unknown in other parts of *India*. The word *Vastu* signifies, not the habitable earth in general, but the site of a house or other edifices in particular.

EXTRACTS from- the تهذيب المنطق, or
 " ESSENCE of LOGIC," proposed as a small
 StfPPtEMEtT to Arabic and Persian Gram-
 mar; and with a view to elucidate certain Points
 connected with Oriental Literature.

BY FRANCIS BALFOUR, Esq,

INTRODUCTION.

ALTHOUGH the works of ARISTOTLE were translated into *Arabic* many centuries ago, and there be no doubt that the system of logic generally ascribed to him constitutes, at this time, the looic of all the nations of *Asia* who possess the Mahommedan faith, yet I do not find that this point has been directly confirmed by translations from the *Arabic* or *Persian* into the languages of *Europe*. At least none that I know of have appeared in *India*.

The following extracts taken from a *Persian* translation of the *Tehxeeb ul Mantik*, or *Essence of Logic*, an Arabic treatise of considerable repute, seem to place this question beyond doubt, by their close coincidence in every point with the system referred to ARISTOTLE.

To the logical system of this wonderful genius, modern philosophers of distinguished eminence, and amongst these, Lord KAIMKS, have not hesitated to impute the blame of retarding the progress of science and improvement in *Europe* for two thousand years, by holding the reasoning faculty constrained and cramped by the fetters of syllogism.

From some of the extracts contained in this paper, it will appear, 1st. That the mode of reasoning by *Induction*, illustrated and improved by the great

Lord VERULAM, in his *Organmi Novum*; and generally considered as the cause of the rapid progress of science in later times, was perfectly known to **ARISTOTLE**, and was distinctly delineated by him, as a method of investigation that leads to certainty or truth * ; and 2dly, that **ARISTOTLE** was likewise perfectly acquainted, not merely with the form of Induction, but with the proper materials to be employed in carrying it on—Facts and Experiments †.

We are therefore led to infer, that all the blame of confining the human mind for so long a time in chains by the forms of syllogism, cannot be fairly imputed to **ARISTOTLE**; nor all the merit of enlarging it and setting it free, ascribed to Lord **VERULAM**. The vast extent of **ARISTOTLE'S** learning and knowledge, and the singular strength and penetration of his mind having, naturally, encouraged him to undertake a complete analysis of all its powers; the doctrine of syllogism became, of course, a constituent and necessary part of his comprehensive system. And if succeeding philosophers attracted by its ingenuity and beauty, have deserted the substance in pursuit of the shadow, the pernicious consequences of this delusion, cannot, justly, be referred to him ‡.

* Vide the Section of Induction.

† Vide the Section of the matter of Syllogism.

‡ On the 6th of July 1803, when this paper was delivered to the *Aiiatick* Society, I had heard of Dr. **GILLIES'S** admirable exposition of the *ethics* and *politics* of **ARISTOTLE**; but had never been fortunate enough to meet with it, or to know any thing of his sentiments on this question, until the 12th of November, when the accidental sale of a private library gave me an opportunity of purchasing it. From the perusal of this wonderful book, I have now the satisfaction to discover, that the conjectures, which I had been led to draw from these scanty materials, are completely confirmed by the opinion of an author, who is probably better qualified than any preceding commentator on **ARISTOTLE'S** works to decide on this subject.—Vide **GILVIES'H, AUSTOILE**, Vol. J. page 03. 76 78, 79, &c.

The discussion of these points, being in some degree curious, and not altogether unconnected with the pursuit of Oriental literature, may not be unacceptable to this Society. But, taken in another view, I conceive that they may become in some respect useful. A scientific analysis of the reasoning faculty, delineating all its powers and operations, and affixing to each an appropriated form of expression, gives, naturally, to those who acquire it, a mode of thinking that is accurate and profound; and establishes amongst the learned a peculiar style, more precise and enlightened than that which is employed by the multitude in the common transactions of life.

By assisting the Oriental student to attain this degree of improvement, I have flattered myself that these extracts may become useful. This is the motive that first induced me to take the trouble of translating them into English; and they are now submitted to the Society, not as a part of metaphysical learning, but as a more advanced stage of grammar and syntax: and therefore as a *Supplement* that may contribute to form a more complete system of *Arabic and Persian Philology*. Whilst grammar and syntax teach only generally the various forms of words and sentences, logic, proceeding further, may be considered as the art of selecting words and arranging sentences into all the forms that are required, for expressing with precision, the different steps and operations of the reasoning faculty; and therefore as the *highest and most important* degree of classical improvement.

بسم الله الرحمن الرحيم

منتخب تهذيب المنطق

تفصيل ضمیم

باب اول در تعریف مشتبهل بر چهار فصل است
فصل اول در دلالت
فصل دوم در مفهوم
فصل سیوم در کلیات حبسه
فصل چهارم در تعریفات

باب دوم در حجت مشتبهل بر پنج فصل است
فصل اول در قصیه
فصل دوم در قیاس
فصل سیوم در استقرا
فصل چهارم در تبثیل
فصل پنجم در تقسیم قیاس بحسب مادی

In the Name of God, the Compassionate, the
Merciful!

EXTRACTS FROM THE TEHZEEB UL
MANTIK.

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فصل در مقدمه

مقدمه در لغت پیش کرده شده و در اصطلاح مقدمه آن چیز است که موقوف است بر او شروع در هر علم بطریق بنای و شناسایی و لهذا عادت اهل تصانیف بر آن جاری شده که پیش از شروع اول فصلی جدا میارند و آنرا مقدمه نامند و در آن سه چیز مذکور میشود رسم العلم یعنی تعریف علم غایت العلم یعنی قایده علم موضوع العلم یعنی آنچه در آن علم از عوارض ذاتی او بحث کنند چنانچه بدن انسان در علم طب و کلبه و کلام در علم نحو و معرف و حجت در علم منطق

پس بدانکه علم یعنی صورت حاصل در عقل از دو حال بیرون نیست فقط حصول صورت شی است در عقل یا حصول صورت شی در عقل با آنعان یعنی ایقاع نسبت است اول تصور است و ثانی تصدیقی اما تصور خواه درک امر متعدد باشد چنانچه تصور زید و غیر یا درک چیزی باشد با نسبت غیر تامه چنانچه تصور غلام زید یا با نسبت تامه باشد لیکن جزییه نباشد انشاییه باشد چنانچه تصور ضرب یا نسبت جزییه باشد لیکن غیر انشائی چنانچه در صورت و هم و شک

THE PREFACE.

A PREFACE in common language is that which is put first. Technically it is that which is necessary to the explanation of any science with clearness and perspicuity. It has therefore become an established custom with authors, previously to the introduction of their subject, to appropriate the first chapter to this purpose, calling it a Preface. Under this head are comprehended three different articles; 1st, The *nature* or description of science ; 2d, The *end* or use of the science; 3d, The *subject* of the science ; or those of its essential parts that are to be investigated or considered; such as the human body in medicine, words and sentences in grammar, and *definition* and *demonstration* in logic.

Accordingly let it be understood, that knowledge, or images acquired by the mind, is of two kinds; either the simple impression of an object, or the production of an image by reflection, that is, by relation. The first is perception, the second intellection or judgment.

Perception is either the idea of a single object, such as the idea of ZEID ; or of several objects, such as the idea of ZEID and OMAR. Or it may be the idea of an object standing in a relation that is imperfect ; for example, the slave of ZEID ; or in a relation that is perfect, in which case it must not be connected with a predicate, but without one, such as the *ezreb*, (i. e.) *beat thou*. It may also be in construction with a predicate, provided that it imply no conclusion; as in the idea of conjecture and doubt.

اما تصدیق چنانچه اعتقاد آوردن با
این معنی که زید قائم است یا اعتقاد آوردن
باین معنی که زید قائم نیست

و منقسم میشود این هر دو بضرورت یعنی
بالبداهت بی قیام دلیل بطرف ضروری
یعنی بدهی و اکتساب بالانظر یعنی
نظری پس چهار قسمت حاصل میشود تصور
بدیهی تصور نظری یعنی
معلوم تصوری و
مجهول تصوری

تصدیق بدیهی و تصدیق نظری یعنی
معلوم تصدیقی و
مجهول تصدیقی

اما معلوم تصوری چنانچه تصور حرارت و
برون
و مجهول تصوری چنانچه تصور حقیقت
ملک و جن

و معلوم تصدیقی چنانچه تصدیق
این معنی که آفتاب روشن است

و مجهول تصدیقی چنانچه این معنی که
عالم حادث است و صانع موجود است

و نظر در اصطلاح ایشان ملا حظہ معتول
است برای تحصیل مجهول یعنی ملا
حظہ معلوم تصوری است و معلوم تصدیقی
برای اکتساب مجهول تصوری و مجهول
تصدیقی و گاهی و اقعی میشود در نظر
مذکور خطا

Intellection or judgment consists in giving assent to some proposition, such as " ZEID is standing,"* or " ZEID is not standing."

Each of those, namely, perception and intellection, are necessarily divided into two kinds, viz. Those acquired by intuition without any previous argument or proof, and therefore called intuitive; and those acquired by investigation and reasoning, and therefore called demonstrable. We have therefore established four distinctions, viz. perceptions intuitive, and perceptions demonstrable : or in other words,

1. The known perceptible.
2. The unknown perceptible;

and intellection or truth intuitive, and intellection or truth demonstrable ; in other words,

1. The known demonstrable.
2. The unknown demonstrable.

The idea of heat and cold, is an example of the known perceptible.

The idea of angels and genii, is an example of the unknown perceptible.

The proposition that the sun shines, is an example of the known demonstrable ; and

The proposition that the world was created, and that there is a Creator, is an example of the unknown demonstrable.

In the language of logicians, examination or inspection is the contemplation of the thing known to obtain a knowledge of the thing unknown ; that is to say, the contemplation of the known perceptible, and the known demonstrable to obtain a knowledge of the unknown perceptible and unknown demonstrable ; and as mistakes often happen in this investi-

پس ناگزیر است از قانونی یعنی قاعده کلی که نگاهدارد ذهن را از خطا در فکر و آن قانون منطق است

پس ازین تهید رسم العلم یعنی علم منطق قاعده کلی است که در پناه میدارد ذهن را از خطا در فکر مفهوم شد

و فکر در اصطلاح ایشان ترتیب دادن امری چند معلوم است تا برساند بطرف مجهول و ضیاعایت علم نیز و اوضح و منکشف گردید

باقی ماند موضوع العلم و آن معلوم تصویری است و معلوم تصدیقی با این حیثیت که موصل است بطرف مجهول تصویری و مجهول تصدیقی اول را معرف کویند و ثانی را حاجت اما معرف چنانچه تصور حیوان ناطق که موصل است بطرف انسان و حاجت چنانچه العالم متغیر و کل متغیر حادث که موصل است بطرف تصدیق این یعنی که عالم حادث است

باب اول در تعریف

فصل اول در دلالت

دلالت در اصطلاح ایشان بودن شیء است باین حیثیت که واجب شود از علم آن علم دیگر اول را دال کویند و ثانی را مدلول و دال اگر لفظ است دلالت لفظی کویند و اگر غیر لفظ است دلالت غیر لفظی و جمله بر شش قسم منقسم میشود دلالت لفظی و ضعی

gation, there is indispensibly required some general rule to preserve the mind from falling into an error in the process of thinking. This rule is logic.

From this discussion, therefore, it appears that the *Nature* of logic may be defined " A general rule which guards the mind against errors in thinking."

But in the language of logicians!, thinking is an arrangement of certain things known, to obtain a knowledge of things unknown. Consequently the *end* or use of logic likewise becomes obvious and manifest.

There now remains to be examined, only the *subject* of logic ; and this is the known perceptible and the known demonstrable, in such a form as to lead to the unknown perceptible and unknown demonstrable. The first of these is called *definition* ; the second *demonstration* or proof. " The idea of an animal endowed with the faculty of speech," leading to the idea of man, is an example of definition. The proposition, " The world is liable to change, and every thing liable to change is created," leading to the conclusion " that the world was created/" exhibits an example of demonstration.

P A R T I . O F D E F I N I T I O N .

SECT. I. O p E X P R E S S I O N .

E X P R E S S I O N in the technical language of logicians, is the existence of a thing in such general use, that there necessarily or irresistibly arises from the knowledge of that thing the knowledge of another thing. The first they call the *Sign*, the second the *thing signified*. If the sign be a word, they call it verbal expression ; and if not a word, they call it expression not verbal ; and these two together comprehend six different distinctions; 1. Assigned expression verbal; 2. Assigned expression not verbal;

دلالت غیر لفظی و ضعی دلالت لفظی
 طبعی دلالت غیر لفظی طبعی دلالت
 لفظی عقلی دلالت غیر عقلی اما دلالت
 لفظی و ضعی چنانچه دلالت لفظ زید بر
 ذات ما تشخص و دلالت غیر لفظی و ضعی
 چنانچه دلالت دوال اربع یعنی خط عقد
 نصب اشارت بر مدلول خود و دلالت لفظی
 طبعی چنانچه دلالت اخ اخ بر وجع صدر
 و دلالت غیر لفظی طبعی چنانچه سرعت
 نبض بر حی یمنی تب و دلالت لفظی
 عقلی چنانچه دلالت لفظ دیر که مسبوع
 است از پس دیوار بر وجود لافظ و دلالت
 غیر لفظی عقلی چنانچه دلالت دخان بر
 وجود نار

و در اینجا از هر گونه دلالتها محض
 مقصود دلالت لفظی و ضعی است و این
 بر سه گونه است مطابقت تضمین و التزام چرا که
 دلالت بر موضوع له یعنی مدلول خود از
 سه حال بیرون نیست یا بر تمام موضوع له
 است چنانچه دلالت لفظ انسان بر حیوان
 ناطق یا بر جز و موضوع له است چنانچه
 دلالت لفظ انسان بر حیوان یا بر خارج
 موضوع له است چنانچه دلالت لفظ انسان
 بر قابل علم و قابل صنعت الکتابت اول
 مطابقت است و ثانی تضمین و ثالث التزام

3. Natural expression verbal ; 4. Natural expression not verbal; 5. Intellectual exp^ression verbal: 6, Intellectual expression not verbal The word *Zcid* appropriated to an individual, is an example of assigned repression verbal. The four signs, a line, a knot, a land mark, a signal, are examples of assigned expression not verbal. The exclamation oh ! oh ! from a pain in the breast, is an example of natural expression verbal. The quickness of the pulse, indicating fever, is an example of natural expression not verbal. The word *Delz* heard from behind a wall, and implying the existence of a speaker, is an example of intellectual expression verbal; and the sign of smoke, implying the existence of fire, is an example of intellectual expression not verbal.

But of all these different modes of expression, we mean, at present, to consider only that of verbal expression assigned, which is of three kinds ; 1. That by conformity ; 2. That by implication ; and 3. That by association. Thus a verbal expression assigned, may denote its object by corresponding *Wah* the whole of its character; as the word *insau*, man, denotes a living being endowed with speech. By expressing a portion of its object, as the word *insaun* (i.e.) man, implies an animal. By acting without or beyond its object, as the word *insaun* (i. e.) man, implies a being capable of science, and the art of writing. The first is agreement or conformity, the second implication, the third association.

لیکن در دلالت التزامیه لزوم ضرور است که
عقلا باشد چنانچه تصور بصر نسبت با عینی
با عرفا چنانچه تصور جود نسبت بحاتم

و دیگر اینکه برای دلالت تضمین و التزام
ضرور است دلالت مطابقت بر خلاف مطابقت
که او با اینها محتاج نیست پس جاییکه
دلالت تضمین و التزام خواهد بود دلالت
مطابقت ضرور است و جاییکه دلالت مطابقت
است تضمین و التزام ضرور نیست و لفظ دال
با لمطابقت اگر جز دارد و جزان دال است
بر جزو معنی پس آن لفظ مرکب است هر
کب یا تام است یعنی مخاطب را صحت و
سکوت می بخشد یا ناقص و تام بردو
گونه است خبر چنانچه زید قائم و انشا
چنانچه اضرب و مرکب ناقص بر پنج گونه
است ترکیب اضافی چنانچه غلام زید و تر
کیب تو صیفی چنانچه رجل فاضل و
ترکیب تعلیدی چنانچه الر جل و فی
الدار و ترکیب تعدادی چنانچه خسه
عشر و ترکیب امتزاجی چنانچه بعلبک که در
اصل نام بت و بادشاه است و بعد از آن
شهری بدین اسم مشهور شده

But in the case of expression by association, the association must either be intellectual—inferred, as for example, the idea of light associated with one that is blind; or founded on real knowledge, such as the idea of generosity connected with a Prince.

And it is farther to be remembered, that conformable expression is necessary to implication and association, whiisr these, on the contrary, are *not* required for conformable expression ; to that where-ever implication and association are expressed, there must also exist conformable expression ; but where these is conformable expression it does not necessarily follow that these must be also implication or association.

If the terms of the conformable expression consist of parts, and these parts be conformable to portions of the sense, then that term is a compounded word ; and the compound is either perfect, giving to the hearer complete satisfaction ; or imperfect. Perfect compounds are of two kinds, viz. predicative, such as " Zeid is standing;" or *insaun*, such as *ezreb*, beat thou. Imperfect compounds are of five kinds, 1st, The composition of relation such as " the slave of Zeid ;" 2nd, The composition of qualification, such as "an excellent man;" 3rd, The composition of confirmation, such as " the man in the house ; 4th The composition of numbers, such as *Hemseh Usher*; and 5th, The composition of habit, use, custom, such as " *Balbec*" which originally is the name of a devil or king, and has now become the name of a city.

و اگر چنین نیست یعنی جز و لفظ دال
بر جز و معنی نیست ان را مفرد گوید و مفرد
بر سه گونه است اگر معنی او مستقل است
و بهیت خود دلالت میکند از یک زمانه از
ازمنه ثلثه پس ان کلمه فعل است و اگر
چنین نیست بلکه محض مستقل است پس
اسم است و اگر از هر دو بیرون است یعنی
نه دلالت میکند بر زمانه و نه مستقل است
پس حرف و ادات است

و از ان اسم بر چند گونه است علم متواطی
مشکک مشترک منقول حقیقت مجاز

چراکه از دو حال بیرون نیست معنی او
واحد است یا کثیر اگر واحد است پس مع
التشخص ان عند الواضع علم است
چنانچه لفظ زید و عمرو و غیرهما

و بدون تشخیص متواطی است اگر مساوی
باشد افراد ان چنانچه غنم و بقر

و مشکک است اگر متفاوت باشد باولیت و
ولویت چنانچه و جود نسبت بواجب تعالی
و ممکن

و اگر چنین نیست یعنی کثیر است پس
اگر وضع کرده شده است برای هر واحد
بر ابر چنانچه لفظ عین که موضوع است
برای ذات و زر و چشمه و چشم پس مشترک
است

و اگر بر ابر نیست بلکه اول برای یک
معنی موضوع شده بعد از ان بطرف معنی

But if the terms of conformable expression be not of this description ; that is to say, if portions of the expression be not conformable to portions of the sense, it is then called simple or uncompounded ; which is of three kinds; 1st, When the sense is affirmative, and at the same time expresses in its form one of the three tenses, it even constitutes that part of the speech called a *verb* 2. do not express time, but merely some object, then it is a *noun*; and 3. If it express neither time nor any particular object, then it is a *particle*.

The noun is of several kinds ; 1st. Appellations or proper names; 2nd. Generic names; 3rd. Unlimited or ambiguous terms ; 4th. Synonymous terms ; 5th. Technical terms ; 6th. Literal terms ; 7th. Metaphorical terms. 1. As a noun may express one or many, it is either singular, or plural. If it express one with an appropriation to a particular individual, then it is a proper name ; such as the names ZEID and OMAR, *he*. 2. If it express one, without any appropriation to a particular individual, and all the individuals be equal or alike, then it is a Generic name, such as a sheep, a goat, &c. 3. If it be variable with respect to priority or excellence as the word, nature, or existence with regard to the Creator and his creatures, then it is variable or ambiguous ; 4. If the noun is common to many objects, and is appropriated to each of these alike, as the word *Atom* which signifies self, gold, fountain, and the eye; then it is synonymous or equivocal ; 5. But if it be not uniformly so, but being first used in one sense, and

دیگر منقول کشته هم در آن مشهور گردیده آنرا
منقول گویند و نسبت کرده میشود بطرف
ناقل و اگر ناقل او عرف عام است منقول
عرفی گویند و اگر خاص است اصطلاحی
گویند و اگر شرع است منقول شرعی
گویند اگر چنین نیست بلکه در هر دو معنی
مستعمل است نسبت باول حقیقت است و
نسبت بثانی مجاز است چنانچه لفظ اسد
که نسبت بتحیوان صایل یعنی شیر حقیقت
است و نسبت برجل سباع مجاز است

فصل دوم در دانستن مفهوم

بدانکه غرض منطقی مقصود بالذات از مفهوم
است بحث از دلالت و لما مکلف بالعرض
بود که این و اسطه افاده استفاده افتاده
است پس بدانکه مفهوم اگر نزدیک بتجويز
عقل مبتنع باشد صدق آن بر کثیرین پس
جزی است چنانچه زید و اگر چنین نیست
یعنی نزدیک بتجويز عقل صدق آن بر کثیرین
مبتنع نیست پس کلی است اگر چه مبتنع
باشد و جود افراد آن چنانچه شریک الباری
یا ممکن معدوم الوجود باشد چنانچه عنقا
یا یافته شده باشد واحد فقط مع امکان
الغیر چنانچه شمس یا مع امتناع الغیر
چنانچه واجب الوجود یا کثیر باشد افراد

afterwards converted to another, becomes current in its new acceptance, it is then metaphorical, and takes its character from the person who employs it. If the speaker be an illiterate common person,, it is called a *vulgar* phrase ; if he be a man of science, it is called a *technical* term; and if he belong to the law, it is called a *law* phrase. But if this be not the case, and a word be used indiscriminately in both ways, the first directly applicable to its original object, and the second to that to which it is transferred ; such as the word lion, it constitutes, when signifying a fierce animal, the *literal* or (3th species of Noun, and when used to denote a hero, the 7th species, or *figurative*.

SECT. I I . OF IDEAS FORMED BY THE INTELLECT .

BE it known that the object of the logicians considered strictly is the thing comprehended by the understanding. Our discussion respecting expression and language was necessary to our design merely because this is the instrument or means by which that is conveyed or understood. Know then that an idea, which in the conception of the understanding, is not, true or applicable to the whole of the individuals of a class, is a particular idea ; and that an idea that is applicable to the whole without restriction is an universal idea, even although it should exclude the existence of other constituent parts, for example ⁽ⁱ⁾ an equal to GOD , " or though it should express a being having no existence, such as the *Unpa*; or if there should be found a single being with the mere probability of another, such as the Sun; or with the impossibility of another, such as the Creator ; or where

ان مع التناهي چنانچه سبعة سياره و عدم
تناهي معلومات باري

چون در ميان کلي و جزئي تفرقه حاصل
شد پس حالا بدانکه در ميان دو کلي يکي
ازين چهار نسبت متحقق ميشود تباین
تساوي عموم خصوص مطلق عموم خصوص
من وجه

تباین ان است که از هر دو جانب تفارق
کلي باشد چنانچه انسان و حشر که بک
جا صادق نيمايد اين نسبت را در اصطلاح
ايشان تباین گویند و هر دو کلي را باهم
متباین

و تساوي ان است که در هر دو جانب
صدق کلي باشد چنانچه انسان و ناطق
که جاينکه انسان است ناطق است و جاينکه
ناطق است انسان نیز البته اين نسبت را
تساوي گویند و هر دو کلي را باهم متساوي
و عموم خصوص مطلق ان است که از يک
جانب صدق کلي باشد و از جانب ديگر
نه چنانچه انسان و حيوان جاينکه انسان
است حيوان البته خواهد بود و جاينکه
حيوان است انسان ضرور نيست اين نسبت را
عموم خصوص مطلق گویند و هر دو کلي را
باهم عام خاص مطلق

و عموم خصوص من وجه ان است که در
هر دو از کسي جانب صدق کلي نباشد
چنانچه حيوان و اسود در بعضي محمل

several individuals are included with a limitation, such as the wisdom of G O D .

Having ascertained the distinction between universal and particular ideas, then know that there are established, among universal ideas, the four following relations : 1. the relation of disagreement ; 2. The relation of agreement; 3. Relation between the general and particular ickā in one way ; 4. The relation of the general and particular idea in no way.

1. The relation of contrariety or disagreement is that in which there is a general repugnance on both sides as between man and stone, which do not reciprocate or correspond in any point ; this relation logicians call contrariety, and the two general ideas with regard to each other contraries.

2. The relation of agreement is that in which there is a perfect reciprocity and agreement, for example " man" and " an animal endowed with speech ;" For where there is a man, there also is an animal endowed with speech. This is called the relation of agreement ; and the general terms are called correspondent or reciprocal.

3. In the relation called *Amom Chhoos Mutlick*;, the sense of the general idea is corresponding or reciprocal only in one way; and not in the other; for example " man," " and living animal," where there is a man there is of course a living animal. But the reverse of this is not necessary. This relation is called *Amom Chisoos Mullick*, and both terms opposed to each other *Amom Chisoos Mullick*.

4. And the relation of *Amom Chisoos min wojeh* is that in which there is no reciprocation between the terms in any way ; such as " animal" and " black-

حیوان است و اسود نیست و در بعضی محل
اسود است و حیوان نیست این نسبت را عموم
خصوص من وجه گویند و هر دو کلی را با هم
عام و خاص من وجه

پس حاصل کلام این است که در اول از
هر دو جانب کلیة ماده افتراق است و در
ثانی از هر دو جانب کلیة ماده اجتماع و
در ثالث از یک جانب کلیة ماده اجتماع است
و در یک محل ماده افتراق و در اربع از هر
دو جانب در محل ماده اجتماع است و در
بعضی محل ماده افتراق

و نیز بدانکه گاهی گفته میشود جزئی
برای اخض یعنی هرچه مندرج تحت عام
است آنرا جزئی گویند لیکن اول جزئی حقیقی
است و ثانی جزئی اضافی پس علی هذا
التقدير انسان جزئی اضافی است نسبت
به حیوان و حیوان جزئی اضافی نسبت به جسم
نامی و جسم نامی جزئی اضافی نسبت
به جسم مطلق علی هذا القیاس هرچه مندرج
تحت مفهوم عام است نسبت بان جزئی
اضافی تواند بود

jiess ;" For sometimes there is an animal without blackness, apd sometimes blackness without an animal, This is called *Amom Chisoos minwojih*, and the terms in relation to each other *Amom Chisoos min wujih*.

The result is this, that in the *firsts* the basis of the universal is *disjunction* on both sides; In the *sefond*, the basis of the universal is *conjunction* ; In the *third*, the basis of the universal is *conjunction* on one side, and *disjunction* on the other ; and in the *fourth* there is on both sides, in certain points *disjunction* and certain points *conjunction*.

Let it also be remembered that sometimes the term *Juzzi* is used for *Achuz* a portion, that is to. say that whatever is ranked under a general idea is called *Juzzi*. But the first, viz. *slckuz*, is called a real portion, and the second *Juzzi izauiji*, that is, a related part. According to this rule, therefore, man with regard to animal is a related part; and animal is a part with regard to *Jism naumi* or body defined ; and body defined is a related part with regard to body in general, accordingly whatever is arranged under a general idea may be called *Juzzi izaufi*, or a related part.

فصل سیوم در دانستن کلیات حبسه

و کلیات هبکی پنج گونه اند جنس نوع فصل خاصه عرض عام چراکه هر مفهوم کلی که هست از دو حال بیرون نیست داخل ماهیت است یا خارج ماهیت اگر داخل ماهیت نیز از دو حال بیرون نیست تمام ماهیت افراد خود است یا جزو ماهیت اگر تمام ماهیت افراد خود است چنانچه انسان که تمام ماهیت زید و عمر و بکر و غیره است پس انرا نوع گویند اگر تمام ماهیت افراد خود نیست بلکه جزو ماهیت است ان نیز از هر دو حال بیرون نیست جامع است جمیع مشترکات مختلف الحقایق را یا جامع نیست اگر جامع است چنانچه حیوان که جامه است در میان انسان و فرس و بقر که باهم مختلف الحقیقت اند پس انرا جنس گویند لیکن در اینجا فرق نازک است همین حیوان است که در یک محل جنس تواند بود و در یک محل نوع و وقتی که سوال کنند در حقیقت انسان و فرس و در جواب ان حیوان واقع شود پس دران صورت جنس است چراکه اینجا مفهوم حیوان نسبت بانسان جزو ماهیت است و هم جامع است در میان انسان و فرس که باهم مختلف الحقیقت اند و قتی که سوال کنند از حقیقت فرس و بقر و غنم و غیره پس

SECT. III. OP THE FIVE UNTVERSALS CALLED
PKEDICABLES.

T H E universals or predicables are altogether of five kinds, viz. genus, species, difference, peculiarity, accidenr. For every universal is reducible to one of two kinds; it is either inherent in the form, or not inherent in the form. If it be inheren* in the form, this also is of two kinds. It either includes the whole form or character of the individuals under it; or it is only a part of the form ; if it include the whole form of the individuals under it, such as, "-Man," which includes the whole femy of ZEID, OMAR, or BECKAK, &c. then it is called a *species*. If it be not the whole form of the individuals, but only a portion, this also is of two kinds. It either comprehends the whole of the different individuals, or it does not; if it comprehend the whole, like *Hey* waun, animal*, which comprehends man, horse, and goat, varying in their character from each other, then they call it a *genus*, hut here there is a nics distinction ; for " animal" which is in one place a genus, in another way becomes a species. For example, when it is asked what is the nature of man or horse, and it is answered that they are animals, then, in this case, it is a genus : because here the idea of animal with regard to man is only part of his character, and at the same time comprehends man and horse, which vary in their nature from each other. But when the question is put respecting the nature of horse, goats, and sheep, &c.

از آن صورت نوع است چرا که در اینجا مفهوم حیوان جز و ماهیت نیست بلکه تمام ماهیت فرس و بقر و غنم است و اگر جز و ماهیت است با اینطور که جامع نیست بلکه مانع مشترکات مختلف الحقایق را پس فصل است چنانچه ناطق که تمام ماهیت نیست جز و ماهیت انسان است لیکن غیر او را میکنند

و این هر سه را در اصطلاح ایشان ذاتیات گویند و آنچه در خارج ماهیت است آن نیز از دو حال بیرون نیست مختص بحقیقت واحده است یا مختص بحقیقت واحده نیست اگر مختص بحقیقت واحده است چنانچه ضحک که مختص بحقیقت انسان است فقط پس آن را خاصه گویند اگر مختص بحقیقت نیست چنانچه حریت و صفت پس آن را عرض عام گویند

فصل چهارم در تعریفات

بدانکه غرض از بحث تصورات دانستن معلوم تصوری بود باین حیثیت که موصل است بطرف مجهول تصوری و آن را معرف گویند پس چون از جزای معرف که کلیات اند خپسه فارغ شد حالا معرف را که مقصود بالذات از تصورات همین است گفته میشود

in this case animal is a species ; for the thing understood by animal is not a part of the character, but the whole of the character of horse, goat, and sheep. But if it be a portion of the character in such a manner as not to include the different associates, but to exclude them, then it is a *difference*, for example, *nautik*, speaking; which is not the whole, but part of the character of man, which they abstract.

These three are called *zautiaut*, inherent or essential. Whatever is not essentially inherent in the character or nature, is likewise reducible to two kinds ; it is something exclusively appropriated to one object only, or it is not exclusively appropriated to one object only. If it be exclusively or peculiarly appropriated like *laughter*, which is the peculiar property of man alone, then they call it *chauseh*, a peculiar property or peculiarity. If it be not peculiarly appropriated, such as the colour *yellow* and *red*, then it is called *aurizb aum* or common accident.

SECT. IV. OF THE DIFFERENT SPECIES OF DEFINITION.

LET it be remembered, that our object in discussing the subject of ideas was to obtain a knowledge of the known perceptible, in such a manner or form as might lead to a knowledge of the perceptible unknown, and this they call *inaunif* that is, a *definition*; and, therefore, since its constituent parts, which are the five universal ideas or *fredicalles*, have been just now described, a *definition*, which in reality consists of those, is of course, already explained.

معرف هر چیزان است که حمل کرده شده
 بران برای اینکه فایده تصور آن شی حاصل
 شود چنانچه معرف انسان حیوان ناطق
 که و شرط است در معرف اینکه مساوی
 باشد برای معرف یعنی آنچه تعریف آن
 کرده میشود لازم است که با او نسبت
 مساوات متحقق باشد و نیز لازم است که
 معرف اجلی یعنی و اضع تر و روشنتر
 باشد پس تعریف بالا عم صحیح نیست
 مثلا تعریف انسان بحیوان و باخص نیز
 روانست مثلا تعریف حیوان بانسان چراکه
 در میان هر دو نسبت عموم خصوص مطلق
 است مساوات نیست و شرط این است که
 مساوات باشد و نیز جایز نیست که تعریف
 به چیز یک مساوی معرف باشد در علم
 همچنین جایز نیست به چیز یک اخفی از
 معرف بود چراکه شرط این شده که معرف
 مساوی و اجلی میباشد

پس چون تعریف معرف و شرایط آن معلوم
 شد اکنون بدانکه معرف همه چهار گونه است
 حد تام حد ناقص رسم تام رسم ناقص اگر
 بجنس قریب و فصل قریب باشد چنانچه
 تعریف انسان حیوان ناطق پس حد تام
 است ، اگر بجنس بعید و فصل قریب

The *maurrafox* the *thing defined* is that respecting which every circumstance is collected that can tend to give a proper idea of it; take, for example, *heiwaun nautik*, a *speaking animal*, as the definition of "*in-saun*" that is *Man*; and, in defining, the definition must correspond with the thing defined, that is to say, the description with regard to the thing described must stand in the relation of *mussawaut mut-tahuluk*, real correspondence. It is likewise required that the definition should be more perspicuous, that is, more clear and obvious, and for this reason defining by a term that is more general than the thing defined is not proper; such, for example, as the description of *Man* by the term *animal*. Neither is it admissible to define by a term that is less general; such as the description of *animal* by the word *Man*; because the relation between *animal* and *man*, is that of *Amom Chusoose Mui Ink*, and not that of *Mussavcaut* or perfect agreement, which is required; nor is it allowable to define by means of a thing equally known, or less known than the thing defined, because it is required that the description should correspond, and be at the same time more clear.

The nature of definition and its requisites ljeing now understood, let it be remembered that definitions may all be referred to four different kinds, viz.

1. *Jbuidi Taum* or *perfect definition*.
2. *Huddi Naukis* or *imperfect definition*.
3. *Resimi Taum* or *perfect indication* or *designation*.
4. *llesimi Naukis* or *imperfect indication* or *designation*.

1. If the definition consist of the nearest genus and the nearest difference, then it is a perfect definition, such as *Hehvaun Nautik*, the definition of man.
2. If it consist of the remote *venus* and the nearest

بود یا فقط فصل قریب بود پس ناقص است
چنانچه تعریف انسان جسم نامی ناطق
یا ناطق فقط و اگر بجنس قریب و خاصه
باشد چنانچه تعریف حیوان صاحبک پس
رسم تام است و اگر بجنس بعید و خاصه
بود یا فقط بخاصه بود پس رسم ناقص است
چنانچه تعریف انسان جسم نامی صاحبک
یا صاحبک فقط و تعریف صرف بعرض عام
معتبر نداشته اند چرا که غرض از تعریف امتیاز
و معرف است از ماسوای او و این فایده
از عرض عام حاصل نمیشود و گاهی رخصت
داده شده است در ناقص خواه حد ناقص
باشد خواه رسم ناقص تعریف بلفظ اعم مثلا
تعریف لفظی و تعریف لفظی انست که
معنی لفظی نا معلوم است لفظی دیگر
برای تفسیر و توصیح او آورده شد چنانچه
کوبند الغصنفر هو الاسد یعنی غصنفر به معنی
شیر است و همین قسم در تعریف لفظی
گاهی بلفظ اعم هم اکتفا کرده میشود
چنانچه کسی که نپیدا ند بپرسید که درد
چه چیز است کوبند کلی است همچنین
اگر در حد ناقص یا رسم ناقص لفظ اعم و ارد
شده رخصت داده اند

difference, or the nearest difference alone, then it is an imperfect definition, such as *Jism Naumi Nautik* for man, or *Nautik* alone. 3. If the description consist of the nearest genus, and the property or peculiarity, such as *Heiwaun Sauhuk*, a creature that laughs, for man, it is a perfect mark or designation. 4. And if it consist of the remote genus and peculiarity, or of the peculiarity alone, then it is an imperfect mark or description, such as *Jism Naumi Sauhuk*, a piece of laughing substance, or *Saubukie*, laughing, only, as a designation of *man*.

And further, designation by common accident is not conceived to be good ; because the object of definition is the discrimination of the thing defined from others ; and this is not obtained from common *accident*. Sometimes in the *Huddi Naukis* and *Risimi Naukis*, Indication by a more common word or verbal description is admitted. That is the real meaning of a word not being well understood, another word is employed to explain and elucidate ; for instance they say *Ulrufur hooul assad* to explain *Rufur*, which also means a lion. And in like manner in verbal description the designation is effected by an expression more common, as for example, when a person who does not know it asks " what is pain " they will say it is a thing common to all ; and thus, in the *Huddi Naukis* and *Resimi Naukis*, if a more Common word be used, it is allowed.

باب دوم در حجّت

فصل اول در قضیه

بدانکه غرض از تصدیقات دانستن معلوم
تصدیقی است باین حیثیت که موصل است
بطرف مجهول تصدیقی و انرا قیاس و حجّت
گویند و چون قیاس مرکب است از قضایا
پس اول دانستن قضیه لازم است

القضیه قول تحمل الصدق و الکذب
قضیه در اصطلاح ایشان قول است یعنی
مرکب است چگونه مرکب که احتمال میدارد
و صدق و کذب را چنانچه که زید قایم
بر خلاف انشا یعنی اضرب غرض کلام خبر
بهره را در اصطلاح ایشان قضیه گویند و ان
قضیه اگر باشد حکم در او به ثبوت چیزی
برای چیزی چنانچه گذشت یا بنفی چیزی
از چیزی چنانچه زید لیس بقایم یعنی
زید نیست قایم پس این قضیه حلیه است
لیکن فرق این است که اول را حلیه موجب
گویند و ثانی را حلیه سالبه و نام داشته
میشود محکم علیه موضوع یعنی آنچه حکم
کرده شده است بر او چنانچه زید در زید
قایم ان را در اصطلاح ایشان موضوع گویند
چنانچه در اصطلاح نحو مبتدا و محکم
بهره را در اصطلاح ایشان محمول خوانند
یعنی آنچه حکم کرده شده است بدو
چنانچه قایم در زید قایم انرا محمول گویند

P A R T I I . O F D E M O N S T R A T I O N ,

S E C T . I . O F P R O P O S I T I O N S .

L E T it be remembered, that the object of considering truths, is to obtain a knowledge of *truth known* in such a manner as to lead us to the knowledge of *truth unknown*; and this they call syllogism and reasoning: and since a syllogism is composed of *propositions*, a previous knowledge of these is required of course,

A proposition is a sentence containing either a truth or an untruth ; that is to say, in the language of logicians, it is a compound or affirmation containing what is true or false; such as *ZKID is standing*, in contradistinction to an expression, such as *Azreb*, which does not convey any assertion. In short, the thing predicated is called a proposition, and if that proposition affirm something of another thing, as in the preceding example, or deny any thing of another thing, as in the example *ZKID Kauim Nais*, *ZKID is not standing*," then these are absolute propositions, and the *first* is called an absolute affirmative, and the *second* an absolute negative, and the *subject of* which the affirmation is made, corresponding to *mubtida* in grammar is called *Mozooty* ; as *ZEID* in the sentence *ZKID Kauim*: and the thing spoken or proposed respecting the *Mozooty* is called *Muh-mool*: such is *Kauim* he is standing, in the sen-

چنانچه در اصطلاح نحو خبر

و آنچه دال بر نسبت است انرا رابط
گویند چنانچه در اصطلاح نحو ضییر و
استعاره کرده اند برای آن لفظ هو یعنی
رابط در زید قائم و مثل آن مثلا در لفظ
مذکور نیست و ضرور است که برای رابط
کلام چیزی میباشد پس لازم در این مقام
استعاره کرده اند بلفظ هو یعنی گویند که
برای رابط کلام هو در اینجا مستتر است

و اگر اینچنین نباشد چنانچه گذشت
پس آن قضیه شرطیه گویند چنانچه آن
کانت الشمس طالعة فالنهار موجود یعنی
اگر باشد اقطاب روشن پس روز موجود است
اینچنین قضیه را قضیه شرطیه و نام داشته
میشود جز اول یعنی انکانت الشمس طالعة
در اصطلاح ایشان مقدم چنانچه در اصطلاح
نحو شرط و نام داشته میشود جز ثانی
فالنهار موجود در اصطلاح ایشان تالی
چنانچه در اصطلاح نحو خبر

بعد از این بدانکه قضیه حملیه بحسب
موضوع برچند قسم منقسم میشود

فصل دوم در بیان قیاس

قیاس قولی است که ترکیب داده شده
است از قسیه ها اینچنین قول که لازم

tencceZeiD *Kauim*, corresponding in the language of syntax to the term *Chabber*.

That which expresses the connection between the subject and predicate is called *Rmbit* or copula. In grammar they make use of the word *Hao* for this an-
nection ; and something similar being required for
CQnnecting the words " ZEID *Kauim*" they have, for
t{iis purpoie, substituted the pronoun *Hoo*, which is
understood without being expressed.

But if the thing predicated be not affirmative or
negative of something ascribed to something, as in
the preceding examples, then such a proposition is
denominated conditional, as for example, " If the
sun shine, then it must be day." The first member
of this sentence, " If the sun shine/" logicians call
Mohiddeniy that is, the antecedent; which corres*-
ponds to the term " *shirt*" the *condition* in syntax,
and the second part of the proposition " Then it
must be day," is denominated *fault*, that is, the
consequent; which corresponds to the term *Chabber*
in syntax.

This being premised, know that an absolute or ca-
tegorical proposition admits of various distinctions
arising from the nature of the *Mozooeh* or subject,
&c. &c.

SECT. II. OF SYLLOGISMS.

A SYLLOGISM is a sentence composed of propo

است برای ذات او قوی دیگر بدانکه چون از بحث قضیه ها که دانستن حجت موقوف بران بود فارغ شد اکنون در بحث حجت شرع کرد و حجت دلیل آوردن از حال چیزی است برای اثبات حال چیزی و آن بر سه گونه قیاس استقرا تمثیل اما قیاس آن است که دلیل ارد از حال کلی بر حال جزئی که این جزئی داخل آن کلیست پس شریک آن حال خواهد بود این قسم دلیل مفید یقین است چنانچه العالم متغیر و کل متغیر حادث پس نتیجه حاصل خواهد شد که العالم حادث بدانکه قول مولف که از ذات او قوی دیگر لازم میاید انرا قیاس گویند و قوی دیگر که از او پیده میشود انرا نتیجه نامند

و هر دو طرف نتیجه یعنی موضوع و محمول نتیجه که در قیاس مذکور اند انرا ماده نتیجه خوانند و ترتیب که در میان آنها واقع است انرا هیت نامند فرمایند پس اگر نتیجه اندرون قیاس بهاده و هیت خود مذکور است ان قیاسرا قیاس استثنای گویند چراکه مستهل است بر کلمه استثنا یعنی لیکن چنانچه کلمات کانت الشمس طالعه فالنهار موجود لیکن الشمس طالعه پس نتیجه حاصل خواهد شد که النهار موجود که اندرون قیاس بهاده و هیت مذکور اند و اگر چنین نباشد

sitions, and in such a manner, that there necessarily arises from this composition another sentence. Know then that having finished our investigation of propositions on the previous knowledge of which all reasoning or demonstration depends, I shall now consider demonstration :—Demonstration or reasoning is the process of inferring something from the state of one thing to prove the state of another; and this is of three kinds, viz. *Syllogism*, *Induction*, and *Analogy*, Syllogism is that in which an inference is drawn from a general rule or class to a subordinate part or individual belonging to that class; which must of course partake of its general nature or character. This species of argument affords certainty or truth. Take, for example, " The world is changeable, and every thing liable to change was created ;" thus they obtain the conclusion that the world did not exist from eternity, that is, was created. Be it then understood, that two sentences combined, from the nature of which there necessarily arises a third, constitute what is called *Keeausc* or syllogism : and the third sentence thus obtained is called *N^tecjeh^* that is, the conclusion.

The subject and predicate contained in the conclusion of the syllogism described is called the *Mad-deh*, that is, the *matter* of the conclusion ; and the order in which they are placed constitutes what is called *Heiyet*, that is, the form or figure. If the matter and figure of the conclusion appear in the premises of the syllogism, then that syllogism is called conditional, because the conditional particle *Leikin* must be included in it. Take, for example, ^{Cf} "when-
ever the sun shines day must exist;" but the sun shines, which gives the conclusion—"Then day exists," which is materially and formally contained in the preceding syllogism. But if the conclusion be not materially and formally expressed in the premises

یعنی نتیجه در قیاس به هیت خود مذکور
نباشد انرا قیاس اقترانی گویند خواه حلی
باشد خواه شرطی

موضوع مطلوب یعنی موضوع نتیجه از
قیاس حلی نام داشته میشود اصغر و مکهول
نتیجه از حلی نام داشته میشود اکبر و
قضیه که در او اصغر است انرا اصغری گویند
و آنچه در او اکبر است انرا اکبری گویند و
آنچه در میان موضوع و مکهول نتیجه
مکرر واقع شده است انرا حد اوسط و اوسط
گویند

فصل سیوم در استقرا

بدانکه استقرا پیدا کردن جزئیات است
برای ثبات کردن حکم بر کلی بدانکه همگی
حجت و دلیل بر سه گونه است اول قیاس
دوم استقرا سیوم تهئیل اول قیاس چنانچه
گذشت اما استقرا انست که دلیل ارد از
حال جزئیات برای اثبات حکم کلی که بر
تمامی ان جزئیات ثابت است و این استقرا بر
دو گونه قسمت میاید استقرا تام و استقرا ناقص

اما استقرا تام انست که تمامی جزئیات
انرا ملا حظہ نموده حکم بر کل نمایند
چنانچه کل حیوان اما ناطق و غیر ناطق
و کل ناطق حساس و کل غیر ناطق
حساس که نتیجه میدهد کل حیوان حساس

of the syllogism, then it is denominated *Ikterauni*, that is, simple or categorical: whether it be absolute or conditional.

The *subject* considered in the conclusion of a simple syllogism is called *Asrur*, that is, the minor ; and the thing predicated of the subject is called *Akbar*, that is, the major; and the proposition which contains the minor is called *Sururi*, minor proposition ; and the proposition which contains the major, is called *Akburi*, or major proposition ; and the term with which the subject and predicate of the conclusion are both compared is called the middle term or *Huddi Osit*, or *Osit*, &c. &c. &c.

N. B. From the various modes in which the middle term may be placed, there arises a division of syllogism into four different forms or figures, or *Ash-kaul*; which are again subdivided and branched out into a great many subordinates.

SJECX. III. OF INDUCTION,

BE it known that Induction is the process of collecting particulars for the purpose of establishing a general rule respecting the nature of the whole class.

Argument, or reasoning, is supposed, as we formerly observed, to be of three kinds, *Syllogism*, *Induction*, and *Analogy* ; and syllogism has been just now discussed. Induction is of two kinds, viz. perfect and imperfect.

It is *perfect* induction when the general rule is obtained from an examination of all the parts. For example, all animals are either endowed with speech, or not endowed with speech. But those endowed and those not endowed are both sentient, therefore all animals are sentient. This is an example

انرا استقرا تام کویند و این قسم استقرا مفید
یقین است

اما استقرا ناقص آنکه اگر جزئیات انرا
اتصفیح نهایند و بعد از آن حکم بر کل
ان جزئیات نهایند چنانچه کویند کل حیوان
متحرک چکه الا سفل عند المضع یعنی
هر حیوان که هست متحرک دندان زرین
او نزدیک حاییدن چرا که انسان و بقر و غنم
و غیران که از قسم حیوان فرض کنیم
همچنین است و انرا استقرا ناقص کویند
چرا که این قسم استقرا مفید یقین نمیشود
و احتمال است که بعضی از اینها چنان
باشند که چکه اسفل نزدیک مضع حرکت
نمایند چنانچه این معنی مسروع شد در
تہسان یعنی نہنگ

بدانکه دو قسم از دلیل که قیاس و استقرا
است بیان آن گذشت باقی ماند تہلیل

فصل چهارم در تہلیل

و تہلیل بیان مشارکت جزئی است برای
جزئی در علت و موجب حکم تا آنکه ثابت
شود نسبت آن حکم در او چنانچه کویند
نبیذ یعنی غوره حرام است و علت حرمت
در خمر سکر است و سکر در غوره هم موجود
است پس ثابت شد که غوره نیز حرام باشد
عہدہ در طریق ان دوران و تردید است

of perfect Induction, which produces certainty.

It is *imperfect* induction when a number of individuals of a class being overlooked or excluded, a general rule is thus established respecting the whole. For instance, if it should be assumed, that all animals move the under jaw in eating, because this is the case with man, horse, goats, and* sheep, this would be an example of imperfect induction, which does not afford certainty : because it is possible that some animals may *not* move the under jaw in eating, as it is reported of the *Tumsukh* or *Nehimg*, the crocodile.

Having considered the first two modes of reasoning, there still remains to be explained *Analogy*.

SECT. IV. OF ANALOGY.

ANALOGY is the unfolding of an affinity or resemblance between two subordinate parts of the same class, differing in their nature and properties, so as to establish a general law and axiom respecting both ; take, for example, the general rule, that " grapes are prohibited because wine is," which conclusion is obtained thus. The cause of the prohibition of wine is intoxication; but intoxication exists also in the grape ; therefore it is proved that the grape likewise is prohibited. The instruments of this process are *analysis* and selection, &c. &c.

فصل پنجم در تقسیم قیاس بحسب ماده

بدانکه قیاس چنانچه بحسب صورت دو قسم است اقترانی و استثنای چنانچه گذشت همچنین بحسب ماده یعنی با اعتبارا جزاینز برینج گونه میشود اول برهانی دوم جدلی سیوم خطابی چهارم شعری پنجم سفسطی

و قیاس برهانی مرکب میشود از یقینات یعنی بدهیات و اصول ان شش است اول اولیات و اولیات انرا کویند که فقط ملا حظه موضوع و محمول و نسبت کافی باشد برای حکم چنانچه اکمل اعظم من لجز دوم مشاهدات و مشاهدات انرا کویند که در ان حکم کرده شده باشد بو اسطه حسن اگر حسن ظاهر باشد انرا حسیات کویند چنانچه الشیخ مضیة و النار محرقة و اگر حسن باطن باشد انرا جدینات کویند چنانچه لنا جوعا و عطشا

و سیوم تجر بیات است و تجر بیات انرا کویند که دران حکم کند عقل بتکرار تجر به چنانچه السقونیا مسهل

چهارم متواترات و متواترات انرا کویند که دران حکم کند عقل بو اسطه استماع از جهات که محال داند احتیال انرا بر کذب چنانچه محبذ علیه السلام و عیسی علیه السلام نبی خدا است

SECT. V. SYLLOGISM DIVIDED ACCORDING TO
THEIR MATTER.

LET it be observed, that as syllogisms have been divided according to their *figure* or *form* into absolute and conditional, so are they likewise distinguished according to their *matter* or constituent parts, into five different classes, viz. the demonstrative, the casuistical, the rhetorical, the poetical, the sophistical.

I. The demonstrative are composed of *truths*, that is to say, perceptions, the different species of which are six.

1. Intuitive or self-evident truths; to obtain which the bare inspection of the subject and predicate, and the relation in which they stand to each other is sufficient: for example, " a whole is larger than a part."
2. Evidences, obtained by means of sensation which are called *Hissiaut* if they be external, such as " the sun shines, the fire burns; and *Judinaut*, if they be internal; as, for example, " hunger and thirst."
3. Experiences, which are the conclusions formed by the understanding from repeated trials; as, for example, " that Scammony is a Cathartic."
4. Traditions, which are the conclusions which the understanding forms from the reports of a number of people ; and which cannot be supposed to be false, such as the mission of the prophet MAHOMMED, and JESUS CHRIST.

پنجم حدسیات و حدسیات ان است
 که حکم کرده شد در او بو اسطه حدس
 طبیعت و حدس سرعت انتقال است از
 مبادی بطلوب مثلا نور القمر مستغاد من
 نور الشمس

ششم فطریات و ان است که حکم کرده شد
 در او بو اسطه انکه ان و اسطه غایب نهیشود
 از ذهن نزدیک تصور اطراف مثلا انکه اربع
 زوج است دوم قیاس جدلی است و مرکب
 میشود از مشهورات و مسلمات اما مشهورات
 ان قضیه هاست که در ان رای کل مطابق
 باشد چنانچه العلم حسن و الجهل قبیح

اما مسلمات ان قضیه هست که تسلیم
 کنند از حصم و بنای کلام نهند جهت دنع
 حصم

سیوم قیاس خطابی است و مرکب میشود
 از مقبولات و مطمونات اما مقبولات ان قضیه
 هست که اخذ از کسانیکه در حق ایشان
 حسن اعتقاد داشت مثل انبیا و اولیا

اما مضمونان ان قضیه هست که حکم کرده
 میشود در ایشان بحکم رایج تجویز نقیض
 انچنان فلان شارف لانه موطف بالیل

چهارم قیاس شعری است و ان مرکب
 میشود امتحیالات چنانچه العسل یا قوتیه
 سالیه

- ,5. Conjectures, which are opinions founded on notions respecting quality and motion ; and formed by inferring an *effect* from a supposed principle or cause : such, for example, as " That the light of the moon is derived from the light of the sun."
6. The general properties of matter, that is, such as are obvious without the intervention of any latent intermediate idea, for example, " four is an even number."

JV'. B. In the original here follows the distinction of demonstration or proof into reasoning *a priori* denominated *Berhaun Lemmi*, and reasoning *a posteriori* denominated *Berhaun Ann'u*

II. The casuistical or disputative, which are,

1. Current and prevailing opinions agreeable to the ideas of the multitude, such as " learning is good, and ignorance bad."
2. Malicious insinuations artfully expressed to conceal the motive.

III. The rhetorical, which are composed,

1. Of propositions taken for granted upon some respectable authority, such as that of the prophets and fathers.
2. Of presumptions or suspicions grounded on the frequency of some improper practice ; such as that of a person being- a thief from his going abroad in the night.

IV. The poetical, which are founded on fiction. Honey, for example, they make a liquid ruby.

پنجم قیاس سفسطی است و آن مرکب
میشود از وهیات و مشبهات

اما وهیات آن قضیه هاست که حکم
میکند بایشان در غیر امور محسوسه مثل
کل موجود مشار الیه

و مشبهات آن قضیه‌ها اند در اصل و
مشبهه بصدق مینمایند چنانچه کویم
صورت فرس را که منقوش است بر دیوار و
فرس است و هر فرس صهال است نتیجه
میدهد که این صورت صهال است

V. The sophistical, are composed,

1. Of vague language without specifying any precise object, such as the vague expression " The person to whom we allude.**
2. Quibbles, which, though absolutely false, exhibit some appearance of truth ; as if I should say, *that* " the figure of the horse which is painted on the wall is a horse ;" *that* " every horse neighs ;" and, consequently, *that* " the figure on the wall must also neigh."

V.

*An Account of the Measurement of an Arc on the
Meridian on the COAST OF COROMANDEL, and
the Length of a Degree deduced therefrom in the
Latitude $12^{\circ} 32'$.*

BY BRIGADE MAJOR WILLIAM LAMBTON,
*

IN a former Paper which I had the honour to communicate to the *Asintick* Society, I gave a short sketch of an intended plan for establishing a series of connecting points commencing from the *Coromandel* Coast, and extending across the Peninsula; but that Paper was only meant to convey a general idea of the principles on which the work was to be conducted; a more circumstantial and scientific account, it was thought, would be more to the purpose, when I had the means of putting the plan in execution, and detailing the particulars. Since that time I have received a most complete apparatus, which has enabled me to proceed on the scale I originally proposed, and what is here offered is the beginning of that work, being the measurement of an arc on the meridian, from which is deduced the length of a degree for the latitude $12^{\circ} 32'$ which is nearly the middle of the arc.

The triangles here mentioned are those only, from which the arc is obtained, and the base line, the foundation to the whole, is a measured line near the Sea Coast, an account of which is here subjoined-

SECTION I. AN ACCOUNT OF THE BASE LINE.

SOME time had been taken up in examining the country best suited for this measurement, and at length a tract was found near *St. Thomas's Mount*, extremely well adapted for the purpose, being an entire flat, without any impediment for near eight miles, commencing at the race ground, and extending southerly. This being determined on, and the necessary preparations made, it was begun on the 10th of *April*, and completed on the 22nd of *Maj*, 1802.

I had expected a small transit instrument from *England*, for the purpose of fixing objects in the alignment, and for taking elevations and depressions at the same time; but that instrument not having arrived, I thought it unnecessary to wait, particularly as the ground was so free from ascents and descents; I therefore used the same apparatus as I had formerly done, viz. the transit circular instrument and the levelling telescope fixed on a tripod with an elevating screw in the center. In all horizontal directions, this telescope fully answers the purpose, and as there has been no deviation from the level to exceed 26' 30" excepting in one single chain, and those cases but very few, I feel entirely satisfied as to the accuracy of the whole measurement.

The chain which was made use of is the one I formerly had, and I was fortunate enough to receive another from *England*, made also by the late Mr. HAMSDEN, and this having been measured off by the standard in *London*, when the temperature was 50° by FAHRENHEIT'S thermometer, it afforded me an advantage of correcting for the effects of expansion, a circumstance in which I was by no means satisfied in the former measurement. In order, therefore, to have a standard at all times to refer to, I have reserved the new chain for that purpose, and used the

old one only as a measuring chain, by which means I can always determine the correction for the wear.

By referring to the annexed table, it will appear that there are only four angles of depression, and two of elevation, taken in the whole length of the base ; the rest are all horizontal measurements, and many of them consist of a great number of feet before it became necessary either to sink or elevate the coffers ; when that was done, great care was taken to mark the termination of the preceding measurement ; and for that purpose a small tripod was used in the shape of a T, with three iron feet to run into the ground, the straight side of which T was placed in the line. Another small T was made with its top also parallel to the line, and fixed upon the large one so as to slide to the right or left, and upon that again was a long piece of brass made to slide out at right-angles to the top of the T ; in the middle of this brass a mark was made, which was brought to a plumb line let fall from the arrow, and the height from the brass to the arrow was noted down ; when the succeeding chain was laid, which was *ID* commerce the new level or hypotenuse, the arrow was then brought, so that a plumb line freely suspended, would coincide with the mark on the brass slider. The height of that chain above the brass was likewise taken, by comparing those two heights the elevation or depression of the new commencement was determined, and those differences noted in the seventh and eight columns of the table. The differences of the two aggregates contained in those columns, when applied to the ascents and descents, will therefore shew how much one extremity of the base is above the other. The height of the chain at the commencement and termination of the whole was of course taken from the ground.

AU the other particulars respecting this measure- inept are nearly the same as that in the Mysore coun-

try, a full account of which has been published in a former volume of the *Asiatic Researches*. **Some little** alterations have been made in the coffers; that is, they were all of the same length, and the whole together about ninety-six feet so as to give room for the pickets with the brass register heads. Their sides continued to the ends, and their depth on each side was the same, for the purpose of being turned every day that they might fall into a curve by their own weight and that of the chain. I also used tripods with elevating screws in the center, for supporting the coffers, making no other use of pickets than for the drawing and weight posts, and for carrying the register heads. The top of each stand on tripod was a thick circular piece of wood fixed firmly to the end of the elevating screw, and a slip of board was fastened across the circular top, screwed into the center, and allowed to turn round. When the ends of two coffers were placed on the top piece, this slip of board was admitted into the under part of each, and prevented their sliding off, a precaution that was very necessary on account of the high winds.

The point of commencement of the base was had by dropping a plummet, from the arrow of the chain suspended by a silken thread. A long but small bamboo picket had been driven into the ground till its top was level with the surface, and the cavity of the bamboo was such as just to receive the plummet, and when the first chain was in the coffers, drawn out by the weight at the opposite end, it was adjusted by the finger screw at the drawing post in such a manner that the plummet might hang suspended over the cavity of the bamboo, while the thread was applied to the arrow. This was done within the observatory tent, that the plumb line might hang freely without being disturbed by the wind. The bamboo picket was preserved with great care during the time I was observing for the latitude, and was then pro-

placed under the frame of the zenith sector. When the tent was removed, a large bamboo flagstaff was erected, whose cavity covered the picket, and in that state it remained until the measurement was completed.

At the termination of the base, being the end of a chain, one of the large hooped pickets was driven into the ground till its top was on a level with the coffers and under the arrow of the chain. The opposite end being adjusted by the finger screw, the arrow at the leading end was nearly the center of the picket. A mark was made, and a small round headed nail was driven in till it was level with the surface. The chain was again applied, and the arrow cut the center of the nail. The picket had been driven upwards of two and a half feet into very hard clay.

But that those extremities may be preserved, in case they may hereafter be referred to, 1 erected small masses of hewn stone eight feet square at the bottom and four at the top, the axis of those masses being made to pass through the points of commencement and termination, and in order that this might be correctly done, the following method was used.

I marked out the foundation of the building, so that the picket might be as nearly in the center of it as possible. The earth was dug about a foot deep, reserving a space round the center untouched. After the foundation was brought to a level with the surface, the first tier of stones was laid, being one foot in height. The inner part was then filled up with stones and mortar, taking particular care at the same time that the center was not touched. The next tier of stones was then laid, which was six feet square and one foot high. This also was filled in with great care, and some cement and bricks put gradually round the picket. After that the last tier was laid which was four feet square and also one foot high.

143 MEASUREMENT OF AN ABC ON THE

When these stones were firmly fixed small **silken threads** were drawn across each other in the diagonals of **the** square. A plummet (pointed) was then suspended from the point of intersection **of those** threads, and they were so moved that the point of **the** plummet coincided with the center of the nail in the picket. The position of these threads being determined, marks were inserted in the stone. **The** cavity was then filled up, and a square thick stone was fixed in the middle of the mass, having a circular place of about four inches diameter, sunk half an inch deep, and whose center was marked by a point. This point, by moving the stone and again applying the silken threads was brought to coincide with the point of intersection, and then it was firmly fixed and pointed.

Precisely the same kind of building was erected at the beginning of the base, but in place of having a picket in the center, four large hooped ones were driven into the ground, forming a square of about *ten* feet, the small bamboo picket being intended as the center. Silken threads were then drawn across from the diagonal pickets, and so moved, that the plummet first used, suspended from the point of intersection of the threads, might drop into the cavity of the bamboo. That being adjusted, lines were drawn on the tops of the pickets where the threads had been extended. The building was then erected, and the center both of the second and last tier, was marked by the intersection of those threads when applied to the marks on the pickets.

Such has been the mode of defining the extremities of the line. The buildings are well built of stone and some brick, and will remain for years, if not injured by acts of violence. They are intended to receive an instrument on the top, and the points are points of reference if it should ever be thought necessary to have recourse to them.

MERIDIAN ON THE COAST OF COROMANDEL. 143
EXPANSION or THE CHAINS AND THEIR COMPARATIVE
LENGTHS!.

As I wished to be satisfied with respect to the expansion of each of the chains, and their comparative lengths, I made a course of experiments for both purposes. I had accordingly the coffers arranged near the ground, that the drawing and weight posts might be driven deep and firmly fixed. Both the chains were then put into the coffers and the comparisons made as follows:

April 10, at six P. M. the temperature by a mean of five thermometers was $85^{\circ},6$.

Three comparisons were made, and the old chain exceeded the new one, nine divisions of the micrometer screw.

April 10, at six A. M. the temperature by a mean of five thermometers was 79° .

Four comparisons were made, and the old chain exceeded the new one nine divisions. Therefore at the commencement, the old chain exceeded the new one in length, nine divisions of the micrometer.

May 13. After the base was completed, the temperature by a mean of five thermometers, was 86° .

By a mean of five comparisons, the old chain exceeded the new one 10,65 divisions,

34. The temperature by a mean of five thermometers was 84° .

And a mean of six comparisons, gave the excess of the old chain above the new one - - - 11,08 do.

25. The temperature was 87° .

And a mean of two comparisons, gave -- 11,00 do.

Mean 10.86 do.

Hence it appears, that at the conclusion of the bale, the old chain was longer than the new one, 11 divisions of the micrometer very nearly, so that it had increased from being in use, 2 divisions, or $\frac{2}{201}$ inches.

These experiments were made with great attention, and when either chain was stretched out by the weight, it was carefully brought into a line in the coffers.

As I had reserved the new chain for a standard, and knowing the temperature at which it had been measured off in *London*, I considered it an object to determine its rate of expansion and contraction compared with the thermometers which had been in use in measuring the base, since these were but common ones, and might probably differ from those made use of by General Roy and others, who had determined the expansion of metals by the pyrometer; and I was further induced to do this, from seeing the great variation among them, when the degree of heat became above one hundred, which it generally was in the coffers every day before I left off. To avoid those irregularities arising from the expansions being checked by the resistance from the pressure on the coffers, I chose the times of sunrise, and from one to two o'clock, P.M. for making the observations. Sunrise in *India* is generally the coolest time of the twenty-four hours, and the chain had during the night, on account of the uniform state of temperature, full time to free itself from any resistance. At the hottest part of the day likewise there is a considerable time when the thermometers are nearly stationary, which will afford time for the resistance in the coffers to be overcome, and it is necessary to pay particular attention to this circumstance, for the chain will be perceived to lengthen often for nearly half an hour after the thermometers are at their highest.

I had made a great many experiments prior to the measurement, but found great irregularity, partly from not attending sufficiently to the above circumstance, and partly from the unsteadiness of the drawing post, notwithstanding it was driven deep into very hard ground, and secured, as I thought, by having large stones pressed close on each side of it. To remedy this latter inconvenience, I had a staple driven into a brick wall, into which the iron was fixed with the adjusting screw for the chain, after which I perceived a perfect coincidence with the arrow and mark on the brass head, except what arose from the trifling expansion and contraction of the iron which held the chain. I then began a new course of experiments on both the chains, and the results were as follows :—

Experiments for determining the expansion of the new Chain.

1802.	TIME.	III	5" 2* 0 -z =		Iota) ex Pansion and con- liiction.	Total due to 18	REMARKS.
Mouth.					Indies.	Inches.	
June 4.	2 P.M.	116,4	33,4	51	245157	,00734	Weather clear and windy during the whole of these experi- ments.
5.	O rise.	83	40,8	64	307 648	,00754	
	2 P.M.	125,8	41,3	04	307648	,00744	
6.	O rise.	82,5					
14.	0 rise.	80	3,9,1	60	,288120	,00737	
	2 P.M.	11 :A 1	37,7	57	273 999	,007 27	
15.	O rise.	81,4	40,5		,302841	,00747	
	2 P. M.	121,9	42,2	66	,317262	,00752	
16.	0 ribC.	79,7					
Mean						00,742	

Experiments for determining the expansion of the old Chain.

1802.	TIME	o § 3 I 6	© g 5 H 2	[Total ex- pansion und con- traction.	Total due to 1°	REMARKS.
Month.						
June 8.	0 rise.	83,5	26,8	,201894	,00749	Cloudy wea- ther and high winds du- ring the whole of these experi- ments.
	2 P.M.	110,3	25,1	,192280	,00766	
9	10 rise.	85,2	24,8	,187473	,00755	
	1 P.M.,	110				
12.	0 rise.	80,2	27,9	,201891	,00724	
	2 P.M	108,1	24,8	,182666	,00737	
13.	0 rise.	83,3	28	,201894	,00721	
	2 P.M.,	111,3	31,3	,2211221	,00706	
14.	10 rise.	80				
Mean					,00737	

It appears from these results, that the expansion due to 1 ° of the thermometer is less than what has been allowed by experiments made in *England*, but this might arise from the thermometers, as they were such as could be purchased in the shops, and therefore most probably of the best kind. Great care, however, was taken to watch the moment when they stood the highest, and though they varied from one another considerably at that time, yet that variation was generally the same in equal temperatures.

The reductions from the hypotenuses to bring them to the horizontal level, were made by numbering the feet from the old chain as they were measured, viz. by calling 32 chains 3200 feet, which would be 3200,115 feet by the *new* chain; but this would produce no sensible error in the versed sign of a very small angle, and on that account these decimals were not taken into the com-

putation, which was thought less necessary, since the whole deduction did not amount to three inches. Neither was any notice taken of the different heights of the hypotenuses or levels one above another, as that difference was too trifling to affect a length of thirty or forty chains. The base has therefore been considered at the same distance from the center of the earth, before it was reduced to the level of the sea, and the perpendicular height of the south extremity, which I have considered as nearly the general height, has been taken for that purpose. That perpendicular height was obtained by comparing the south with the north extremity, and the height of the latter was determined by observations made at the race-stand and on the sea-beach, where allowance has been made for the terrestrial refraction. The following is the manner in which it has been determined :

On the top of the race-stand, the under part of the flag on the beach was observed to be depressed $9' 30''$; and at the beach, the top of the race-stand was elevated $7' 15''$. When the instrument was on the platform of the race-stand, the axis of the telescope was on a level with the top of the railing, which was observed from the beach. But at the beach the axis of the telescope was four feet below the part of the flag which had been observed.

The horizontal distance from the station on the stand to that on the beach is 19205 feet. Then as $10208 : 4 :: \text{Had} : \tan. 43''$, which must therefore be added to the observed depression of the flag—Hence $9' 30'' + 43'' = 10' 13''$ is the depression of the axis of the telescope on the beach, observed from the race-stand.

Now the station on the beach is nearly at right angles to the meridian, therefore, by allowing

60957 fathoms to the degree, 19208 feet **will** give an **arc of 3' 9"** very nearly, which is the contained arc, *AM* the difference between the depression and elevation being 2' 58", we have ' 9"; $\bullet^{\circ} 5'' \sim 5\%$ for the terrestrial refraction. Hence, since the observed elevation of the stand, *plus half* the contained arc would give the angle subtended by the perpendicular height of the stand above the telescope at the beach, were there no refraction, we shall have 7' 15" +—"—5", 5 = 8' 44" for the true angle subtended by the perpendicular height, which being taken as tangent, to the horizontal distance and radius, we have $11 : \tan. 8' 44'' :: 10.08 : 48,797$ feet the height required. But the axis of the telescope on the beach was determined by levelling down to the water, to be 21,166' feet above the sea. Which, added to the above, give 69,963 feet for the perpendicular height of the top of the stand above the level of the sea.

Now the top of the race-stand was determined by levelling to be 31,05 feet above the north extremity of the base; which taken from the other, leaves 38,713 for the north extremity of the base above the sea, which extremity being, by the table, 22,96 feet above the south extremity, we shall have 15,75 feet from the perpendicular height of the south extremity of the line above the level of the sea; and from this height the length of the base has been reduced.

The angles of elevation and depression were taken by the circular instrument, from a mean of several observations, and the error of collimation was corrected by turning the transit over, and the horizontal plate half-round. But the weather was rather dull during the whole of these operations,

TABLE.

Containing the particulars of the measurement of a base line near *St. Thomas's Mount*, commencing in latitude $13^{\circ}00'29,59$ N. and extending 40006,4418 feet South Westerly, making an angle with the meridian $0^{\circ}10'36'$. The first column contains the number of the hypotenuse, or measured distances. The second the length of each in feet. The third the angles of elevation and depression (which each hypotenuse makes with the horizon). The fourth the quantities to be subtracted from the respective hypotenuse to reduce it to the horizon. The fifth the perpendicular ascents and descents to each hypotenuse. The sixth the commencement in inches of every hypotenuse above or below the termination of the one preceding; and the seventh contains the mean temperature during the respective measurement.

n	1	Vs 9 tc. f	Anplrs of elevations and de- pressions.	Deducti- ons from each hy- pothen. j	Perpendicular.		Commence- ment it fi um the last.	! 0 "s 5 ~ v 2 * t- < H E	REMARKS.
					Ascents.	Descents.	(IK":;V(llH'h.l below 1 arises.)		
1	600	0 19 40	,00084			3,4325	25,5	86,6"	Commenced (the 10th April, 1849)
2	500	0 20 00	-130			3,7517		81,4"	
3	2100	0 20" 30	,06237			10,18/8	2,5	84,5	
4	300	Level.					1,3/	.94,5	
5	000	do.						<84,	
6	100	do.					> 1 T.	90,4 "	
7	400	do.					5,75	9V*	
8	500	do.					1,12	82,2	
9	100	do.					5,0	91	
10	400	do.					4,0	93,2	
11	300	do.						93,3	
12	300	0 20 30	1,00534		1,7890		i 7, ^ 8,25	1 84,9	
13	100	Level.					10,0	90	
14	100	3 02 30	,14088	5 30(2			8,5	91	
15	100	Ltvel.						107,4	

k

At the commencement, the old chain (with which the measurement was made) exceeded the new one by nine divisions of the micrometer, equal to; 460.043463¹/₁₂ feet. Therefore $100 + c \wedge p i_x$ 400 will be the measures in lengths of the new chain, equal 40001,4420

At the conclusion, the old chain exceeded the new one by eleven divisions, consequently it had increased by wear two divisions of the micrometer = 0,0003 feet. Hence $^{2008}/_2 \times 400 = 0,1600$ feet, is the correction for the wear, which add 40, 1600

Whence the apparent length of the base, will be 400,016 020 lengths of the new chain, ... , 40001, 6020

The sum of all the corrections in column fourth for obtaining the horizontal distances, is 0,2359 feet, which must therefore be deducted —0,2359

And this will give the apparent horizontal length of the base, in terms of the new chain 400,013661 lengths, or 40001,36661

The mean temperature for the whole base is 90°, 8 and the new chain. was measured off when the thermometer stood at 50° hence to reduce the whole horizontal length to the standard temperature of 62°, the equation will be expressed

$$117 (90^\circ - 50^\circ) \times 0,0074(628 - 50^\circ) \times 0,01237$$

400,013661 feet, or 5,1162 feet which must be added, ... -j-5,1162

Hence the whole horizontal distance corrected for 62° will be, ... 40006,4323

Which reduced to the level of the sea will be, ... 40006,4418

Note, the quantity +,0074 inches is the expansion of the chain due to 1° of the thermometer as determined by my own experiments detailed in the annexed memoir. By General ROY'S experiments with the pyrometer, it was +,00/63 inches.

The quantity +,01237 inches is the expansion of 100 feet of brass due to 1° of the thermometer.

By the experiments I made in the *Mysore* the expansion of the old chain was +,00725 inches due to 1° . By these experiments it is +,00737 inches, but I give the preference to the latter on account of the chains being fixed to the wall.

The radius of curvature for reducing the base to the level of the sea, is assumed at 3448748 fathoms being the radius to the meridional circle on which one degree is computed to be *Go 101* in the latitude of 13° .

SECTION II.—*Observations for determining the Angle which the Base Line makes with the Meridian,*

At the North end of the base
 latitude. $13^{\circ} 00' 29'', 59\text{N.}$
September 24th, on the evening
 the polar star when at its
 greatest Eastern elongation
 was observed to make an angle
 North Easterly with the
 base line produced, ... $1^{\circ} 35' 08'', 7$
 The apparent polar distance of
 the star at that time was 1°
 $44' 40'' 2$ with which and the
 above latitude, the computed
 azimuth was, ... $1 47 25, 7$

Therefore the line when produced Northerly will make an angle with the meridian North Easterly,		. 0	12	17, 0
September 26th, on the evening the angle North Easterly with the base line produced was, . . .	1	35	13, 1	
The apparent polar distance on that day was, 1° 44' 39" 8 which will give the azimuth, . . .	1	47	25, 2	
Therefore the angle between the line and meridian will be, ...	0	12	12, 1	
September 30th, on the evening the angle was observed, ...	1	35	0(3, 7	
The apparent polar distance for that day being 1° 44' 38" 1 the azimuth will be, ...	. 1	47	£3, 5	
Hence the angle by this observa- tion is, ...	. 0	12	16, 8	
At the South end of the base—La- titude.	. 12	53	52, 8	
October 7th. In the morning, the polar star when at its greatest, western elongation, was observ- ed to make an angle N. Westerly with the base line produced . . .	1	59	36, 9	
The apparent polar distance at that time was 1 ° 44' 35,7, and this with the above latitude will give the azimuth.	1	47	18, 3	
Therefore the angle which this line produced, makes with the meridian North Easterly.	. 0	12	18, 7	
And the mean of these four is . . .	0	12	16,15	

The last observation was made under the most favourable circumstances, it being just day high;

the flag-staff at the north extremity of the line was observed immediately after the star ; and the morning being perfectly clear, no unsteadiness or uncertainty arose from the effects of the vapour, which had occasioned the difference between the angles on the 24th and 26th.

When the observation was made on the 30th, a blue light was fixed at the south end of the base

SECTION III.—*Commencement of the operations from the base. The large theodolite.*

After the completion of the base line, there remained nothing of importance to be done until I received the large instrument, which arrived in the beginning of *September*. I had however made an excursion down the sea coast, as far as *Pondicherry*, for the purpose of selecting the properest stations for determining the length of a meridional arc. This and the measurement of a degree at right-angles to the meridian I considered as the first object of this work : I accordingly lost no time in proceeding to accomplish these desiderata.

The instrument above alluded to was made by Air. CARY, and is in most respects the same as that described by General ROY in the *Philosophical Transactions* for the year 1790, with the improvements made afterwards in the microscopes, and in an adjustment to the vertical axis, by which the circle can be moved up or let down by means of two capstan screws at the top of the axis. These are mentioned in the *Philosophical Transactions* for 1795, in the account of the trigonometrical survey. By sinking the circle on the axis, it is better adapted for travelling, and when the microscopes are once adjusted to minutes and seconds,

on the limb of the instrument, the circle can always be brought back to the proper distance from them. Great attention however is necessary in bringing the axis down, so that the wires in each microscope being fixed at opposite dots on the limb, they may coincide with the same dots when the circle is turned half round, or made to move entirely round, and in a contrary direction to what it had been moved before; which latter method has been recommended by the maker. This circumstance respecting the axis should be most scrupulously attended to before the adjustment of the micrometers begin, so that when by arranging the lenses in such a manner that ten revolutions of the micrometer may answer to ten minutes on the limb, and therefore one division to one second, the circle can always be brought to its proper height, by trying the revolutions of the micrometer.

It has however been found from experience, that unless in cases of very long and troublesome marches, it is not necessary to sink the axis. The carriage being performed altogether by men, there is not that jolting which any other mode of conveyance is subject to, and as I found, that a considerable time was taken up in adjusting the axis before the revolutions of the micrometers could be brought to their intended limits, I therefore laid it aside, unless under the circumstances above mentioned.

The semicircle of the transit telescope is graduated to 10' of a degree in place of ;30°, winch was the case with the semicircle described by General ROY, and the micrometer to the horizontal microscope applied to this semicircle, making one revolution in two minutes, and live revolutions for ten minutes on the limb; and the scale of the micro-

metter being divided into sixty parts, each part is therefore two seconds of the circle.

A number of experiments have been made for determining the error of the semicircle, and to ascertain the place of the fixed wire in the horizontal microscope, so as to divide the error. It has appeared in the event, that the telescope being- in its right position, (that is, when the limb and microscope were on the left hand,) and the fixed wire placed at Zero on the semicircle, when the circle or limb of the theodelite was turned 180^0 in Azimuth, and the telescope turned over, the fixed wire was then distant from Zero on the opposite parr of the arc by a mean of a great many observations $2' 57''$, the half of which is therefore the error. This half was carefully set off from Zero by the moveable micrometer wire, and the fixed one brought to coincide with it. On the right application of this error, there will be $1'28''$, 5 to add to the elevations and subtract from the depressions. The observations for determining this quantity were repeated at different times, and under the most favourable circumstances; the adjustments of the whole instrument being frequently examined, and the level applied to the telescope, reversed at most of the observations. For the line of collimation, as these corrections depend on having a well-defined object, I fixed a bamboo upwards of a mile distant from the observatory tent, and tied round it several narrow stripes of black silk, one of which was near the horizontal wire when the axis of the telescope intersected the staff after bring brought to a level by the bubble. Then the instrument being adjusted, and the telescope directed to the bamboo, being perfectly level, and the wire of the micrometer in the piece brought to the intersection of the cross wires, the angular distance to the

mark on the bambqo was measured by the runs of that micrometer, and the wire brought back to the point of intersection of the other wires. The circle was then turned half round and the telescope reserved or put again into the same Ys. The levelling adjustment was then made, and the angular distance from the intersection of the wires to the black mark again taken, half the difference between which and the former was of course the error of collimation. This error was repeatedly reduced till it became very small, half by the finger screw of the clamp to the semicircle, and half by the adjusting screws to the levelling rods. After that, the remaining error was repeatedly examined and found to be 2,36 to be subtracted from the elevations and added to the depressions when the telescope is in the ordinary position, or when the semicircle and microscope are on the left hand; but *vice versa* when in the contrary position. These errors of the semicircle and line of collimation being opposite, the result from comparison will be, "That when *elevations* or *depressions* are taken with the semicircle, 1'26" must be added to the *fanner*, and subtracted from the *latter*."

And that when the elevations and depressions are taken by the micrometer in the eye piece 2",36' must be *deducted* from the *elevations* and added to the *depressions*.

The micrometer in the focus of the eye-glass of the transit telescope is the sam in all respects as the one mentioned by General Kov, that is to say, the circle or scale is divided into one hundred divisions, and there is a nonius fixed to the upper part of the telescope, which defines the revolutions of the micrometer as far as ten for the elevations and ten for the depressions- The following experiments

have been made with the same marked bamboo, for ascertaining the value of these divisions, and it has been found that seven revolutions and 61,4 divisions are equal to *ten* minutes on the limb of the semicircle, so that one division is equal to ,788 of a second.

TABLE

Of experiments for determining the valuation of the revolutions and divisions on the micrometer in the eye-piece of the telescope.

Month.	Micrometer Divisions.	No. of seconds.	Value of 1 Division.	Month.	Micrometer Divisions.	No. of seconds.	Value of 1 Division.
Nov. 26.	d			Nov. 26.	d		
	9.94,5	783,5	0,788		1000	780	0,780
	994	787	0,782			800	0,800
	994	773	0,777			787	0,787
	1005		0,788			794	0,794
	1002	794	0,794			788	0,788
						782	0,782
		Mean -	0,788 1			788	0,788

Hence one second will be equal to 1,269 divisions.

One minute. 75,72 ditto.

Ten minutes. 757,2 ditto.

SECTION IV.

Angles taken with the large theodolite between 27th September 1802, and 13th of April, 1803.

AT THE NORTH END OF TUK BASE.

Between And Observed Angles.

Perumbaak hill, , . 09 47 58,9
ferumfauk hill, Aount station,. . . 81 21 05,2

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AT THE SOUTH END OF THE BASE.

Between *And* *Observed Angles.*

	<i>Perumbauk</i> \\\\ \ . .	113 56 47,3
Mount station	ditto, ...	102 37 14,8

AT THE MOUNT STATION. .

North end of }	South end of the base,	77 31 23
	<i>Perumbauk hill</i> , . .	88 06 38,2

south of}

<i>Perumbauk hill</i> ,	<i>Mungot station</i> , . .	92 30 03,6
	<i>Mullapode hill</i> , . . .	63 30 18,2

AT PERUMBAUK HILL.

North end of the base,	South end of the base,	56 15 26
	Mount station, . . .	10 32 16,8
South end of J. the base,		
<i>Mimgot station</i> ,	ditto, ...	36 58 15,1
	<i>Coonoowaucum</i>	59 43 12,9
	<i>Mullapode hill</i> , . . .	42 52 13,9
<i>Mullapode hill</i> ,	<i>Coonoowaucum hill</i> ,	16 50 59

AT MUXGOT STATION".

<i>Perumbauk hill</i> ,	<i>Coonoowaucum hill</i> ,	88 03 47,6
	<i>Mullapode hill</i> , . . .	79 06 56,4
<i>Mullapode hill</i> ,	<i>Tandray station</i> , . .	124 40 24,2
<i>Mannoor station</i> ,	ditto, ...	75 25 54,8
Mount station,	<i>Perumbauk hill</i> , . .	50 31 41,7
<i>Mullapode hill</i> ,	<i>Mannoor station</i> , .	49 14 29,4

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AT MULLAPODE HILL.

<i>Betveen</i>	<i>And</i>	<i>Observed Angles.</i>		
		°	'	"
Perumbauk hill,	<i>Coonoowaucum hill,</i>	139	29	07,8
Coonoowaucum mumoor	station, .	81	21	03,0
Tandray station,	ditto, ...	52	53	20,0
	<i>Mungot station,</i> . .	28	17	36,7

AT MUXXOOR STATION.

<i>Mungot station,</i>	<i>Coonoowaucum hill,</i> .	100	27	11,4
	<i>Mullapode,</i>	49	34	32,4
	<i>Tandray station,</i> . .	44	15	34,9
<i>Mullapode hill,</i>	ditto, ...	93	50	05,9
	<i>Coonoowaucum hill,</i>	50	52	39

AT TANDRAY STATION.

<i>Mungot station,</i>	<i>Munnoor station,</i> .	60	18	30,7
	<i>Mullapode hill,</i> . . .	27	02	00,1
<i>Munnoor</i>	station, ditto, ...	33	16	30,8
<i>MuUapodc hill,</i>	<i>Urrumbaucum hill,</i>	94	00	01,7
	<i>Poonauk hill,</i>	80	48	38,8

AT URRUMBAUCUM HILL.

<i>Mullapode hill,</i>	<i>Tandray station,</i> . .	43	02	50
	<i>Poonauk hill,</i>	111	52	28,9

AT POONAUH HILL.

<i>Mullapode</i> hill,	<i>Urrumbaucum hill,</i>	39	25	15,6'
	<i>Tandray station,</i> , .	27	13	47,4
	<i>Maumdoor hill,</i> . . .	49	19	0,46

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AT POONAUH HILL.

<i>Between</i>	<i>And</i>	<i>Observed Angles.</i>		
<i>Allacoor hill,</i>	<i>Padree station, . . .</i>	23	52	57,5
	<i>Urrumbaucum hill,*,</i>	32	18	50,7

AT ALLACOOR HILL.

<i>POWMW/C hill,</i>	<i>Padree station, . . .</i>	91	22	13
	<i>Urrumbaucum hill, .</i>	110	08	22,3

AT PAUDREE STATION.

<i>Poonauh hill,</i>	<i>Allacoor hill, ...</i>	64	44	52,1

AT MULLAPODE HILL.

<i>Poonauh hill.</i>	<i>Tandray station, . .</i>	71	39	26,3
	<i>Urrumbaucum hill, .</i>	28	42	12,6
	<i>Maumdoor hill, . . .</i>	5 S	02	19
<i>Tandray station,</i>	<i>Urrumbaucum hill, .</i>	42	57	07,9
<i>Perumbaucum</i>				
<i>hill MOWBRAY s house, .</i>		35	17	00
<i>Maumdoor hill,</i>	<i>Carrangooly hill, . .</i>	45	48	00,5

AT MAUMDOOR HILL.

<i>Mullapode hill,</i>	<i>Poonauh hill, ...</i>	72	38	40
	<i>Carrangooly hill, . .</i>	69	50	21,5
<i>Carrangooly hill,</i>	<i>I For it ty hill, ...</i>	44	46	21,6

AT CARRANGOOLY HILL.

<i>Mullapode hill,</i>	<i>Maumdoor hill, . . .</i>	64	21	44,1
<i>Maumdoor hill,</i>	<i>Woritty hill, ...</i>	80	57	28,3
<i>Permacoil hill,</i>	<i>ditto, ...</i>	28	33	28,6
	<i>Vellungcaud hill, . .</i>	36	40	28,2

AT WORITTY HILL.

<i>Carrangooly hill,</i>	<i>Maumdoor hill, . . .</i>	54	36	13,1
	<i>Permacoil hill, . . .</i>	109	25	09,4
<i>Permacoil hill,</i>	<i>Coonum hill, ...</i>	17	46	10,3

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AT PERMACOIL HILL,

<i>Between</i>	<i>And</i>	<i>Observed Angles.</i>
<i>Ivoritty hill,</i>	<i>Carrangoely hill, . .</i>	42 01 25,1
	<i>Coonum hill, ...</i>	134 51 00,6
<i>Coonum hill,</i>	<i>1st flag on red hill, .</i>	53 13 11,8
<i>Vellungcaud hill,</i>	<i>Carrangoely hill, . .</i>	28 58 93,4
	<i>New station on red hill,</i>	98 29 08,8
<i>Mooration sta-}</i>	<i>ditto ditto, . .</i>	15 57 39,8
	<i>Chengcaud station, .</i>	42 57 14,4
<i>Mylum station,</i>	<i>ditto ditto, .</i>	29 29 41,3

AT VELLUNGCAUD HILL.

<i>Permacoil hill,</i>	<i>Carr angooly hill, . .</i>	114 21 15,4
	<i>New station on red hill,</i>	37 15 17,4

AT THE NEW STATION ON RED HILL.

<i>Permacoil hill,</i>	<i>Vellungcaud hill, . .</i>	44 15 33,8
	<i>Moqratan station, .</i>	99 25 04,4

AT MOORATAN STATION.

<i>Ckerigcaud stz--</i>	<i>Permacoil hill</i>	85 13 36,0
<i>tion, . . . J</i>		
	<i>Trivandepoorum hill,</i>	64 42 38,5
<i>1st Coonum hill,</i>	<i>1st flag on red hill,</i>	81 48 30
	<i>Chengcaud station, .</i>	54 33 15
<i>^ r t d ^</i>	<i>. . .</i>	64 37 21,4

AT THE FIRST FLAG ON RED HILL.

<i>Coonum hill,</i>	<i>Permacoil hill, . . .</i>	38 54 56,4
	<i>Station near Mooratan,</i>	76 26 03,1

AT COONUM HILL.

<i>Permacoil hill,</i>	<i>Woriitty hill, ...</i>	27 22 53,3
	<i>1st flag on red hill, .</i>	87 51 51,8

Between And Observed Angles.

Chengcaud *sta* *ditto* 76 02 09,3
tion .

MS

The angles in general have been taken three and four times, and every time that the object was observed, both microscopes were read off thrice, and two separate field books kept for making out the angles. What are here recorded, are the means taken from the two books. In case a difference in those angles, noticed at the time, left any reason to suspect an error in the instrument, the division between the dots was carefully examined, as well as those to the right and left, and if any error was discovered, allowance was made accordingly.

SECTION V. TRIANGLES.

North End of the Base from the South End of the Base 40006,4.

Stations,	Observed Angles.	Diff.	Spher. Excess,)	Error.	Angles for calculation.	Distances in feet.
(North end of the base, South end of the base, Mount station,	0 ' " 91 09 04,0 11 19 32,5 77 31 23,0	—,03 —,02 -,03			0 ' " 91 09 04/2 11 19 32,6 77 31 23/2	8046,7 40965,8
	179 59 59,5	.08	.08	—,58	180 00 00	
	Mount station' from North end of the base, South end of the base,					
(North end of the base, South end of the base, Perumbaikk hill,	0 / ' " 9 47 58,9 113 56 47,2 0 0 0	—,01 —,08			0 / // 9 47 53,8 113 56 47,2 56 15 14	4397 18 818903
			.07		!50,00 00	
Perumbaikk hill' from { (North end of the base, (South end of the base,						

North end of the Base from Perumbauk J9i7/43971,8.

No.	Stations.	Observed Angles.	Diff.		Error.	Angles for calculation.	Distances j in feet.
3.	North end of the base, Perumbauk hill, Mount station,	o / //					81 21 05,1 10 32 16,8 83 06 38,1
		81 21 05,2 10 32 16,8 88 06 38,2	—,03				
		180 00 00,2	,08	,08	+ ,1	180	
	Mount station from			North end of the base, Pt riunkuik hill,. - -			8046,7 43495,4
South End of the Base from Mount Station 4 0965,8.							
4.	South end of tin base, Mount station, Perumbauk hill,	o / // 1 //				o ' '	102 37 14,7 10 35 12,9 06 47 32,4
		102 37 14,8 10 35 12,9 0 0 0 —,01	—,06 —,0: —,01				
	I i l l 180						
		Perumbauk from			C South end of the base, Mount station, - -		8189,2 43495,5

It appears from examining the above triangles, that there is a difference in the distance from the north end of the base and Mount station, by the first and second triangles, and also a difference in the distance from the south end of the base to *Perumbauk* hill. It may be necessary to notice here, that there was great difficulty in taking all these angles, on account of the very thick vapour which constantly floated near the surface of the flat where the base line runs, almost immediately after daylight, to very near the time of sun-setting. All the angles, and particularly at the north and south end of the base line, have been repeatedly taken, and the only time, when the flag-staff appeared distinctly, was in the morning of the 7th of October,

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when I observed the polar star at the south ead of the base line.

It was discovered, that at *Perumbauk* hill, there **had been** an error in reading off the south end of the base, most probably of 10" from the micrometers, as **all** the angles which had a reference to **that** point, exceeded what they ought to have been by ten or twelve seconds. In consequence of this disagreement, I chose to take the supplemental angle in the second and fourth triangles, after the other angles had been corrected. The distance of the north end of the base from *Perumbauk*^ as determined in the second triangle, being taken as abase in the third triangle, wherein the three angles have been observed to determine the distance from *Perumbauk* to the *Mount*, and from the north end of the base to the *Mount*, it appears that the latter distance comes out within 0,4 of a foot to what had been brought by the first triangle; and that the distance from the south end of the base to *Perumbauk* hill, derived from the second and fourth triangles, differ only ,14 of a foot. The distance from the *Mount* to *Perumbauk* being that from which all the operations are to commence, I wished to be as particular as possible in determining it, and the results from the third and fourth triangles make it 43495,4 and 43495,5, differing only one-tenth of a foot.

Mount station from Perumbauk Hill 43496,4.

No.	Stations.	Observed Angles.	Diff.	Splicr. Excess.	Error.	Angles for calculation.	Distances in feet.
15.	Mount station, Perumbauk hill, Mungot station,	o f t /					
		92 30 03,6	-, 18			92 30 03,4	
		36 58 15,1	—,08			36 58 15	
		50 31 41,7	—,08			50 31 41,6	
		180 0 0,4	—,34	, "3	+ ,1	180	
		<i>Perumbauk hill, - -</i> <i>Mungot station from Mount station - - -</i>					56292,1 33886,8

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Perumbauk Hill from Mungot station 56292,1.

No.	Stations,	Observed Angles.	Diff	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
6.	<i>Perumbauk hill,</i>	42 52 13,9	- ,16			42 52 13,3	65205,2
	<i>Mungot station,</i>	79 08 56,4	- 2 5			i 79 08 55,7	
	<i>Mullapode hill,</i>	57 58 51,5	- ,17			57 58 51	
		180 0 01,8	- ,5 s			,59 + M	
		<i>A' "</i> , ... <i>r</i> <i>Perumbauk hill,</i> - - <i>muullapode hill from mungot station,</i> - -					45169,5

Perumbauk Hill from Mullapode Hill 65205,2.

7.	<i>Perumbaucum hill,</i>	16 50 59	+ ,3			16 50'59,5	105534,6
	<i>Mullapode hill,</i>	139 29 7,8	- ,9			139 29 07,0	
	<i>Coonoowaucum hill,</i>	0 0 0				23 39 53,5	
				1,22			
	<i>CoonoowMucum hill from</i> C <i>Perumbauk hill,</i> - - <i>perumbock hill</i> . .						47088,5

Mullapode HUI from Coonoowaucum Hill 47088,5.

8.	<i>Mullapode hill,</i>	81 21 03,1	- ,2			81 21 02,8	44944,4
	<i>Coonoowaucum hill,</i>	0 0 0	—,10			47 46 18,3	
	<i>Munoor station,</i>	50 52 39,0				50 52 38,9	
						180 00 00,0	
	<i>M Tiiioor station from</i> C <i>Mullapode hill,</i> - - <i>Mullapore</i> hill.						60006,6

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Mullapode Hill from Mungot station 45109,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	! Angles for calculation.	Distances in feet.	
9.	Mullapode hill, Muiigot station, Mumoor station,	$\begin{matrix} \circ & / & // \\ 81 & 10 & 56,8 \\ 49 & 14 & 29,4 \\ 49 & 34 & 32,4 \end{matrix}$	$\begin{matrix} '' \\ -, 21 \\ -, "13 \\ -, 14 \end{matrix}$			$\begin{matrix} \circ & ' & '' \\ 81 & 10 & 57,4 \\ 49 & 14 & 29,8 \\ 49 & 34 & 32,8 \end{matrix}$	44944,3 58633,6	
		179 59 58 6	-.48	,43	— 2	180		
		Mi Munnoor' . . hill Mullapode hill, - - from .						
10.	Mullapode hill, Mungot station, Tandray station,	$\begin{matrix} \circ & / & // \\ 28 & 17 & 36,7 \\ 124 & 40 & 24,2 \\ 27 & 02 & 00,1 \end{matrix}$	$\begin{matrix} \\ + , 04 \\ -, 6 \\ —, 1 \end{matrix}$			$\begin{matrix} \circ & ' & '' \\ 28 & 17 & 30,4 \\ 124 & 40 & 23,6 \\ 27 & 02 & 00 \end{matrix}$	81731,9 47105,3	
		180 0 01		,42	X,3			
		Tandrmj station' from Mullapode hill, - - { mungot station . .						
Mullapode Hill from Miinnoor station 44944,3.								
n.	Mullapode hill, Munnoor station, Tandray station,	$\begin{matrix} \circ & / & '' \\ 52 & 53 & 20 \\ 03 & 50 & 5,9 \\ 33 & 16 & 30,8 \end{matrix}$	$\begin{matrix} '' \\ -, 2 \\ -, 3 \\ -, 1 \end{matrix}$			$\begin{matrix} \circ & / & // \\ 52 & 53 & 21 \\ 93 & 50 & 08 \\ 33 & 16 & 31 \end{matrix}$	81732,7 65325,7	
		179 59 56,7		,7	—4	180		
		Tandrfray station from Mullapode hill, - - munoor station .						

Mungot station from Munnoor station 58633,7-

No.	Stations.	Observed Angles.	Diff		Error.	Angles for calculation.	Distances in feet.
12.			//			° / ' "	
	Mungot station,	75 25 54 8	—,3			75 25 54,5	
	Munnoor station,	44 15 34,9				44 15 35	
	Tandray station,	60 18 30,7				60 18 30,5	
		180 00 00,4		64	—,2	180	
	Tandray station from Mungot hill, - - - Munnoor station,						47105,9 653.25,4

In the quadrilateral formed by Mullapodt hill, Mungot hill, Munnoor station, and Tandray station, the side Mullapodt and Tandray is common to the tenth and eleventh triangles, the first of which gives it 81731,9 feet, and the latter 81732,7 feet, the mean of which is 81732,3 feet, which becomes the base for extending the triangles westerly. These results appear to be sufficiently correct, since the bases on which the two triangles have been formed, were derived from the different sides of the triangle Perumhauk hill, Mungot hill, and Mullapodt hill, viz. one from the side Mullapodt hill and Mungot hill, the other from the side Mullapodt hill and Perumhauk hill, on which was computed the side Mullapodt hill and Coonoowmirum hill, and from that again the side Mullapodt hill and Munnoor station, which, however, came out the same as when obtained from the distance Mullapodt hill and Mungot hill,

It will also appear that in the triangle computed on the base Mungot hill and Munnoor station, that each of the sides, Munnoor station and Tandray station, and Mungot and Tandray become common to the triangles, Mullapodt hill, Munnoor and Tan-

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dray and Mullapode hill, Mmtgot and Tandray, each to each, and that in the first case, there is a difference of $\frac{3}{10}$ and in the second of $\frac{6}{10}$ of a foot These circumstances will, I conceive, prove the operations to be sufficiently satisfactory.

Mullapode hill from Tandray station 81732,3.*

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances j
13.	Mullapode hill, Tandray station, Urrumbaucum,	° / //				° / "	
		42 57 07,9	—,4			42 57 08,2	
		94 00 01,7	-.8			94 00 01,6	
		43 02 50	~,4			43 02 50,2	
		179 59 59,6		1,6	-,2	180	
		Lrrumbaucmn from (Mullapode hill, - - [Tandray station, - -					119444,7 81587,1
14.	Mullapode hill, Tandray station, Poonauk mullah,	° / '				° / //	
		71 39 26,3	-1,1			71 39 25,2	
		80 48 45,7	-1,3			80 48 44,4	
		27 31 47,4	—0,8			27 31 50,4	
		179 59 59,4		3,2	-3,8	180	
		Poonauk hill from C Mullapode hill, - - .					174555,7 167839,7

Poonauk hill from Urrumbaucum hill 90339,4.

15.	Poonauk hill, - Urrumbaucum, 'Aliicoor hill, -	° / //				° / //	
		32 18 50,7	—,1			32 18 51	
		0 0 0				37 32 47	
		110 8 22,3	-,5			110 8 22	
				0,67			
		AliKoorhill from Poonauk hill, - - 'brrumbancum hill, -					58638,41 51436,9

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Poonauk hill from Allicoor hill 58638,4.

No,	Stations.	Observed Angles.	Diff.	Spher. J Exces.	Error.	Angles for calculation.	Distances in feet.
16.	Poonauk hill,	23 52 57,5	-, 0 9			23 52 57	648! 5,71 26248,9
	Allicoor hill,	91 22 13	—*2			91 22 13	
	Paudree station,	64 44 52,1	—,08			64 44 51	
		180 2,6		,37	+ 2,2	180	
	Paudree station from \ Allicoor hill, - - -						

Mullapode hill from Urrumbaucum 119444,7.

17.	Mullapode hill,	28 4? 12,6	—,3			28 42 12,6	174554,3 90339,4
	Urrumbaucum,	111 52 33,6	-1,9			111 52 32,3	
	Poonauk hill,	39 25 15,6	—,8			39 25 15,1	
		ISO 1,8		2,4	—,9	ISO	
	Poohtnik' hill from (Mufkippe hill, - - (Lrrumbducwn mil, -						

Mullapode hill from Poonauk hill 174555.

18.	Mullapode hill,	58 02 19	—1,5			58 2 18	138685,5 155157,2
	Poonauk hill,	49 19 4,6	-1,5		-	49 19 3,5	
	Maumdoor,	72 38 40	-1,9			72 38 38,5	
		180 00 3,6		4,9	— 1,3	180	
	Maumdoor from C Mullapode hill, - - ^ Poonauk hill, - - -						

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Maumdoor hill from Mullapode 138685,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Andes for calculation.	Distances in feet.
19.	Maumdoor hill, Mullapode hill, Carrangooly hill,	69 50 21,5	- 1, 2			0 ' "	110182,4 144405,4!
		45 48 0,5	- 1			69 50 19,5	
		64 21 44,1	- 1, 2			45 48 58,5	
		180 6,1		3,4	+ -,7	64 21 42	
	Carrangooly 'hill from (Maumdoor hill, - - Mullapode hill . .						

Carrangooly hill from Maumdoor hill 110282,4.

20.	Carrangooly hill, Maumdoor hill, Wooritty hill,	0 ' "				0 ' "	95282,8 133481,5
		80 37 28,3	- 1, 1			80 37 27	
		44 46 21,6				44 46 20,5	
		54 36 13,1	— ,7			54 36 12,5	
		180 00 03		2,5	4,5	180	
mooring							

Wooritty hill from Carrangooly hill 95282,8.

21.	Wooritty hill, Carrangooly hill, Pcrmacoil hill,	109 25 09,4	- 1, 1			109 25 07,7	68041,5 134236,4
		28 33 28,6	- , 2 2			28 33 27,8	
		42 01 25,1	- , 1 3			42 01 24,5	
		180 00 3,1		1,4	4, 7	180	
	Pcrmacoil 'hill from (Wooritty hill, - - 1 st Carrangooly 'hill,						

MERIDIAN ON THE COAST OF COROMANDEL. 1^S

Carrangboly hill from Permocoil hill 134236,4.

No.	Stations.	Observed Angles.	Diff.	<i>it</i>	Error.	Angles for calculation.	Distances j in feet, 1
22.	Carrungoohj hill, Permocoil hill, Vdlungcaud	0 0 0				0 0 0	71374,2 1 88004,7
		36 40 23,2	-0,1			36 40 26	
		28 58 23,4	—0,1			28 58 22	
		114 21 15,4	—1,2			114 21 .12	
		180 00 07,0		1,4	+ 5,6	ISO 00 00	
		" " G T " \ Curruiizoolu hill, l^Ptrmaaul mil, - -					

Permocoil hill from Vellungcaud hill 88004,7.

23.	Permocoil hill, fcttiugcaud, New station,	0 0 0	"			0 - "	76334,1! 47, b)7 i
		93 29 00,5	—,9			93 29 08	
		j7 i:, 17,4;	—,5			37 15 !7	
		0 0 0				44 15 j:>	
				l,fi		80 00 00	
		New sludon on red hill from W^'^^'^i'in, - - ^47, b)7 i					

Wooritty hill from Permocoil hill 58041,5.

24.	irc,oritijhlll, Ptrmavoil hill, Coouum hill,	0 0 0				0 0 0	:104887,5 45150,5
		17 46 10,3	+ ,1			17 46 09	
		134 51 00,(i	— ,9			134 50 5<S,5	
		27 22 '>3,;	+ ,3			27 2' 52,5	
		ISO 00 4,21		,5	+ 3,7	ISO 00 00	
		CoanumhW, from			orilty h nnacoil	hill - - - hill, - -	

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Permacoii MU from Coonum hill 45 Jf0,5.

;	No.	Stations.	Observed Angles.	Dtff.		Error.	Angles for calculation.	Distances in feet. 1
	25.	Permacoil hill, Coonum hill, 1st Flag on red hill,	53 13 11,8 87 51 51,8 0 0 0	- , 2 - , 3			53 13 11,5 87 51 51,5 38 54 57	71825,3 57567,7
					,6		180 00 00	
		First Flag on red hill from (Permacoil hill, - - Coonum hill) - . .						

Permacoil hill from Wooritty hill 68041,5.

26.	Permacoil hill, Wooritty hill Mylum station,	0	0	0			0	0	0	49184,8 91939,0	
		102	06	30,9	—,50			102	06		30,9
		0	0	0				31	32		18,3
		46	21	11,4	-, 13			46	21		11,3
						,77					
Alyhm stat.cn from (Permacoil hill, - - J roori % hill) . .											

Permacoil hill from Mylum station 49184,8.

27.	Permacoil hill, Mylum station, Mooratan station,	72 26 53,3	-, 34			73 26 53	83351,9 83030,3
		73 09 50,7	-, 34			73 09 50,4	
		0 0 0				34 23 16	
						180 00 00	
Mooratan \ Permacoil hill, - - 83351,9 { Mylum station, - - 83030,3							

MERIDIAN ON THE COAST QFCOROMANDEL. 175
Coonum hill from first Flag on red hill 57567,7.

No.	Stations.	Observed Angles.	Diff-	Spher. Excess.	Error.	Angles for calculation.	Distances 1 in feet. J
28.	Coonum hill, ist Flag on red hill, Mooratanstziion,	o t n 0 0 0				21 45 27	56538,5 21559,1
		76 26 03,1 81 48 30	--,1 ~,1			70 26 03 81 48 30	
				0/29		180 0 0	
	Motnatan station from C Coonum hill, - - - First Flag on red hill,						

Permacoil Hill from thenew station on redhill7C)33i, 1.

29.		0 / "				' ' "	83348,4 j 23231,9;
	Permacoil hill,	15 57 39,8				15 57 38	
	New station,	99 25 04,4	—,2\$			99 25 2,4	
	Moor at an station,	64 ? ,1 21,4	—i04			64 37 19,6	
		ISO 00 5,6		0,42	+ 5,18	180 0 0	1
		Mo()rutan station from			C/Vr mac oil till, - - [Ne iv statioii on rod hill,		

Permacoil hill from Mooratan station 83330,15.

30.	Pcrmacoil kill, MooratynsVdHon, Chengcaud sta* tion,	o . "					105668,2 72254,7
		42 57 14,4 85 13 30	- , 4			42 57 14,2 85 13 37,6	
		51 49 04,4	—,4			51 49 06,2	
	179 59 H-K		1,4 j —6,6		180 00 00		
	Ch^ %caud station	from	J" Permacoil hill, - - I Mooratan station, -				

Coonum hill from Mooratan station 56538,5.

[No	Stations.	Observed Angle?.	Diff.	Error.	Angles for calculation.	Distances in feet.
31.	Coonum hill, Mooratan station, Chengcaud station,	$\begin{array}{ccc} 0 & 0 & 0 \\ 54 & 33 & 15 \\ 49 & 24 & 35,7 \end{array}$	$\begin{array}{c} 0 \\ -2 \end{array}$	$\begin{array}{c} 0,8 \end{array}$	$\begin{array}{ccc} 76 & 02 & 09,5 \\ 54 & 33 & 15 \\ 49 & 24 & 35,5 \end{array}$	$\begin{array}{c} 60654,3 \\ 72252,9 \end{array}$
					$\begin{array}{ccc} 180 & 00 & 00,0 \end{array}$	
					$\begin{array}{ccc} C & Coonum & hill, \\ - & - & - \\ Chn_{S_{caudi}}^{t_{*}Umkom} & \{ & Mooratan \text{ station,} \\ - & & - \end{array}$	

Mooratan station from Chengcaud station 72253,8.

Mooratan station,	64 42 38,5]	64 42 35
32. Chengcaud station,	66 8 35/2.	66 8 32
Trixandcpoornm,	49 8 53,9, - 4	49 8 53
	180 00 7,6j	1,4 + 6,4 ISO 00 00
Trhandepoorlim	from	$\begin{array}{ccc} \{ & Mooratan & station, \\ - & - & 87360,7 \\ \backslash & Chengcaud & station, \\ - & - & 86367,6 \end{array}$

The angles have been taken with much care, and I believe with as much accuracy as the nature of Mich a process admits of; difficulty, however, very frequently arose from the haziness of the weather, which rendered the objects at the very distant points extremely dull, and occasioned some irregularity in the angles. Whenever that happened, the observations were often repeated, and in case any one, in particular, was different from the other so much as ten seconds, it was rejected till the three angles of the triangle had been observed. If the sum of these angles was near what it

ought to be, no further notice was taken of it; but should the sum of the three angles be nearer the truth by taking it into the account, and that there appeared an irregularity in the other two observed angles, I have made it a rule to take each observed angle as a correct one, and divide the excess or defect between the other two, and then compute from the given side the other two sides; and after doing the same thing with each of the angles successively, a mean of the sides thus brought out was taken, which, to certain limits, will always be near the truth. I then varied the selection of the observed angles, rejecting such as I had reason to doubt; and by correcting them, and computing the two required sides of the triangle, those which gave the sides nearest to what had been brought out by the other method, were adopted, let the error be what it would. This, however, has rarely happened; and when it did, great precaution was used; and no angle was rejected without some reason appeared to render it doubtful.

In correcting the observed angles to obtain those made by the chords, I have used the formula given by the Astronomer Royal, in his demonstration of M. DE LAMBKE'S problem, which appears in the Philosophical Transactions for 1797- The spherical excess is of course had from the well known method of dividing the area of the triangle in square seconds, by the number of seconds in the arc equal to radius, where the number of feet in a second may be had by using the degree as has been commonly applied to the mean sphere, or the mean between the degree on the meridian and its perpendicular. This being of no further use than to check any error that might happen in computing the corrections for the angles.

the length of a degree has been computed for every ten degrees from the meridian to its perpendicular on an Ellipsoid, whose diameters were in the ratio of one to 1,0067, which is derived from taking the degree on the meridian, in latitude $50^{\circ} 41'$ to be 60851, and the degree perpendicular thereto 61182, in the same latitude. These data would give the meridional degree, in latitude 13° , to be 60191, and the degree perpendicular equal 60957, which, however, is not the case; but no sensible error will arrive in making those corrections from taking the arcs a few seconds more or less than the truth.

SECTION VI.

Reduction of the distances to the meridian of Trivandeporum, for determining the length of the terrestrial arc.

The sides of the great triangles, from which the arc is derived, falling very nearly in the same meridian, and not more than 16363,3 feet west from the meridian of *Trivandeporum*, the south extremity of the arc, there required no reference to any hypothesis of the earth's figure for getting the exact distance between the parallels, so that the latitude of a point where a great circle falling from the station of observation near *Paudree*, will cut the meridian of *Trivandeporum* at right angles, may be determined with sufficient accuracy by computing spherically, and the distances, when reduced to the meridian, (the distance from *Trivandeporum* to *Coonum* hill excepted,) may be considered as the chords of arcs on the meridian, and therefore the arcs themselves may be had, by allowing 60494 fathoms to the degree, as had been obtained from the sum of those reduced distances, the sum therefore of all these arcs will make the whole meridional arc, which is a nearer approximation to the truth.

Seeing that a line drawn from the station of observation at *Paudree*, to the station at *Maumdoor* hill, would fall nearly in the direction of the meridian, that distance has been computed, by taking the sides *Poomuk* hill to *Maumdoor* hill, and *Poonauk* hill to *Pddree*, and using the internal angle *dXPoonauk* hill, corrected for the chords. This, however, was scarcely necessary, except for shewing the arrangement of the points.

The following table will shew the arrangement of the, sides, and their reduction to the meridian of *Trivandcporum*.

Stations at	Stations referred to.	Bearings referred to the meridian of <i>Trivandcporum</i> .	Distances.	Distances from the parallels of the	
				Meridian.	Perpendicular.
<i>Trivandcporum</i>	<i>Coonum</i> hill,	5 31 50,3 N. W.	125129,1	12059,8 W.	124547,5 N.
<i>Coonum</i> hill,	<i>Ivoorithj</i> hill,	0 03 18,4 N. W.	104887,5	108,3 W.	104887,4 N.
<i>Ivooritty</i> hill,	<i>Cavvangoohj</i> ,	52 45 21,9	95282,8	75851,4 E.	57666,0 N.
	<i>Maumdoor</i> ,	1 50 51,2 N. W.	133481,5	4303,5 W.	133412,5 N.
<i>Maumdoor</i> ,	<i>Pandrcc</i> station,	1 02 09,7 N. E.	211512,1	3824,4 E.	211477,5 N.

THE NORTHINGS REDUCED TO ARCS.

Trivandcporum to *Coonum* hill, . . 1 £4548,77

Coonum hill to *Wooritty* hill, . 104887,47

Ivooritty hill to *Maumdoor* hill, . 133413,15

Maumdoor hill to *Pandrcc* station, 211478,57

Length of the terrestrial arc, . . . 574327,96

Or fathoms, ... 95721,3266

MEASUREMENT OF AN ARC ON THE SECTION VII.

*Observations by the Zenith Sector for the Latitude of
Paudree station, and the station near Trivandepo-
nmj and the length of the celestial arc.*

The zenith sector, with which these observations have been taken, was made by Mr. RAMSDEN, and is the one alluded to by General ROY, in the Philosophical Transactions for 1790, being then unfinished. The radius of the arc is five feet, and the arc itself is of that extent to take in nine degrees on each side of the zenith. It is divided into degrees, and smaller divisions of 20' each, which are numbered. Each of these last is again subdivided into four, of 5' each. The micrometer which moves the telescope and arc, is graduated to seconds, and one revolution moves the arc over 1° 10' 08", but the scale being large, a small fraction of a second can be easily defined. The construction, and improvements to the zenith sector, are so well known, that a minute description of it here would be unnecessary. It will therefore suffice to say, that as far as so delicate an instrument can be managed in a portable observatory, or travelling tent, which never can offer the advantages of a fixed, well contrived building, I have every reason to be satisfied with it.

The time I commenced observing at *Paudree* station was during the heavy part of the monsoon, which occasioned frequent interruptions: and although I had intended observing by at least three fixed stars, I only succeeded to my satisfaction in one, which was *Aldebaran*. With that star I had a fortunate succession for about sixteen nights; some few of those observations being less favourable than the others, were rejected, and the rest, from which the latitude was determined, appear in the following table, arranged in the order in which they were taken.

During the time I was at *Trivandeporum*, near *Cuddalore*, the weather was settled and serene, and the nights perfectly clear, so that I had an unlimited choice of stars, but having been successful with *Aldeharan*, I chose that star for determining the length of the arc.

As I consider the celestial arc more likely to be erroneous than any terrestrial measurement, I have thought it necessary to give some account of the manner of observing and of adjusting the instrument, for after two years experience, I have found, that notwithstanding the great powers of the zenith sector, extreme delicacy and attention are requisite to render the observations satisfactory. The following method of adjustment I have always practised. After having brought the vertical axis nearly to its true position by the adjusting screw at the bottom, or so that the wire of the plummet would bisect the same dot when the telescope was moved to the opposite side, or half round on the axis, I then examined whether the dot at the centre of the horizontal axis was bisected, and whether the wire moved in the vertical plane clear of the the axis; for unless it be perfectly free, all the observations will be false. When I had bisected the dot, I either took out the microscope and looked obliquely, or did the same by a magnifying glass, and by that means I could discover the smallest parallax. If it admitted being brought nearer to the axis, it was done; but I found from experience, that it was more eligible to leave the wire at a sensible distance than to bring it very near. Having satisfied myself in this particular, I examined with the microscope again in front, moved the wire freely in the vertical plane, and then bisected the dot. The telescope was then moved, so that the wire was brought over the dot zero on the arc, and the same precaution used with respect to the wire mov-

ing free of the arc; and here, as well as above, I find it best to allow a sensible distance between the wire and the arc.

The microscope by which the upper dot in the horizontal axis is examined, being fixed by the maker, the axis of vision is of course at right angles to the vertical plane, and will meet that plane in the centre of the axis, but the lower microscope is moveable, and requires care to fix it so as to have the wire in the axis of vision, and be free from the effects of parallax, this I have done by moving it along the brass plate in front of the arc, till the wire appeared free from curvature, and then adjusted the dot. In these late observations, I have generally made the final adjustment by the light of a wax taper, for the wind being sometimes high and troublesome, I found there was much irregularity in the observations, until I adopted that method. I therefore closed the doors and windows of the observatory tent, so as to have a perfect stillness within. The distance of the wire from the axis and the arc is likewise better defined by a taper by noticing the shadow in moving the light to the right and left.

In fixing the instrument for the star, great care was taken to have it placed in the meridian, which was done by a mark at near the distance of a mile, (generally one of my small flags), the polar star, having been previously observed by the large theodolite for that purpose. The telescope was then moved in the vertical till the wire of the plummet was at the nearest division on either limb to the least distance of the star, which could always be nearly known. The micrometer, having been put to zero, was firmly screwed, and the dot on the limb carefully bisected, the instrument was turned half round; the adjustment examined and correct*.

ed, if necessary. That being done, the degrees and minutes, &c. on the arc were noted down, as was also the particular division on the micrometer scale, at which the index stood, and the fractional part of a division in case there were any. In this state every thing remained to within fifteen or twenty minutes of the time the star was to pass, when I repaired to the tent, and again examined whether the wire bisected the dot; if it did not, the instrument was again adjusted to the same dot, and the horizontal axis also examined by the upper microscope, all this being done, the sector was placed in the meridian.

When the star entered the field of view, the micrometer was moved gently till the star was near the horizontal wire, but not bisected till it came near the vertical, that the micrometer might not be turned back, but continue moving in the same direction. This I did to avoid any false motion in the micrometer screw, and I was led to this precaution by the repeated experiments I had made in examining the divisions on the arc, for it sometimes happened after moving the arc over one of the divisions till the wire bisected the next dot; and then turning it back again, that the index of the micrometer was not at the same second, but had passed over it perhaps one, and sometimes two seconds; but by moving over the next five minutes in the same direction, the number of revolutions and seconds were always what they ought to be, to some very small fraction. * This anomaly, however, only happened in some situations of the screw, and to avoid any errors arising therefrom, I adopted the above method.

The zenith distance of the star being now had, on one part of the arc or limb, after the same process had been gone through the next night, with regard to the adjustment, the zenith distance was

taken on the other part of the arc, by turning the instrument half round on its vertical axis. The mean of these two was therefore the true observed zenith distance, and half the difference was the error of collimation. For applying these to the purpose in question, the mean of the zenith distances being corrected for refraction, the declination of the star for each of these nights, was corrected for nutation, aberration, &c. to the time of observation, and the mean of the two taken for determining the latitude.

In this manner has the whole series of observations been continued, by turning the sector half round every night, for the purpose of observing on opposite parts of the arc, and each compared with its preceding and succeeding one. In pursuing this method, it was unnecessary to notice the error of collimation for any other purpose than as a test to the regularity of the observations; for until they became uniform, no notice was taken of the zenith distances, concluding that there had been some mismanagement, or some defect in the adjustment.

The following tables contain the observations by the star *Aldeharan*, for determining the length of the arc.

Observations at the station near Paudree.

Day of the month.	Mean of the zenith distance on each arc.	Mean of the corrected declinations.	Latitude.
	/ "	° ' "	° ' "
NOD. 23d and 24th,	2 46 32, 5	16 06 20,70	13 19 48,20
24th and 25th,	2 46 32,46	16 06 20,69	13 19 48,23
25th and 26th,	2 46 31,78	16 06 20,,6S	13 19 48,90
30th and 1st Dec.	2 46 31,60	16 06 20,61	13 19 49,01
Dec. 1st and 2d,	2 46 32,60	16 06 20,60	13 19 48,0
2d and 3d,	2 46 32,90	16 06 20,58	13 19 47,68
12th and 13th,	2 46 30,96	16 06 20,39	13 19 49,43
13th and 14th,	2 46 28,57	16 06 20,36	13 19 51,79
Error of col-727 Lima, applied.	2. 46 29,71	16 06 19,64	13 19 49,93

Mean 13 19 49,018

MERIDIAN ON THE COAST OF COROMANDEL. 185

Observations at the station near Trivandeporum.

Day of the month.	Mean of the zenith distance on each arc.	Mean of the correct declinations.	Latitude.
			° / //
<i>February</i> 10th and 11th,	4 21 27,14	16 06 18,00	11 44 50,86
11th and 13th,	4 21 24,04	16 06 17,93	11 44 53,89
13th and 14th,	4 21 23,04	16 06 17,87	11 44 54,83
14th and 15th,	4 21 25,10	16 06 17,83	11 44 52,73
15th and 16th,	4 21 26,73	16 06 17,79	11 44 51,06
16th and 17th,	4 21- 25,60	16 06 17,75	11 44 52,15
14th and 25th,	4 21 24,17	16 06 17,44	11 44 53,27
25th and 26th,	4 21 25,17	16 06 17,40	11 44 52,23
26th and 27th,!	4 21 25,04	16 06 17,37	11 44 52,33
Mean			11 44 52,59

Latitude of the station near *Paudree* 13 19 49,02 —

Latitude of the station near *Tri-* 11 44 52 59

vandeporum. i

Difference of latitude, *nearly.* 1 34 56,4:3

The latitude of a point where a great circle passing through *Paudree* station, and cutting the meridian of *Trivandeporum* at right angles, will be 13° 10' 49",02 —, from which deduct the latitude of the station at *Trivandeporum*, equal 11 ° 49' 52 ,59, will leave 1° 34' 06",43, or 1°,58233 nearly; by which divide the number of fathoms in the terrestrial arc = 93721,3266", &c We shall have 1° = 60494 fathoms, nearly, for the degree in the middle of the arc, or latitude 12° 32' nearly.

APPENDIX.

Since the account of the meridional arc was made out, I have completed the measurement of a degree perpendicular to the meridian in latitude 12° 32' nearly, which is derived from a distance of fifty-five miles and upwards, between *Carangooly* and *Curnatighur*; two stations nearly east and

1&6 MEASUREMENT Of AN ARC ON THE

west from each other; and the following triangles have been made use of to obtain that distance.

Distance, Carangooly/row Permacoil 134236,4.

No.	Stations,	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for computation.	Distances in feet.
	<i>Carangoob/, Permacoil Maillachery Droog,</i>	0 / //				0 I "	
		38 00 53,47	—0,74			38 00 53 "	208418,2
		103 08 30,05	-2,64			103 08 27,5	131808,9
		38 50 42,44	-1,71			38 50 39,5	
		180 00 05,96		4,08	-f 1,88	180 00 00,0	

Carangooly/row Maillachery Droog 208418,2.

34	<i>Carangooly, Maillachery Droog, Curnatighur</i>	30 44 38,7	-1,3			30 44 37,0	291189,3
		105. 42 14,3	-5,1			105 42 09,0	154625,8
		43 33 15,1	-1,0			43 33 14,0	
		JS0 00 08,1		7,4	+ 0,7	180 00 00,0	

The distance from *Curnatighur* to *Maillachery* has also been brought out from a northern series of triangles derived from the side of *Poonauk* hill and *Maumdoor* hill, of the great triangle *Maumdoor*, *Poonauk*, and *Mullapode* hill: the triangles are *Poonauk*, *Maumdoor* and *Hanandamulla*; *Hanandamulla*, *Maumdoor*, and *Telloor*; *Telloor*, *Hanandamulla* and *Curnatighur*; *Curnatighur*, *leikor* and *Maillachery Droog*. Upon the distance from *Curnatighur* to *Maillachery* as a base, the distance from *Curnatighur* to *Carangooly* has been computed, and differs only two feet from that derived from the side *Carangooly* and *Maillachery Droog*: but there was some variation in the angles taken at *Poonauk* hill, which renders it doubtful, for the present, which to select; I have therefore relied on the single distance given in the thirty-fourth triangle.

Of the Polar Star Observations at Carangooly and Curnatighur, and the Length of a Degree, perpendicular to the Meridian, deduced therefrom, for the Latitude of 12° 32' nearly.

As the method of determining the difference of longitijfte of two places, by taking the angle with the meridian and each station reciprocally, requires very great accuracy, I have thought it necessary to give an account of the observations for that purpose, and to state at the same time, the difficulty of taking them, particularly at *Cumatigur*, whose great height subjected it to a constant haziness, whereby the blue lights at *Carangooly* were repeatedly fired without effect, appearing too faint to be seen when the wires of the telescope were illuminated: some nights, however, were favourable, when the whole of the lights were distinctly seen; but the anxiety, which occurs on such occasions, will sometimes cause irregularities in the angles; a few on that account, when the lights expired before the observations were thought sufficiently satisfactory, have been rejected. Those which appear in the following account, are such as I have deemed good, though there is a greater difference among them than I could have wished. But as I had no positive reason for setting them aside, I have accordingly used them; and have endeavoured to lessen the error, by increasing the number of observations, at *Carangooly*, between the polar star, at its greatest western elongation, and the referring lamp at *Sallawauk*.

	°	'	"
March 20, in the evening, ...	0	34	48,4
21, ...			52,9
22, ...			52,8
23, ...			48,8
25, ...			50,2
26, ...			48,0
27, ...			46,0
20			Ari A

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*Between the Lamp at Sallawauk and the **Blue Light** at Curnatighur.*

March 30, • 84° 38' 24",0
 23,55
 April 4, 19,2
 20,0
 22,62

Mean 84° 38' 21",87

TABLE. *Containing the apparent Polar Distances of the Star, and the apparent Azimuths for the Nights of Observation ; and also the Angles between the referring Lamp and the Meridian of Carangooly.*

1 March 1803.	Apparent Polar dist.	Latitude.	Apparent Azimuth.	Z. Star and Lamp.	L. Pole and Lamp.
J 20	1 44 22,32	12° 32' 12",27	i 1 46 55,32	0 34 48,4	2 21 43,72
21	1 44 22,62		1 46 55,63	0 34 52,9	2 21 48,53
22	1 44 22,88		1 46 55,90	0 34 52,8	2 21 48,70
23	1 44 23,16		1 46 56,18	0 34 48,8	2 21 44,98
25	1 44 23,71		11 46 56,72	0 34 50,2	2 21 46,92
26	1 44 24,01		1 46 57,05	0 84 48,0	2 21 45,05
27	1 44 24,28		1 46 57,33	0 34 46,9	2 21 44,23
29	1 44 24,82		J 1 46 57,89	0 34 45,4	2 21 43,29
Mean - -					2 21 45,67
Observed angle between the lamp and <i>Curnatighur</i> , -					84 38 21,87
Observed angle meridian of <i>Car angooly</i> and <i>ditto</i> , -					87 00 07,54

Observations at Curnatighur, between the Polar Star, at its greatest eastern Elongation, and the referring Lamp at Maudimungalum.

May 14, in the morning, . . . 82° 26' 25",6
 15, ... 25,2
 16, ... 25,6
 20, ... 28,29
 21, ... 26,1

*Between the referring Light and the Blue Lights
at Carangooly.*

May 18, ... 8° 35' 34",50
 36,30
 40,10
 42,0
 41,25
 38,20
 35,57
 38,40

Mean 8 35 38,26

TABLE. *Containing the apparent Polar Distances
of the Star, the apparent Azimuths for the Time
of Observation, and also the Angles between the
referring Lamp and the Meridian of Curnatighur.*

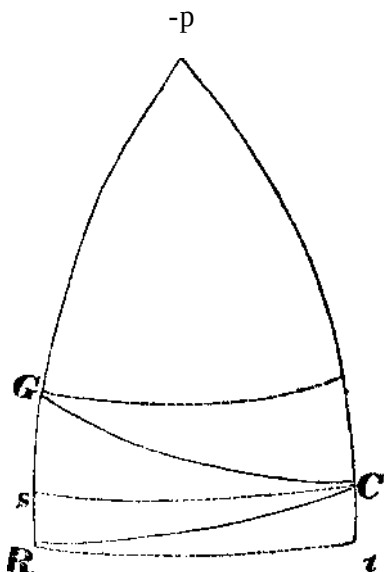
May 1803.	Apparent Polar dist.	Latitude.	Apparent Azimuth.	Angle Star and Lamp.	Angle Pole and Lamp.
	° / '		° / '	° / '	° / '
13	1 44 36,4	(	1 47 10,76	82 26 25,6	84 13 36,36
15	1 44 36,78		1 47 11,15	82 26 25,2	84 13 36,35
16	1 44 36,96	12° 34' 38",87	1 47 11,34	82 26 25,6	84 13 36,94
20	1 44 37,68		47 12,08	32 26 28,29	84 13 40,37
21	1 44 37,85	)	1 47 12,25	82 26 26,1	84 13 38,35]
Mean - - - 84 13 37,67"					
Observed angle between the lamp and the Meridian of Carangooly, - - - 8 35 38,26"					
Observed angle meridian of Curnatighur and Carangooly, 92 49 15,93:					

If the mean of all the angles be taken, the observed angle at *Carangooly*, between the meridian and *Curnatighur*, will be 87° 00' 07",54; and the observed angle at *Curnatighur*, between that meridian and the station at *Carangooly*, will be 92° 49' 15",93. In order, therefore, to correct these angles for spherical computation, it will first be necessary to ascertain the distance between the parallels of *Carangooly* and *Curnatighur*, so that the one being known, the other may be obtained.

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Let **PC** and **PG** be two meridians, and let **C** and **G** be the stations at *Carangooly* and *Curnatighur*. Let **Cs** be a parallel of latitude at **C**, meeting the meridian of *Curnatighur* produced, and let **CR** be a great circle perpendicular to the meridian of *Carangooly* falling from that place, till it meet **PG** produced in **R**.

Now **GCR** is a spheroidal triangle, and the chord of the arc **GC** is given from the thirty-fourth triangle; and since the angle **PGC** is known, the angle **CGR** is known, being equal 180° minus the observed angle at *Curnatighur*, or $57^\circ 10' 44''$, 07.—And by the same reasoning the angle **GCR** will be given, being equal the angle **PCR** (90°) minus the observed angle at *Carangooly*, that is 2°



$59' 52''$, 46—Hence, by first considering this as a plane triangle, and taking the angle at **R**, the supplement to the other two, the sides **CR** and **GR** may be obtained, and used as arcs for correcting the angles at **C** and **G**, which will then be $53^\circ 59' 52''$, 2 and $87^\circ 10' 43''$, 79 respectively, which are the angles made by the chords of the arcs **CG** and **RG** at **C** and **G**. Hence the supplement to these ($89^\circ 49' 24''$, 01) will be the angle at **R** made by the chords of the arcs **RC** and **RG**. From these data will be had $\text{JC} = 2\text{E}0837,8$, and $\text{JG} = 15228,74$ feet.

But to find the small space R_s on the meridian of *Curnatighur*, between the perpendicular arc and parallel from *Carangooly*, let the triangle CR_s be taken as a plane one. Then if to the corrected angle CR_s ($89^\circ 49' 24''$,01) be added the supplement to the spherical excess in the triangle RCG ($0''$,5), we shall have $89^\circ 49' 24''$,51 for the angle sRC . Draw Rt parallel to sC , meeting the meridian of *Carangooly*, produced in t . Then since the angles PtR and JP_sC are equal by construction; and the triangles sCR , CRt considered as plane ones, the angle CRt is equal half the difference of the angles PCR and PRC , that is = $70^{\circ}20' - ((89^\circ 40' 24'' 51 - 0'' 5) \div 2) = 70^\circ 5' 17''$,74. Hence is given the two angles CR_s , sCR , and the side CR , by which the small side R_s is had, equal to 448,02 feet, which, deducted from OR , gives G_s — 14780,72 feet, equal to an arc of $2' 06''$ 58 on the meridian, and this is the difference of the latitudes of *Carangooly* and *Curnatighur*. Hence if the latitude of *Carangooly* be $12^\circ 32' 12''$,27, that of *Curnatighur* will be $12^\circ 34' 38''$,85, and their respective complements will be $77^\circ 27' 47''$,73 and $77^\circ 25' 21''$,15. Hence in the triangle PCG , on the spheroid, is given the two sides PG and PC , the co-latitudes of G and C , and the two observed angles PCG and PGC .

Then as the tan. $77^\circ 26' 34''$,44 (half the sum of the sides PG and PC) to tan. $0^\circ 1' 13''$,29 (half their difference) so is tan. $89^\circ 54' 41''$,73 (half the sum of the angles), to tan. $2^\circ 56' 10''$,23 (the half

* When the polar star observations were made at *Carangooly*, no double azimuths could be taken, and therefore the latitude of the place was necessary to compute the azimuths, in order to get the direction of the meridian. As I wished to deduce the latitude of *Carangooly* from that of the observatory at *Madras*, the following method was used to obtain it.

Let P be the pole, PT the meridian of *Tn'vandcopo*um*, O the observatory at *Madras*; and let C be the station at *Carangooly*, T that at *Trivandcoporuniy*. OM an arc of a great circle, perpendicular to PT , falling from the observatory, and Cm another perpendicular arc from *Carangooly*. Then if the ratio of the earth's diameters be taken as I to 1,003567, and the degree on the me-

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difference of the angles). Therefore $92^{\circ}50'51''.96$ and $86^{\circ}58'31''.5$, will be the angles at *Curnatighur* and *Carangooly*, such as would have been observed, on a sphere, the latitudes and longitudes being the same. Then by using these angles, with the sides *PC* and *PG*, and computing spherically, the angle *CPG*, or difference of longitude, will be $48'47''.75$, with which, and the side *PC*, or co-latitude of *Cara??gooh*/, in the triangle *PCR*, right angled at *C*, the side *CR* will be had equal $0^{\circ}4'37''.45$.

Now the chord of this arc is the distance *C?*, equal 290837,8 feet, and therefore the arc itself is 290841 feet nearly. Hence $47'37''.45 : 290841 :: 60' : 366355,08$ feet, or 610.59,2 fathoms nearly, which is the length of the degree perpendicular to the meridian at *Carangooly* *.

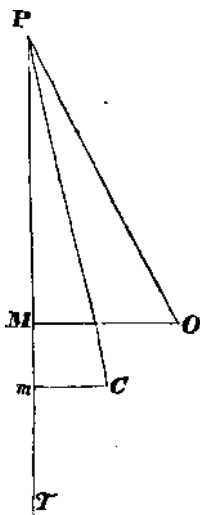
meridian be 60494 fathoms; by using these data, and computing on the elliptic hypothesis, the degree perpendicular to the meridian $12^{\circ}32''$ would be 60906 fathoms, which for the present purpose is made use of.

By the triangles, the point *O* is east from the meridian of *IVivandrum* 1.90561,12 feet, and north from the perpendicular at that station 480503,62 feet. Also *C* is east 636'90,8 feet, and north 287100,96 feet, from which, and applying the above degrees, we shall have the arc *TIM* $1^{\circ}19'26''.4$; *TM* $47'27''.56$; and therefore *TM* $31'58''.84$. Also *OM* $.31'17''.13$, *CM* $10'27''.42$, and *PO* $76^{\circ}55'56''.7$ the latitude of the observatory being $13^{\circ}04'09''.3$.

Then in the spherical triangle *POM* right angled at *M* we have $\cos OM : \text{Had} :: \cos PO : \cos PM$ $76^{\circ}55'48''.72$, to which add the arc *Mm*, there will be had *Pm* $77^{\circ}27'47''.56$, the co-latitude of the point *7*)i.

Then again as $\text{rad.} : \cos Cm. \cos mP :: \cos PC : \cos PM$ $77^{\circ}27'47''.77$; therefore the latitude of *Carangooly* will be $12^{\circ}32'12''.23$.

* The ratio of the earth's diameters has been determined, by using the degree as brought out here, and the one in latitude $50^{\circ}41'$, as deduced from the measured arc between Greenwich and Paris, which is 60851 fathoms; and these two give the ratio of the polar to the equatorial diameters to be $1 : 1,003567$, supposing the earth to be an ellipsoid.



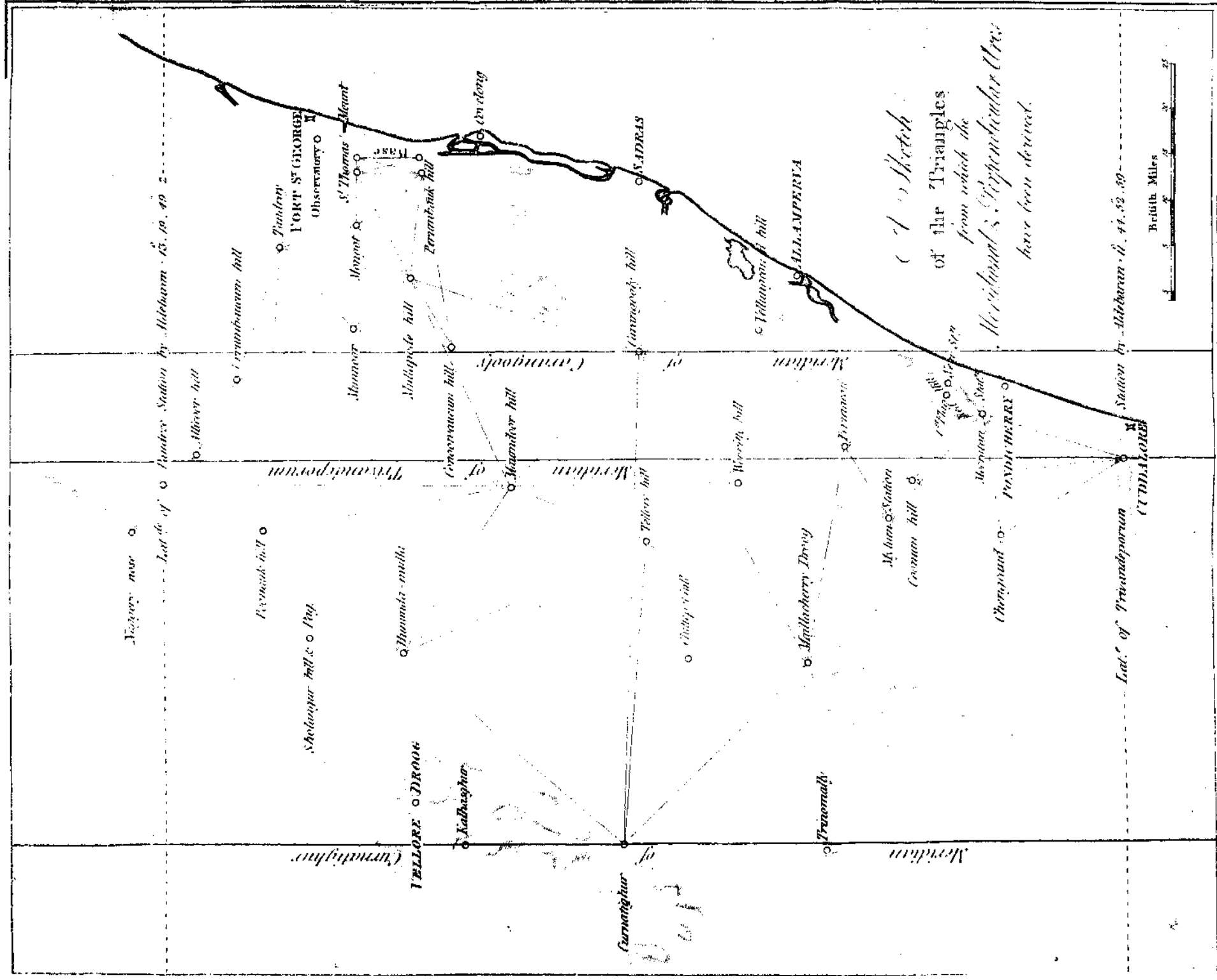
POSTSCRIPT.

Since the above has been written, the triangles derived from the side *Maumdoor* and *Poonank*, and brought down westerly as far as *Woritty*, have been computed, and it appears that the distance between *Maumdoor* and *IVorlty*, which is common to both sries, exceeds the former by 6,9 feet; so that the mean of the two, equal 133485,0 feet, has been taken for obtaining anew both the meridional and perpendicular arcs; the former of which is 574337,04 feet, and the latter 290848,5 feet; whence the degree in the meridian will be had 60495 fathoms nearly, and the degree perpendicular to the meridian at *Carangoolij* 61061 fathoms nearly.

The difference of 6,9 feet is more than what I expected, but it has been occasioned by the great difficulty in getting the angles in the great triangle, *Maumdoor*, *Mullapode*, and *Poonauk*. But as it appears that the side *JMullapode* and *Maumdoor* has been in excess, and the side *Poonauk* and *Maumdoor* in defect, it must follow that the mean distance of *Maumdoor* and *IVoritty*, brought out by triangles derived from these two sides, must be very near the truth.

Now this latitude has been made use of to find the latitude of *Cur•natighur*, and the same process has been followed for finding the length of a degree on the perpendicular in the latitude of *Carangooly* as is here given; and that degree taken, with the easting of the observatory from the meridian of *Caravgooty* to compute the latitude a second time, which came out $12^{\circ} 32' 12'', 27$, and is here applied for re-computing the perpendicular degree; but the difference is too trifling to affect the difference of longitude, and therefore the degree comes out the same.

It is scarcely necessary to notice, that the distance of the observatory from the meridian of *Trivandepoorum* being so trifling, no spheroidal correction has been thought requisite for obtaining the latitude of the point *Al*, and much less for that of *C*,



VI.

On the Hindu Systems of ASTRONOMY, and their connection with History in ancient and modern times,

BY J. BENTLEY, ESQ.

IN my last paper on the antiquity of the *Surya Siddhanta*, published in the sixth volume of the *Asiatic Researches*, I endeavoured to explain, in as simple a manner as possible, the principles on which the *Hindu* artificial systems of astronomy are founded. It was my intention to have postponed the present paper until I should procure several valuable works, which, through the assistance of my friends, I am endeavouring to collect from different parts, which would enable me to give a more perfect and satisfactory account of the ancient astronomy and history of *India*, than I can at present; but having lately, by chance, seen the first number of the *Edinburgh Review*, wherein the writer has thought proper to attack my last paper, I feel it incumbent on me to come forward as early as possible, to repel his observations, and to shew how little he is acquainted with the matters he pretends to review.

The Reviewer says—

" Mr. BENTLEY appears to be a mathematician of considerable industry and merit. In this disquisition he has supplied some instructive observations on the principles of the *Hindu* astronomy, and on the manner in which their cycles were or might have been formed; he has also exhibited useful formulae, shewing their application in discovering the actual position of the heavenly bodies.

" His discussion relative to the antiquity of the

" *Surya Siddhanta*, involves points of the utmost importance; no less, indeed, than whether the **whole** of the *Sanscrit* literature shall be considered as the spurious production of a recent age, or genuine monuments of primeval times. We shall endeavour to do justice to his formidable attack on the *Indian* gymnosophists.

" The *Sun/a Siddhanta* is generally believed to be the most ancient astronomical treatise the *Hindus* have; and, according to their notions, was received by divine revelation 2,164,899 years ago. Rut the mean result of calculations, from ten different data afforded by that work, and on its own principles of assuming the position of the heavenly bodies to have been accurately observed at the time it was written, gives only 731 for the date of its composition, or the year of our Lord 1068. But, independent of all calculations, an astronomical work, entitled the *Bhaszcotec*, was composed 700 years ago by SOTONUNP, who, according to *Hindu* accounts, was a pupil of V A - RA'HA MIHIRA. The commentary on this treatise declares, that VAUA'HA was the author of the *Surya Siddhanta*. Therefore any *Hindu* work, in which the name of VAKA'IIA is mentioned, must evidently be modern, and this circumstance alone totally destroys the pretended antiquity of many of the *Purans* and other books, which, through the artifices of the *Brdhminical* tribe, have been hitherto deemed the most ancient in existence. Now all the other astronomical works Mr. BENTLY has seen, adopt the system in the *Surya Siddhanta* by VARA'IIA*.

* This is a misrepresentation of the Reviewer, see page 546, 547, of Vol. VI. where I have mentioned and described other systems.

" A work ascribed to PARASARA, a philosopher, who is supposed to have lived before the *Vedds* were arranged in their present form, exhibits a still more manifest proof of forgery, since one of the formulæ it exhibits mentions the sera of SACA, which began Anno Domini 78."

After giving this outline, which is very defective in many respects, the Reviewer commences his attack as follows :—

" It would be easy to shew, that the circumstances so forcibly stated, by no means justify the sweeping inference deduced by our author. VARA'HA MIHIRA was never considered as an ancient writer; and is supposed, by Sir WILLIAM JONKS, to have flourished A. D. 499- That he was the author of the *Surya Siddhanta*, rests on the single authority of the commentator of the *Bhaswolee*, a work which seems to have been composed in *Siam* ; though we greatly wish Mr. BKNTLY had imitated Sir WILLIAM JONES, on such occasions, by inserting the original passage. But on what authority does our author assume, that the *Ca/pa*, or cycle of VARA'HA, is that of VARA'HA MIHIRA, the modern astronomer? We find the *Hindu* cycles always distinguished by the names of different Deities* There is the *Devī Culpa*, the *SU'RYA Culpa*; the present is the *ViśHv Culpa*, and we entertain no doubt that the VARA'HA *Culpa* derived that designation from the VARA'HA *Avatar*; or incarnation of VISHNU, in the form of a Boar, as is the universal opinion of the natives. Now the name of VARA'HA MIHIRA unquestionably does not occur in the *Purāṇas*, or in any work pretending to antiquity; and we have seen in what light we are to consider the VARA'HA *Culpa*?

That VARA'HA MIHIRA was the author of the *Surya Siddhanta*, does not rest upon the single authority of the commentator on the *Bhaswotee*, but on several undeniable facts,—it is clearly shewn by the other works of VARA'HA, which bear his name, one of which, the *Jdtacdrnava*, (JATOKARNOVO) is compared with the *Staya Siddhdnta*, at page „573, §. 72. Nav, the very circumstance to which the Reviewer himself alludes above, of VARA'HA being supposed to have flourished A. D. 499 ought to have led him to the same conclusion. For why is VARA'HA supposed to have flourished in A. D. 499? Because he had fixed the vernal equinox to the beginning of *Aswini* in that year, and settled the rate of precession to be from thence computed at 54" annually: Now this is absolutely the case in the *Su/ya Siddhdnta*, as well as in all the other works of VARA'HA; and the same system, motions, and positions of the planets, given by that astronomer in those works which bear his name, are likewise the same in the *Surya Siddhant a*. But, independent of all these undeniable facts, there is not a *Hindu* astronomer, who has the smallest pretension to the knowledge of the history of astronomy in *India*, that does not know that VARA'HA was the real author of the *Surya Siddhdnta*, and not only of that work, but also of the *Brahma Siddhdnta*, the *Sdma Siddhanta*, the *Vasishta Siddhdnta*, and the *Paulastya Siddhanta*, which are called the five *Siddkdntas* of VARA'HA MIHIRA; and in allusion to which, one or more single works have been written under the title of " *Pancha Siddhdnta*," as supposed to contain the essential parts of the five *Siddkdntas* of VARA'HA.

The *Hindus*, in general, know very little about **the** time in which VARA'HA flourished.. Some refer him to the sera of VICRAMADITVA, or fifty-six years before CHRIST, while others, from the cir-

cum stances abovementioned, refer him to A. D. 499, which shew how little they know of the real time he lived in, which was between seven and eight hundred years ago.

With respect to the different systems of astronomy which have been framed from time to time, there are but three now generally known, all of them modern. The first is the BRAHMA *Calpa*, invented by BRA'HMA GUPTA, near 1300 years ago; the second, the PADMA *Calpa*, said to have been invented by a person of the name of SR! DHARA PADMA, or SRI DHARA PADMA NA'BHA, between eight and nine hundred years ago; and the third and last, the VARA'HA *Calpa*, invented by VARA'HA MiHIRA, between seven and eight hundred years ago. Hence it may be seen, that the different systems bear the names of their inventors, and not of the Deities; for there is no such Deity as PADMA, though there is a system of that name.; therefore it must be sufficiently obvious to every candid mind, that these real systems of the astronomers, were the basis on which the writers of *Hindu* romance, or modern *Pur&nas*, erected their ideal ones of the BRA'HMA *Calpa*, the PADMA *Calpa*, and the VARA'HA *Calpa*; the two first of which they fancifully represent as past, and assert that we are now in the third or last. But the truth is, that none of these artificial systems are yet expired (except in the idea of visionaries), nor, will be for many millions of years to come.

The number of years now elapsed of

the first, ... =1972948905

And there are yet to expire, ... 2347051095

The years elapsed of the *Calpa* of

VARA:HA, ... =2:1955884905

And there remain yet to expire, , 2364115095

As to the systems which were in use before the in-

ventifen of these modern ones, and by which the *Hindus* regulated their history in ancient times, I shall notice them in their proper place.

I have nothing to do with visionary dreams of antiquity, nor with the ideal systems of the *Edinburgh Reviewer*, my object is truth. The *Edinburgh Reviewer* says, there is the *DEVI Culpa*, the *SuKYA Culpa*, and the *VISHNU Culpa*; yes, and a great many more, which he will find in the *Tantrum* and other books of the *Hindus*; as the *GAN'KS'A Culpa*, the *PITRI Culpa*, the *SA'NTI Culpa*, &c. Uut are these astronomical systems? And if they are, upon what authority does he give them as such? For he does not vouchsafe to inform his readers where he found them. I am afraid the Reviewer has mistaken the sense of the word *Culpa*, which he will find to have many meanings. The *Hindu* astronomers whom I have consulted on the subject, and who certainly are the best judges in matters of this nature, positively deny that there are any such systems as mentioned by the Reviewer; that, on the contrary, they imply nothing more nor less than the particular form of worship directed for each Deity, &c* and are to be found, in that sense only, in the *Tanfras*, &c. Hence the reader may easily see in what light the *DEVI Culpa*, the *SU'RYA Culpa*, and the *VISHNU Culpa*, of the Reviewer, are to be considered.

No astronomical system can possibly have a name before it is invented: and whether such system is Called by the name of its inventor, or whether fancy or caprice may call it by the name of any Deity, flower, mountain, or any thing else, still this can make no difference whatever with

Some writers of romance may have adopted these names as so many systems, **but** they have nothing ta do with real history or **sutronomy**.

respect to the antiquity of the time in which the system was framed. If, therefore, the time in which any system was framed be kniwn, (either from that of the inventor, or from the positions of the planets or other data, given in such system,) then I say, that any book in which the name of that particular system is mentioned, cannot possibly be older than the time the system was framed and obtained its name.

That system which is contained in the *Surya Siddhunta* (though originally invented by VARA'HA MIHIRA), is now most certainly called the *Culpa* of VARA'HA, or of the Boar; but whether that system obtained its present name from the inventor, or whether fancy has had any share in it since, still this can make no difference, as it can neither encrease nor diminish the antiquity of the system; which, from computations founded on undeniable principles, I have shewn and demonstrated to be only between seven and eight hundred years old; and this I maintain to be true, whether VARA'HA MIHIRA was the inventor of the system or not.

Now since this system, called the *Culpa* of VARA'HA, or of the Boar, has been framed only between seven and eight hundred years, it follows indubitably that any work in which the *Culpa* is mentioned, cannot possibly be older than the time of its invention, but may be considerably less.

It was not necessary that the name of VARA'HA MIHIRA should occur in the *Puranas*, to prove them modern; for, putting VARA'HA and his system altogether out of the question, yet still the names, not only of the princes in whose reigns he lived, but also of several others, down to the last *Mahomedan* conquest, with the years of each reign, are to be found in some of the *Puranas*; a most certain proof, that these works are not the genuine

monuments of primeval times, as imagined by the Reviewer.—The Reviewer again says :—

" The mention of **the** era of *Saca*, in a work attributed to PARA'SARA, is only decisive against the passage; for we are satisfied, no work of great antiquity can exist in a country where the art of printing is unknown, free from interpolation. The institutes of TIMUR are now acknowledged to be genuine, and written under the direction of that conqueror, though they are found to contain an account of his own death. Some copyist of the *Crisi Paramra* was acquainted with an useful formulæ which he injudiciously inserted in what he considered its proper place: did our limits permit, we could distinctly prove, from considerations unconnected with astronomy, that **the** high antiquity attributed to the *Hindu* records is founded on evidence of a nature almost conclusive."

It would appear then, if my pandit, or any other *Brahmen*, should take it into his head to compose a book, and father it on some ancient philosopher, or *Rishi* but, from ignorance or inadvertence, he should introduce some modern expressions into it, that, according to the notions of the Reviewer, the words by which the forgery would be detected are to be considered as interpolations only, and the rest of the work genuine, though a downright imposition. It seems the Reviewer is not aware of the difference between the style of the ancients and that of the moderns, by which we can in some measure form an opinion whether a work is forged or not. Neither does he seem to be aware that, if an ancient work is interpolated by some modern copyist, several other copies ought to be found free from the interpolation.

PARA'SARA is supposed to have lived near 3000 years ago, and from that time to the era of *Saca*

there were about 1300 years, during which a great number of copies of the *Crishi Parhara* might have been written in different parts of *India*; yet no copy has been ever yet seen, that does not contain the passages alluded to. But independent of this fact, (which is a strong proof of the whole being a modern forgery) the style of *PARA'SARA*, according to Sir WILLIAM JOVES, resembles that of the *Veda*, whereas that of the *Crishi Parasara* has not the most distant similitude; and, according to the information which I received respecting it, was composed by a pandit, not a great many years ago, at *Nuddea*. We know to a certainty, that books have been ushered into the world under different titles, as if written by different people, and at different periods immensely distant from each other, though composed by one person only. Of this we have an instance in the five *Siddhvtntus* of *VARA'HA*.

The most candid part of the *Hindus*, indeed, will acknowledge, that literary forgeries are thus frequently committed; yet, at the same time, they endeavour to palliate it by saying, that men are under the necessity of doing so, in consequence of the depravity of the age we live in, which can relish nothing but what is supposed to bear the stamp or appearance of antiquity. Hence, they say, learned men are sometimes under the necessity of fathering their works on the sages of antiquity, to obtain a due respect and attention to their precepts, which, otherwise, would not be attended to. And with respect to modern names or expressions occurring in such books, they are considered by the generality of the *Hindus*, rather as indubitable proofs of the gift of prophecy, which they firmly believe their ancient sages possessed, than as marks of forgery or interpolation. Hence every species of literary imposition may be committed without the smallest danger of detection.

With respect to those *considerations unconnected with astronomy*, from which the Reviewer says he **could** distinctly prove, " that the high antiquity " attributed to the *Hindu* records is founded on evidence of a nature *almost* conclusive," we wish he had stated those *zvcighty* considerations, or told us where we might find them; for the astronomers and others now engaged in investigating the antiquities, arts, and sciences of *India*, are unwilling to take his *ipse dlvit* for it; particularly as he had but the moment before totally destroyed the credibility of those very records he would wish to support, by saying, that " no work of any great antiquity can " exist in a country where the art of printing is unknown, free from interpolation." J Jow is it possible then, that they are to be considered as *ancient* records, when every line of them may be interpolated? who can pretend to judge of those parts which are genuine, and those which are not? for certainly it is not necessary that a part that is interpolated should have any date or mark annexed to it, by which it might be known; therefore the authenticity of works so interpolated, must be as fully to all intents and purposes destroyed, as if the whole were an actual forgery.

The Reviewer should only judge for himself,—for that evidence which he may think is of a nature *almost* conclusive, may be no evidence at all to others. And I am afraid, that unless his *gymnosopltists* find a better advocate in their cause, their pretensions to superior antiquity, to arts, and to sciences, must soon fall to the ground.—Lastly, the Reviewer says,

" By exhibiting the mean result only, we have " given Mr. BENTLEY'S argument an advantage to " which it is not entitled; the individual results " from each of the ten data vary from 300 to 1100

" years for the age of the *Surya Siddhanta*. Hence
 " the only legitimate inference that can be deduced,
 " is either that the heavenly bodies were so inaccurately
 " observed by the author as to furnish no basis
 " for calculation, or that the observations were
 " made at a period prodigiously anterior to that assumed
 " by Mr. BEXTLEY. The first alone is admissible,
 " and in that we are disposed to acquiesce."

Lest, however, his readers should not be inclined to admit; of such a conclusion, he endeavours to throw a suspicion on the whole thus :

" But when it is recollected how many collations,
 " researches, and ingenious conjectures have been
 " requisite to restore *Greek* and *Roman* writers to
 " their pristine sense, some enquiry would be necessary
 " respecting the manuscript used by Mr. BEXTLEY,
 " and the certainty of comprehending his text, which
 " lie interprets differently from his instructors. At present
 " Mr. BEXTLEY is involved in the following dilemma,
 " either that the observations of the heavenly bodies
 " contained in the *Sun/a Siddhanta* are wholly erroneous,
 " or that they were not made at the period he conjectures."

The Reviewer had it fully in his power to have ascertained the fact, whether the copy of the *Sun/a Siddhanta*, in my possession, was correct or not, by merely referring to a paper of Mr. DAVTS, in the second volume of the *Asiatic Researches*, page 232. He might have calculated the places of the planets from the numbers there exhibited, and compared them with those given by me; which would have shewn him whether I deviated from my *instructors* or not. If he found that I had committed a material error, or deviated from truth, he would then have been justified in exposing it to the world. On the other hand, if he found that it was right, it would have been equally his duty to have candidly

acknowledged it For, as POPE very justly says, respecting the moral qualities of a good Critic:

Tis not enough WIT, ART, and LEARNING join;

In all you speak, let TRUTH and CANDOUR shine.

It is much to be lamented, that the very reverse of this is but too often the case, and that men suffer their judgment to be biassed by their prejudices.

By exhibiting the mean result of ten different operations*, viz. 731 years for the age of the *S'irj/a Siddhanta*, the Reviewer conceived he did me more justice than I was entitled to; and therefore, to counteract it, as he thought, instead of giving the whole of the different results, from which his readers **would be** enabled to form a just opinion, he makes choice of the two extreme results, as differing most from the mean, and concludes from thence, that either the heavenly bodies were so inaccurately observed by the author as to furnish no basis for calculation, or that the observations were made at a period prodigiously anterior to that given by me.

Now, it must be immediately apparent to any man of common sense, that by taking the two extreme results only, no other inference could, consistently with truth, be drawn from thence, but that the work must have been written at some period between these extremes; the mean of which = $\frac{1127 + 712}{2}$ years.

In computations, depending on a number of observations, it is well known that astronomers reject such as are found to differ most from the mean results; for in all cases some of the data, from their

* These were the results which the Reviewer ought to have given his readers.

MOON'S apogee, save	605	years.	JUPITER,.....	875	years.
MOON'S node,———	590'	——.	SATURN, ...	805	——.
SUN'S apogee,———	1105	——.	MAH'S aphelion,	641	——.
VENUS, ...	860	——.	Length of the year,	736	——.
MARS, ...	340	——.			
MOON, ...	75.0	——.	Mean age,	731	——.

nature, will be more erroneous, and less to be depended on than others. Had the *Edinburgh* Reviewer, therefore, adopted this plan, and rejected the extremes, 1105 and 340, as too incorrect, no fault whatever could be found with him for so doing; for the remaining- eight results would still have been more than sufficient to answer the purpose required.

But his views, as may be easily seen, were to endeavour, if possible, to discredit any investigation that should in the smallest degree tend to open the eyes of the public with respect to the true antiquity of *Hindu* books; and therefore he asserts, that the heavenly bodies must have been so inaccurately observed by the author, as to furnish no basis for calculation, or that the observations were made at a period prodigiously anterior to that assigned by me. Why did he not point out what these errors were, that his readers might judge of the truth or falsehood of his assertions?

But in order to shew the fallacy of the Reviewer's argument, let us endeavour, if possible, to ascertain the quantity of the errors from the years only, on which the Reviewer grounds his notions.

The years are obtained by dividing the error in the position of the planet, at a certain instant, by the error in the mean annual motion, which, by its gradual accumulation, is supposed to have caused the error in position. Therefore, suppose we denote the error in position by v , and that in the mean annual motion by y , and that $\frac{x}{y} = 1105$; it is required from thence, to determine the quantities x and y , which the *Edinburgh* Reviewer would wish to make his readers believe, must be so extraordinarily great as to leave no basis for calculation : I say it is absolutely impossible, nor does the nature of the case admit of such an unjust inference. For

any two quantities whatever, whether large or, small, that are in the proportion of 1 : 1105, will give the same quotient. Thus, suppose $\# = 1105$ minutes, and $yzzl$ minute, then, $\frac{1105}{yzzl} = 1105$. Again, suppose $\# = 1105$ seconds, and $? = 1$ second, then, $\frac{1105}{1} = 1105$, as before. Or, suppose $x = 221''$, and $y = 0, 2''$, then, $\frac{221}{92} = 1205$, as before. Hence it evidently follows, that as 1105 may be deduced from any two quantities, however small, that are in the proportion of 1 : 1105, so may 340 from any other two quantities whatever, small or large, that are in the proportion of 1 : 340. It is, therefore, the height of absurdity to pretend to draw any conclusion relative to the supposed quantity of error from the years exhibited; and if we wish to shew the errors, it must be done by a direct computation, and not by ideal notions or sophistry.

The Reviewer perhaps conceived that all the results should come out exactly the same; if so, it is more than he had a right to expect from the most correct *European* tables extant. If we examine the second edition of LA LAMU/S tables, we shall find that one of the data will give us 31 8 years for the age of it, and another 243 years: but would this be a sufficient ground to assert, that either the heavenly bodies were so inaccurately observed by the author as to furnish no basis for calculation, or that the observations wciv made at a period prodigiously anterior to that assigned to LA LAXDE'S second edition? The error from which the 243 years arise, only amount to about one minute and half, which may shew the Reviewer, that he is not to *assume* the quantity of the error from the number of years. There are, perhaps, no astronomical tables in existence, that do not contain errors, but these errors are always less at or near the time the work is written than at any distant period whatever. Therefore, to put this matter out of dispute, I shall exhibit, in the

following table, the errors in the *Shy a SiddMnta* with regard to the places of the planets, &c. at different periods, by which may be known by inspection only, the period of time at or near which it was written.

TABLE

Of the errors in the Surya Siddhanta, with respect to the places of the Planets, &c. at the under-mentioned periods.

Planets, tyc.	&C.3102.*	A. C. 499.	A. c. m	A.C. 1499.	A.C. 5099-1
	° ' "		° ' "	° ' "	
MOON,	5 52 34-	0 20 14-	0 01 02-	0 07 39+	3 43 37+
——apogee,	30 11 25-	4 52 53-	1 21 59-	2 09 56+	27 27 28 +
——node,	23 37 31 +	3 56 06+	1 12 01+	1 32 04-	21 13 29-
VKNUS,	32 43 36-	3 33 41-	0 29 22+	4 32 25 +	33 42 20+
MARS,	12 05 42 +	2 32 42 +	1 13 08 +	0 06 27-	9 39 27-
——aphel.	9 47 00+	1 30 50 +	0 21 55-^	0 47 00-	9 03 11 -
JUPITER,	17 12 36-	1 48 56 -	0 24 20 +	2 38 36+	18 01 45 +
SATURN,	21 25 43 +	2 50 00 +	0 03 33-	2 54 05-	21 36 57-
SUN'S apogee.	3 15 53+	0 05 45-	0 33 45-	1 01 45-	4 23 22-
K.C. Before CHRIST.— A.C. After CHRIST.					

By comparing the errors given in the preceding table at the different periods, with each other, it will appear, that they were least between seven and eight hundred years ago; which clearly demonstrates that the *Surya Siddlwnta*, was written at or near that time. Tor all astronomical works, whether founded on real or artificial systems, must necessarily give the positions of the planets nearer the truth, at, or about the time in which they were originally framed, than at any other distant period whatever either before or after.

With respect to the errors in the places of the planets as computed from the *Hurya Shldhanta*, they are not to be attributed to incorrect observations;

for they principally arise from the nature of the artificial system adopted by the author, which did not admit of a nearer approach to truth; in order to explain which, it is necessary to be observed, that in the *Hindu* artificial systems, the astronomers fix on a point of time back as an epoch, at which they assume the planets, &c. to have been in a line of mean conjunction in the beginning of *Arks* in the *Hindu* sphere. But as no period can be found, at which the planets were actually in a line of mean conjunction, it must be obvious, that the motions requisite to give the mean places of the planets when the system is framed, commencing from any such assumed epoch of mean conjunction, must deviate more or less from the truth. For, the mean motions of such of the planets, as were actually passed the position assumed, will come out greater, and those that fell short of it less than the truth, in proportion to the differences between the real and assumed mean places.

Thus:—suppose n , to be the number of years expired from the assumed epoch of mean conjunction at the time the system is framed, and let M , be the real mean annual motion of a planet deduced from observations or otherwise; then $M \times n$, would be the mean place of the planet at the end of w years from the epoch of assumed mean conjunction, provided the planet was in the position assumed. But if $M \times n$, was found to exceed or fall short of the real mean place of the planet at the end of w years, then, it is evident, that the planet was not in the position assumed at the epoch, and the motion must be encreased or diminished accordingly, so as to make it give the real mean position of the planet;—for instance, suppose that $M \times n$, fell short of the real position of the planet at the end of n years, by the quantity d ,—then, $M + \frac{d}{n}$ would be the

the annual motion required; but if $M \times n$ exceeded the real mean place by the quantity r , then, $M - \frac{r}{n}$, would be the motion required. Hence, it must be evident, that the mean annual motions deduced on these principles, must be always affected by the differences between the real mean places of the planets, and that assumed at the epoch.

The motions requisite to give the real mean places of the planets being ascertained, the astronomer in the next place assumes, at pleasure, any convenient cycle of years, and assigns the number of revolutions of each planet in that cycle.

In computing the number of revolutions of each planet, in order to avoid fractions, he rejects such as are less than six signs, as of no consequence; and, for the rest, he takes the next greater entire number. Unless he may deem it necessary, in some instances, to encrease or diminish a little the motions; in which case, though the fraction may be under six signs, he may take the next higher number to encrease the motion, or if above six signs, he may reject it, to diminish the motion.

From the revolutions thus obtained, the mean places of the planets in the heavens are determined by the following proportion :—

*As the number of years in the cycle assumed,
Is to the revolutions of any planet in that cycle;
So is the time expired from the epoch assumed,,
To the planets mean longitude.*

These are the principles on which the system given in the *Surya Siddhanta*, as far as relates to the planets, is founded, and which I shall now proceed to demonstrate.

According to the *Surya Siddhanta*, the planets **are** assumed to have been in a line of mean conjunction in the first point of *Aries* in the *Hindu* sphere, at the beginning of the *Call Yug*; I shall therefore carry back the calculation to that time, in order to shew more clearly, the actual differences between the real mean places of the planets at that period, and that which was assumed, and the consequent effect thereof on the mean annual motions thence deduced.

The year 4900 of the *Call Yug*, ended on the 12th of *April* 1799, at forty-five minutes forty-four seconds past nine P. M. on the meridian of *Lanka*; or fifty-one minutes forty seconds past four, P. M. on the meridian of *Paris*. The mean places of the planets at that instant of time were, according to the third edition of LA LANDE'S tables, as follow:

	<i>European sphere.</i>				<i>Hindu sphere.</i>			
	s.				s, 0			
SUN,	0	20	52	'28,5	0	00	00	00,0
MOON,	3	22	55	0,9,3	3	02	02	40,B
VENUS,	0	24	06*	14,0	2	03	13	45,5
MARS,	3	04	.50	40,0	2	13	58	11,5
JUPITER,	1	2<)	.58	02,1	1	09	05	33,6
SATURN,	3	24	16'	56,1	3	03	24	27,6'

The length of the *Hindu* year, according to the *Surya Siddhdnla*, is 365 days, 6* hours, 12 minutes, 36 seconds, 33 thirds, 36 fourths, in which time the sun is supposed to make one complete revolu-

NOTE—There being an error in the number of revolutions of Mercurv, as given in the *SOri/a Siddh/mfa*, it is here omitted,—See *Asiatic Researches*, volume VI, section 61, page 566.

tion in his orbit. The mean motions for which, according to LA LANDE'S tables, are as follow:—

	<i>European sphere.</i>					<i>Hindu sphere.</i>				
	r.	s.	°	'	"	r.	s.	°	'	"
SUN,	1	0	00	00	58,671	1	0	00	00	00,000
MOON,	13	4	12	47	39,284	13.	4	12	46	40,613
VENUS,	1	7	15	12	22,306	1	7	15	11	23,635
MARS,	0	6	11	25	17,822	0	6	11	24	19,150
JUPITER,	0	1	00	21	49,153	0	1	00	20	50,483
SATURN,	0	0	12	14	08,015	0	0	12	13	09,343

4900 *Hindu* years, of the above length, are equal to 1789767 clays, 21 hours, 45 minutes, 44 seconds; or 4900 *Julian* years, 42 days, 21 hours, 45 minutes, 44 seconds; the mean motion for which, from LA LANDE'S tables, are as follow :—

	<i>European sphere.</i>				<i>Hindu sphere.</i>			
	s.	°	'	"	s.	°	'	"
SUN,	2	19	51	27,5	0	00	00	00,0
MOON,	5	21	48	12,3	3	01	56	44,8
VENUS,	3	20	21	37,0	1	00	30	09,5
MARS,	5	15	55	21,0	2	26	03	53,5
JUPITER,	3	11	54	08,1	0	22	02	40,6
SATURN,	6	14	14	58,1	3	24	23	30,6

which motions being deducted from the mean longitudes" at the end of the year 4900 of the *Call Yug*, above determined, we shall have their respective mean positions at the beginning of the *Call Yug*, the assumed epoch of mean conjunction, as follow :—

	<i>Eurdfiean sphere.</i>	<i>Hindu sphere.</i>
SUN,	10 01 01 01	0 00 00 00
MOON,	10 01 06 57	0 00 05 56
VENUS,	11 03 44 37	1 02 43 36
MARS,	9 18 55 19	11 17 54 18
JUPITER,	10 18 03 54	0 17 02 53
SATURN,	9 10 01 58	11 09 00 57

Whence, it is evident, the planets were not in the "position assumed. Now taking the differences between the positions above found in the *Hindu* sphere, and that which is assumed in the *Surya Siddhanta*, noting those which were past the point assumed, with the sign +, and those which fell short of it, with the sign —, we shall have

SUN,		00 00 00			
MOON,	+	00 05 56	=	+	356"
VENUS,	+	32 43 36	=	+	117816"
MARS,	—	12 05 42	=	—	4:3542"
JUPITER,	+	17 02 53	~	+	61373"
SATURN,	—	20 59 03	=	—	75543"

Now, since the planets were not in the position assumed, by the above differences, it is evident, that if we wish to calculate the mean places of the heavenly bodies, at the end of any number of years from this assumed epoch, we must take the above differences into the account, by adding those of the Moon, Venus and Jupiter, and subtracting those of Mars and Saturn :—Thus, if n , be any number of years whatever, then I say,

that the mean places of the planets at the end of n years, in the *Hindu* sphere, will be as follow :—

SUN,	1	0	00	00	00,000	xn	o	.
MOON,	13	4	12	40	40,613	*	$n + 00$	05 56
VENUS,	1	7	15	11	25,635	N	+ 32	43 56
MARS,	0	6	11	M	19,150	x *	- 1 2	05 42
JUPITER,	0	1	00	20	50,483	Xn	+ 1 7	02 53
SATURN,	0	0	IS	13	0 9,343	+	- 2 0	59 03

Therefore, if we divide these by n , we shall have the mean annual motions requisite to give the same positions at the end of n years, as follow :—

Hindu sphere.

	r	s.	o	
SUN,	1	0	00	00 00
MOON,	13	4	12	46 40,613 + $\frac{356}{11}$
VENUS,	1	7	15	11 23,635 + $\frac{1:7816}{n}$
MARS,	0	6	11	24 19,150 - $\frac{43542}{p}$
JUPITER,	0	1	00	20 50,483 + $\frac{i}{\sim UL}$
SATURK,	0	0	12	13 09,343 - $\wedge r \wedge$

Hence, it is apparent, that all *Hindu* books or tables, which assume a mean conjunction of the planets at the beginning' of the *Cali Yuga*, must necessarily give the motions of the Moon, Venus, and Jupiter, greater, and those of Mars and Saturn less, than the *Europeans* make them.

Let us now put this to the test with respect to the motions in the *Surya Siddhanta*. I have al-

ready, shewn, that the *Surya Siddhanta* must have been written between seven and eight hundred years ago; we shall therefore call it the end of the year 4100 of the *Cali Yug*, or A. D. 999, which will be near enough for our purpose; then n , in the above formulae, becomes 4100.

In the year A. D. 999, the corrections requisite to be applied to the Moon, Jupiter, and Saturn's mean places, on account of the inequalities in their respective motions arising from mutual attraction*, were

For the Moon,	— + 8' 50"	= + 530",0
For Jupiter,	— + 13 11,7	= + 791,7
For Saturn,	— - 31 48	= - 1908,0

These must be brought now into the formulae as they could not, from being variable, be included in the mean motions. Hence, the mean motions requisite to give the mean places of the planets in A. D. 999, agreeing with *European* tables, are as follow:—

Hindu sphere.

SUN,	1 0 00 00 00	
MOON,	13 4 12 46 40,613	+ $\sqrt{z} < L$.
VENUS,	1 7 15 11 23,635	+ 4 10 0
MARS,	0 6 11 24 19,150	-
JUPITER,	0 1 00 20 50,483	+ ,061937 jni^i
SATURN,	0 0 12 13 09,343	- 7 " ^ 19 0 " ^ 1
		4 i o o

which quantities bring reduced, and compared with the motions given in the *Surya Siddhanta*, we shall have

	From computation.	$\wedge dtimT$
SUN,	1 0 00 00 00,00	1 0 DO '00 00,00
MOON,	13 4 12 46 40,82	13 4 12 4ft 40,80
VENUS,	T 7 15 11 52,36	1 7 15 11 52,80
MARS,	0 6 11 24 08,53	0 6 11 24 0,9,60
JUPITER,	0 1 00 21 05,64	0 1 00 21 06,00
SATUKN,	0 0 12 12 50,48	0 0 12 12 50,40

Here we have a most decisive proof of the principles on which the system given in the *Sun/a Siddhdnta* is founded, and consequently of the time at or near which that work was written : for the motions, above deduced from computation, scarcely differ half a second from those given in the *Surya Siddhdnta*. But these differences, small as they are, do not arise from errors in observation, but from the revolutions of the planets assigned to the cycle of years assumed by the author of the *Surya Siddhdnta*.

In the *Surya Siddhdnta*, the least cycle in which the planets are assumed to return to a line of mean conjunction in the beginning of Aries, is 1080000 years. Let the motions above found, therefore, be multiplied by this number, and we shall have

	Revolutions,	s.	°	
SUN,	1080000	0 00	in 108000.0	years.
IVIOON,	144383:54	0 06	_____	
VENUS,	1 <u>755590</u>	7 18	_____	
MARS,	574207	1 09	_____	
JUPITER,	<i>g</i> 1054	8 12	_____	
SATURN,	36642	0 24	_____	

Now, taking the nearest entire numbers (except for A^{ars}, which in order to increase its motion a little, take the next greater number), and we shall have

From computation-		By the <i>Sutya</i> <i>sulhdnta</i> .	
SUN,	1080000	Revolut	1080000
MOON,	14438334	——	14438334
VILJNUo,	1/JJJ _v V4*		
MARS,	574208	—	1755504
		OWK'TI	
SATURN,	366'42	——	36642

The numbers from computation being the same as in the *Surijsi Siddhanta*, the mean motions and positions of the planets, to be from thence deduced, must necessarily be the same also.

If the numbers above found, be multiplied by 4, we shall have the revolutions of the planets in a *Malta Fug*, or 4320000 years: and if the revolutions in a *Mdha Yug*, be multiplied by 1000, we get the revolutions in a *Calpa*.

The mode of applying the above numbers to practice, must be sufficiently obvious from the manner in which they are determined, as well as from the rule laid down at page 211. I shall, however, add here a few examples.

1st. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Call Yug*.—

The revolutions of the Moon in - 14438334 the cycle of 1080

Hence the longitude required,

By LA LANDE'S tables, $l^{a n^0 A, l_n^*}$
 ta sphere, $[2^s 9^0 41 10''$
 Inequality (see page QIC) $4- 8 52$
 Difference, the former short by $S 9 5 0 8$
 Or thus—"

2d. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Call Yag*, reckoning the years from the beginning of the *Culpa* of VAKA'HA.

The years expired of the *Calpa* of VAKA'HA, at the beginning of the *Call Yug*, $rz 1955880000$
 Add 4100
 Total years expired A. D. 999, $\bullet 1955884100$
 Hence" $\wedge$

the Moon's mean longitude as before.

Or thus—

3d. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Cali Yug*, reckoning from the end of the *Calpa*, as directed in the *Gralia YlunuL*

The years in the whole *Calpa*, $= 4320000000$
 The years elapsed, as above, $=: 1955884100$
 Therefore to expire in A. I). 999, 2364115900

$o:r^{\wedge}Ar^{\wedge} : i^{BIM,7} l \sim 9s. 20^0 12' 00'$
 $-31605458313 \text{ revol. } . . 3$

* The difference of $1' 2''$ in the moon's place, arises from the rejection of the fraction 6^0 in forming the number of revolutions - the real quantity being $14438:334$ rrv. Os. 6^0 , instead of [\vhMi](#) 14438334 was taken as the nearest entire number—fraeillions not being admitted in the *Hindu* artificial systems, and the error produced in consequence $= r - f, \# < ?^* fo = r^{\wedge} i^{\wedge} in A^{\wedge} - D^{\wedge} - 999 - hi A. I).$ 1040, the error was "nothing; since that time it has cnci'ca ed, and now amounts to upwards of ekveu minutes.

which, subtracted from twelve }
 signs, leave .
 the longitude as before.

My intention in giving these examples, is to shew, that as the system is entirely artificial, it is immaterial whether we make the calculation from the beginning of the *Culpa*, the end of the *Calpa*, or any other period at which a mean conjunction of the planets in the first point of Aries, is assumed in the system ; for the result must ultimately come out the same, either way.

By attending to the principles on which the motions given in the *Surya Slddhanta* are founded, it must appear evident, that it could not give the places of the planets sufficiently correct, for any considerable length of time: for, as n , the number of years from the epoch of assumed mean conjunction (in the formula, page 5215), varies, so must the mean annual motions depending thereon. Therefore those motions which would have given the positions of the planets sufficiently correct, when the *Surya Slddhanta* was written, would not answer at present. This fact the *Hindu* astronomers discovered by some means or other, between two and three hundred years ago ; they found, that in order to have the places of the planets sufficiently accurate, it was necessary to subtract three revolutions from those of Venus; two from those of Jupiter; and to add three revolutions to those of Saturn, in 1080000 years.

The works in which these corrections are given, are, the *Slddhanta Rahasya*, dated in 1513, *Saca; GrahaTarangini*, dated 1530; *Slddhanta Manjarl*, dated 1531; and several others of modern date now in use.

These corrections appear to have been introduced about 245 years ago; therefore let us try how far they will agree with our formula, page 215. Let the time at which they were introduced, be supposed the end of the year 4660 of the *Call Vug*, or A. D. 1559- Then substituting 4660 for n in the formula, we shall have the mean annual motions requisite to give the places of the planets at that time, agreeing with *European* tables as follow :—

	r. g. °
SIJN,	1 0 00 00 00
MoOK,	13 4 12 46 40, 613*1-^v
VEX us,	1 7 15 11 23,6:15 + .U_JJL^:
MARS,	0 6 11 24 19,150— f - f ' ^{4 6 0 0}
JUPITER,	0 1 00 20 50,483 + -^r—
SATURN ^T ,	0 0 12 13 09, 343-i^i^ ^{4 b l) 0}

The corrections, on account of the inequalities in the motions of the Moon, Juniter, and Saturn, being at this period inconsiderable, they are accordingly neglected, as of no consequence : therefore the above quantities being reduced and compared with the motions in the modern tables, we shall have

	From computation.	Modern <i>Hindu</i> tables,
	r. s. ° ' "	r. s. °
SUN,	1 0 00 00 00,00	1 0 00 00 00,00
MoOX,	13 4 12 46 40,70	13 4 12 46 40,80
VEVUS,	1 7 15 11 4892	1 7 15 11 49,20
MARS,	0 6 11 24 09,81	0 6 11 24 09,60
JuTITER,	0 1 00 21 03,65	0 1 00 21 03,GO
SATURN,	0 0 12 12 53,13	0 0 12 12 54,00

The agreement between whirl) is sufficiently obvious. Let the motions above found be now mul-

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implied by 1080000, the number of years in the assumed cycle, and we shall have

	Revolutions.	s.	a
SUN, . . .	1080000	0	0
Mooy, . . .	14438833	11	0
VENUS,	1755590	9	6
MARS, . . .	574208	£	3
JUPITER . .	91053	0	15
SAOTURN, .	36644	3	00

Now taking the nearest entire numbers (except for Saturn, which, in order to encrease its motion a little, we take the next greater number), and we shall have

	From computation.	Modern Hindu tables
SUN,	1080000 revol.	1080000 revol.
MOON,	14438334	14438334
VENUS,	1755591	1755591
MARS,	574208	574208
JUPITER,	91053	91053
SATURN,	36645	36645

Having thus, I hope, fully and clearly demonstrated the principles on which the *Hindu* artificial systems of astronomy are founded, and shewn that, according to these principles, the *Stinja Siddhanta* must have been written between seven and eight hundred years ago, and at no other period whatever; it must now be obvious to every candid mind, that the assertions of the *Edinburgh Reviewer* are totally unfounded.

The table exhibited in page 209, will shew how much he must have been mistaken in his notions with regard to the *basis of calculation*: For if there was no such basis, then the errors, or differences in that table, ought at every period to be the same,

neither *encreaiing* nor *dimimskmg* ; the contrary of which most clearly appears; for between seven and eight hundred years ago, -the errors were *leasts* and encrease gradually, whether we go back into antiquity, or forward from that period ; which demonstrates, beyond the power of contradiction, that the work was written at or about that time.

The formation of the numbers, given in the *Stir-yaSiddhanta*, will shew likewise, that no other motions could have been given to correspond to the positions of the planets, with which they must agree. Therefore, I say, it is indispensibly requisite that the *Edinburgh* Reviewer, if he does not choose to acknowledge his error with the candour due from a gentleman, should distinctly point out to his readers, and the world at large, that precise period of time, so *prodigiously anterior* to that given by me, at which the *Suriya Siddhunta*, in his ideas, gave the positions of the heavenly bodies nearer the truth than between *seven* and eight hundred years ago. And not only point out the precise time, but also the then actual mean positions of the planets, &c. according to the *Sarya Suiditanta* and the best modern *European* tables, it is by these means only lie can convince his reactors of his candour, truth, and abilities.

As I have, in the preceding pages, stated fully all. that can be necessary respecting the principles of the *Hindu* artificial systems of astronomy, the *Surya Siddhanta*, and the antiquity of the system it contains, I shall now take leave of the Reviewer, and proceed to other matters of ltiore importance to* those who wish to form a true judgment of the real antiquity of the *Hindu* history, &c.

Most of the *Eastern* nations, and the *Hindus m* particular, appear to have employed, from time

immemorial, artificial systems, not only in astronomy, but also for chronological purposes. Therefore, to form a just idea of the *Hindu* history and its antiquity, a knowledge of these systems, and of the various changes that have taken place from time to time, is absolutely necessary.

Two of the most ancient *Hindu* systems now known, and which in early times were applied to the purposes of chronology, are contained in an astronomical work entitled the *Graha Munjari*. This work is extremely valuable, as it enables us to fix, with precision, the real periods of *Hindu* history, with their respective durations; and to shew from thence the alterations that have since taken place by the introduction of new systems.

The first system mentioned in this work consisted of 2400000 years, which was called the *Calpa*.— This period was divided into *Manwantaras* and *Yugs**, as follow:

A <i>Satya Yug</i> consisted of	960 years,
A <i>Tretā</i> , ...	720
A <i>Dwapar</i> ,.	480
A <i>Call</i> , ...	240

A <i>Maha Yug</i> , ...	2400

71 <i>Maha Yugs</i> ,.	170400

with a <i>Satya</i> of,.	960

A <i>Manwantara</i> , ...	171360

14 <i>Mamvantaras</i> ,.	2399040

which, with a <i>Satya</i> at beginning,	960

Form the whole <i>Calpa</i> , ...	2400000

The *Calpa* is also divided into 1000 *Maha Yugs*, of 2400 years each.

The years expired of the above system, at the era of VicRAMA'DiTrA, were 1190627; which being reduced into *Manwantaras* and *Yugs*, we shall have

A <i>Satya</i> at the beginning, ...	=	960
6 <i>Manwantaras</i> complete, ...		1028160
67 <i>Mahd Yugs</i> of the 7th <i>Manwantara</i> ,		160800
Thence to the era of VICRAMA'DITYA,		, 707

Total years expired, ...		1190627

Hence it appears that the *Call Yug*, of the 67th *Mahd Yug*, of the 7th *Manwantara* of this system, ended 707 years before the era of VICRAMA'DITYA, or 764 years before CHRIST—Therefore

The <i>Satya Yug</i> , or golden age, began	B. C.	3164
The <i>Treta Yug</i> , or silver age, . . . , .		2204
The <i>Dwdpar Yug</i> , or brazen age, . . .		1484
The <i>Cali Yug</i> , or iron age, ...		1004
And ended, ...		764
Making in all 2400 years.		

During the first period of 960 years, called the golden age, the *Hindus* have no real history; the whole being fabulous, except what relates to the flood, which is allegorically represented by the fish incarnation.

With the second period, or silver age, the *Hindu* empire commences, under the *Solar* and *Lunar* dynasties; and from BUDHA, the son of S6MA, the first of the *Lunar* line, they repkpn about fifty reigns down to the end of the *Dwapar*

whichmake, atau average, twenty-four years to a reign*.

Towards the close of the fourth period, this system appears to have been laid aside, as the repeating the same names over again, would, in time, cause a confusion in history.

The next system mentioned in the *Graha Munjari*, consisted of 387600000 years, which was called the term of BRAHMA'S life. This period is divided and subdivided in the following manner:

A *Calpa* is called a day of BRAHMA', which in this system contains, ... 5000 years
 And his night is of the same length, . 5000
 A day and night therefore, . . = 10000
 30 of such days and nights make
 a month, ... - 300000
 And 12 such months a year, . = 3600000
 And 107 such years and eight
 months make the full period
 of BRAHMA'S life, ... = 387600000

The *Calpa*, or day of BRAHMA', is divided into *Manwantaras* and *Yugs*, in the following manner:

* The *Treta* and *Dwdpar* together make 1200 years, which, divided by 50, give 24 years to a reign. It is somewhat remarkable, that the principal *Eastern* nations date the commencement of their empires from nearly the same time. Thus we find the *Chinese* empire began under the dynasty of Hi A, according to PLAYFAIR, ... B. C. 2207
 The kingdom of *Egypt*, ... 2207
 The kingdom of *Assyria*, ... 2221
 The empire of *India* under the solar and lunar lines, ... 2204

	Years.	Months.
A <i>Satya</i> contains, ...	2	0
A <i>Tritā</i> , ...	1	6
A <i>Dwapar</i> , ...	1	0
A <i>Call</i> , ...	0	6

A *Maha Yug*, ... 5 0*

71 *Maha Yugs*, ... 355 years

With a *Satya* of, ... 2

Make a *Manwantara* of, ... 357

14 such *Manwantara*s, ... 4998

Which with a *Satya* at the beginning, 2

Make a *Calpa*, or day of BRAHMA', . . 5000 years

The years expired of this system, at the beginning of the *Satya*, or golden age of the former system, were, ... 212560000

Add thence to the *Christian* era, . . . 3164

Total years expired at the *Christian* era, 212563164

After 193799286 years had been expired of BRAHMA'S life, he, for the first time, created the Earth, and ordained that, at the end of every *Calpa*, or 5000 years, it should be destroyed, and again reproduced.

Therefore, from the years elapsed, . 212563164

Take the years at the first creation, = 193799286

Remain, ... 18763878

The years from the first creation to the *Christian* era—which being divided by 5000, the quotient will be the number of times the world has been destroyed and created, and the remainder will shew the years expired since the last creation.

* This *Yug* of five years is to be met with in many books.

Thus vsT^sgTB- 3752 times destroyed and created, and 3878 years from the last creation to the *Christian* era.—Now since there are 357 years in each *Manwantara*, we have the date of the commencement of each as follow:

The first *Mdnwantara*, . . . B. C. 3878 years.

The second,.....• 3521 ———

The third,.....3164 ———

The fourth,.....2807 ———

The fifth,.....2450 ———

The sixth,.....2093 ———

The seventh,.....1736 ———

The eighth,.....1379 ———

The ninth,.....1022 ———

The tenth,.....665 ———

The eleventh,.....308 ———

The twelfth, ... A. C. 49 ———

The thirteenth,.....406 ———

The fourteenth,.....763 ———

and ended,.....1120 ———

Making in all about 5000 years, with the *Sandhi* of two years.

Having thus exhibited the periods of ancient history, according to both systems, the annexed table will now shew, at one view, the commencement of each period, by which the corresponding times in each system may be more easily *seen* and understood.

By this table it will appear, that the *Satya*, or •golden-age, as we may call it, of the first system, began on the same year that the third *Mamvantara* of the second system did; that is, the year before CHRIST 3164. And that the ninth *Mamvantara*, of the second system, began the year B. C. 1022, only eighteen years after the commencement of the *Cali* or iroji age, of the first system.

Hence, from the beginning of the third *Manwantara*, down to that of the ninth, includes nearly the same time as the *satya Trita*, and *Dwapar* of the first system; and consequently, that the events of history recorded in these periods, if transferred to the former, should be found under those particular *Marwantaras* which corresponded with the actual times in which they happened, unless purposely destroyed or perverted, in modern times, to prevent a discovery of the change that has been made in the systems.

Therefore, without entering minutely into the *Hindu* history, let us see how far the periods of the two ancient systems agree, with respect to the same events, which will be the most certain mode of proving the truth of these systems.

The *Hindus* place the flood in the *Satya*, or golden age:—on referring to the *Mamcantaras* we find, according to the *Mdracaridtya purana*, that the flood took place in the fourth *Mmrwantara*; and that the fourth *MENU* derived his name, *TA'MASA*, from the universal darkness which then overspread the earth—therefore the two systems agree in this point.

The next period is the *Tretā*, or silver age,,at or about the commencement of which the *Hindu* empire began under the *Solar* and *Lunar* dynasties. *BUDHA*, the son of *SOMA*, the son of *ATRI*, was the first of the *Lunar* line, and from him down to the end of the *Dwapar*, or brazen age, (being 1200 years) there were about fifty reigns. Now by referring to the table, we see that the beginning of the *Tritā* of the first system, corresponds to the latter part of the fifth *Mamcantara* of the second; we therefore naturally look into the *Pitrnas* under that period, and there find, among

other names of persons who then lived, those of ATRI, SOMA, and BUDHA, which shews the exact agreement between the two systems.

We next come to the sixth *Manwantara**, which by the table, began 111 years later than the *TrStd*, or silver age. Among the names we find mentioned in the *Puranas* in this period, are BHRIGU and DACSHA, who appear to have been cotemporary, or nearly so.—For YAYATI, the fourth prince in descent from BUDHA in the *Lunar* dynasty, according to the *Puranas*, was married to DE'VA-YA'NI', the grand-daughter of BHRIGU, of whom he begat two sons, YADU and TURVASU; and of SARMISHT'A', the daughter of VRKSHAPARVAN, the grandson of DACSHA, he begat three sons more, viz. DRUHYA, ANU, and PURU; consequently, BHRIGU and DACSHA must have lived about the same period, and that BUDHA could have been earlier only by a few years, perhaps one or two generations at most. These circumstances, though they may appear to some at first sight as trivial, involve facts of considerable importance in the *Hindu* history, while, at the same time, they prove the truth of the ancient systems.

DACSHA appears to have been an astronomer, and to have formed the twenty-seven lunar mansions, and other constellations, of which he is allegorically called the Father, as in the folio wing-verse of the *Calicd Pur ana*.

* Before CHRIST 2093.

That is-r~" In the early part of the *Brit A Yug*, "the daughters of DACSHA were born; of these " daughters he gave twenty-seven to the Moon."

DACSHA, in some respects, bears a strong resemblance to ATLAS, who, according to heathen mythology, was the father of the *Pleiades* and *Hyades*, the *Criticd* and *Rohini* of DACSHA. ATLAS is supposed by some to have been the son of ASIA, the daughter of OCEANUS:—The *Purdnas* make DACSHA the grandson of the daughter of OCEANUS.

We next proceed to the 7th *Manwantara** Among the names given in the *Purdnas* in this period, we find those of JAMADAGNI, BISWA'MITRA, and BHARADWA'JA, men who, according to the *Hindu* history, lived towards the close of the *TritA Yug*; for JAMADOGNI was the father of PARASURA'MA, and nephew of BIS'WA'MITRA. Hence the two systems agree in this point.

The next period we come to is the *Dwdpar Yug*, or brazen age of the first system. This period is rendered famous in the *Hindu* history, by the war that took place towards the close of it, between the sons of DHRITARASHT'RA and those of PAVDU.

Among the names of men we find mentioned in *Hindu* history, as living in this period, are those of PARA'SARA, VYA'S his son, GARGA, GA'LAVA, ASWATTHA'MAN, CAUSICA, DI'PTIMAV, CRIPA, RISHYAS'RINGA, &C.

By reference to the table, this period corresponds to the eighth *Manwantara* of the second system, under which we accordingly look in the *Purdnas*, and find, as might naturally be expected, among

others, the following names, viz. VYA'S, GA'LAVA, ASWATTHA'MAN, CAUSICA, DI'PTJMA'N, CRIPA, and RISHYAS'RINGA*.

Having thus fully and clearly proved the truth of the ancient systems, it is unnecessary to proceed farther in the way of comparisons; nor indeed could we, as the fourth period ended shortly after.

We shall, therefore, now proceed to some of the observations that have been left us by PARA'SARA, GARGA, and others of the ancients, which, will enable us to judge with more certainty of the actual time in which they lived, as well as of the progress then made in the science of astronomy in *India*,

It appears, from what is stated in the *Pdrasari Sarikitd*, relative to the commencement of the six *Hindu* seasons, that the solstitial colure had passed through the first point of *Dhanishfha*, and the middle of *Aslesha*, while the equinoctial colure cut the thirty degree of *Bharani*, and $3^{\circ} 20'$ of *Visc'ha*.

The same positions of the colures are also given in a little treatise on ancient astronomy, annexed to one of the *Vedas*, in the possession of Mr. COLEBROOKE, which he obligingly lent me, the sixth year of which runs thus ;

* In each *Manwantara*, down to the fourteenth, only a few names are given us in the present *Puranas*, which seem to have been extracted from some larger works, that are not now to be found*

That is—"In the beginning of *S'ravishfka*, the Sun and Moon ascend towards the North, and " in the middle of *Sarpa*, or the mansion of the " serpent, the Sun goes towards the South; the " former, always in *Mdgh*, the latter in *S'rdvana*?

About the year A. D. 527, the solstitial colure, according to BRAHMA'GUPTA, cut *U. A'shar* & *m* $3^{\circ} 20'$, and *Punarvasu* in the tenth degree, which made a difference in the positions of the colures, of $23^{\circ} 20'$, from the time of PARA'SARA. For, the longitude of the first point of *S'ravishfhd* in the *Hindu Sphere* is, ... = $9^{\circ} 23^{\circ} 20'$
 And $3^{\circ} - 20'$ of *U. A'shard*, . . = $9^{\circ} 00' 00''$
 Difference or precession to A.D. 527 = $23^{\circ} 20'$
 Which at 50 seconds per annum gives 1680 years.
 Add from A. D. 527, to this time, = 1277
 Total years since the time of PARA'SARA 2,957
 Which make about one hundred and fifty years, before the beginning of the *Call Yug* of the first system of the *Graha Munjari*; or about one hundred and thirty-one years, before the end of the eighth *Manwantara* of the second system.

It appears also from the little work above-mentioned, and its commentary wherein GARGA is repeatedly quoted, that the Sun and Moon were supposed to return to a line of conjunction in the first point of *S'ravishfha*, at the instant of the winter solstice at the end of every cycle or *Yug* of five years. In this period the moon was supposed to make sixty-two revolutions to the sun, and sixty-seven to the same fixed star, or the equinox; for,

it seems, they had no knowledge of the preces'sion of the equinoxes at that time.

The number of mean solar days assigned to this cycle of five years was 1830, and the number of lunar days in the same time 1860. Hence

$$\begin{array}{l} \text{1st, The solar} > \text{JftJfl}^* \\ \text{days in a year, .)} \sim T = 360^a y^s \\ \text{2d}_5 \text{ The lunar)} \\ \text{days in a year, . 3} \sim \sim 7'' \quad \# \\ \quad \quad \quad \quad \quad \quad \quad \quad \sim \sim \wedge 72 \end{array}$$

$$\begin{array}{l} \text{3d, The moon's} > \text{r. v.} \\ \text{mean annual mo-} \text{f} = -4 = 13 - 4 \quad 24 - 0 \quad 0 \\ \text{tion} \quad \quad \quad \text{h} \end{array}$$

$$\begin{array}{l} \text{4tb, The moon s K} \quad \ll \text{I} \_ = \quad \text{j}_3 \quad !_0 \text{ } 4 \text{ } 0 \text{ } x \text{ } i \\ \text{daily motion . . j} \quad i \wedge 0 \quad \quad \quad \wedge \ll^* \end{array}$$

$$\begin{array}{l} \text{5 th, The moon's } 7 \text{ } = \text{ } 1 \text{B} 30 \text{ } - 37 \text{ } - 7 \text{ } - 31 \text{ } \text{go } 4 \text{Q} \\ \text{periodical re vol. } 3 \text{ } \text{ } 6 \text{ } 9 \end{array}$$

$$\begin{array}{l} \text{6th Ttemobn'si} = \wedge \quad \quad \quad \wedge \quad \quad \quad 23 \quad \quad \quad 13 \quad \wedge \\ \text{synodical revol. J} \quad \quad \quad 62 \end{array}$$

It appears also, that the greatest length of the day was thirty-two *Dandas*, or twelve hours, forty-eight minutes ; consequently, the latitude of the place of observation must have been about 13-i⁰ North. There is no mention made in this work, nor in that of PAIIA'SARA, of the names of

* CADMUS, about fifteen centuries before CHRIST, introduced the *Octateris*, or cycle of eight years, into Greece. In this cycle there were ninety-nine lunations, or thirty lunar days each/ Therefore,

The lunar days in the cycle were, ... L ' ' ^ 7 0 ' _ ?⁹⁷?

The lunar days in a year, ... — ^t5—\$71%

The ancient *Hindus* made it as above, ... 372

The difference is f of a lunar day, which being taken from 366 the solar days, leave 3651 days for the year of CADMUS,—this

in eight years makes 2922 solar days—Hence, **££ = 29 12 21

sec

m. sec.

l. 1

49 ^ the lunation of CADMUS, which is 1 24 short of the ancient *Hindu* lunation.

the days of the week, or of the twelve signs; **which** seem to have been introduced into the *Hindu* astronomy at a much later period.

From the above short sketch, the reader will be able to judge of the progress made in astronomy in *India* near 3000 years ago. He will perceive that the *Hindus* at that time, possessed nothing that **could** be called astronomy, no more than other nations.

days. hrs. m. sec.

The *Hindus* made the lu- 7 —
nation then -29 - U

The *Europeans* make it now 29 — 12 — 44 3

Difference about 20 49}

Which in less than 165 years would produce an error of one lunation *.

After this period, we meet with nothing on astronomy till we come down to BRAHMA' GUPTA, being a space of about 1680 years, which seems to be an entire blank in the *Hindu* astronomy. This astronomer flourished about A. D. 527, and finding that the ancient systems were very imperfect, on account of the shortness of the periods, he framed an entire new system, on a much larger scale, making the *Culpa* to consist of "4320000000 years. To this cycle or period of years, he assigned the following revolutions of the planets, &c.

Planets.		Apsides.	Nodes, retro.
SUN,	4320000000	480	
MOON,	57753300000	488105858	232311168
MERCURY,	1/9369939S4	332	511
VENUS,	7022389492	653	893
MARS,	2296828522	292	267
JUPITER,	364226455	855	63 !
SATURN,	146567298	41	584

* This makes an error of one day in less than six years, which shews that the *Hindus*, at that period, 'could not determine the times of conjunctions and oppositions of the Sun and Moon for six years together correct, much less eclipses; the calculation of which they must have been then, and for many ages after, totally unacquainted with.

The revolution of the equi- 7	loofifio
noxes, in 4320000000 years	3 199669
Mean solar days, ...	1577916450000
Lunar days or tithis, ...	1602999000000

lie made *Sunday** the first day of the *Calpa*, on which day, at sun rise, the planets, &c. are assumed to have been on a line of mean conjunction in the first point of *Aries* in the *Hindu* sphere. The years expired of this system on the 1st of* *Vaisac'ha* (or *Vysakh*) this year = 1972948905. Hence, the mean places of the planets, &c. may be computed, from the above data, for any instant required.

This is the third and last system, to which the *Hindus* have transferred their history, and for which purpose, in imitation of the ancients, they divide it into *Manwantaras* and *Yugs*, as follow :

A <i>SatyaYug</i> of, ...	1728000 years.
A <i>Trhd</i> of, ...	1296*000—
A <i>Dwdpar</i> of, ...	864000—
A <i>Call</i> of, ...	432000—

A *Ma/id Yug*, ... 4320000—

71 *MahaYngs*, ... 306720000—

with a *Satya* of, ... 1728000—

A *Mamvantara*, ... 308448000—

34 *Mamvantaras*, ... 4318272000—

with a *Satya* at beginning of, 1728000—

The modern *Calpa*, ... 4320000000—

* This is the first system, so far as we yet know, in which the names of the days of the week and the twelve signs were introduced. These were probably received from the West, and the first point of *Aries* was fixed to that point in the *Hindu* sphere, which corresponded with the instant of the vernal equinox, which, in the time of BRAHMA' GUPTA, was the beginning of *Aswini*. This position has, therefore, a direct reference to the actual time

In order to show how the *Hindu* history, according to the two former systems, had been transferred to this, let 1972948905, the years now expired be reduced into *Manwantaras* and *Vugs*, and we shall have

A <i>Satya</i> at the beginning, . .	=	1728000 years.
6 <i>Manwantaras</i> complete, . .	=	1850688000—
27 <i>Mahd Vugs</i> of the 7	„*/? „ TM nn	
7th <i>Manwantara</i> , \	=	^{u66*} 0000 —
<i>Satya</i> of the 28th <i>Mahd Vug</i> ,		1728000—
<i>Tretd</i> of ditto, ...		1296000—
<i>Dxvdpar</i> of ditto, ...		86*4000—
Expired of the <i>Call</i> of ditto, .		4905—

Total years expired, ... 1972948905.

Hence, it is evident that, we are now in the 4906th year of the *Call Vug*, of the twenty-eighth *Mahd Vug*, of the seventh *Mamcantara* of this new system.

Now, if we transfer the names, &c. in the four ages of the first system of the *Graha Munjari*, to the *Satya*, *Tretd*, *Dwdpar* and *Call* above-mentioned, and those in the *Manwantaras* of the second system, to the *Mamcantara* of the same name in this ; then we shall have the periods of *Hindu* history, according to modern notions, founded on the system of BRAHMA' GUPTA.

In- the first place, by transferring the names, &c. in the *Dwdpar Vug* of the first system, to the period of the same name in the new system, PARASARA, VYA'S, and others, who lived near three thousand years ago, are thrown back into antiquity about 5000 years; and the same persons who lived in the eighth *Mamcantara*, of the second system, by the transfer, will appear as yet to come; for we are now only in the seventh of the new. Secondly,

the twelve signs were first introduced, that is to say, near 1300 years ago; though hitherto but little, if at all, attended to by writer* on the *Hindu* astronomy, &c.

BUDHA, the son of SOMA, the first of tKe Zwfezr line, who began his reign about the beginning of the *TritA* of the first system, or 2204 yeari, B. C. will, by the transfer, be placed at the distance of 2163J02, years, before the *Christian* era;—Thirdly, in the *Trtted* and *Dxvdpar* of the first system, there were (taken together) 1900 yejars, during which about fifty princes in the Lunar line had reigned in succession, but the *Treted* and *Dxvapar* of the *new* system contain 2160000 years, which divided among fifty, give 43G00 years to a reign;—Fourthly, BUDI-IA, the son of SOMA, lived towards the close of the fifth *Manwantara* of the second system, which being transferred to the new, his name will appear at two distinct periods of time, immensely distant from each other, viz. in the fifth *Manwantara*, and again in the *Treted Yug*, of the twenty-eighth *Mahd Yug*, of the seventh *Manwantara*, being an interval, at the least, of 426816000 years;—Fifthly, the mothers of the children of YAYA'TI (see page 230) who lived in the sixth *Manwantara* of the second system, by being transferred to the sixth *Manwantara* in the new, are thrown back several millions of years before their children, and DACSHA and BHRIGU, by the Same transfer, are thrown back, from their cotemporaries, many millions of years. Lastly, SWAYAMIMIUVA, the ADAM of the *Hindus*, who, according to the second system, lived 3878 years before CHRIST, is placed, by the transfer, 1972947101 years before that epoch.—These are a few of the inconsistencies introduced by the adoption of the new system of BRAHMA'GUPTA, the rest may be easily conceived.

To reconcile these different absurdities, it was necessary to new model the whole of the *Purdnas*, and to introduce such fictions and prophecies, as seemed best calculated to answer the end in view; but which after all, only serve to shew, in a more glaring manner, the folly of the attempt.

The enormous length of the periods in the new system*, required that the life of man should be proportionably extended, which was accordingly assumed : In order to account for the same *Rishis* being mentioned in different periods, immensely distant from each other, they are asserted not only to have existed at all times, but to be still living. But as all men were not *Rishis*, and as there were twenty-seven *Mahd Yugs* from the beginning of the seventh *Manwantara* to the commencement of the twenty-eighth *Mahd Yug* = 116640000 years, during which there is no shadow of history; to account for this, they therefore pretend, that at the end of every *Mahd Yug*, or 4320000 years, the same names, persons, &c. again occur, as in the preceding period; so that by having the names, &c. for one *Mahd. Yug*, or set of four ages, we have them for all the rest.

VYA'S, and others, as I have already noticed, lived in the eighth *Manwantara* of the second system of the *Qraha Munjari*, but by the transfer of the names in that *Manwantara*, and in the ninth, tenth, &c. to the periods of the same names in the new system, they would appear as yet to come; therefore, to reconcile this, all that was necessary was to convert it into a prophecy, which was accordingly adopted in the modern *Purdnas*; so that those men who in reality are long since past and gone, appear, in these books, as if yet to come; and as many millions of ages must elapse, by the new system, before the periods of their prophesied existence can arrive, there is no great danger of detecting the falsehood of such prophecy.

It may however be easily conceived, that such a change in the history, by the introduction of a new system, though highly flattering to the vanity of the *Hindus* in general, in exalting them, at

least nominally, in point of antiquity above all other nations, would naturally be opposed by many, as long as any knowledge remained of the ancient systems, therefore, the suppression of these would become necessary. Accordingly we find, by a tradition still current among the learned *Hindus*, that the *Maharastras*, (*Mharatas*) destroyed all the works of the ancient astronomers they could meet with; which, in some measure, may account for the deficiency we have observed in astronomical works, anterior to the time of BRAHMA' GUPTA, But if the *Mharatas* did actually destroy the works of the ancient astronomers, it may be justly inferred that other works of antiquity, the subjects of which might contradict the new order of things, have also met the same fate.

From the foregoing view of the artificial systems which have prevailed at different times, and of the various changes that have been made in the *Hindu* history, Sec. the reader will now be able to judge for himself, and form a just opinion of the antiquity of the books of the *Hindus*, their arts and their sciences.

In the first place, it must be evident, that as the artificial system of BRAHMA' GUPTA, now called the *Calpa* of BRAHMA', and to which the modern *Hindus* have artfully transferred their history, is not yet 1300 years old, no book whatever, let its name or title be what it will, in which the monstrous periods of that system, or any allusion to them, is found, can possibly be older than the time of its invention *. And secondly, that

* The author of this system, as well as the time in which he lived, is well known to the learned, and subject to no doubt. Those who wish to see the age of the system determined from computation, may consult Vol. VI, *Asiatic Researches*, page 5/9-581,

Done of the modern Romances, commonly called the *Purdnas*, at least in the form they now stand, are older than 684 years; the time when the fourteenth *Manwantara* of the second system of the *Grahd Munjari* ended; but that some of them are the compilations of still later times.

We may, perhaps, be told by some person who has suftered his imagination to get the better of his judgment, that the *Hindus* firmly believe in the prophecies in the *Pur an as*, and that we have no right to doubt their authenticity, or what universal opinion sanctions as true.

With respect to the firm belief or universal opinion of the *Hindus*, we know too well the fallacy of it, and that it is not in the smallest decree to be relied on. We know that it is the universal opinion of the *Hindus*, that PARA'S A RA, VYA'S, GARA, and others, lived near 5000 years ago. But we know, to a certainty, from the positions of the colures in the time of PARA'S A RA, &C. that such opinion is totally false, and that it arose from the transfer of the names of men living in the *Dwapar Yug* of the first system of the *Graha Munjari*, to the period of the same name in the modern system of BRAHMA' GUPTA; and that a similar transfer of the names in the eighth, ninth, tenth, &c. *Manwantaras* of the second system, to the periods of the same name in the new, gave rise to the pretended prophetic effusion in the modern *Purdnas*. Scc. —Moreover, we know, tiat it is the general opinion of the *Hindus*, that VARA'HA MIHIRA not only lived about the year A. 1). 4yy, but also at the' era of VJCRAMA'DITYA, or fifty-six years before CHRIST; which opinion we know to be inconsistent with truth, and contrary to the course of nature. VARA'HA MIHIRA, inhis rule for calculating the precession of the equinoxes, given in his work, entitled the *Jutacarnava*, says,—

That is, " From the year of *Saca* take 421:—
 "having put the remainder clown in two places,
 " let one of them be divided by ten, and the quo-
 tient taken from the other, the residue is the
 " precession in minutes.

Hence many of the *Hindus* have, erroneously, concluded that VARA'HA MIHIHA must have lived in the year 421 of *Saca*, or A, D. 499- But surely there is not the smallest foundation to draw any such inference from the passage, for, he might have lived at the present time and given the same rule. In fact, it might, with equal propriety, be pretended that he lived at the beginning of the *Call Yug*, because he assumed the planets to have been in a line of mean conjunction in the first point of *Aries* at that time. Not satisfied, however, with thus stretching a point in favour of the antiquity of their author, they go something farther, and endeavour from the following verse of the *Navaratna*, which they generally quote, to refer him to the era of VICRAMA'DITYA, fifty-six years before CHRIST, or upwards of 500 years still earlier than the former.

धन्वन्तरि क्षपणकामरसिंह शंकु
 वेतालभट्ट घटकपूर कालिदासाः ।
 त्यातो वराहमिहिरो नृपते सभाषां
 रत्नानिवै वररुचि नव विक्रमस्य ॥

That is, "DIIANVANTARI, CSHAPANACA, AMA-
 RAS'IN'HAI, S'AN'CU, BE'TALABHATTA, GHATACAR-

PURA, CA'LIDA'S, the celebrated VARA'HA MIHIRA and BARARUCHI, were the nine gems in the council of *Raja VICRAMA*."

Upon shewing the above verse to an intelligent pandit, he smiled and said, with a degree of candour I did not expect, that the inference, with respect to time, usually drawn from it, was not just; for that there had been several princes of the name of VICRAMA, or VICRAMA'DITYA. That, exclusive of the one from whom the epoch is reckoned, there was another in the time of SALVAHAN; a third who had succeeded *Raja BHOJA*; and a fourth lineally descended from the latter, now living at a place, called *Bhojpoor*, beyond *Patna*:—that, beside these, there were many others, who had sprung up at different periods in the same family, but that the particular prince in whose time VARA'HA MIHIRA, and the others above named, flourished, was the immediate successor of *Raja BHOJA*. For, that they were first in the council of *Rajah BHOJA*, and afterwards in that of VICRAMA'DITYA his successor. This simple explanation of the pandit, was a complete solution of the mystery on which the pretended antiquity of the works of VARA'HA, AMARASINHA, CA'LIDAS, BARARUCHI, &c. were founded, and which led many into an error that they were written before the *Christian* era, though in reality little more than seven hundred years old.

Raja BHOJA, according to the *Ayeen Akbcry*, began his reign about the year 1153 of SALVAHAN.—This, however, must be incorrect, for it seems, that according to *Hindu* accounts, and others, he began his reign about 210 years before the death of *Raja PITHAURA*, who fell in battle with the *Mahomedans*, A. H. 588, or A. D. 1192. And as *Raja BHOJA* is said to have reigned 100 years, he must consequently have ascended the throne A. D. 982, and died A. D. 1082: which agrees exactly with the time in

which we know VARAHA MIHXRA must have flourished, according to the positions of the planets, &c. riven by him in his works, as well as from the date of the *Bhaseati*, composed in A. D. 1099, by one of his pupils. *Raja* BHOJA, according to the *Agni Purana*, was succeeded by *Raja* VIC RAMA.

BARARtrcHi, one of the nine above-mentioned, was the author of a popular Work, entitled *SirihAsana dwatrwsati*, relating to *Raja* BHOJA. The names of CA'LIDA'S, BARARUCHI, &c. are to be met with in the *Bhoja Champa*, as also in the *Bhoja Prabandka*, from which last-mentioned work the following passage is taken;—

" The *Brahmcns* seeing him (i. e. CA'LIDA'S) said. —O CA'LIDA'S, BHOJA does not give us, *who are* learned in all the *Vedas*, any *thing*?

Several other passages might be quoted from the *Bhoja Prabandha*, to shew that CA'LIDA'S, BARARUCHI, and a great many other learned men whose names are therein mentioned, lived at the court of BHOJA. The *Bhoja Prabandha*, is said to have been written by *Raja* BTILA'LA SK'VA.

We may now plainly perceive, from the whole of the above facts, the little dependence there is to be placed on what is usually called the universal or general opinion of the *Hindus*; which when thoroughly sifted and examined to the bottom, proves at last to be founded, principally, in vanity, ignorance, and credulity.

A great deal more might be said, respecting the history and astronomy of the *Hindus*; but having already extended this paper to a much greater length than I originally intended, I shall now take leave of the subject.

VIL

*An ESSAY on the SACRED ISLES in the WEST, with
other Essays connected with that Work.*

BY CAPTAIN" F. WILFORD.

INTRODUCTION.

AT the moment of appearing before the tribunal of the *Asiatic* Society, and of the public, it would be in vain to attempt to conceal my emotion and anxiety. On the merit of the composition alone, I am conscious their judgment must rest; and this conviction agitates me with doubt and apprehension.

I have omitted no endeavour to render this work as free from imperfections as my abilities would allow ; but the subject is so novel, and the source of information so remote from the learned in *Europe*, that I must confess I feel no small degree of uneasiness on that account. Fortunately for me, the Society, to which I have the honour of presenting my work, will stand between me and the public, for it is in the power of every member, whether conversant with the *Sanscrit* language or not, to ascertain the genuineness of all the authorities cited by me; the books, from which I have drawn my information, being by no means rare nor difficult to be procured.

The grand outlines and principal features of this essay are also well known to pandits and learned men in *India*, A few passages, anecdotes, and circumstances may be, perhaps, unknown to many of them : but these are perfectly immaterial; and, whether allowed to remain or not, neither my foundation nor superstructure can be affected.

The Sacred Isles in the West, of which *Steveia-dwipa*, or the White Island, is the principal, and **the** most famous, are, in fact, the holy land of the *Hindus*, There the fundamental and mysterious transactions of the history of their religion, in its rise and progress, took place. The White Island, this holy land in the West, is so intimately connected with their religion and mythology, that they cannot be separated : and, of course; divines in *India* are necessarily acquainted with it, as distant *Musdman* with *Arabia*.

This I conceive to be a most favourable circumstance ; as, in the present case, the learned have little more to do than to ascertain whether the White Island be *England*, and the Sacred Isles of the *Hindus*, the *British* Isles. After having maturely considered the subject, / *think they are*. My reasons for this opinion are given in the present work, and I submit them with all due deference to the learned, declaring publicly, that I have, to the best of my knowledge, fairly stated the case, and that I have not designedly omitted any passage that might induce a different conclusion. At the same time I desire them to believe, that I do not mean to write dogmatically ^even when I seem to make a positive assertion, and that I never entertained an idea that my conviction should preclude the full exercise of their judgment.

Should the learned, after a due investigation of the subject and of the proofs I have adduced in support of my opinion, dissent from it, and assign another situation for the White Island, and the Sacred Isles, I have not the least objection to it: **for**, admitting my position to be right, I am conscious that *Britain* cannot receive any additional histre from it. Indeed I had originally supposed *Crete* to be meant, and it was not without some

reluctance, that I gave up the first impression, originating from no unspecious reasons, which however yielded to more solid proofs.

The difficulties I have experienced in bringing forward this work, were numerous. Some originated from the nature of the work itself, and of the sources from which I drew my information, whilst others were of a most perplexing and distressing nature in themselves.

My original design was to have published my essay on the Sacred Isles by itself, and this several years ago, when it was ready for the press. But in that detached state, if I may be allowed the expression, unaccompanied with the geography of the country from which I drew my information respecting them, and unconnected with the general system of geography of the *Hindus*, it would have appeared to great disadvantage. Beside, it was far from being so complete as it now is; for I have since found many valuable and interesting materials, which have enabled me to form a more adequate idea of the subject.

A fortunate, but at the same time a most distressful discovery contributed to delay its publication. Though I never entertained the least doubt concerning the genuineness of my vouchers (having cursorily collated them with the originals a little before I had completed my essay), yet when I reflected how cautious an author ought to be, and how easily mistakes will take place, I resolved once more to make a general collation of my vouchers with the originals, before my essay went out of my hands. This I conceived was a duty which I owed, not only to the public, but to my own character.

In going on with the collation, I soon perceived, that whenever the word *S'wetam*, or *S'weta-dwipa*, the name of the principal of the Sacred Isles, and also of the whole cluster, was introduced, the writing was somewhat different, and that the paper was of a different colour, as if stained. Surprised at this strange appearance, I held the page to the light, and perceived immediately that there was an erasure, and that some size had been applied. Even the former word was not so much defaced, but that I could sometimes make it out plainly. I was thunderstruck, but felt some consolation, in knowing that still my manuscript was in my own possession. I recollected my essay on *Egypt*, and instantly referred to the originals which I had quoted in it, my tears were but too soon realized, the same deception, the same erasures appeared to have pervaded them. I shall not trouble the Society with a description of what I felt, and of my distress at this discovery. My first step was to inform my friends of it, either verbally or by letters, that I might secure, at least, the credit of the first disclosure.

When I reflected, that the discovery might have been made by others, either before or after my death, that in one case my situation would have been truly distressful; and that in the other my name would have passed with infamy to posterity, and increased the calendar of imposture, it brought on such paroxysms as threatened the most serious consequences in my then infirm state of health. I formed at first the resolution to give up entirely my researches and pursuits, and to inform Government and the public of my misfortune. But my friends dissuaded me from taking any hasty step; and advised me to ascertain whether the deception had pervaded the whole of the authorities cited by line, or some parts only. I followed their advice,

and having resumed the collation of my vouchers with **unexceptionable** manuscripts, I found that the impositions were not so extensive as I had apprehended.

The nature of my inquiries and pursuits was originally the source of this misfortune. Had they been confined to some particular object, to be found within the limits of a few books, as astronomy, it could never have taken place; but the case was very different. The geography, history, and mythology of the *Hindus* are blended together, and dispersed through a vast number of voluminous books, in which prevails a most disgusting confusion and verbosity. Besides, the titles of their books have seldom any affinity with the contents; and I have often found most valuable materials in treatises, the professed subject of which was of the most unpromising nature.

Thus when I began to study the *Sanscrit* language, I was obliged to wade, with difficulty, through ponderous volumes, generally without finding any thing valuable enough to reward me for my trouble. But in the course of conversation, my pandit, and other learned natives, often mentioned most interesting legends, bearing an astonishing affinity with those of the western mycologists.

I consequently directed my pandit to make extracts from all the *Puranas* and other books relative to my inquiries, and to arrange them under proper heads. I gave him a proper establishment of assistants and writers, and I requested him to procure another pandit to assist me in my studies; and I obtained, for his further encouragement, a place for him in the college at *Benares*. At the same time, I amused myself with unfolding to him our ancient mythology, history, and geo-

graphy. This was absolutely **necessary, as a clue** to guide him through so immense an undertaking, and I had full confidence in him. His manners were blunt and rough, and his arguing with me on several religious points with coolness and steadiness, a thing very uncommon among natives, (who on occasions of this kind, are apt to recede, or seem to coincide in opinion,) raised him in my esteem. I affected to consider him as my *Guru*, or spiritual teacher; and at certain festivals, in return for his discoveries and communications, handsome presents were made to him and his family.

The extracts which I thus received from him, I continued to translate, by way of exercise, till, in a few years, this collection became very voluminous. At our commencement, I enjoined him to be particularly cautious in his extracts and quotations; and informed him, that if I should, at a future period, determine to publish any thing, the strictest scrutiny would take place in the collation. He seemed to acquiesce fully in this; and we went on, without any suspicion on my part, until Sir WILLIAM JONKS strongly recommended to me to publish some of my discoveries, particularly respecting *Egypt*. I collected immediately all my vouchers relating to that country, carefully revised my translations, selected the best passages, compared them with all the fragments I could find among our ancient authors, and framed the whole into an essay. I then informed my pandit **that**, previously to my sending it to Sir W. JONKS, a most scrupulous collation of the vouchers, with the original manuscripts from which they were extracted, would take place.

To this, without the least alteration in his countenance, nay, with the greatest cheerfulness, he assented; and as several months intervened, he

had time to prepare himself; **so that** when the **collation** took place, I saw no ground to discredit his **extracts**, and was satisfied.

I have since learned, that, as the money for his establishment passed through his hands, his avaricious disposition led him to embezzle the whole, and to attempt to perform the task alone, which was impracticable. In order to avoid the trouble of consulting books, he conceived the idea of framing legends from what he recollected from the *Purdn'as*, and from what he had picked up in conversation with me. As he was exceedingly well read in the *Pur an as*, and other similar books, in consequence of his situation with a *Mar hat ta* chief of the first rank in his younger days, it was an easy task for him; and he studied to introduce as much truth as he could, to obviate the danger of immediate detection.

Many of the legends were very correct, except in the name of the country, which he generally altered into that of either *Egypt* or *S'xvetam*.

His forgeries were of three kinds; in the first there was only a word or two altered; in the second were such legends as had undergone a more material alteration; and in the third all those which he had written from memory.

With regard to those of the first class, when he found that I was resolved to make a collation of the manuscripts, he began to adulterate and disfigure his own manuscript, mine, and the manuscripts of the college, by erasing the original name of the country, and putting that of *Egypt* or of *S'xcctam* in its place.

To prevent my detecting those of the second

class, which were not numerous, but of the greatest importance in their nature; and as books in *India* are not bound as in *Europe*, and every leaf is loose, he took out one or two leaves, and substituted others with an adulterous legend. In books of some antiquity it is not uncommon to see a few new leaves inserted in the room of others that were wanting.

To conceal his impositions of the third class, which is the most numerous, he had the patience to write two voluminous sections, supposed to belong one to the *Seanda purdria*, and the other to the *Brahmdnda*, in which he connected all the legends together, in the usual style of the *Purdnas*. These two sections, the titles of which he borrowed, consist, as he wrote them, of no less than 12,000 *Slocas*, or lines. The real sections are so very scarce, that they are generally supposed to be lost, and probably are so, unless they are to be found in the library of the *Rajah of Jayanugar*. Other impostors have had recourse to the *Scanda Brahmdnda*, and *Padma-pardrias*, a great part of which is not at present to be found; and for that reason, these are called the *Purdnas of thieves or impostors*; though the genuineness of such parts as are in common use has never been questioned.—Some persons attempted, by such means, to deceive the famous JAYASIXHA, and the late TICAT-KAYA, prime minister of the *Nabob of Oude*. They were discovered, lost their places and appointments, and were disgraced.

My chief pandit certainly had no idea, in the first instance, that he should be driven to such extremities. I used (as already remarked) 'to translate the extracts which he made for me, by way of exercise; and never thought, at that time, of comparing them with the originals, first, because

I had no reason to doubt their authenticity; and secondly, because it would have been soon enough to make the collation when I had determined upon publishing any part of them.

This apparently lulled him into security; but, being afterwards sensible of the danger of his detection, he was induced to attempt the most daring falsification of the originals, in order, if possible, to extricate himself. When discovered, he flew into the most violent paroxysms of rage, calling down the vengeance of heaven, with the most horrid and tremendous imprecations upon himself and his children, if the extracts were not true*. He brought ten *Brahmtais*, not only as compurgators, but also to swear, by what is most sacred in their religion, to the genuineness of these extracts. After giving them a severe reprimand, for this prostitution of their sacerdotal character, I, of course, refused to allow them to proceed.

And lure I shall close the recital of what relates personally to a man, whose course of imposition I have deemed incumbent on me to lay before the public. He came to me in distress, but with a fair reputation; he is now in affluence, but with a character infamous for ingratitude, and fraud, and deceit. His voluminous extracts are still of great use to me, because they always contain much truth, and the learned, therefore, have not been misled in their general conclusions from my essay on *Egypt*; though it would be dangerous for any one to use detached passages, and apply them to any particular purpose. In the course of my present work, I have collected carefully what I could find in *India* concerning *Ethiopia* and *Egypt*.

A few instances of the impositions of my pundit will exemplify his mode of proceeding. The first

is a legend of the greatest importance, and said to be extracted from the *Padma*. It contains the history of NOAH and his three sons, and is written in a masterly style. But unfortunately there is not a word of* it to be found in that *Purdria*. It is, however, mentioned, though in less explicit terms, in many *Purdn'as*, and the pandit took particular care in pointing out to me several passages which confirmed, more or less, this interesting legend. Of these I took little notice, as his extract appeared more explicit and satisfactory; and I do not now recollect in what *Purdria* or other books, they are contained. It is acknowledged, that the three sons of SWAYAMBHUYA are incarnations of the TRIMURTI ; and they are declared, in general, in the *Purdn'as*, to have been created by the Deity to marry the three daughters of the first man, with a view to avoid the defilement of human conception, gestation, and birth.

DACSHA and BRAHMA in a human shape; CARD-DA3fA, or CAPjr.A, or CA m L, (the name of CA I.V among *Muselmans*,) was S'ivA; and the benevolent RUCHI, was VISUM; : one of RUCHI's titles is S'ARMA and S'AMA: S'IVA is called HA and HAM in the objective case; and BRAHMA, or DACSHA, is declared to be PKAJA'PATI, nearly synonymous with JYA PATT.

In the *Mahd-Bhadrata*, section of the *Adipurva*, there is a much more positive passage. I)'iiAUMA, or the first man, sprang from the right side of BRAHMA', which was cut open for that purpose; to him were born three sons, S A M A, C A M A, and HARSHA.

The rest of the legend, about the intoxication of NOAH, is from what my pandit picked up in conversation with me.

One of the sons of NOAH is called ILA'-PATI, synonymous with JYA'PATI, the lord of the earth, the same with PRAJA'PATI, or the lord of mankind. Indeed the denomination of *Prajapati* is originally no more than *Japati*, with the *upsarga*, or indeclinable particle *pra*, used intensively. *Jah* is the principle of life in a living being; hence a man is called *Pra-jd*, from his superiority above the rest of the animal creation. Besides, it is very common in *India* to prefix the particle *pra* to proper names of holy men, and more particularly so among the *Baudd'hists*. Thus they say, *Pra-S'wana*, the venerable S'WANA. *Pra-dn/ya-sira*, the venerable sire of the *Aryyas*, *Pra-Iswara*, &c. In the same manner, PUAJA'PATI signifies the venerable JAPATT, the chief of the animated creation. This will not seem in the least surprising, when we reflect that the *Hindus* never admit of any legend, without disfiguring it so as to make it their own. Besides, we see the enmity between BRAHMA' and S'IVA remaining still in their human shapes; for *CARDDAMES* killed his brother DACSIIA.

It is acknowledged, both by *Hindus* and the western mythologists, that at every renovation of the world the same events take place, the same heroes re-appear upon the scene; and of course SAM.X, C'A.MA. HAKSUA, or PKA-JA PATI, are born again to every *Muse*.

ILAS or ILA', called also IDA', and in A, was the son of NOAH; and ILA'-PATI is synonymous with JYA'PATI, and implicitly so with JA'PATI. This IL.A is called *Iivs* in the theogony of ORPHEUS, and (iiiiLSHAii in *Persian* romances, which literally answers to IL.A-PAU. He is, perhaps, *ilir* same with the eldest *lu:s* of HO.MKR.

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Tijkemfext legend is that of SEMIRA'MBS, which the pandit has most shamefully disfigured. She is well known in *India* under the name of S'AMIDyii and she is the goddess of the element of fire, so inimical to the vegetable kingdom, the *Sfhhdards*, or immoveable beings; and of course to their chief VISHNU, in the character of the *Asimtfha* tree* which is declared to be the first, the chief of trees, and oi course *Sffuixvarpati*, or *Staurobatcs*.

S'AMI, and the *Aszrattlia* tree, have each two countenances; one is that of a tree of the same name, the other is that of a human being. In this, which is their original character, SA'MI is the same with URVASI, who married PUHCRWA, the grandson of NOAH, exactly in the same degree of descent with the founder of *Ninive*. The same is called also AILA in the *Purdn'as*, and LAILAX-SHAII by *Persian* romancers, Nixus by the *Greeks* and in the *Tumuli* dialect he is called NILAX. Their amours and their quarrels, and ultimately their reconciliation, are the subject of a beautiful drama. Her charms certainly effected the conquest of LAILAN'S heart; they quarrelled, and she disappeared in a most wonderful manner; but L A I - L A X, with powerful spells, forced her back. SEMIRAMIS first conquered STAUROBAJ i;s, but was conquered by him at last.

S'AMI and PCRURAVA were changed into two trees, without losing- their human countenances, the SAM! and the ASVATT'HA ; the ST'IIA'WARAPATI and SAMI-DKVI remain dallying in the tree of the same name; hence she is really SAMI-»AMA, though that denomination be never used.

Her history is to be found in the *GAN'ES'A*, *VISHNU*," and *Bliagavat Puranas*, and also in the *Makd Bharata*, but it is incomplete in each

of them : and the whole must be brought together and compared with the account given of her in the above *Nataca*, or dramatic poem.

It is my intention to resume her history in the course of this work; and, in the mean time, I shall observe, that she was born at *Tikotra* (or *Tri-hotra*), to the west of *Dehli*; acknowledged to be the same place which is now called *Tclwra* or *Tthaura* and *Tahora* in the *Pcningcnun* tables, near the river *Sutluj*: *Tihotra* is also supposed to be the same with *Tn-garta*, a place often mentioned in *Hindu* books.

That goddess was the daughter of AURVASA, who presides overtheeielementary fire, and is most inimical to the *iSYha:cars*, and then lord and *pati* of course.

The story of the two doves, mentioned in my essay on *Scmiranm*, is unknown to the *Piuranics*; but there are some legends about them in the western parts of *India*, where they apply them to, or, perhaps, framed them, in consequence of the two doves found by MOHAMMAD in the *Caaba* at *Mecca*; which they claim, with some reason, as a place of worship belonging originally to the *Hindus*,

The misfortune which beiel MAITA-OF,VA is well known: but the description of the sacred *Linga* is represented, in the *Parana**, in a different light. It was divided into twelve parts, besides many splinters. These twelve *Lingas* preside over the twelve months of the year. I was concerned, for a long time, that I could not discover the least vestiges of the legends concerning PERSIS, AXDROMEDA, and PI OASIS, nor even the names of the principal characters: but these I have lately found in the *Wntra-rajā*, and other books, with a more ample account of the thirty-six *Utcani* and famous.

in *Egyptian* astronomy, and called *Drescdn* in *Sanscrit*.

PERSEUS is called there PRETAS'IRA, or the man with the *Larva's* head, and the same situation is assigned to him in the heavens, **lie** is also called S'AILA-MCC'HA (or ha\ing a stony face or head), alluding to the head of MEDUSA, which turned the beholders into stone. PEGASUS is also mentioned there under the name of SAMU DUA-PACSUI, or the bird of the ocean. He is likewise called SAMU DRAPAD.A, because his hindparts and feet are concealed in the ocean. The lesser horse is calico¹ *lluiagnva*: **but** the legends of all these are still wanting, except the last, which will appear in the course of this work. Asm;o.\ii DA is called VEJARA', and is represented with her head shaven, and her hands bound in fetters. CASMOPEA is called LEJJAXA', and ChPHLis XUJPA or NrU-KUPA, and *Pcrs'rm* authors say, he is :he same with CAI-CAOUS. He is slightly mentioned in other *Hindu* books as a great king. He was the father of the CHPHEMENTS -, and *Ctphistiv* was tia ir native country ; in AV/.w;/: *Capisdyna*. CRAPIA'S is l'r CHAPHILSS, and *Capita* is the patronymic appellation of ifis descendants, called aiso *Sililucds*.

My essays on the chronology of tlie *Hindus* and mount *Cuucususs*, aie almost cnliiclv fitc from the forgeries which I ha\c stated, heeause tny chief pandit liad little to do wi'ii them. I recollect ouiv three instances in which he interfered; and in them the legends were, as usual, disfigured In him. Thcv are legends respecting PKOMI I HI.US and the AV/g/r; **with** some particulars relating to Bergian and the *Lt pari* islands. Garuadds den is wen known to this day, to pilgrims, and the *Hindu*.of these parts, The place is tailed *Shier* in Mayor RENNING'S maps,

for *Shabar*; and it is not far from *Bamiyan*. There *GarMa* used to devour all the *Shabaras* who passed by; and, in the *Purarias*, all savage tribes are thus called. Amongst others were some servants of MAHA'-DEVA whom he devoured; this drew upon him the resentment of that irascible deity, whose servants are called *Pramafhas*: hence, probably, the ground-work of the fable of PROMETHKUS and the Eagle. All the rest is an improvement, from what the Pandit gathered out of our conversations on the subject of ancient mythology. His agpount of *Bamiyan*, from the *Buddlia-dhurma-charitra* must be rejected till its genuineness be ascertained. There is such a book at *Benares*, but all nwendeavours to procure it have been fruitless. In this legend he has certainly adopted admirably the manner, style, and notions of the followers of BCDD'IIA, and the idiom of the language of their books. I have seen the original legend from which he framed his own, about the islands nt' *Lipari*, but it has not the least relation to the'se islands, and belongs to some place in the mountains to the north of *India*,

In like manner, many of the legends cited in my essay on *Egypt*, though they have a striking affinity with those ot that country, are not expressly said to belong either to that or to any particular country, being related in general terms. In these cases, my Pandit inserted the name *ui' Egypt*, and if the name of any other country was mentioned, he erased it, and put that of *Egypt* in its place. Yet the similarity between these legends, and many more which are quoted in the course of this work, and the authenticity of which may be depended upon, with those of the *Egyptians* and other mythologists, is so striking, as to evince their original identitv; for so near a coincidence, in my humble opinion, could not have been merely accidental.

ft evmcts also some remote communication, at least, if not some affinity, at an early period, between the nations among which we had these legends equally current.

In the *Hindu* books we read of some princes who raised mountains of gold, silver, and precious stones; some three; others only one: but whether this be applicable to *Egypt* does not appear, rather the contrary. It was, however, a practice formerly, and, if restricted to a single pyramid, it was intended for the mountain of (TOD, the holy mount *Aleru*. If three pyramids were constructed, they were intended to represent the three peaks of *Mern*. There is a beautiful pyramid at *Sarnuth* near *Benares*, built by a king of *Haur*, or *Bengal*. It is conical, and of earth, with a coating of bricks, and is about seventy feet high. In the inscription found there some years ago, it is declared to be intended as a representation of *Mern*, which is represented of a conical figure by the *Hindus*, but like a square pyramid by the *fmiuvcm* of *Burbun*. The tower, or pyramid of *Juthtl*, was of a square form, with seven stages or stops, like *MERU*.

The recession of the sea from the valley of Egypt is nowhere mentioned: but the same miracle is recorded as performed by several holy men, particularly on the western shore of *Ladia*. Indeed, whenever the *Hindu* writers treat of the accession of lands, which "weie fmmedy and d by the sea, they never fail to attribute it to the powers of some holy personage.

In the course of my eo; resm.m'* r e w iih the venerable Sir IV, <n. mmi JONKS the Im.iiutor and first President of *Nhv. J.sialic Soeietv*, m.d my patron in Oriental literature, I niendmmd the discoveries which I thought I had made, and particularly re-

specting *Ethiopia* and *Egypt*. He expressed his *mrprhe*; but could not be brought to believe aif early, or evert any communication whatsoever, between the inhabitants of those countries and the *Hindus*. As I was just entering upon my studies and literary enquiries at that time, he wrote me candidly, that he was afraid I had been misled by enthusiasm, and cautioned me not to trust to the verbal accounts of the *Braluncus*; but requested that I would, for his satisfaction, send to him the necessary written documents from the *Purdnas*. I complied with his request most chearfully, and sent him all my vouchers as correct as possible. After perusing* them, he wrote to me nearly in the following words, the purport of which I recollect perfectly, but lament that his letter being mislaid, I Cannot produce it.

" I lav in a; read the numerous passage you adduce
 " in supportof your assertions, in l heir original km-
 " jniage, in the extracts you have -cot me, both
 " alone and with a pandit, I am fully satisfied chat
 " there existed an early communication between the
 " *Hindus'* and the inhabirantsof *Ethiopiai and Egypt'*"

lie then informed me, that his collection of the *Purdnas* being incomplete, he had not been able to compare all the extracts which I had sent to him concerning *Ethiopia* and *Egypt*, bur that he had found several of the most essential, such as the legends about Xviuuir and the PALM, and that he could bear testimony to their general accuracy. Besides, NAIKKIT, and his being appointed guardian of the south-west quarter of the old continent, being well known ro learned pandits, they hud pointed out. to him several passages in other *Purd-Was* and *Sanscrit* books, relating to nAIIUU'T\ !VANc'iiA-invii\\, iSc. so t!iit he was fully convinced

of their genuineness and antiquity; and as for the Sthers of less importance, he did not entertain the least doubt about their being equally genuine, *tip* added, that learned* pandits were, besides, well acquainted with the general outlines of most of the other legends I had produced; and concluded by saying, that he intended to make some remarks *on my essay on Egypt*, in which he would express his conviction in those terms.

In the remarks which Sir WILLIAM JOXES did afterward subjoin to my essay, and which were published with it in the third volume of the transactions of the *Asiatic Society*, he could not have intended a stronger public testimonial than that which he had communicated to me privately. But as the terms of one passage, relative to the *Sanscrit* papers which I transmitted to him, as taken from the *Purarias*, and other books, might be understood to imply a more general collation of my extracts with the original works, than had taken place, or could have been meant, I have thought it incumbent on me to add the preceding explanation of the real* circumstances.

I shall ever lament that I was the cause of Sir WILLIAM JOMS being thus misled like myself. I have shewn that I was exposed to imposition; first, from the nature of my literary pursuits; and, in the second place, from the confidence which I reposed in the integrity of my native assistants, and more particularly my chief pandit. This no longer exists, and of course no similar (reception can now take place. If a word, or a passage of importance in any manuscript, bears the least mark of adulteration, it must be given up, unless corroborated by collating it with other books, which are totally free from suspicion.

I have prepared two copies of my vouchers, one for the *Asiatic Society*, and the other for the Col-

lege of *Fort William*. I have already presented one to Mr. COLEBUOOKE; and I take this opportunity to acknowledge the friendly assistance I have always received from that gentleman, and **his** ready communication of every sort of information that could be of use to me, through the whole course of my literary pursuits, and for which I return, most gratefully, my most sincere and hearty thanks : and I candidly acknowledge, that without his assistance I should never have been able to bring to a conclusion, in a manner satisfactory to myself, the present work, which, from its nature, and that of the materials, is attended with difficulties of which few people, unacquainted with the subject, can form any idea.

With regard to the *British* Isles, I soon found that the grand outlines were perfectly correct; even more so than those of my essay on *Egypt* and *Ethiopia*, which countries are very little known to the learned, and of which little is recorded in the *Purdnas*, when compared to their holy land. My pandit had filled up the rest with a vast number of legends of all sorts, but most of them of little importance, and affording very little light on the subject.

The White Island, in the West, is the holy land of the *Hindus*. It is of course a sort of fairy land, which, as might be expected from their well known disposition, they have not failed to store with wonderful mountains, places of worship, and holy streams. It would be highly imprudent to attempt to ascertain their present names and situation; though I have occasionally broken through this rule, and may have been seduced, by a strange similarity of names and other circumstances, within the fascinating attraction of conjectural etymo-

The principal object I have in view in this essay is to prove that the Sacred Isles of the *Hindus*, if not the *British* Isles, are at least some remote country to the North-west of the old continent; for I cannot conceive that they are altogether *Utopia* or imaginary. But a secondary one also is to prove that the greatest part of the legends, which formerly mined all over the Western parts of the world, from *India* to the *British* Isles, were originally the same with those found in the mythology of the *Hindus*, besides these, they had also in every country local notions and legends, as well as local Deities, and which of course were peculiar to them.

The principal essay on the Sacred Isles in the West will appear, with the permission of the *Asiatic Society*, in a future volume of their *Researches*; and it is proposed to publish the series of essays mentioned with that work in the following order.

THE INTRODUCTION.

ESSAY I. On the geographical systems of the *Hindus*.

———II. Geographical and historical sketches on *Anu-Cartagena*, or the *(Jatactic)* provinces.

———III. Chronology of the kings of *Mahadha*, emperors of *India*.

———IV. On *VITKAMA'DITVA* and *SALIVA* - *M. W A*, with their respective *eras*.

—:— V. The rise, progress, and decline of the *Christian* religion in *India*.

———VI. The Sacred Isles in the West.

PART THE FIRST.

CHAPTER THE FIRST.

OF THE GEOGRAPHICAL SYSTEMS OF
THE HINDUS.

SECTION I.

(low red Ideas of I It esc Systems.

THE *Hindus* have no name, either for geography or geometry, hut we are not to infer thence, that they have entirely neglected these two sciences. They are certainly pretty well acquainted with geometry, hut they consider it. and with some reason, as part of the science of numbers; and neither can our denomination of geometry, which signifies surveying, be considered as a very apposite term. in the time of the famous JAYASIXUA, RAJA of jayapur the learned at his court gave it the name of *csheta-dersana*, or the inspection and knowledge of figures; and a treatise on geometry, composed by his command, is stiii called by that name. These elements begin with an inquiry into the properties of lines simply combined together, which combination is called *aeshtira*[^] or intbrmous. They then proceed to the consideration of regular ligures or *cshctra*, as a triangle, a square, cube, &c. whilst an angle is called *acshe-Lra*, or intbrmous.

The *Hindus* give various names to geographical tracts, such as *bha-ana cosa*, or treasure of terrestrial mansions; *csiera-Samasa*, or combination of countries; *brama-Sagara*, or ocean of

mansions or habitable places. Such a geographical treatise is cited by Signor BAYKII, under the corrupted appellation of *Pmvana Saccaram*. Another treatise in my possession is called *Trailovvih darpana*, and was given to me by the late Mr. RFUJJFN DUKROW, who procured it near *ilardudr*. Its name signifies the mirror of the three worlds, meaning heaven, earth, and hell, and answers exactly to the treatise ascribed, to Saiat petrick and called *hisscrioth*: at twers lecis or health. It was written some humhtd years ago, and the copy I have is of the year 1718 of Yicrament-TYA. In several, there is a section expressly on the subife of geography, and ia that reason caned *Bhaviniu-Cosa*. It is aho 'dee. minau d *Bha-chandu*, or: r etion of the earth. Except the sections contained in the *Puran's* geographical tracts are in general written in the spoken dialets, and are extremely scarce, as thyy aie diseountenanced by the saoculotal class, as are historical hooks, This tiny Lave often acknowledged tome, saying, they have the Purance what do they wantmojr: Lesides, as they are written in the vulgar dialect--, the\ arc the works of pel sons not sufficiently learned and informed,, and very apt, ns I am told, to hazard occasionally a few huctica! notions. They are.not. howewr, so strict in the *Ijekhin*, am! the westem pars of *hulia*: there, I am c.redibiy informed, they have treatises expressly on the subject both of history and gvojrraphv.

There arc two groaphieal tracts in *Sanserit* : the first, called *vicnaprat'idi>sa xyarasfit'*., is attributed to vicrADII VA, probably the one of that name, who lived, as we shall see hereafter, in the fifth centmy. and it is said to consist of eighteen, or twenty thousand *ttiicas* or lines: the second, called *Miuij-pratidaia-ryi^asCliu*, is at tin

bitted to king MUNJA, the uncle of the famous 13H6JA, who lived in the latter end of the tenth century. It is nearly the same with the former, including some amendments and additions. These two geographical treaties cannot but be curious and interesting, but unfortunately, they are not to be found in this part of *India*. They are however pretty common in the Western parts of it, and particularly so in *Gurjarat* where they have been seen by several respectable pandits of that country. The *Trai-Lucirt-darparfa*, which I mentioned before, is according to the system of the followers of Iluni/uA, and is written in an uncouth dialect of the inland parts of *India*, with a strange mixture of *Sanscrit*. words and phrases.

The *Cshetci-Sintiusu* is another geographical tract by the *Jainas* which I lately procured. It is written in *Pracrit*, asserted by some to be the same with the *Hali* or *Magadhi* dialect, but probably somewhat different from that used in the *Human* empire, *Sian*: and *Ceylen*. The *Hali* or *Mdgadlii*, was the language used at the court of the emperors of *India*, kings of *Magaddia* or *Hnhar*, and called also *Bah-putras*, because they were descended from the famous HAM, or NANDA; and their kingdom is denominated after them *Poll* by the *Chinese*. This last is accompanied by a copious commentary, with several fanciful delineations of the world, and of mount *Meru*.

With regard to history, the *Hindu** really have nothing but romances from which sonic truths occasionally may be extracted, as well as from their *Il'eo'jTaphieal* tracts. Those in *Sanscrit* are the *Clitaritras*, or actions of VICRAMA DIVYA of king Bhoya, and others.

The *Vrlhat-CafhA* is a collection of historical anecdotes, sometimes very interesting, and consists of 22000 *stdcas*.

In the spoken dialects, there is the romance of pRirifU-UAYA, containing an account of his wars with Sultan GUORI ; part of it is in my possession. It is exactly in the style of our old romances in *Europe*, with nearly the same proportion of historical truth.

In several of the *Puran'as* there is an account of the principal events, which were to take place during the *Cali-yug* *. These conic down as late as the eighth and ninth centuries, except .in the *Agui* and the *Bhavishi/a Parunas*, in which there is an account written, as usual, in a prophetical style, of the principal events, which were to take place, as late as the twelfth century. In the time of ACBAR, a supplement was added, down to H U M A N , as is obvious from the lists of the kings of *Malic a* in the second volume of the *Aijhi-AcberL* Since that time another supplement has been added, down to the beginning of the eighteenth century.

It is universally acknowledged, that the "court of the kings of *Mugud da*, now the province of *Bahar*, was once, one of the most brilliant that ever existed, and that learning was promoted there, through its various brancWts. Their vernacular language was cultivated, and many valuable treatises were wiitten in it, in order to diffuse knowledge among all classes of men. This, I am informed, was carried so far as to incur the resentment of the whole sacerdotal class, who unanimously declared, that

* The *Brahmanda*, *Bhagarat*, *Vishnu*, and *Vayu Purndne*. Sections on TuluiUy.

Magad'ha could no longer be considered as a proper country for the twice-born to live in, without losing the fruit of their good works, and greatly impairing their energy in the paths of righteousness.

Besides geographical tracts, the *Hindus* have also maps of the world, both according to the system of the *Pauranics*, and of the astronomers : the latter are very common. They have also maps of *India*, and of particular districts, in which latitudes and longitudes are entirely out of question, and they never make use of a scale of equal parts. The sea shores; rivers, and ranges of mountains, are represented in general by straight lines. The best map of this sort I ever saw, was one of the kingdom of *Napa*/, presented to Mr. HASTINGS. It was about four feet long, and two and a half broad, of pasre board, and the mountains raised about an inch above the surface, with trees painted all round. The roads were represented by a red line, and the rivers with a blue one. The various ranges were very distinct, with the narrow passes through them : in short, it wanted but a scale. The valley *ok'-Xnpal* was accurately delineated: but toward the borders of the map, every thing was crowded, and in confusion.

These works, whether historical or geographical, are most extravagant compositions, in which little regard indeed is paid to truth. King *Viciv*A-MA'nrrv.v had four lakhs of boats, carried on carts, for ferrying his numerous armies over lakes and rivers. In their treatises on geography, they seem to view the globe through a prism, as if adorned with the liveliest colours. Mountains are of solid gold, bright like ten thousand suns; and others are of precious gems. Some of silver, borrow the

mild and dewy beams of the moon. There are rivers and seas of liquid amb^r, clarified butter, i^rtlk, curds, and intoxicating liquors. Geographical truth is sacrificed to a symmetrical arrangement of countries, mountains, lakes, and rivers, with which they are highly delighted. There are two geographical systems among the *Hindus*: the first and most ancient is according to *the Buranas*, in which the Earth is considered as a convex surface gradually sloping toward the borders, and surrounded by the ocean. The second and modern system is that adopted by astronomers, and certainly the worst of the two. The *Pauraniics* considering the earth as a flat surface, or nearly so. their knowledge does not extend much beyond the old continent, or the superior hemisphere: but astronomers, being acquainted with the globular shape of the Earth, and of course with an inferior hemisphere, were under the necessity of borrowing aid from the superior part in order to fill up the inferior one. Thus their astronomical knowledge instead of being augmented by the discovery of a new continent, every part of the globe is dislocated, in the *Paeranas* respect to the Earth as a flat surface; though in all the context; to be of convex form, the slope all round toward the ocean, which is represented by a circular range of mountains, described by the *Hindu-s*; *Caf* by *Musula* and by our ancient mycologists *Atlas* *Onri* from the *Sanscrit* *the and tranin** the nearing term or a,;,/, r of the *,oiih or -the /c/r</tr (haitifs, 'PLn.:<d ia the r.dda *SiCihudr*.

The /frev and ihc au'/icnts in leaerai. considered the Earth as a Hat surface. This idea \va< certainly a most natural one, till the .->:udy of astro-

nomys had undeceived the learned, who, as usual at these early times, did not impart this discovery to the vulgar.

On the higher parts, and in the center of the Earth, the *Hindus* place a mountain standing like a column 84000 *Yojanas* high, 32000 broad at the top, and 16000 at the bottom. It is circular, and in the shape of an inverted cone. This idea prevailed once in the West: for, when CLEANTHES asserted that the Earth was in the shape of a cone, this, in my opinion, is to be understood only of this mountain, called *Afcru*, in *India**. ANAXIAIKVES said that this column was plain, and of stone: exactly like the *Meru-pargzcctte* (*parvata*) of the inhabitants of *Ceylon*, according to Mr. JOINTVJILE, in the seventh volume of the *Asiatic Researches*. This mountain, says he, is entirely of stone, 680000 *Yojanas* high, and 10000 in circumference, and of the same size from the top to the bottom. The divines of *Tibet* say, it is square, and like an inverted pyramid. Some of the followers of BUDD'HAI, in *India*, insist, that it is like a drum, with a swell in the middle like drums in *India*; and formerly, in the West, LKUCIPPUS had said the same thing; and the *Ilriudfhists* in *India* give that shape also to islands. This figure is given as an emblem of the reunion of the original powers of nature. *Meru* is the sacred and primeval *Linga*: and the Earth beneath is the mysterious *Yoni* expanded, and open like the *Padma* or *Lotos*. The convexity in the centre is the *Os Tincta*, or navel of *Vrsinxu*: and they often represent the physiological mysteries of their religion, by the emblem of the *Lotos*; where the whole flower signifies both the Earth, and the two principles of its fecunda-

* PLUTARCH de placib. philosoph.

† *Trailocya-derparui*.

tigtx: the germ is both *Meru* and the *Linga*: the petals and filaments are the mountains which encircle *M&ru*, and are also the type of the *Yoni*: the four leaves of the calyx are the four vast regions toward the cardinal points: and the leaves of the plant are the different islands in the ocean round *Jambu*: and the whole floats upon the waters like a boat. The *Hindus* do not say, like the *Chaldeans*, that the Earth has the shape of a boat, which is only the type of it. It is their opinion, I do not know on what authority,, that at the time of the flood, the two principles of generation assumed the shape of a boat with its mast, in order to preserve mankind. Enthusiasts among the *Hindus* see these two principles every where, in the clefts of rocks, commensures of branches, peaks among mountains, &c. The Earth is typified by a boat; the *Argha* of the *Hindus*, the *Cumbium* of the *Egyptians*, are also emblems of the Earth, and of the mysterious *Yoni*. The *Argha*, or *Cijnibium*, signifies a vessel, cup, or dish, in which fruits and flowers are offered to the Deities, and ought to be in the shape of a boat; though we see many that are oval, circular, or square. ISWAUA is called *Argha-nafka*, (or the lord of the broad-shaped vessel" :) and OSIRIS, according to P.J.IJA RCH, was commander of the *Argo*, and was represented by the *Egyptians* in a boat, carried on the shoulders of a great many men, who, I think, might be called, with propriety, *Argonauts*. The ship, worshipped by the *Sucri*, according to TACIT* s, was the *Argha*, or *Argo*, and the type of the mysterious *Yoni*. The *Argha*, with the *Linga* of stone, is found all over *India* as an object of worship. It is strewn with flowers, and water is poured on the *Linga*. The rim represents *Yoni*, and the *fossa varivularis*, and instead of the *Linga*,

* *Asiatic Researches*, Vol. II J, p;re 361I.

IVWARA might be represented standing in the middle, as they used to do in Egypt.

II. The *Hindus* have peculiar names for the four cardinal points, derived from their respective situation, with regard to a man looking toward the rising sun, which is the most proper time to worship him. The East, from that circumstance, is called *Para*, and *Purva*, or *before*: the West, *Apara*, and *Pas'chima*, or *behind*. The South, heing then to the right, is called *Dacshin'a*, and the North *Varna*, or the *left*.

•

From *dacshin'a* comes obviously the *Greek elerion*: the *Latin dexter*, *dexterum* is from *dacsh-tir*, or *dacshatiram*, towards the right. *Pas'chima* is obviously a derivative form, the root of which, *pas'cha*, is no longer to be found in *Sanscrit*, unless in other irregular forms, as *pashchdt*; but it is still in use in the spoken dialects, in which it is pronounced *picha*, and from *pas cha* is derived the *Latin post*, or behind, and *postumus* for *postimus*, answers to *pas'-ehima*, or *paschwn*, in the spoken dialects. *Para* is the *English* word *fort*: thus we say a fairy from the *Persian Peri*. It is also pronounced *pra*, as in *pra-pada*, the *fore-foot*, or fore part of the foot, including the *Tarsus* and *Metatarsus*; and from it is derived the *Latin pro*: and the *Greek pro*. From this circumstance there arose a peculiar division of the old continent; the midland countries are called *Madliyama*, or in the middle; those toward the East *Para*, but more generally *Purva*: *Para* is used oftener as an adjective noun, as *Para-Garv-dica*, the Eastern *Gandica*. The countries towards the West are denominated *Apara*, *Apar*. Its derivatives are *aparam*, *aparcn'a*, an adverb; *aparica*, *aparicd*, *aparicam*, masculine, feminine, and neu-

ter*. This division is used in scripture, in which the appellations of *Parvaim* and *Opkir*, signify the countries to the East and to the West. These denominations are not deducible from the *Hebrew*, but only from the *Sanscrit* language: and *Apar* and *Aparica* are the same with *Ophir*, *Aphar*, and *Africa*. In *Hebrac* the word *Ophir*, without points, is written *Aupir*; and the learned bishop BOWTH derives *Africa* from *Aupir* or *Auphir*. That country, we are told, was thus called from a certain Apirce, or APHRAVS, who was the son of SATURN* and the nymph PUKAIHA, according to the *Paschal* chronicle. He was the brother of Picus and CHIRON, and is called APHAR by CEDELLINUS. Another ancient author, as I have somewhere read, calls him OPIUMS and ANIRA; and says he was a companion of HLCULKS: and ISIDORUS adds, that the appellation of *Ascr* was supposed to have been *Apcr* originally. The word *Aparica* is then synonymous with *Ibcricus*, *Ibtrica*, &c. The *Latin* word *Apricus* seems to have been used to denote a westerly situation, as being more favoured with the congenial warmth of the sun*. This ridiculous notion still prevalent among the country people in many parts of *Europe* and in *India*, originated from a supposition, that the Earth was a flat surface. Thus they say, that part of the country is fertile, being under the sun of three; but the other is not so, being under the sun of nine o'clock. The word *Aparica* is not used by the followers of UKAHMA' to denote the Western parts of the world; but it is constantly so by the *Bauddhists*. Thus in *Ava* and in *Ctillon*, the Western parts of the world are called, by Mr. Jo-

* *Anarica* is a REGULAR DERIVATIVE form, but not in use in this part of *India*: w\ it is in the dialect from the *Sanscrit* current in *Ceylon*, where it is written *Apriar*, aw! *Aparetrn*.

† ISIDCRUS de origimber.

INVILLE*, *Aprica-Dani*, and *Aparehgo-Daneh* by Captain MAHOVY. These denominations are *San** *sarit*, *Aparica-Dhc'mi* the Western mansions, or countries. *Dhani* is a place of abode in *Sanscrit*: in the language of *Tibet*, it is *den*, and signifies also a countryf; and the word *den*, in English, claims the same original derivation. The *Burmah**, say *Amaragoja*, which is still a further corruption like *Apparehgo*. The Eastern parts are called, in - *ey/on*, *Punea-weedeseyti* from the *Sanscrit* *Purva-de/ta*, or *Purva-videlia*, or *Vidchasya* in a derivative form, the country of *Purca*, or toward the East. In *Ava* they say *Pivppi-rideha*, but it should be *Proppi-vidcha*; for Mr. IUCHA.VANL in his interesting account of the learning and manners of the *Bannnlis*, informs us, that in that country they generally use the letter I for K; thus in the *Bengali* dialect they say *Purob*, and *Poh* for the East. The North is called, by the *Sinhalas*, *Ootooroocooroo-Dcuchinne*, according to Cptain JIAHOW, from the *Sanscrit* *Uttara-curu*, still used to signify the Northern parts of the old continent. The same is called *Unehcagru* by the *Burmahs*, according to Mr. BUCHANAN; hut in the account of P. SAXGKKMANO, lent to me by Captain KOMAIXE, it is *Undcugru*, which scons to be but a corruption from *U'ttara-caru*. The Southern parts are called *Jamhu-dwipa* in *Ceylan*, and *Zabu-bbid* by the *Burmahs*. In the *laya Parana*, the 1 <vem part of the old continent is equally called *Purva-dzapa* as in *Ceylon* and <-lva, and the river C).n<-> is called *Apara-gandica*, or Western (*ian'diea*; whence we may safely conclude, that they said also *Apara-dzcipa* for the West. *Aparcyam* ami *A j an ya* are regular derivative forms from *A para*; and tromthem is obviously derived *Ihcria*, the ancient name of

* *Asiatic R<M;itdR's*, vol. VII.

1 *Alpliab. 'Mui*, p. 58s, &c.

the Western parts of *Europe*, including *Gaul* and *Spain*. HOMEB uses, in that sense, the appellations of *Hypcreia* and *Apcra**; *Abera* is found in *Apollo-dorus*; for thus we must read instead of *Abdcra*, as we shall see hereafter. It is well known to the learned, that, at a very remote period, *Europe* and *Africa* were considered but as one of the two grand divisions of the world; and that the appellation of *Africa* was even extended to the Western parts of *Europe*, all along the shores of the *Atlantic*. Hence the West wind, or *Zephyrus*, is called the *Lt/Irian* or *African* wind; and HOMKR, if I am not mistaken, makes *Zephyr* *m* to blow directly from *Lylua*, or *Africa* into *Greece*.

Instead of *para* and *puna*, the word *muclia*, face, or front, is often used, particularly in the spoken dialects, and sonic times with the augmentative particle *su*; and in the dialect of *Bengal*, *.sfio*; thus they say *sho much*, right in front, due East. Though equally grammatical, yet it is not inMial to say, *Su-para*, *Su-purra*, *Sho-pura*, or *Slw-purra*, in that sense. It seems, however, that it was once in use; for in Scripture we have *Parr aim* and *Sc-parvaim*, or *Se-pharraim*, the name of a country, the situation of which is hy no means well ascertained; yet it is probable, that it was near the mountains of *St-phat* or *Sc-para*, toward* the *Mast*, according to Scripture: and it is not unreasonable to suppose, that *Parraim*, *Se-pharvuim*, with the mountains of *Se-phar*, belong to the same country, which I take to be *India*, called by the *Copt* *a*, *Sopheir*; and by no means to be confounded with *Op/iir*. *India* is also called, by III-.SVCIHIS and JosiiMirs, *Su-phir*, or *Su-phfir*; and *So-phoni* by I'koeorn s †.

* OHYSS. Lib. V 1 . v. 4, H Lib. \ 11: v. *, Apolio<i. Bibliotb. p. Lib. II. §. io.

† I'KOT'om's in Scirol. ad Lib. 3, Regum.

The *Sanscrit*' appellation of *Purvain*, for the Eastern countries, is written *Parvim* in *Hebrew* without points; but with points it becomes *Parraim*, which appears in a plural form. The *Septuagint* read *Pharvaim*; and, in that case, in the singular number, it should be *Parva* or *Pharva*. In the course of etymological enquiries, I have always found it more convenient to read the *Hebrew* without points, when the affinity is obviously greater. Thus the word in question is written without points *P-r-v-i-m*, or with the vowel inherent to every consonant, as in *Sanscrit*, and the common *Nagri*, *Pa-ra-ra-i-nia*: the only difficulty in *Xdgri* and *flebrerr*, is to find out, in a word, what consonants are to coalesce. The words *Se-phar*, and *Se-pharcaim*, without the points, are to be read *Se-para* and *Se-parri/n*.

The mountains of *Se-pliar* seem to be that range called *Be-pifrras* by *PTOL.KMV*, and placed by him to the North of *India*, answering to the first range, or snowy mountains. This range, in *PTOL.KMV*, begins at *Hardiedr*, and instead of *Btpprrns* several authors read *Scpj/rrns*. In *Sanserif*, *Sn-para*, and *ri-para* or *Hi-pan*/, for thus it is generally pronounced, are synonymous, and perfectly grammatical, though perhaps never used; and signify *right before*, due East. *Bi-para* signifies also Easternmost; and, in its first acceptation, is the same with *before* in *English*, which is now synonymous with *before* or *afore*: yet there is no doubt but that, formerly it was otherwise, and that *before* signified *right afore*. It is true, that the particles *all*, and *ta* likege, in the dialects of the *Goths* are of no use without enhancing the signification of the word they are prefixed to. Thus *fore* and *bt/ore*, *para*, *s/>-para*, *bi-para** and *sn-nweha*, or *siio-wnrha*, in *Bengalee*, signify the same thing. The posterity

of SfIEM, we are told in scripture, **dwelt in the country extending from Mesha as thou goest unto Sephar, a mount of the East.** This seems to be meant as an explanation of the word *Sephar*, and at all events implies, that this mountain was a great way to the Eastward. In *Europe* they callen the West *Hesperus*, and the country toward the West *Hesperia*. That country is considered by the *Paurinks*, as the abode of the Gods, or *Surulayam*, an appellation well known to the learned, and applied by them, in conformity with the *Purunasy*, to the Westernmost part of *Europe*, or the *British Isles*. Another denomination for *Suruittyam*, and which **might** be *Sanscrit*, is *I su-puru*, or *I s'-pura*, though probably never used. This was pronounced by the *Gothic* tribes *As-burh*, *As-byrig*, *As-purgium*: they said also *Assure/*, which implies the same thing. There IS'A, or IS'WARA VISHNU, resides with all the Gods.

The word *Tsu* was pronounced *Asos*, *Asiui*, by the **Greeks**, *As* by the *Goths*; and for *pitri*, or *pura*, the *Goths* said *burh*, by *rig*. or *burgh*; the *Greeks* *pyrgos*. The words *As~puri*, *As-burh*, *Asputgiu/N*, *Jhsprux*, are pronounced by the *Persia/is*, *As-burj*; where *bur*) or *burujs*, is synonymous with *puri*, *purh*, tSc. In their romances, we see *Cui-caus* going to the mountain of *Az-burj*. or *As-bur*), at the foot of which the sun sets, to fight the *Die-sejid*, or white devil, the *lara-daitya* of the *Purnas*[^] and whose abode was on *tlic* seventh stage of the world, answering to the seventh zone of the *Iiaudd'hists*, and the sixth of the *Part'mivs*; or, in other words, to, the White Island. The (*tuths* it is true, placed *As-burh*, or *As-gard* in the East; for when *tluy ind* conquered the Western abode of the Gods, they found none there; and rather than give up this idle notion, they supposed that

As-burh, or *As-gard*, was in the East. Besides mount *AHru* is another *SurMayam*, *As-burh*, *As-gard*, and is in the East.

The *Jews* and the *Arabians*, to this day, call the **South Yaman**, *Yamin*, and *Jamin*, which imply the **right**. The *Hindus* call the South also *Yitmya* or *Jdmya*, and *Ydmasya*; because *YAMA* (*PLUTO*), called also *YAMAN*, is the guardian of that quarter: and when *PLINY** says, that the *Hindus* called the South *Dramasa*, it should be *Diamasa*, **from** *Jamasya*.) as *Diamuna* for *Jauntna*, the river *Jumli*. We have seen that *dwium* in (*Ireeic*, and *dcxttr*[^] *dtxtcrum* in *Latin*, arc derived from the *Sanscrit* *dacshi/i'a*, *dacshu-tir** and *davsha-t'train*: and it is not improbable, but that *sinisfr*, *sinisirwn*, *sinis-teriu*, or the left in *Latin*, and *an*tir(-s)*, *aristcron* in *Circ(lx)* arc equally derived from the *Sanscrit* *We;/y-/V*, or *S< nis-tinna*, and *si raymt-tiran*[^] or *A'ras-tirinn*; that is to say, *S\TMI_*["] *S* quarter, in the same manner that the *Hi nuns* say, *YA MA'S* quarter, for the South; for *SJ-MU*, or *A'KAH*, resided in the North: *Jk IMTIK* gave him that quarter for his residence, and made him guardian of it. *SATIKN*, according to *Cicrno* and *PJ UTAKCH*, was peculiarly worshipped by the nations in the Western parts of *Europe*, and in the North; though the latter says, that, in process of time, his worship began gradually to decline there. He was born in the left, and *pen*[^]hed on the right. The (*Jra-ks* and *Roman** considered the South as on the right, and the North on the left. Among them, as well as the *Hindu**, the right was considered as more honourable, and, of course, in worshipping and performing processions, they turned towards the right, keeping the object of their adoration on

* Lib. *H'.c.* **SIX.**

the right; but the *Greeks*, says PLINY, on these occasions, turn to the left: and, among the *Greek** and *Romans*, in their races in the circus, they drove round the *Spina*, or ridge in the middle, keeping it all the while on their left. The *Hindus* seem to have always considered the four cardinal points in the same light; but various systems appeared at different times, in other parts of the world. KJ!PU>OCLFS, according to PLUTARCH, maintained, that the summer solstice happened in the right, or North; and the winter solstice in the left, or South. This system prevailed once in the West, and of course the West was before, and the East behind* or *aparanh ajhrnai*, eye. from that time the winter solstice was called by the *Latians*, *Hibernunu* which cannot be derived from *hibernu*, winter. This last comes from the *Sanscrit Inunt*; and, in a derivative form, *liainui* and *Ituimu*, now; and *Injuns* implies the snowy season: and mount *Haintos*, or *Ilams* in *Tliracc*, signifies the snowy mountain: and as the West was then before, it was called *Sa-pura* or *Zephyrus*, *St-phar* and *Scpyrrits*, like that same range of mountains in the East, mentioned by PTOLEMY, and in the *Iliad*. Km'gJciiiA, a famous antiquary, was also of opinion, that the North is on the right; and this is confirmed by the same; it is the same as T. vii/s. The *Egyptians*, says Ptolemy, placed the North on the right, and the South on the left. These observations must have occurred; and it lends among augurs and astrologers; and were, probably either admitted or rejected at different times, according to the power and influence or prevailing fictions. This happened no less than in the times in *Ep. i. 1*; and, of course, four times the point wherein the sun rises and sets, were estimated in different points of view, and of different denominations; and we might say to all ages, that the sun

It had four times altered the time of its rising and setting. Twice it rose where it rose before; and twice it did set, where it was seen to rise before. All this happened, they said, without the least alteration in the climate of *Egypt*. These enigmas, or paradoxes, were much admired formerly, and they were not very willing to explain them.

The same thing happened in *Europe*; for the sun, shocked at the abominable repast of ATKEUS, turned back, and set where it used to rise before; that is to say, an alteration took place in its application of the denomination of *IK /ore* and *bthhal*, right and left, with regard to the four cardinal points; and ATHKus is represented as a famous astronomer, who explained the yearly revolution of the Sun, performed in a contrary direction; in consequence of which the Sim is said, by the *Bdinufhls*, and also by *JirahwcKs'i* to rise in the West, and to set in the East: and the famous mountain of *Asia-^//v/*, behind which the Sun-disappears, is called also the mountain of the rising Sun, or *Udaifchgiri^* and even *Maluulajii*. In the extracts from manuscripts, in the library of the king of *Enuice*, there is one from the golden meadows of the famous JMASOLOI, who lived in the tenth century. The author says, that in the opinion of some philosophers, the renewal of the world would happen, when the circle of the rising sun; shall be accomplished; then what has been North will be South. Tint, according to the *Indian**, says he, the Sun remains 3000 years in each of the twelve signs, and performs his revolution in the heavens in 30,000 years. That, when he passes through the meridional signs, the world will be reversed; North will become South, and South will become North: that is to say, as it takes time to be, the North will be considered as the right of the world, and the

South as the left. Some *Hindus* are of opinion, that, at the end of the *Calpas*, a total renewal of the world will take place, and every thing will be reversed; the gods will become devils, and the devils gods. The giants, they acknowledge, were *Purca-dtvas*, or the first gods. The *Egyptians*, perhaps, entertained the same notions, and the mythologists in the West certainly did.

III. Another division of the world, is into a mainland and islands, which is also that of scripture, in which the isles of the nations, or *Lie-lagoim*, are often mentioned. This division has also been admitted by *Musulmans*, who call them *Jtzair-alomam*. Commentators understand by them, not only the islands but also the peninsulas in the Western parts of the old continent; for in *Sanscrit*, *dwipa* implies only a country, with waters on both sides: so that, like *Jazirah* in *Irahir*, they may signify either islands or peninsulas; *d\dpā* and *jaziran* are often used to signify countries bordering upon the sea only. By the isles of nations, the islands, peninsulas, and maritime countries in the West, and particularly in *Europe*, are understood: it is even so with the *Paurāṇikas*, who are very little acquainted with the Eastern parts of the old continent, even to a surprising degree, and much less than we could reasonably suppose.

The most remarkable feature of this system is mount *Altru* in the centre, the *Qlywpu:s* of the *Hindis*, the place of abode of *IJUAHMA*, and his *Sahhd* congregation or court. This mountain made also part of the cosmographical system of the *Indians*; for *ISAIAH*, making use of such notions as were generally received in his time, in *Jerusalem*, in *Sanscrit* *SWAKBUAM'*, or light of heaven, boasting that he would exalt his throne

above the stars of GOD, and would sit on the mount of the congregation, in the sides of the North. *Mkru* has "also the name of *Sabha*, because the congregation or assembly of the Gods is held there, on its northern side. The hill of GOD is also frequently alluded to in the psalms, though, in some instances, it seems to imply mount *MoriaK Musulmans* have admitted this mountain, under the name of *Caf*> though they confound it, in general, with the mountains of *Localbca*, which surround the world : but when they say it is the *vat ad*, or *pivot* of the world, this is to be understood of mount *Merit*, which the *Pauranics* describe exactly in the shape of a *pivot*; and even *Mini*, in *Sanscrit*, signifies an *awis* or *pivot*. According to ANQUE-HL DuPEitKOv, the *Parsis* call this central mountain *Tireh*; and the whole world is equally surrounded by an immense range of mountains. In *Cn/lo/L* this surrounding range is called *Chacra-t-art ta*, according to Captain MA now*, which, in *Sanscrit*, signifies any thing in the shape of a ring or coit. The *Burmahs* call it *Zetkia-vala*^ which word is pronoucediStf/rax// by Mr. JOIXVILLE, and said to signify the world in general. In *Zetkia-tula*, *v/ilif* signifies a ring, or any thing in an annular shape, from the *Sanscrit* *valua*; and *Ztkia-vala*, or *Sakxixll*, may be a corruption from *S'acya-Vii/i/a*, the ring of S'A'CYA or JLLDD'HA, who is supposed to have nude it. The Western mythologists supposed the world, and its seas, to be surrounded by a land, or continent, of a circular figure, according to PLUTAKCU, and Sir.ENU's narrative, as related by Er.iw ; and the pilot of the *Argonauts*, being near *Peace*, ou *Iceland*, was very much afraid of being driven on its shores t.

* *Asiatic Rt'seirches* Vol. V.I.

† Oipli. *Arguaut*. Vul. XI, p. 157.

There are several divisions of the old continent; **the** first, and the most ancient; according to the *Pur&n'as*, is into seven *dxcipas* ; the *BattdiVhists* in *India* reckon eight of them, this number being a favourite one among them. The followers of *BUD-DHA* in *Tibet*, *Ceylon*, and *Ava*, have retained the *Brdhmcmcal* divisions, and reckon but seven. This division was made by *PRIVAVRATTA*, the eldest son of *SWAYAMBHUVA*, or *ADAM*, in his old age, and previous to his withdrawing into solitude. He had ten sons, and it was his intention to divide the whole Earth between them equally: but three of them renounced the world : their names were *MED'IIA'*, *AGVIMHU*, and *MINA*, or *MITKA*. In the same manner *XIPJINK* divided the *Atlantis* between his ten sons: one of them had *Gades*, at the extremity of the *Atlantis* to his share. The *Atlantis* was probably the old continent, at the extremity of which is *Gadts*. Hi is island or continent is supported by *VAK.VIIA* on one tusk according to the *Paurdnics*: but according to mycologist, in the West, *Au AS* supported the heavens, though, he is said some times to support the world. The *Musulmans*[^] that the Earth is supported on the horns of a bull. This *Atlantis* was overwhelmed with a flood likewise ; and it seems that by the *Atlantis*, we should understand the antediluvian Earth, over which ten princes were born to rule, according to the mythology of the West: but seven of them only sate upon the throne, according to the *Pauran'hs*. The names of these islands are *Jamba* proper or *India*, *Cus'a*, *Placsha*, *Sldmali* or *Sahnala*, *Crauncha* or *Crourida* 'Saca and *Pushcara*. These *dwipan*, or countries, give their nanus to so many respective zones round *Merit*, whicli is the name the *Pauratiics* give also to the *Poles*. If we disregard entirely the diagrams, or fanciful schemes, of the astronomers, and adhere

to the text of the *Purfai'as*, we shall immediately perceive that these seven zones are really our seven climates : for *Jambu*, or *India*, is the first, and *Push*earn* is declared to be at the furthest extremities of the West, and in the same climate with *Uttara Curu* ; which last is expressly said to be the country lying South of the Northern ocean. *Pashcara* is the *Tiule* of PTOLEMY, and the modern *Iceland*, under the Arctic circle, at least, the sensible one. It is true that the seven climates, in general, were not supposed to extend much beyond the mouth of the *Borysthenes*: but PTOLEMY, and AGATHEM-KUS, by dividing each climate into three parts (like the *Hindus*, who divide the seven zone-like regions of Heaven, Hell, and Karth into three, the beginning, the middle, and the end), thus made twenty-one subordinate climates, extending from the equator to the polar circle. Every climate was denominated from some famous city, county, or island in it; thus, we have the zone or climate of *Macro* that of *Rhodes*, &c. The *duipas*, or climates of the *Hindus*, gradually increase in breadth, from the equator to the polar circle, from a whimsical notion that they are all equal, as to the superficial contents. The seven zones of the *Hindus* correspond with the following countries : *Jamba* is *India*, *Cusa* answers to the countries between the Persian gulf the Caspian sea, and the Western boundary of *India*. *Placsha* includes the lesser Asia. *Armenia*, &c. *Sa'maH* is bounded to the West by the *Cron'mn* seas; that is to say. the Adriatic and Baltic straits. *Crauncha* includes Germany; *Sacain*, the *Irish* isles; and *Puslicara* is *Iceland*.

The *Puaran* themselves, however, consider these seven zones in a very different light, and the text of the *P arenas* is equally applicable to their scheme. By *AKrii* they understand, in general, the North pole,

but the context of the *Puririas* is against this supposition. In these sacred books, *Mtru* is considered solely as a point to the North of *India*, from which four large rivers issue, and flow toward the four cardinal points of the world : and we frequently read of countries and places said to be to the North of *Mtruy* others are declared to be West, East, South, and North-west from it. This surely can have no reference whatever to the North pole, where the denominations of North, East, and West vanish.

This *Altru* will appear in the sequel of this work, to be to the North of *India*, on the elevated plains of *Tartary*, and in the latitude of forty-five degrees. This point is considered in the *Purana.s*, as the center of the world as known to the *Hindus*: there is its zenith or *Jllem*, which is as applicable to a line passing through the centre, zenith, and nadir of a place, as to that passing through the poles. In whatever light we consider *Mcru*, it is always the centre of the world, as delineated by the *Pauranks*. COSMAS, surnamed INDOIM, PISTES, from his travels into *India*, in the sixth century, says, that in his time the *Hrdhmens* asserted that, if a line was drawn from *China* to *Grace*, it would pass through the centre of the world, or through this *Mtru*. The *Paurinics* and astronomers in *India*, had not then attempted to disfigure their cosmographical system : and did not, at that period, consider *Mtru* as the North pole. Round this point they draw seven zones, and the context of the *Purpuras* is as favourable to this supposition, as to the former, because these zones equally pass through the above islands. These zones have introduced much confusion, and entirely disfigured their geographical system. They are by no means countenanced ui the body of the *Puran'as*; being

diily introduced in a section of some of them called *T&hu-cliarida*, or section of the Earth, which seems to be interpolated, and of a more recent date.

The *Hindus*, and the followers of BUDD'HA, differ considerably about the shape, and situation of the zones. The *Paurdnics* say, that they are so many concentric circles enclosing *Jambit*, and situated between it and the land which bounds the Universe, and the first climate is that of *Merit*, included in the *duvpa* of *Jamba*: among, the *Greeks* and *Romans*, the first climate was that of *Merue*. Astronomers having discovered that the Earth is of a globular form, have placed them within the Southern hemisphere, which they fill up entirely. The *Hauddlists* of *Tibet* represent these zones as so many concentric squares between *Jamba* or *India*, and mount *Meru*. The followers of BUDD'HA in *Ceylon* consider them as so many circles, but place them also between *Jamba* and *Meru*, considered as the North pole. The *Jainas* in *India* have, in great measure adopted the *Hindu* system: but reckon eight *dwipas*. *Drc'ipa-at'lut-mai hai Jag'd sdra*, the whole world consists of eight *daipas*, says the author of the *Trailoejia-darpana*. Though the followers of HIDIMIA seem to reckon seven *dir'fws*, fcke the *Hindus*, they really reckon eight; for *Merit*, is not included among the seven: they say the seven ranges of mountains, or zones round *Meru*: but the *Paurdnies* consider *Meru* and *Jamhu* as one of their seven *dir/pas*. Seven is a favourite and fortunate number among the *tlindus*: eight among the *liauddlists*; and nine formerly in the West, and in the North of *Asia*, between these zones, there are seven seas, or rivers only, according to some of the followers of Hi; PI/HA, and some *Hindus* also. There are even some, who consider these oceans, or rivers, either as one, or only as so many

branches springing from one head, and winding seven times round *Meru*, according to the *Paurla tiles*, or, eight times, according to the *Bauddlasts*: but according to SFRVIUS, the *Styx* went nine times round the Earth. They reckoned, accordingly, nine seas and nine *duipus*, or worlds. These nine worlds are noticed in the *Edda-Samudr*, and the nine oceans are mentioned by PLUTARCH, who informs us that a certain *Timarchtus* visited the oracle of TKOPHOXus, where, in a vision, he saw the islands of the departed in the eighth part, or division of the ocean. These islands, according to the *Hindus*, and the followers of JIXA, are constantly placed in the last sea but one: thus they are in the sixth, according to the *Hindus*: in the seventh, according to the *Juuts*: but the Western mycologists placed them in the eighth, because they reckoned nine seas. Nine was held a mystical and sacred number in the Northern parts of the old continent, from *China* to the extremities of the West. The *Ciwhri* observed the ninth day, month, and year, sacrificing ninety-nine men, as many horses, &c. The number seven was held to be sacred by the *Hebrews* and also by *Musulmans* to this day, who reckon seven climates, seven seas, seven heavens, and as many hells. According to *Rabbis* and *Mimilman* authors, the body of ADAM was made of seven handfuls of mould taken from the seven stages of the Karth: and, indeed, the seven zones, or ranges of mountains, are arranged by the *Hindus* like so many steps, rising gradually one above another, in such manner that *A/cru* looks like an immense pillar or obelisk with a base, either circular or square, and consisting of seven steps, but, according to others, of eight, or even nine. The length, or height, of this obelisk is to its breadth, as 84 to 16. The *Hindus* generally represent mount *Miru* of a conical figure, and kings

were formerly fond of raising mounds of earth in that shape, which they venerated like the divine *Men*, and the Gods were called down by spells to come and dally upon them. They are called *M6ru-tfrIngas*, or the peaks of *Meru*. There are four of them either in, or near *Benares*: the more modern, and, of course, the most perfect, is at a place called *Sdr-nAfh*. It was raised by the son of an Emperor of *Gaur*, in *Bengal*, with his brother, in the year of VICRAMA'DITYA, 108:3, answering to the year of CHRIST, 1027, as mentioned in an inscription lately found there. This emperor had, it seems, annexed *Benares* to his dominions, for he is reckoned as one of the kings of *Benares*, under the name of BUPD'HA-SENA. This conical hill is about sixty feet high, with a small but handsome octagonal temple on the summit. It is said, in the inscription, that this artificial hill was intended as a representation of the worldly *Meru*, the hill of GOD, and the tower of *Babel*, with its seven steps, or zones, was probably raised with a similar view, and for the same purpose.

I observed before, that the *Hindus* place *Jambu* within these seven inclosures, while the heterodox *Hauddliists* insist that it is without, and that these seven ranges of mountains, or *dwipas*, pass between it and *Jltru*. As these zones, ranges, and inclosures are impossible, and, of course, never existed, they are to be rejected: but the countries, and islands, after which they were denominated, and through which they are supposed to pass, probably existed with their surrounding seas.- The *Nubian* geographer is the only author, I believe, who has connected the seven climates with as many seas, or rather bays, and gulfs, as he calls them.

IV. The first, or *dzcipa* of *Jambu*, commonly called *India*, was formerly'an island, as itLappears

from the inspection of the country. The *British* provinces along the *Ganges* from *tlari-durir*, down to the mouth of that river, was formerly an arm of the sea: and, in the same manner, toward the West, another arm of the sea extended from the mouth of the *Indus* to *Hari-dxa'n* and there met the other from the East. A delineation of the Northern shores of *India* could not be attended with much difficulty, as they are, in general, sufficiently obvious. The sea coast may be traced from the *Neclgur* mountains to *Rajann'ihl*, where it turns suddenly to the West. There the shore is bold, and rises abruptly, forming a promontory, consisting chiefly of large rounded stones, irregularly heaped together, but these irregular heaps may be only the ruins of more regular *strata* in the mountain. These stones are, in general, of an oval, yet irregular shape, about two fret long, sometimes three. Their superior and interior surfaces are somewhat flattened, and, in some instances, I thought I perceived, that one was concave and the other convex. I found, also, there some / *'olcauknuclei* above one foot and a half in diameter: in one that was broken the interior coats were very obvious: the outward surface was iemarkable for numerous cracks and fissures, some very deep, and all forming together a variety of irregular figures. This I found at the loot of the hill, near the *Sucri-gully* pass; unfortunately, i am not sufficiently acquainted with Natural History to enter upon such a subject; and I shall conclude with observing, that I conceive the cascade of *Muli-jirua*, near this place, to be the remains of the crater of a Vuleano. This I mentioned with a view to engage the attention of persons better qualified than I am, for such enquir es *.

In consequence of this, Mr. SAMUEL. DAVIK, some ture ago, requested a *daman* gentlaman man skilled in Natural Hiv-

From *R6j nnahl*, the shore trends towards the West, forming several head-lands; the principal of which are *Mongheir*, and *Chunar*. From thence it goes all along the banks of the *Jumna* to *Agra*, and to *Delhi*, where it ends, forming two small rocky eminences; and then turns suddenly to the South West; and forming an irregular semi-circle, it trends towards the *Indus*, which it joins near *Bac-kar*, at the distance of about four eoss from that place, and one from *Lohni*, or *Rohri*, where, suddenly turning to the South, it goes towards *Rani-poor*, sixteen eoss from *Rohri*, and four ilom *Gun* mot* on the *Indus*. This account is from Captain J'ALVEV, who visited that country about the year 17H7. From *Delhi* to *liacicar*, in a direct line, there are no mountains, for the hiiis remain to the South of this line, forming an immense curve. Thus, from the mouth of the *Indus* to that of the *Ganges*, round *De/hi*, it is an immense flat and level country. The beach of the shores to the North, at the foot of the snowy mountains, and to the South, round the island of *India*, in ancient times, is covered with pebbles, some of the most beautiful I ever saw. • But the greatest part of them are not real pebbles ; they are only fragments of stones, marble, and agate, rounded and polished by mutual attrition, produced by the agitation of the waves. It seems as if the waters, which once filled up the *Gangetic* provinces, had been suddenly turned into earth : for the shores, the rocks, and islands, rise abruptly from the level ; and arc every where well defined, and strongly marked ; except where the

torv, ami who was jroiny; upon the (*im^t>* tW the benefit of his health, to stay at *Hujami'ihl*, and aNceitain, whether these were **the** remains of a *Vulva no in'* not. That prllcman, who*e name f do not recollect m>w,havjn<r m.i'nrelv examint <| every pmticuiar appearance about *Muti-jivna* and *Itajumdhf*, wrote a short es>av, *m* **which** he proves these appearances to k *Vulcanic** .1 id tUe cav-cade to be the uulubitable remains of the *aatcruid Vidcatu*).

surface of the adjacent level has been disturbed by the incroachments of rivers, and torrents from the hills in the rains, or by the industry of man, Thia I noticed particularly about *Birbhoom*, and to the South-east of *Ckunar*. What we call the bilk in this country, and which appear such, from the immense plains below, are, in reality, the table-land pf old *India*. In the *Gangetic* provinces no native earth is to be found, and the soil consists of various *strata* of different softs of earths, in the neat-est confusion, the lightest being often found below the heaviest. The deepest excavation, that ever came to my knowledge, was made, some years ago, near *Benares*, ar a place called *Comowly*, within a furlong, I believe, of the *Ganges*, by some gentlemen who were erecting some indigo works. They pierced through an amazing thick *straturn* of stiif earth, without obtaining water. They found then several beds of mould and sand, re* markabiy thin; then at the depth of about ninety-five feet, they arrived at an old bed of the *Ganges*, which consisted of a deep *stratum* of river sand, with bones of men and quadrupeds. They were supposed to be petrefacrions, from their extraordinary weight, though they preserved their original texture. The human bones ware entire, but those of quadrupeds were broken, and bore evident marks of their having been cut with a sharp instrument. This bed was exactly thirty feet below the present bed of the *Ganges*. Helow this *stratum* of sand they found another of clay ; and below it, some mould: then, at the depth of about one bundled and five feet, they found a bed of fine white sand, such as is found on the sea shore. Vnder this they found a bed of the sanu- ckn and earth as there was above: and they were relieved from their labours, by a copious stream of fresh water. The sight of the sea sand gave me some hope of finding some marine productions, but I was disappointed : which shews

that this bed of sknd was merely adventitious, and had been brought down by the river from the shores to the lower parts of its bed; and that the olci bottom of the sea was considerably below. The same appearances, with human bones, have been found lately at different places, in digging wells near the *Ganges*, and generally at the same depth nearly.

To ascertain the quantity of the declivity, both of the country and of the bed of the *Ganges*, would be useful and entertah ing: but I have nothing but conjectures to offer on this sujecr. When we consider the numerous windings of this river, we may safely conclude, that the declivity cannot be considerable. It is greater from *Hurdxvdr* to *Allahabad*, and through the country of (*Jade*, than any where else. From *Allahabad* to *Sderi-gaHy*, it appears to he trifling; but from the head of the *Delta*, where the hanks are generally about thirty feet above the surface of the waters of the river, when at their lowest period, the declivity is uniform down to the sea (where the land is nearly on a level with it\ for a space of two hundred and thirty miles: I have often observed, between *Allahabad* & *Rdjamahl*, that there was no sensible declivity in the surface of the waters of the river, when at their lowest period, for ten miles, in some places fifteen, and even twenty in others. For since there was no sensible current in the river, when the winds were silent, tl ere could be no declivity. Besides, the river *Cosa*, which fell into the *Ganges* formerly opposite *Rajamahl* has altered its course, and joins this river twenty-live miles higher up, which is the distance between *Nabob-gunge* and its present mouth. If the declivity was very considerable, this could not have happenld. In the Western parts of the *Gangetic* provinces there are two de-

divides, one from the North and the other from the West, in consequence of which the rivers flow in a compound direction toward the South-east. But as you advance toward the East, the declivity from the West toward the East decreases gradually, and of course the rivers incline more and more toward the South, till the declivity from the West, "disappearing" entirely, they run directly South into the *Xranges*. The rivers in *Bahar*, to the South of the *Ganges*, run also directly North into the *Ganges*.

This inland-sea being narrower at the bottom, near *Harckcur*, was of course sooner filled up; and the table land of old *India*, about *Delhi*, is very little above the level of the country. In the time of BHACHKAT'HA, the *Gangetic* provinces are represented as uninhabitable, except in the upper parts of the country, where SATVAVUATTA, or NOAH, is said to have generally resided, BHAOI-RAT'HA went to *Jlardudr*, and obtained the *Ganges*, & her to the ocean, tracing, with the wheels of his chariot, two furrows, which were to be the limits of her incroachments. The distance between them is said by some to be four eoss, and according to others four *Vojanas*; and the *Ganges* has never been known, it is said, to transgress on either side. This legend is of great antiquity, as it is mentioned by PHILOSTRATUS in his life of APOLLONIUS. The *Ganges*, says he, once nearly overflowed all *India* (the *Gangetic* provinces); but his son directed its course towards the sea, and thus rendered it highly beneficial to the country. Thus we read in the history of *China*, that the *Iloangho* formerly caused great devastations all over the country: but the emperor Yu went in search of its source, from whence he directed its course to the sea. IIMU V\ KS» at the command of OSIRIS, brought the A7/c from *Ethiopia*; this *Christians*

and *Musulmans* formerly attributed to ENOCH, or JDKIS. BUAGIIAT'UA thus brought the *Ganges* to a place on the shores of the ocean, called *Ganges Sagara*, where it was made to discharge its waters through seven channels; but, according to others, through one hundred. The first number is mentioned by MELA, and the other by APULEIUS.

Eois regnatdr aquisin flumina *centum*,
Discurnt, *centum* valles illi, oraque *centum*,
Oceaniue frctis *centno* jungitur amni.

" This king of the Eastern wave runs into a *kun-**
" *dred* streams; with a *hundred* mouths, through a
" *hundred* channels, like so many vallies; and joins
" the ocean through a *hundredfold* stream."

The *Ganges*, advancing toward the ocean, was frightened, and lied back through one *hundred* channels, according to the *Pauranies*; and through this exercise *she* goes twice every day.

This happened at a place called *Purdn'a-Sagara*^ or old *Suguru*; for the new *Sugura* is in the island of that name near the sea, and the old one is near *Fulta*, dose to a place called *Mtwdti-gaclilut*, or *jMurngutehd*, in Major RENNEL'S Atlas. There is an insigniificant stream very often dry, which is the true *Ganges* which divides its waters into seven small rivulets, some of winch are delineated in the *Ileugt* Atlas: from this circumstance, the *Ganges* is called *Sut-nntchi-Gungu* in the spoken dialects, or with seven mouths. When she is called *Sata-muc idt*, or with one *hundred* mouths, this implies her numerous channels, through the *Sundcrbunds*. The old *Sugura*, probably the *Oceunis* of Ijioi)Ouis; the *S'wHi-tn*, is now about iiMy miles from the Southern exuemitv of *Sugar* island: and

this distance shews the encroachment **of the land** upon the sea, since the days of BHAGIRATHA, who lived above two thousand years before CHRIST, according to the genealogical scale prefixed to my essay on the chronology of the *Hindus*, The new *Sdgara* was originally on the sea shore, but it is now five or six miles from it, toward the East, and many more toward the North. It is to be wished, that the era of its foundation could be ascertained, as it would enable us to form some idea of the gradual progress of the encroachments of the *Delta* upon the sea.

There can be no doubt, but that, the factitious soil of the *Gangetic* provinces, and of the *Punjab*, has been brought down by the alluvions of rivers from the countries to the North of *India*. The quantity of earth thus brought down must have been very considerable at a very early period; but it is very trifling at present, *iov* these alluvions have left nothing but the bare rocks, with such parcels of ground as were out of their reach, from their being supported and protected by stony ramparts. The country between the ranges to the iSorth of *India* is a table-land, and forms, as it were, so many steps, as mentioned in the *Trailoaja-dcrparia*, and by the *Paurdnics*. This circumstance was ascertained by Mr. SAMUEL DAVIS, "who went as far as the first range. This was also confirmed to me by natives, with respect to other parts of the country, as far as *Caslnnir*. On these table-lands are also various peaks and mountains; and the beds of the rivers look like so many ravines of an enormous size.

V. By the *dxnpa* of *Jambu*, the *Paurdnics* understand, in general, the old continent, but the followers of BULDING in *Tibet*, *Ava*, and *Ceylon*,

understand *India*; and many passages from the *Buranas*, prove that it was originally understood of *India* only.

The *dwipa* of *Jamhu*, or *India*, is called also *Cariyd-dwipa*, or the island of the virgin or damsel, daughter of king BHAIATA, the fifth from SWAYAMBHUVA, or ADAM. Her name was ILA', or the Earth : this was also the name of the daughter of SATYAVRATA, or PIUTHU; for though the Earth was his wife, she became also his daughter. The sea surrounding *Jamba*, is called the *Lavana-saindra*, or salt sea, It would have been highly imprudent for the *Paururiics* to have placed there seas, either of milk or honey.

The second *dwipa*, is that of *Cusa*, thus called either from a sage of that name, or from the grass *Cusa*, or *Poa*, supposed to grow there plentifully. It includes all the countries from the *Indus* to the *Persian* gulf, and the *Caspian* sea, which probably the *Pauran'ks* made the limits of that country, or *dxcipa*, and afterwards supposed to form a watery belt round the zone of *Cusa*, under the name of sea of *Sura* or *Ira*, or sea of intoxicating liquors. The origin of this denomination may possibly have some affinity with *Iran*, and the *Sur* or *Assar* of scripture. It is probable that *Sar* and *Assar* were once considered as synonymous ; if not, then *Sur*, or *Syria*, certainly extended once from the shores of the *Mediterranean* sea to the gulf of *Persia*, and even included the greatest part, if not the whole, of *Arabia*. The *dwipa* of *Cas'a* is the land of *Cash* of scripture, at least, part of it. *Cushu* should be pronounced nearly like *Cnslw*, but not quite so forcibly, like the two *ss* in the *English* word *cession*. The third *dzcipa* is *Placsha*, or the country abounding with iig-trees. It is called

Palangshu by the mythologists of *Bootan*, and included the lesser *Asia*, *Armenia*, &c The name still remains in *Placia*, a town in *Mysia*, the inhabitants of which, with those of *Scylact* had a peculiar language, which was the same with that spoken by the *Pelasgi oi'Crest one*, or *Crotone*, above the *Tyrrhenians*, in *Italy*; and by the *Pclasgi*, who lived on the shores of the *Ilellsptmt*, according to HFUODOTCS. Thus the denomination of *Placshu*, or *Patano-shu*, seems to be the same with *Placia*, and *Pclasgia*; and the *Pelasgi* came originally from the lesser *Asia*. It is hounded by the sea of *Icshu*, or juice of the sugar-cane, and which seems to be the *Eux'nit* sea : but this will be the subject of a separate article, when it will appear, that the *Paurdnics* have confounded the *Jsh* or *Ash-tree*, with the *Icshu* or sugar-cane, as this tree produces also a sweet juice, famous in the *Edda*, and called, when bulled, *ashy*, by the old *Scythian*; (according to HEKOOOTI S, who has, however, Strangely misrcpicstntcd the tree from which this sweet juice was piocured,) and which WILN afterwards boiled into a haul substance, like-thai of the sugar-cane, which is called *gur* in *Indui*. Hence the *Icshu* sea, is called also in the *Puranas*, the sea of *Guda* in *Sanscrit*, and prhnouned *gar* in the spoken dialects.

The fourth *die/pa* is *Salmali*, *Salnurf*, or *Sulwalicti*, or the country of the willow*, and of the lord of the widow *Salmahxcara*, *Suhiutlia.su*, the same with */.auKdiis*, (ailed also, more properly, *Salmoiiiis* and */almoUis*. It extended from the *Eu tine* to the shores of the *Baltic* and *Adriatic* seas.

* The word *Sutmafa* is generally uiuier&tntnd to signify *Bo;u-bax*; but it -unities also such trees as produce cottom until for spinning and I shall shew him I come to treat of *JS til mala-dwipa*, that it is to be undu.tood **there of** *tac* willow,

it is surrounded by the sea called *Sarpi*, *P?ita*, or clarified butter.

The fifth *dzoipa* is called *Crauncha*, and *Or ami da*, which included *Germany*, *France*, and the Northern parts of *Italy*. *Crauncha* is the same with *CRONUS*, confounded with *SATURN* by Western inythologists; and the *Baltic* and *Adriatic* seas were, probably, called *Cronan*, from the *dwipa* of *Craunca*. It is surrouiuled by the *DaddiUSa^ara*, or sea of curds.

The sixth *din pa* is called *S/tcn*, and *Sdciwi*, and includes tiic *lirllish* Mes. It is surrounded by the sea of *mi!L* or the *wlme* sea; *Cslurubrfdii* and */u!>\rfti'/b<t"l>f*, (*'shira-SJo-ara*, or *(^hrra-Samudra*, *Cshira-Salila*, *Cshiranid'hi*, *Cslurarinrca*. It is called also *J/rtr.talnThU* or sea o^f */nnnta** synonymous with *Aiaalaci*, from which they mad:⁴ *Amalch'ntm* in the West. It is called, also, *S,o)nasailahdlu*, or the sea of the mountain of the moon.

The seventh *dwipa* is *PuAwara* or *Tec-land*, surrounded by the *Syaduda*, *S.ciutudnca*, *Sicudajala*, *PainnCiii*, *rotialuCIiL* or the sea of fresh water: for it was, also, the opinion of the ancients, that the furthestmost ocean was of fresh water; *Sr^liucus* *Ocanius da Zeis est*, says *Pi i \ v*.

The *Wcs'crn* ocean is, in general, called *maha-dabddii* and *Mahan/ara*, or the great sea; and in the* *Rt'vaciianda*, the *chaia~samadra* is said to come down as low as the parallel o-" *Ilina.n;d/K* or the snowy mountains, or about thirty decrees of latitude north. *CALANUS* seems to allude to these wonderful seas, when he > \A to *ALEXANDER'S* messenger, that formerly -iee'e were spirals of water, others of *iniik*, I¹ a.;, wine, and oil; but

that in the present wicked age and degenerated times, they had disappeared. This is also the opinion of many divines in *India*, who believe, that in *Cali-yuga* these seas have disappeared, or are turned salt, and bitter, and also, that the white island, is become black, on account of the sins of mankind. **ONESICKITUS**, to whom **CALENUS** was speaking, was probably unwilling to give credit to these seas of milk, wine, and honey, but could have no great objection to springs only of the same. One of the seven seas is culled *Cs'iaudra-Sdgara*, or sea of honey, I believe, in the *Siddhanta-Siromeni*. There is another division of the world into seven *ihripas*, more complete than the preceding, but its origin is not mentioned. Their names are, *Jamba*, in the center; to the West, reckoning from North to South, are the *dxapas* of *J'ardha Cus'a* and *Sancha*; to the East, reckoning from South to North, *Yaaiala*, or *Malaya*, *Varna*, and *Anga*. The *dxvipas* of *Cava* and *Varna*, are acknowledged to be East and West with respect to *India*. *Jamhu* here appears again in a different light. It includes *India* the elevated plains of *Tartar*)), and mount *mera*,, and extends towards the W(st to the *Caspian* sea and the *Persian* gulf. The followers of **JINA**, in *India*, reprcsrnt *Jamba* nearly in the same light, except that they make it larger, and seem to extend it as far as the shores of the *Eu vine* and *Mediterranean* seas. *Varaha dzcipa* being situated in the North West quarter of the old Continent, is *Europe*, as wi!! appear more fully in the course of this work. The *dwipa* of *Cus'a*, according to this new division, includes the lesser *Asia*, *Armenia*, *Syria*, and *Arabia*. There seems also to be a **third dictpa** of (*asa* near the equator, which includes *Ethiopia*, etc. The *Pauranies* account plausibly (or these three different situations assigned to *Cutfa*, by supposing it owing to **the**

successive emigrations of the original inhabitants of that country; and the first and second *Cus'a* they consider but as one and the same.

The third *dw'ipa* is that of *S'ancha*, or *Africa*, of which they know but little, and nothing beyond *Ethiopia*, or rather *Abyssinia* and *Egypt*, with the Eastern shores. It retains, in great measure, its *Sanscrit* name; an extensive part of that coast being called *Lengh*, and *Lengh-bhar*, to this day. But *PTOLEMY* extends it as far as cape *Gardafui*, to the South of which he places another cape, called *Lingis*, or *Singis extrenia*. The denomination of *S'aneha* is obvious also in the names of *Singis*, *Lenghistan*, and perhaps *Lengitana*, *Langiro*, *Lanhaga*, *Lenighi*, and even perhaps *Senegal*, from the *Sanscrit* *Sanelurfa*, in a derivative form; and the *Troglodytes* are called to this day *Shangalas*.

S'ancha-dzicipa signifies the island of shells, and the natives, according to *STKABO*, used to wear large collars of them; but, according to the *Pauranges*, the inhabitants used to live in shells: probably in caverns, hollowed like shells, or compared to shells. The famous demon *S'A'XC'HASUIIA*, lived in a shell. When *CKISHXA* killed him, he took the shell in which he lived, and which is now become one of *Visuxtf's insignia*. This strange idea was not unknown to the *Greeks*, who represent young *NKUITKS*, who is one of the *CUPIDS*, as living in shells, on the shores of the *Red sea*. *Stuwha-dwtpa* is then synonymous with *Troglodytiea* of the ancients. The *Troglodytes*, or inhabitants of *Caves*, are called in scripture *Suhim*, because they dwelt in *Sucas*, or *dens*; but it is probable, that the word *Suva*, which means a *den* only in a secondary sense, and signifies also an *arbour*, a *booth*, or a *tent*, was originally taken in the

sdhse of a cave, from *S'ancha*, and afterwards usee! to imply any fabric to dwell in. Thus the word *dett* is obviously derived from the Sanscrit *d'hamior den*, in the language of TIBKT, in which it signifies any place, house, or even country to live in. The *Sukhn*, or *Sukhum*, were a powerful nation in the time of HEHOBOAM, for they accompanied Sai* SHAC in his expedition against *Jerusalem*; and we find their descendants, in the third century of the *Hejira*, crossing *Arabia*, and invading *Irak-Arabia* or the country about *Rabylaiu* under their king SAHEB-AI-ZFXG, or the lord of Zeng, who appears as a successor of the famous Sanch-MrehiA-NA'GA, a giant in the shape of a snake, with a mouth like a shell, and whose abode was in a shell; and who had, as usual, two countenances, that of a man, and another of a snake, lie was killed by CUI SHXA; hut his descendants and subjects, in similar shapes, still remain 1 he-re. He is called also PA'VCHA-JAWA. The breath of the SAXC'HA-IVAGA is believed, by the *Hindus*, to be a fiery poisonous wind, wliich bums and destroys animals and vegetables, to the distance of a hundred)V;-janas round the place of his residence: and by this hypothesis they account tor the dreadful effects of the *Samum*, or hot envenomed wind, which blows from the mountains of *liubab*, through the whole extent of the desert. The sage ACASIWA, who is supposed to live in the South West, or *Abysvuia*, pur an end to this evil, and even reduced the serpent so much as to carry him about in an earthen-vessel. This legend is current in the Western parts of *India*, but, how far it is countenanced in the *Purdii'as*, I cannot say. The *Hindus*, in the Western parts of *India*, aic remarkably well acquainted with the superstition^ Tnonnmen's, riles, and legends of the *Mitxnlaiifiis* in *Arabia* and *K<si/pt*, such as the serpent *Hcrdi*, the black stone in the *Caaba*,

the two pigeons destroyed by MOHAMMED, **and the** impression of a foot on **a** stone there. These, plausibly enough, they claim as their **own** property, and have traditionary legends, purporting to be grounded on the *Paurdnas*, though, perhaps, not expressly found there. They say, there was formerly a great intercourse between them and *Egypt*, *Abyssinia*, and *Arabia*, where there are *Hindus* and *Brahmens*, even to this day, as well as ail over *Persia*, and even in *Georgia*. *Fackeers* occasionally go there; and certain it is, that the famous URD'HA-BA iir, who travelled to *Moscow*, and died lately at *Benares*, attempted to go to *Egypt*, but he went no further than *El-Catif* and *Baharein*, on the Western sliores of the *Persian* gulf, being deterred from going further. I have made mention of him in my essay on SAMI-RAMIS, called S.un-l)i:vr by the *Hindus*. PTOLEMY saw many *Hindus* nt *Alevandria*, and they used to visit the temple of MAIIA-BHA GA'-DEVI', at *Bambyke*, or *Mahog*, in *Syria*, according to LUCIAN, as cited by the authors of tlie ancient universal history.

The mountains in which S'AXC'HA'SURA lived, are called to this day *Hubab* in *Arabic*, or **the** mountains of the serpent ; and the people of these mountains have, according to the *Abyssinian* traveller, iet>cndarv traditions of a snalle, who formerly reigned over them, and conquered the kingdom of A/re. Th-y are famous, with their serpentine tribes, in Oiiiental tales; and in the *Arabian* Xights, we read of the miraculous escape of **SIN-BAD** from the devouring mouth of that dreadful race, who lived in caves among die mountains. Near that country he was exposed to many dangers from the birds called *Rocks*, or *Simorgs*, the *Garudas* of the *Paur/jtics*, whom *Persian* roman-

cers ffpresenf as living in *Madagascar* according to MARCO POJLO. The serpent *Sancha-Nag&* is now called *Heredi* in *Egypt*. The *Musulmans* insist, that it is a *Shaikh* of that name, transformed into a snake; the *Christians* that it is *sis modem*, mentioned in the hook of *Tobit*, the *Ashmugh~div* of the *Persians*. There, in the *dzcipa* of *S'an^hcha, is the capital city of *Xaisra\ ox Paid*, called *Crish-nAnganit*, being- situated on the river *Cnshna*, or *Crishniwgan/i*, that is, with a black body in a human shape; for rivers have two countenances. NAIR::;1'T had a famous elephant called *Cannula*, with the title of *Nairritip'tdigaja*, or the elephant of the South West quarter, ov *Xairrit*. Wonderful stories arc related of him ; and there is no doubt, but some of them are mentioned in the *Puniuas*, or some other books; but I could not find them. This famous elephant is, however, mentioned in *Lexicons*, and lived in *Sancha-daipa*, with hi* tribe of gianis in the shape of elephants, or rather with two countenances. The names of suerai rivers in that country are pure *Sanscrit*, and obviously allude to the ancient inhabitant, in the shape of elephants, living and sporting on their banks. Thus tin? *slistanimos* is fioin *Ilastianian*, or *Hasti-nutti*. full of elephants. The *Maw ft* WAS called *slxtosafa*.^ from *Ilusti-sahha*, because then-chief held his couit ti.wre. A^tahnra.^ or .*Istafuiras_y* was als) the nanu* of another river lhar, from *Hasli-xara*, or *Ilasti-bara*, the eouniry along; its banks bcin^ full of elephants, u HOM: abode it was.

There *thr unfni tuna***- Sj\k,\r>, according to the author (>f the *Arahan Nights*, w;s once more in the nio>t imminent d.iu^er amongst this Klcphautine tribe, on his return fiom *Scrcn-dip*, or rather *Serandah*, or *Madagascar*, called ah»o *Ranch*, >\ru\ in the *I'urdnas** I Iu r hi a.

In my essay on *Egypt*, I mentioned the unfortunate affray between the son of Cussin, and some of these elephants, in consequence of which he became a *Caunapas*, or like a dead corpse. I cannot ascertain whether the whole legend be genuine or not: certain it is, that in Lexicons the *Carenapgs* is mentioned as belonging to the train and retinue of NAIKUIT, or PALLI, and of course they lived either in *Ethiopia* or in *Egypt*.

The *dwipa* of *Sane ha* is supposed, by the *Pauranks*, to join the island of *Sumatra*, or of the Moon. This mistaken notion has been adopted by PTOLEMY, and after him by Oriental writers. In the beginning of the *Brahman da-pur an a*, *Lanca* or the peninsula of *Malaya*, and *Sumatra* join the island of *Sane ha*, or *Zengh*. *Samdst'hitam*, adhering to, is a participial form, answering to *con-stitutum* in *Latin*, and *sun-is!amai* in *Greek*. This is understood of the island of *Mandara*, or *Sumatra*; for it is positively declared, that *A/aha Lanea*, or *Malaeu*, and *Sumatra*, are separated by a strait called *Lancu-dicdra*, or the gates of *Lanea*. PTOLEMY, however, supposed it was the peninsula of *Mdlacd* that was thus joined to *Africa*; and, for this purpose, makes the shores take a most circuitous turn. EL EDKISSI asserts equally, that the isle of *Malai* joins, toward the West, to the country of *Zengh*. The inland, or *Mediterranean* sea, is called *Yamodadhi*, or the sea of *Yama*; and by PTOLEMY *Hippados*, perhaps from the Sanscrit *Updbdlii*, which would imply a subordinate or inferior sea. This expression would be perfectly grammatical, but I do not recollect that it is ever used. *Hippados* may also be derived simply from *Abdlii*, pronounced *AjnChi*, or the sea. The tract of islands called *Ranch* by *Arabian* writers, and including *Madagascar* and the surrounding islands, is obviously

the dwipa of Hariria, mentioned in the *BMgavata*, along with *Sancha*, in the South-West quarter of the old continent. This island being also called in *Arabic*, the isle of the Moon, has occasioned some confusion. Doctor VINCENT has thrown much light on this subject, in his learned and elaborate treatise on the *Periplus* of the *Erythrean* sea; by which it appears, that the notions of the *Arabs*, relating to these seas, are more conformable to the *Puranas* than PTOLEMY'S description. The three *dzvtpas* to the Eastward, are *Yamala*, or *Malaya*, now the peninsula of *Malaca*, and the adjacent islands; as for the *dxcipa* of *Yama*, its situation is rather obscure; the third is *Anga-dzicipa*, in the North-East, by which they understand *China*. There is very little about it in the *Puranas*; and, with regard to the *diripas* of *Yama* and *Malaya*, they will be the subject of a particular paragraph.

VI. There is another division of the old continent, extracted chiefly from the *Bhugavata*, the *Brammda*, and *Brahwa-Puranas*, which represent the world under the emblem of a *Xijmphaa*, or *Lo-to**, floating on the ocean. There the whole plant signifies both the Earth and the two principles of its fecundation. The stalk originates from the navel of *VISHXL*", sleeping at the bottom of the ocean; and the flower is described as the cradle of *BRAHMA*', or mankind. The germ is both *Meru* and the *Linga*: the petals and filaments are the mountains which encircle *Mem*, and arc also the type of the *Yoni*; the four leaves of the calyx are the four vast *dwipas*, or countries toward the four cardinal points. Eight external leaves, placed two by two, in the intervals, are eight subordinate *ifwipas* or countries.

The four great countries, or *Maha-dwipas*[^] are *Uttara-curu* to the North, *Bhadras'va* to the East, *Jambu* to the South, and *Cetumala* to the West. In the intermediate spaces, in the North-West, are *Sxearna-prasfha*, or *Ireland*, and *Chan'dra-sucla-Avarttana*, or *Britain*. In the North-East are *Ramanaca* and *Mandara*; these are unknown, and have been placed there probably for the sake of symmetry. In the South-East, *Lanca*, the peninsula of *Mulaca*, *Sinhula*, or *Ceylon*: in the South-West, there is *Hariri a*, the *Ranch* of Arabian authors, now *Madagascar*; and *Pancha-janya*, or *Sane ha*; as may be seen in the accompanying delineation of the worldly *Lotos*.

The usual division of the known world is into nine *chanda**, or portions, exactly of the same size, as to superficial contents, but of very different figures and dimensions. In the center of the old continent, on the highest and most elevated spot, is the division called *lldvrutta*, or the circle of *Ha*: to the East is *lihadrasva*, and to the West *Cetumala*, or simply *Cetu*.' Toward the South are three ranges of mountains, and as many to the North; between them are four divisions, two between the three ranges in the South, and as many between those in the North. The names of the ranges, to the South of *Ilavrafta*, are *Jlintachah*:, *liimadra*, or the snowy mountain: to the North of this range is the second, called *IL nut-cut a*, from its golden peaks; the country, or division, between them, is called *Cimpu-ruslta*, or *Cinnara-ciimida*. The third range is called *Xishttdlui*; and the country between this and *Ucma-cut a*, is called *Jlarivarsha/n*, or *Hari-chanda*.

To the North of *Ilavrait a* are the *NUa*, or *biff** *Mioiinjaius*: to the North of this range is another,

called *Sweta*, or the white mountains: the country between these two is called *Ramyaca*: the third and last range is called *Srtnga-v&n*: and the country between the two last, is *Hiran'yamaya*, or *Hirartmaya*. These six ranges extend from sea to sea, and are of different length, according to the latitudes they are in. The length of the two innermost ranges, and of course of the longest, is equal to the breadth or *Jamhu dzripa*, or 100,000 *Yajamas*; the length of the two middle ranges, *Sueta* and *Hema-cut'a*, is 90,000 *Yjanas*: the two outermost, *bringa-van* and *Hiijiuchali* are 80,000 *Yojanax* in length. These mountains are 2000 *Yojanas* broad, and as many high, or about 10,000 miles • we are informed, in the *Caiica-puraua*, that it was so formerly; but that since, the mountains have gradually subsided, and that the highest is not above one *Yojana* in height, or less than the miles.

According to the *Trai fovyn-darfaha*, these ranges do not extend from sea to sea, are a little more than the fourth part of the breadth of the old continent, which is, in that history, said to be equal to 400,000 *yojanas* the length of the two outermost ranges is declared to be 4202 *Yajanas*; the two middle ones 8412, and the two innermost 16,812. This is the more reasonable, as these three ranges, very plain and obvious in the North of *India*, are soon confused together, and disappear at some distance from it; and as 150,000 *Yffjanas*, in the *Trai-locya-darjutna*, are considered as equal to 180 degrees of longitude, the first range will extend East and West, about two hundred twenty degrees of longitude, which is the utmost breadth of *bullu*. The difference between the two other ranges, and the first is disproportionate and inadmissible; and the proportion given in the *Pur/mas*

of **their** respective lengths, is more natural, being in **the** ratios of ten, nine, and eight. In this manner the three ranges are, in a great measure, confined to the Original *Jambu*, or *India*.

The country, to the South of the Southernmost range, is called *Bharata*, and originally was confined to *India*; but it is also enlarged, along with *Jambu*, and is now made to extend from the shores of the Atlantic to those of the Eastern ocean.

In the same manner, the country beyond the Northernmost range, as far as the Frozen ocean, is called *Cunt*, or *Alravata*, being the native country of the famous elephant of IXDKA, called *Airaxaia*, and of his numerous tribe and descendants, whose *t\vu:ia* or spoils, are to be found in vast quantities in the Xorilurn parts of the old continent. The >c nine divisions are said to be perfectly equal in superficial contents, though of different shapes; and the only difficulty in delineating a general map of the world, is to divide the whole surface into nine equal parts one of which, in the centre, is to be a north arc, and out of the right others, every two divisions are to have exactly the same area and dimensions. The accompanying map <i .a.v/'M', which JS very common, is supposed to be drawn on these principles; but which 'T it be \cry exact in that respect, I shall not detract, a > I am by no means willing to go through the unnecessary calculations, which, after all, would prove of no use. In consequence of this arrangement, the first range, or the snowy mountains, lies under the parallel of thirty-two degrees of latitude;" the second under that of (e>° 48'; and 'iyhutt'ha in 70°. *Anrti* \> here supposed to be the North pole. The three other ranges beyond *Mint* are exact ly in the same latitudes

reckoning from the opposite side of the squalor, which circumscribes the Northern hemisphere. But *AUm* is not the North pole; it is true that it is the *Nava*, *Nobek*, or under the ninetieth degree, not from the equator, but from the horizon; or, in Other words, it is the zenith and centre of the known world, or old continent, not including the *Gea*; and this centre, according to the *Paurariicx*, in the time of *COSMAS IXDOVLEUSTES*, in the middle of the sixth century, was said to be exactly between *China* and *Greece*. We read constantly in the *Purarias* of countries, mountains, and rivers, some to the North, others to the East, or to the West of *Mew*; the country of North *Curu*, beyond *Meru*, is repeatedly declared to be to the South of the Northern ocean. All these expressions shew very plainly, that by *Meru*, the *Panranks* did not originally underpin! the North pole, which they call *Sidd'hopur*, which place, the astronomers say, cannot be under the North pole, because it is in the track of the sun; for when the sun is there, it is midnight at *Lama* and in *India*; it must be then under the equator. This is very true; but we are to argue, in the present case, according to the received notions of the *Pauranics*, who formerly considered the Faith as a flat surface, with an immense convexity in the centre, behind which the sun disappeared gradually, descending so as to graze the surface of the sea at *Sidd'hajmra*. In the *Brahman'da Parana* section of the *Bhucana-Ccut*, it is declared, that one-half of the surface (*vedi*) of the earth is on the South of *Meru*, and the other half on the North. Ali this is very plain, if we understand it of the old continent; one half of v. Inch is bouth of the elevated plains of little *h khura*, and the other half jfcp the North of it. Hien, twelve or fifteen lines tower, the author of the s^me *Parana* adds, and

these two countries, South and. North of *Mint*, are in the shape of a bow; . this is- to be understood of their outermost limits, or shores

Another irrefragable proof, that by *MSru* we are to understand the elevated plains-of little *Bokhara*, are the four great rivers issuing from it, and flowing toward the four cardinal points of the world; three of which are well known to the *Hindus*. These rivers are the *Ganges*; the *Situ*, flowing toward the Kast, and now called the *Hara-Morzn*; the *Bhadra* to the North, and probabiy the *Jenisea* in *Sihtria*; the fourth is the *Apara-Garidica*, or Western *Garidial* called more generally *Chacshu*. It flows toward the West, and its present name, among the natives, toward its source, is *Cocsha*, and i'v >m the former is derived its Greek appellation of *Ows*.

Tints the distance of *Merit* from the equator is reduced from ninety degrees to forty-five; the distance from the equator at *Lanca* to *Sidd ha-pura*, or the North pole, is reduced from one hundred and eighty to ninety degrees; and every distance from North to South, in the *Hindu* maps, must be reduced in the same proportion.

Thus the snowy mountains, to the North of *India*, and placed in the n.a;j in the latitude of fifty-two degrees, me bro.ight down lower into twenty-six degrees, the halt of fifty-two: and they really begin that latitude near ew e/; but they are made, most enoncou'.lv, to than in a direction Last and West. Straed demon's a ;rca: deal upon the direction of the more to the North of *India**, from *Hfpl>arclius* and *llr.iiunlktnc^*; and concludes

* STRAPO, lib. II, piige 116 and 1?2.

hf saying, that the obliquity of the direction of these ranges was to be retained in the maps, exactly as it was in the old ones. The whole reductions are thus exhibited in the following table:—

The North Pole, W

	66«	parallel of 66° or Polar circle,
J28°.	.6r	first range North of <i>Mvru</i> ,
114 2'.	57 1	second ditto, ditto,
104.	52	third ditto, ditto,
90.	45	<i>Mcnt</i> ,
76.	3 8	third range, South of <i>Merit</i> ,
65* 8'.	32° 34	second range ditto,
52.	26*	snowy mountains. *

Instead of the numbers beyond *Mcru*, their complement to ninety is to be used.

But as *Merit*, or the **central** point between the sources of the four groit rivers, is not in the **latitude** of **forty-five** degrees, a further correction must take place. No precision can be expected here; but this central point cannot be carried further North than thirty-nine or forty octrees; and the three Northern ranges **will** fall in the following latitudes.

MERU in 40°, the .Nala range in 47° *Sui'a* iv 52° and *Sringadvam* in .59°.

The summit of *Meras* is icprfsented as a circular plain, of a vast extent, surrounded by an edge of hills. The whole i . called *llarratta*, or the circle of //J, red considered as a celestial **Karth, or swargobharh** and it is thus called to this day, by the people of table the *Chuiine*, and the *Tartars*; and, like the *Iiualu**, they have it in the greatest veneration, worshipping its encircling mountains **whenever** they desery them. According to Dr: Guignils, the *Chains* rail them 'Twen-chan, and

the *Tartars Kiloman*, or the celestial mountains. In *Tibet* they call them *Tangra*, or *Tangla*, according to F. CASSIANO and PURA'N-GIR; the latter accompanied the late LAMA to *China*, and gave me an accurate journal of his march from *Tissoo-Lumbo* to *Siling* or *Sitting*. *Tingri*. in the language of the *Tartars* and *Moguls*, signifies the heavens; and even *Tibet* is called *Tibtt-Tingri*, or the heavenly country of *Tibet*. The name *ot Tien-chan* is given by the *Chinese* to the mountains to the North of *I lima*: to the Southern part of the circle they give the name of *Sioue-vhan*, or snowy mountains. This range, says DE GUIGXES, runs along the northern limits of *India*, toward *China*, encompassing a large space, enclosed, as it were, within a circle of mountains*. The Southern extremity of this circle is close, according to the present *Hindu* maps, to the last, or Northern range, called *Aishiui'ha*; w\\t\\ this is actually the case with the mounmms of *Tangra/t*, near *Lassa*, which is in the interval between the second ami third range. According to F. CASSIANO, the mountains of *Tanggrab* are seen from the summit of *Cambala*, several days journey to the Westward ef *J,a»w*. The famous i\\ HA \\-oin kft them on the U*ft, in his way from 'Ttwj-lMiuhc to *Chiaa^* at the distance of about twehe coss, and did not fail to worship them. At the distance ol seventy-st_vcn coss from the l->t place, he reckoned *L.(^;a* to be about twcnt\\ coss to the rmht; twenty-three cos-; beyond that, he was near the mountains of *hi,,jink 'Tangra^* a portion of that immense ciicnlar riclgc. In his ?>rogi.evs toward! the famous Umpic of *lj:ik9* or *I'zak*, called *S(>uh* in the maps, he saw them several tinus. Ciose to \\r:j:nk-'langra lie enteral the !noiitainsoi'.iY'/'«/////eallc<l *Larkinxw* the maps,

* *liisitnn dm Haw** Vol. 11, in tho bj^itmu^.

VII This sacred mountain, or heaven-like country, matfe part, it seems, of the sacred cosmography of the ancients. The *Jeivs* had" some notions of it, and called it the mountain of GOD: they afterwards, with great propriety, gave that name to mount *Moriah*. The *Greeks* had their mount *Olympus*, 'inaccessible but to the Gods; and *I'd/h vratta*, or *Ild-vratta*, signifies the circle of I L A, the Earth, which is called also *Ida*. *Olympus* is derived from the *Sanscrit* *Ilapu*, or *I lap us*, the holy city of I L A, or I P A : thus it appears, that *Olympus* and *Ida* were originally the same. In remembrance of this holy circular space, the *Greeks* and *Romans*, when wishing to build a town, marked out a circle, which the first called *Olympus*, and the others *Mundus*, from the *Sanscrit* *A fan da*, a circle; they said also *urbsorbis** which is a translation of *niatrda*, in the language of the (rods, into that of mortals. According to D i P K K O V, the *P arsis* are acquainted with such a mountain in the centre of the world; and so are the *Musulmans* to this day. It was not unknown to our ancestors, the. *Seythans*; for they are introduced by J I S T I V, saying, that their native country was situated on an elevated spot, higher than the rest of the world, and from which rivers flowed in all directions. The *J exes* and *Greeks* soon forgot the original *Mem*, and gave that name to some favourite mountain in their own country; the first to mount *Sunt*, or *Moriah*. The *Gretis* had their *Olympus*, and mount *Ida*, near which was the city of *Huan*, *Aileyam* in *Sanscrit*, from *Ha*, whose inhabitants were *Mcvpts*, from *Merupa*; bein^ of divine origin, or descended from the rulers of *Mera*..

This mountain was even known in *Europe* to a late period; for it is mentioned in the number *binti* geographer, under the name of *Morc^ar*, from *Mtru~*

giri, or *Mern-gir*, the mountain of *Meru*. It is described by him as of an immense height, circular, and enclosing several countries within.

This sacred mountain is called, by divines in 77-*bet*, *Righicl*: hence SOSTHEVES, as cited by PLUTARCH*, instead of saying that DIONYSIUS, or BACCHUS, was born on mount *Meru*, or *Meros*, says, that lie was born on mount *Argillm*, which lie places, it is true, either in *Egypt* or *Ethiopia*.

In the same author we find another ridiculous story about this mountain, under the name of the bed of BOREAS, which he says was one of the highest peaks of mount *Caucasus*, and from which JUPLTEK hurled SATURN down into *Tartarus*. Mount *A/cru* is called, in the *Deccan*, the mountain, peak, *Cut'a* of *Hunca*, or the pole *Boureka*, by Mr. HAILEV, and other *French* authors. In the *Tumuli* language, and others in that country, the North is called *Vudaai*, *Vadaburram*^ or *Vadapurram*, generally pronounced *Vdraca*, &c, the North wind *Varanadu*, from the root *Vada*. In *Sanscrit*, *I^Tdac* is the North, or *Uttara*. *Vada* signifies originally high, great, &c and the North is called, in *Sanscrit*, *Utturu*, from its being supposed to be the highest point on the surface of the earth. The *Greeks* thus translated *Cata*, the peak of *Burraiil* *liadagi*, *lladaca*, by the bed of BOREAS; because *Kailc*, in Greek signifies a bed. This mode of translation seems to have been much in use among them; for they translated *Deo-ban*, the forest of the (jods, by *The-painai* *Pcorumpuntv*. The *sltshumi*, a poweiiul tribe in the hills near the *Ganges*, by *Aslomi*. or people without mouths.

The Bittigi mountains of PTOLEMY*, in the Decan, are in the country of the *Badegas*, according to European travellers of the seventeenth century; and their language is called *Badega*. The inhabitants of that country are called, in the *Tamuli* dialect, *Vdducin*; and by others *Vaduco* and *Fadugas*, but generally pronounced *Vdrugds* and *IVarugas*; though in writing they retain the letter I), which has a peculiar sound between I) and R, as in *Sanscrit*. Nowus, in his *Dionysiacs**, takes particular notice of mount *Mint*, and of its circular surface on its summit. "JJACCUIS/" says he, "or CafstiXA, divided his forces into four armies; one he sent to the foot of the Northern mountain, with a circular summit, and surrounded with deep vniies shaded with trees; and from this peak, in *Caucasus*. i*suc many rivers, deriving their waters from Ji iMrl^H." MiLIS was Juprnit Pi IVIM.is, the IXDHA of the *Hindus*, who holds his court on the summit of *Mtrtt*, which is called the *Sircr^h*, or heaven of INDUA. TO this tmountam EI'HKMJ.KCS gives the name of *Olympus*, and very properly. It is emphatically called, as we have seen, the circle of f/a, or *Ida*, or *liavrat*; it might be called also *llupu*, or *Ildpuz*, the eit\ of the Ear'h, or *llu-pus^* from *Ha* or *I/as*, which sounds exactly like *I/o.s* in (*inch*. I LA was the son of VAIVASUAIA - MAM, or NOAH, and who, in his old aiic, resigned the empire of the Earth to him; and thus he became *lid-pati*, or *Jtjd-pati*, the Lord sovereign of the earth, and lies the eldest, in liou.um, joined to the mount *O/i/h/pux* and *Ida*, in the city of *Ilium*, inhabited by MJ~KOPKS.

I LA', *Ida*, and *Ira*, in *S'taicr'tl*, signify the earth;

* NO.NM *Dion.* i., >, XXVII. v. h,o, 6LC.

and these three names are to be found in the Greek language: *Ilys*, or *Ilos*, signifies *mud*; *Era* is the earth; and *IDA* is the name of the goddess Earth, *Ida mater*, both in Greek and the ancient Gothic. *ATHENAGORAS*, as cited by *RUDBECK**, informs us, that, according to *ORPHEUS*, water was first, and from it was created *Ilts*, or Earth, // an unformed state; *ILA*, or *ILA'S*, was the son of *MAVU*, or *NOAH*, called also *MITKA V'AKUX'A* in the *Purdn'as*, or the friendly *VARUNA*, or *NEPTUNE*. According to *HESYCHUS*, *ILAOV*, a hero, was the son of *POSKIDOW* the (god of the sea. *Jyd*, in *Sanscrit*, is the Kurth; and in Greek, *Aia*, *Gt* or *Gaid*, which last signifies *airili*, and also *dust*. Thus, in *Sanscrit*, *lid* is the earth, and *Aileyam* is dust and earth also. ;li/c/:ijn-pus is synonymous with *lid-pus*, and is the famous city of *INDRA*, and of the Gods; a *hereuti e/7e*, which is really a *taresintl heaven*. The foiieweis of *ALEXANDER* mistook a small nuamtaci, between *Cabal* and the /*talus*-, for *Un o; Ifilial Merit*, This is called *Meru-s nn^a*, or the peak of *Merit*, in the *Purdn'as*, and is considered as a splinter of that holy mountain. There are many other hills thus called in *India*, besides artificial ones; and the Gods are supposed to come and sport there occasionally. The Greeks had likewise several holy mountains, called *Ghnnpus* and *Lid*. f,i nrMEKis calls it *7W-phyliu Olympus*, because *Jvvi ITR TRIPHY LIES*, or *SIVA*, with his *trident* (tri\ul\ resides there, and fi;<ed it on its summit. The *Trisu!* is called *Tri-phula*, in the North-West parts of *India*, from the *Sanscrit Tri-phaia*, which is rendered in Lexicons }>v *Tri-awtacr*, or basing tie.:e points. The word *pfmia* was used in the West in that, sense, and the obelisks in the circus were called *P/uda*:. 13nt as

Tri-phitios, in Greek, signifies three trilferbr families, £tJHKM£-RUs thought proper to translate it **thus**; besides, be found three nations and cities in **the** legends of *India*, which be mi^ht conceive countenanced his translation. The abode of **Urb-nus** was called *twins*, or *Coitus*, by the *Laliam*; **and** he is the same with SIVA, called the God of *Cailas*_y because he resides on *Caitusa*, one **of** the **three** peaks on the summit of *Mini*.

Mount *Mem* is said to be of four different colours, toward the four cardinal points; but the *Paurariks* are by no means unanimous about them; and the seas, through the reflection of the *solar* beams from each side, are of the same colours. The East, like the *hrdhmns*, is of a white colour; **the** South, like the [*'uhi*;as, is yellow; A *para*, the West, like the *Sudrax*, is of a brown or dark colour; and the North is *rtd*, like the *Cxhatriyas*. But in the *Ilaim/watchcjida*, *Mini* is said to be •upported, or propped, by four enormous buttresses; that toward the East, is of pure tjold; toward the South, of iron; to the West, of silver; and the buttress to the North, of copper. Thus toward the Mast it is yellow, to the South red, white to the West, and of a dark brown to the North. There are several other opinions, which I shall pass over with observing, that the *Indian* ocean is called *Annn>da*, or *Ariovnludhi*, or the *lied sea*, beini(reddened by the reflection of the *solar* beams from that side of *Mcru* which is of that colour; and PMNV nearly says the same thing*. I shall pa-s over the extravagant accounts of this famous mountain, represented by some as a cone, by others as an inverted otic. In *Ceylon*, they sty it is in the shape of .an immense

* PLINY, Lib 6. C. 23.

round column : in *Tibet* this column is said to be square; some of the followers of J I N A compare it to a drum, that is to say, they give it the shape of a barrel. This idea, however extravagant and absurd, prevailed once in the West, as we have seen before.

VIII. The rivers flowing from *Mini* are four in number: there are four also in scripture; and we read, in the *Edda*, of four primaeval rivers of milk flowing from the teats of the cow *Audhumbla*. In all these accounts, these rivers are only brandies of an original one, called *S'uarganglt*, or *Mandar-in!*, in the *Purlin us*: in the *Edda* all rivers derive their origin from that called *Ilccr gti.ncr*; but in scripture it has no name.

It rises from under the feet of VISUM;, at the polar star, and, passing through the circle of ihs moon, it fills upon the summit of *Mtru*, where it divides into four streams, flowing toward the four cardinal points. According to *Genesis*, this river went forth, watering the garden of *Eden*, and of course winding through it; from thence it was parted, and became into four heads. The *Pauranics* use the same expression, but in a literal sense; and suppose that these four branches pass actually through four rocks, carved into the shape of four bends of various animals. The *Ganges*, running towards the South, parses through a cow's head; hence *India* is called the country of the Cow, its inhabitants are descended, according to some, from a cow, whence they are styled *Guu-vansas*, they were originally *Go-plhts*, or simply *Pallis*, or shepherds. To the West is a horse's head, from wh.di flows the *dntcshu* or *OAKS*: and the inhabitants of the countries bordering on it, are of course *Asvas*, or *Turannitwax*, hursts or rather horsemen, Ac-
VOL. Vill. V

Cording to Scripture the house of TOGARMENT or THORGAMA, as he is called by CEDRENUS and SVN-CELLVS, traded in the fairs of Tyre, with horses. Toward the East is the head of an'elephant, from which (flows the river *Sitd*: and to the North is a lion's head, from which flows the *Bhadrāsama* ; hence this country, the same with *Siberia*, is called the kingdom of the lions: and there was actually a powerful *Tartarian* tribe called the tribe of the lion.

The *Bauddhis* have no rivers on *Ilfern*; but place the origin of them in the South-West quarter. The reason of this is, that they place the seven *diripas* or ranges of mountains, with their seas between *Mem*, and *India*. or *Jamlm-d'xipa*. These seven seas or rather the river of milk, winding seven times round *mwra*, is the original river, which re-appears in the South-West, and there parting, becomes into four heads of animals, the same as in the *Paranas*. But the rivers are very different, because the *Ganger* the *Sind* or *huh**, the *Pallida* or *liruhnui'jaitra*, which spring from the head of an elephant ; and for this reason upper *IVai* is called the kingdom of the elephant, though there are no elephants there at present. The other river, toward the North, issues from a lion's head, and is called *-Slid*: it is the *Oas*. These four rivers spring from the roots of the tree *Jamba*, of a most extravagant size. The *Ilaud-dlii* seem to know but of one tree of knowledge, and granting all our wishes. The *Panium* s have main, which they call *Calpavrnsha*. There is but one in the *Mongolical* account, and the *Masah* acknowledge but one, which they call *Taha*: and our ancestors bonded of the famous Ash-tree *Yvdrsd*. This winding of milk, winding round *Min*, is not peculiar to the followers of *Lt Uioia* ; but it-

iiiember seeing in. one of the *Purfaias*, that the heavenly *Ganges* winds seven times round *Mkru*: that is between that mountain, and the *dwipa* of *Jambu*. The *Styx*, according to mycologists in the West, went nine times round the world; for nine was a favourite number among them : and the ancient *Goths* reckoned nine worlds, or *dwipas*. The elevated plains of *Mcru* are perhaps the highest spot, or at least the highest flat in the old continent. Its height toward *India*, and *China*, is prodigious: it is not so considerable toward the North, and is still less toward the North-west, where the ascent between the *Lithhws-pyrgos* or stone-tower, and the station of the merchants trading to *China*, is by no means very difficult. The *Lithinos-pyrgtis* Mill exists under the name of *Chalsatoun*, or tin- forty columns; and is famous all over these countries. The station of the merchants is still their place of rendezvous to this day, and is called *Tact-Suleiman*, or the throne of SOLOAIOU. The *Lithinos-pj/rgos* is at the extremity of a small branch jutting out of a ranire of mountains to the left of the roid, or to the North, and projects toward the South, and ends abruptly in the middle of a plain. Its extremity, consisting of a solid rock, has been cut into a regular shape, with two rows, each of twenty columns. The front part is in a very ruinous condition, and the upper row of columns remains suspended from the top : the columns below answering to them, with their entablature, having been destroyed. It is a Kiost wonderful work, and ascribed by the natives 10 supernatural agents as usual.

At the distance of a day's inarch toward the East, is *Ilvshan*, or *Oshti*. called a^o *Oosh*, or *Oxcsh*: there begins a chain of mountains, from which springs a mulct called *Asckwi* by SXIIAHI-ENJBEKU :

the range itself is called *Aidzin* by Major RKNNELI, in his map of the twenty *Satrapies* of DARIUS HYSTASPKS. There ends the country of *Bokhara*, and begins the empire of *China*. It is a famous pass, and is naturally the rendezvous of the merchants trading from the West to *China*. It is defended by a fort, now in ruins, and on a small peak near it is a very ancient building, like a tower, of a wonderful structure, called the throne of SOLO310v, near it is a mosque of curious marble. Then, for ten days, there is nothing remarkable; the ground gently rising and falling; and you arrive in the vicinity of mines of lead, which is exported all over the country. Two days further you enter the plains of *Cashgha*. which is one day's journey further.

This account is taken from the journal of a *Bus-
.??/7/*, called C/KHV Ien \ who travelled that way from *Bvkhura* to *Cashmir*, in the year 1780, and was kindly given to me by P. WENDIL, at *Lurk-
//MI**. He had been made prisoner on the frontiers of *.Sihcru*, by the *CA*turits, and sold as a slave to *VAC L's'hch 'luriars*. His his, who was a merchant, wanted to trade to *Casher Yarrliand*, and *CtiAtvnr*; and bung pleaded with his behaviour, gave him his liberty. He accompanied with some *Ar-
uwmuus* he came to *Lurkrrjir*, where he was relieved by Sir LVUK COOTE., whose generosity enabled him to revisit his native country. P. VYIMOI represented him to me as a plain honest man, and with his master he had earned *Pcr.siun* enough to make himself understood. His route from *Co't'iul* to *Yar'-itud* is as follows :

from <i>CAGEND</i> to <i>Cucun</i>		two days,
<i>M'/rhvl/m</i> ,		one day
<i>Greeak</i> and <i>Chalsation</i>	. . .	two days,
<i>lhtthun</i> pass.		one day,

Lead mines ten days,
 To *Girrel*, and entrance into
 the plains • . two days,
Coshghar, with a mud fort . . one day,

In the mountains to the right of the road from *Cdshgbur*, to *Fare band*, lie was told that the *Indus* had its source. Aecoidin;* to the account of some narites of *Samarcand*, the first part of the route stands thus:

Cojend,
Camhddam , ... 10 coss,
Cuain 12
Alurghulan • 15
Nemukfu'm 10
Tukt-Solriman or *Gush* 10

Their account was from report; for they never had travelled that way. *Canbadam* seems to be the *Candtban* in STRAHLK\BFRcfs map: " ocan or *Citcan*, the *Cycna* of the *Nubian* geographer: and *Ncmukb/m* is the *Namagan* of STRAHILIFEBS. The *Litli'mos-pyrgos* seems to be the *Clttf'ov Aacaha* of the *Nubian* geographer, which must have had something very remarkable to be thus noticed. One day's march toward the East is the fort and pass of *A*tas*, *Atas* or *Æstian*. The fort on a high hill was built to put a stop to the incursions of the *Turks*, from *Jiagbarghar* or *Tancabas* whose capital city was thirty-seven days' march to the eastward. From *Astcs* to *Tubbed*, there were ten days' march, according to the same geographer. who meant *Cusbghur* by it, perhaps, because the caravan goes to, and from Tiblemet there; and Mr. DANVILLE is of the same opinion. In ILIAD's table*, &md in the *Ayin-lcheri* in the printed copies, we read *Jilts* instead (*rtOus-h*: the distance between *J'ogcnd* and *OwA* is about one hundred and thirty

miles, which agrees tolerably well with the above accpunt.

Between the ranges to the North and South of *Mini*, the *Paurciriics* place two other ranges of mountains; one on each side of *AJeni*, and in a North and South direction. The Western range, called *Gandlwmadatta*, docs really exist, ajid answers to the *Comad'i* mountains of PTOLV.MY, called also *Cumuda* in the *Purdnas*, But the Eastern range, called *Afdfyavdn*, and answering to the former, exists but in the imagination of the *Paurdnics*; symmetry certainly required it, and this was enough for the in.

IX. In the *Vdyu Parana*, we are told, that the water or *Ogha* of the ocean, coming* down from heaven like a stream of *Amrita* upon *Mcru*, encircles it, through seven channels, for the space of 84,000 *Yajions* and then divides into four streams, which, falling from the immense height of *Mini*, rest themselves in four lakes, from which they spring over the mountains through the air, just brushing the summits. This wild account was not unknown in the West; for this passage is translated, almost verbally, by PLINY and Q. Curtions, in speaking of the (*jangis*. *Cum -magna fragore ipx'nts statim jhitis (iaiiges cruwpit, et magnorum montium juga recto alveo strinyit, et ulri pr'nnum mollis planitK,s cohttn^at, in quvtiam lacu hospitalur* The words in Italics are from PLINY *, the others from CuKTiusf.

These four lakes are called *Arnn'odd* in the East; *Mdnas'i* in the South; in the West *Sitod/i*: the fourth, in the North is called *Malta-Bhadra*.

* PLINY VL C. 18°. † CURTIUS VIII. c. 9°.

From *Miina-Sarvcara*, or, according to the vulgar pronounciation, *Mdnsaraur*, the lake of *Mima* or *Mamtsa*, issues the *Ganges*. According to PURAN <HR, who accompanied the late LAMA to *China*, and had «een that lake in his way from *Lmsa* to *V6d-ji* it is called in *Tibet*, *Chu- Mapanh*, or the lake of *Mapanh*. In the LAMA'S map it is called *Mapama*: but PUK'AN-CIR, a well infunned man, assured me that its true name was *Mapanh*. It was probably written at first *Mapam* by *Portuguese Jesuits*, in whose language the letter M, at the-end of a word, has a nasal sound, as it had in *Latin*, and is to be sounded like the letter N at the end pf a word in *French*.

This lake is constantly called *Mamaraur* by pilgrims ; but there appears, according to the *Pauranus*, to be another, a great way to the North ; this ihey call *BinJu-Sarovara*, or the lake formed by the *Hindu*, or drops of water falling from the hair of MAHA-BEVA, when lie received the holy stream, from on high, on his head. There is certainly some confusion in the *Puranas* alxxit *Mana-Saroeara* ; and we must then acknowledge two lake* of that name: one on the summit of *Merit*, and the other to the Smith of it: for the sacred books eannot be reconciled otherwise. In that ease *Bindu-sarovurit*, mentioned but seldom, is the same with the Southern *Mana-xarovara*. The great *jMana-sarovara*, which proceeded from the heart of JJKAHMA, IS on *Merit*, and the four great rivers issue from it: but from this *Mansaraur*, South of *Merit*, the *Gauges'* is the only river issuing. It i/s ot course the same with *Bi/idu-saraur*, ot the lake *Mapanh* of those of '*Tibet*.

According to PURAN-GIR this lake is situated ou an ele\ alul plain covered with long grass, *to rhg

North of which is a conical hill called *Khyem-lung* and dedicated to MAHA'-DEVA; and which is inserted in the map of the LAMAS, but without name, and with two roads ending there. It is one of the Southern peaks of mount *Cantaisch*, which rises above the rest to an amazing height. A small stream, rising behind the subordinate peak of *Khyem-fuHg* is considered by pilgrims as the source of the *Gungvs*. There ended the survey of the *Lama* *tnathemanci.ms*; and the country to the South, and South-West, were added afterwards, from the report of natives. During the rains the lake is said to overflow, and several streams rush down from the hills* but they soon dry up, even the sacred stream itself not excepted.

According to PCUA'V-GIII, and other pilgrims from *India*, this extensive plain is surrounded on all sides by peaks, or conical hills, but very irregular: toward the North they rise gradually, and a little beyond the sugar-loaf hill of *Khifw-lung* begins the base of *CantaisvJu*. Toward the East the range of peaks is very low, forming only a serrated crest. To the South this crest is much higher than toward the other cardinal points: but, to the West, the mountains beyond the crest are¹ very high. The Southern crest is very near the banks of the lake. The lake itself forms an irregular oval, approaching to a circle, but the two inlets or smaller lakes to the North are said not to exist, for Pe-Rw'-GHI's route was to the North of the lake, and close to its shore, and he did not see them. Pilgrims are five days in going round the lake, and the place of worship, or *Gombah*, is to the South. It consists of a few huts, with irregular steps down the banks of the lake. The *Gauges* issues from it, and during the dry season its stream is hardly five or six inches deep. It does not go through the

lake called *Lanhenm* the maps; it flows to the South East of it, at the distance of two or three coss. This lake is called in *India* the pool of R,\-VANM : and because he is the Lord of *Lanca*; his pool is called the lake of *Lanca*, or *Lankai*, in the maps.

The lake of *Man-sara:ir* is mentioned by piTNT, AS I observed before, and it is probably the same that is mentioned by CIISIAS, who says it was eight hundred *stadia* in circumference. M. POLO DESCRIBES it as to the West of //''r/\ but does not jneirion its name. It is noticed in P. MONSEKHAT, who accompanied the Emperor ACRA R in his expedition to *Cabut*, in the year 1581. He calls it *Man-saruar* and, from the report of pilgrims, places it in thirty-two degrees, of latitude North ; and about three hundred and fifty miles to the North-East of *Svrhimt*. The first Eunf who saw it, was P. AVDK.UVA, in the year 1601 : and in the years 1715, and 1718 it was visited by Hie missionaries R Disioiiu is and tii.wrn. Vn\ vr.K.

The *Ihirmahs* call this lake *Jmadrt*. and place four luads of animaU TU the four cardinal points, froju which spring: the four ^rcar r * :s: and thus, in the¹ opinion of the divines of Tt),(and Ava, this lake is the real *Man-santur*. !Vom f; >«s description one mi^ht be induced to suppose this lake to be the crater of a *I'uiairj*^ but much larger than any now existing. CTIMAS S.IVS that a liquid matter like oil was swimming on its surface, and was carefully collected by the inhabitants, and W. Poi.o adds, that pearls were found There. The pilgrims I have consulted knew no: hinu, either of this precious oil or of the pearls. They shewed me, however, small pebbles, some like pearly. others as bio- as a >i5*; t^m <u^ t'gfr, which they told me were found on the shores

of that lake, and that pilgrims used to take a few of them as relics, to give to their friends: and I was presented accordingly with some. They are in general as transparent as the purest crystal, and I should suspect them to be pieces of crystal, broken and rounded by mutual attrition, occasioned by the motion of waters.

To the West of this lake springs the *Sifa-Vdud* $hd_{\%}$ probably the *Sitoratis* of *Auui* *AW*. It is called also the *Jffccfrhii-Ga/^{fi} n\ |v.\|)[\]x (lu/.^t*: and is supposed, by some, to be the same with the *Satlaj* or *Sitlodd*. In the *Paajd!**: this erroneous idea seems to originate from its being called by pilgrims *Sitlmia*: but its true name is *Sitodd*, nearly synonymous with *Sita-canfha*. The famous *JAVA->IMIA*, *Rajah* of *Jaypoar*, sent people as far as the *Cow Mouth*, and they found that the *Sitodd* after flowing for a considerable space toward the *Ve>i* suddenly turned to the South, came within two miles of the *Cow mouth*, and fell into the *Gaiigts* about sixteen fathoms lower.*

To the East, or *para*, is the *Aranoda* lake, literally the water or lake of *Aruria* or *Dawn*: and it is called to this day *Ofi/i-ni>r*, or the lake of *Una*, and from it flows the yellow river, the *Si id* of the *Purarias>* called also *Para-Gandka*, or *Eastern Gandiea*.

APARKV'A, or to the West, is the *Sitodd* lake from which issues the *Aparadandko* or *Western Garitiiu* called also *Vhacsha* in the *Par an as*, (*J J'its* by the *Grn-l**, *UXHI Vocal HI* by the natives. This lake at tin; source of the *()>ius* is noticed in some maps: by the natives it is called *Valor* the lake; ami by *Persian* authors *Dix-mraii*; according to Sir W. JONKS, in his *life* of *NADIH-SHAII*; *Dnch*

sara, in Sanscrit, signifies the lake of the Gods, or the divine lake. According to them it is near the mountains of Andemas from the Sanscrit *And'ha-Ta-warn*, or *And" h-lamas*: both words imply darkness; but being joined together, imply it in a superlative degree; and it is the name of one of the divisions of hell. On their summit is the *B luf*, or dark country of the maps. The *Anthema* mountains are called *Sacr/tntthemaby* BERNARD GOEZ. An intelligent and well informed native of *Biduezhan*, and royal messenger of that country for forty years, under AHMED and ZEMAN-SHAH, informed me that *Str-Anthttma* is the true name; that *scr* or *serth* signifies in his country, *end*, *limit*, or *border*, and appears to be the name of a place near the *Anlhema* mountains, as *Scr-Uind*, or on the borders of *Hind*. This lake is said to be three days journey in circumference. The Oxus does not spring immediately from it, but at the distance of fifteen miles to the West it emerges from the ground. The *Cocska i%* the sacred stream which sanctifies the waters of the Oxus; but by no means the main stream, which is more to the North. It is so with regard to the *Ganges*, the sacred stream of which is called *Alaca-vunda*, and is but a small river, the source of which is twelve farsangs to the North-East of *Badarica* & *srania%* and, I believe, about 130 miles from *Hardirdr*. From the lake to the hills to the Eastward is an extensive plain, called *Scirag/hChopann*, or the plains *oiChopawn*. There are four places there mentioned by GOEZ, *Ciarciunar*, or *Char-Chunar* the four cedars, like the Four cedars, or pines, perhaps, near *Cashmir*, called *Char-Cluuu'ir* also: these four trees no longer exist*. *Sarcil* was explained to me, by CAMBKU-AI i, the king's messenger, by *Servh-*

* Mr. FORSTER renders it the word *t'huttur* by plane trees in his *Stcouut oiCashmir*, and he is perhaps right.

mh or *Ser-at!* close, or on the borders of the lake: *m<\ Serpanil* by *Str-pamcr*. These mountains are called in the *Paranas Cumttida*, the *Comadi* of PTOLEMY, and *Anjana* or *Crishna* the black mountains.* CAMEFR-ARI GAVE me a dreadful account of them from report, lor he never saw them, but at a distance.

The *fourth* lake in the North is called *Mah/h Bhadra*, which is probably the lake *Saisuis*. from which tlo\vs the *nur irtlz*. As the epithet *maha* implies a great lake, I am sometimes inclined to suppose it to be the same with the lake *Baikat*; but it is too much out of the way: though I must confess, that its distance be no objection with the *Faurcr'ics*. *Pcsidi.s*, the *Bailai* lake is called to this day *Sweto-woiw* or the holy and sacred sea, and the country about it, *ami* all along the *engens* or *Argon*, is considered as holy by the hindu, who occasionally visit this sacred spot. *Pili*, in his travels, mentions his seeing a *Hindu* there from *Madras*. STRAHENIES saw another at *TaboLsk* who, it seems, I had settled there. I have seen two *uhob.id \isi⁴erl* that country, *oi-e* was called *//recv-vara*, whom I mentioned in my essay on mount *Caucasus*. The four sacred rivers *sprmu'm^* from the *MuK-xan>rara<* according to the divines of *Tihvt*, are the *Lraa;a-pa//a%* the *(raises*, the *Ii:da,* and the *Si fa*. The *davits* is the only one that really issues from that lake, or if the three others do, it must be through subterranean channels; and *jmeh eomnninica^o's*, whether real or imaginary, are very common in the *Parana**. The *Situ* may be the *Stthdn*, *A/AW/7*, supposed to communicate with the* *Sat taj* or *Satodar a*, thus called from its hundred branches or bellies, through which it is supposed to fall into the sea.

The *Indus* was supposed formerly to have its source not far from *Man-sarovara*, which P.'Mosr-SEKUAT places hi thirty-two decrees of latitude North; and the source of the * *Indus* in latitude 32° 15', the difference of longitude between the source and the lake 1° 45'.

The difference of longitude between *Delhi*, and *MathS'irovara* is according to MONSKIIRAT 5° E'. This places *Munsarovara* in 82° 2' of longitude, and both its longitude and latitude are remarkably correct: but what is more surprising, the good father was ignorant that *the Ganges* issued from it. ABCL FAZZI places the source of the *Indus* nearly in the same latitude with *dashnur*, but eighteen degrees to the Eastward. The *Indus* \vd\$ its source four or live days journey to the Xorth-We^t of }drchamL according to CZKK\ICJU I : it runs thence in a direction South South-Kast toward JAUIIU\ and within two days journey of it: nay, merchants, who trade from *India* to *Cush^iar*, say it can be doiu- in one day. The *Indus* then turns immediately toward the West, taking an immense sweep round (*ishiu*r; and the place near *IJuluc*, where it turns suddenly to the Westward, has been mistaken for its source.

X. The f 'lowers of Jiv v in the *Trai-krya-clcr-pana* icpre^nr the old continent, as consisting of tu o concentric f/' 'ip-as, of the same superiicTa! extent. Tiicv call the whole world *Arai*, or *A'dai-dai;*)is\ li;c*r:r:jly the two and half *Ldunds*. The two first *dw'ipis* are *Yamlu* in the ecu;re, and *Jj/udua*: and they are divided by an intermediate i>ea. The whole is surrounded by the ocean, in which arc many islands, called, in general, *AMaca* or *AMU'.nuML'ipds*, or the islands at the *anta* (*aid*,

or extremity) of the world. The first of them is the White Island, and the last *Sxrayambhwm-dutyā*, called *Pmhcara* in the *PurMa**.

Beyond this is the half of *Pmhcara*, the ^x*8warria~bhumi* of the *Purdrias*, which surrounds the world, as well as the mountain of *Aldnasottara*, called *Loctihca* by the *Pmtr/trtm*. Beyond this circular range is the other half *nt Pmhcara*: but as it is out of the *wnrM* *Sr* is not included in their system of geography.

In the division of the old Continent into nine parts by the *Patrriufics*, *Hhdrata* is erroneously introduced: it should be *Xahahi*. For *AOXII/HRA*, the son of *PIUYAVRATA*, the eldest son of *AMMA*, had nine sons; called *NANA'HI*, *II.A'VKATTA*, *CIM-ruui'sn *, *HAIUVARSHA*, *CI TUMA'IA*, *HIADRA'SVA*, *IIAMANACA*, *IIIRAXMAYA*, and *Ccui*. Thus we read in *Stnichomathi>n* *thai* *Puos*, *PUCK*, or *Pui ox*, answering to *AOX/'DHK <* *be^at* sous of vast hulk, *\vhn>e* *nanus* were given to the countries they inhabited.

Pa?v wit nw had ten *<or^*, as we have seen before; *;!i:'.nn^* whom was *AON ID'JIK *. Three withdrew into toreats; and the seven remaining were appointed ^fo rule over the *HATH ijTcat* divisions of *thr v.oiid*, called the seven (*hnpax*. The great grand-*) of *A^MO'IIKA*, called *HIIAKATA*, pave ins *\jun>'* to the coun'iv South of *H'nnhinja*, which, under *thai o/ufju.uation*, was origin *!i* confined to *JfrJia*; but it is now nude to *exHnd* from sea to *6ea,aJoi<r* *tho'ianire* of *liir Simwy nioir. tains*. This We are told in *Lcucrai* in the *Pun'mas*: but it is by *tio* means the *e. -o.* as *jr w w* appear from the particular^ that *LhuraUi*) *ieiuis* a semi-circle round

Mir% beginning in the West in fifty-two degrees of latitude, or nearly so: being, as it is declared in the *Purdrias*, in the shape of a Cow.

To King BHARATA, MAHA'DEVA gave eight sons and one daughter, called ILA', or *Cumari*, emphatically the *Maiden*. A new division of the Earth took place according to some; but the general opinion is, that it was only a partial one. Be this as it may, it appears that, out of the ten divisions* of the old continent, *Bharata*, included nine; *Cunt*, in the North, being excepted and left out.

According to the *Prabhaxa-c'han'da*, the names of the-sc nine *c han das* or sections are, reckoning from the Kas* toward the \\ est, *Indra-dwipa* or (*linuriiarva'ChaHild*) (VMV/V/, *Tnnnapurriaii*, *Gab-//.l.v/\v/f///*, ('uwdriva, (*India*), *Xagd-dhan'da^ Saumya*, *l'aran'a-c'ha;ida*, and ' *Gjnd'kurvd-c'hdudu* again. In the *R.ra-charida*. thcii names are thus exhibited ; *Gand'harva*, GV.^ >v/, *Tam^aparni*, *Gahhastivuht*, *Cutnaricd* or *India*, ?saj;d_y, *Sau an/a*, *J'aruua*, *CI'dn'dru-d'a /pa*.

In the *:nne section we* find, another variation; *Gmnd'hitrc-i*, *Camera*, *Tamrapatra* ^erroneously for *Tawra-pur/tun*), *S'lt/asfin^ Ctundrkii* (*India*)% *Bha-ifa-d^ka* fprobably for A.vr<.\\ *Saarap^K Varan a* and *K.tu!:rdrd-d'itpu*. The lirst and tnr u-^t divisions are, in general, ed led *Guuiioliarcj-ckaiida*, bcim»; supposed to be the abode of the Gods, with th(ii U'^ial j-eiirmcof heavenly musicians. Tiirough the s:uii remaininii* divisions, seven rivers are said to \\ >w. 'l iiey have a common source in the lake from \v!iich issues the *Ganges*. To the East are, the *Xtiliti'*, flowing through *Cds'eru*; the *Par a in*, *tlivon* ;h *Tamrapumah*; *Illddiui*, tiirough *Gabhas-*

thn&n. To the Wesr, the *SUA* or *Jftmrte** flows through the country of *Varun'a*; the *Chacshu*, through *baumya*; and the *SimPlm*, through *Naga~than da*. Between these, in the middle, is the *Ganges*, which flows through *Cumdrka<handa* or *India*.

In the P7/y# *Pin ana*, the origin of the seven rivers is thus desenhed; North of *Caildsu* is the *Gtmra* mountain, at the toot of which is *thv Jjindusarovara*, or lake with golden sand- '] In*re went BuAGiKArriA to fetch the *Ganges*, called *Tripufhagtl* because it goes through three paths, or channels.

There he obtained *thv Ganges* from M.\n A'-I>F.VA, which dividing into sewn streams or paths, is called, from that eircuu,stance, *S</ja<nt'lui*. The *Sitd* goes through countries inhabited by the »*S7-rind%hras*. the *Cuntabs* with long hair, the *Chinas*, for this is considrn d us the natiw country of the *Chinese*; the *P(irh(iras\ Yaia*asas, *l)ruhns_i 7'itshd-ras* -living a 1 n' > n g SUM *w_m* (*Vf// WiV.v, , / < ais, J*oca-earas*. The ,V.\ ;:OCN towards the West, and falls into the sea of sail water.

The *Chacshu* flows through the countries of the *China m(inu*\ or Chni"<mj^ 'Ja/.^anas*. *Sarv* ("iHea-s, &and*hrax* 'iHxii<h\,s,• 7)////w-,">, read *Jj.uitjnica\$9 PakvaSy Lhiradasy Sicni* or .V;w//v.

The *Sind'/tn <x*--<* liirough Mv/v/K.v, Cnsutfrax, GHui' hf'/rux* or <V ///•///*, J'.'.vv.w.v <x *Greels* , ,f ///vo f'/'</, ///7'c;/,v. y, V7."'\ lie //'^'.(.voi'lhc /A•'v.\,1/7V't of *Duntij.sitts-* [Stvajr](#) r.r.'is Mixing in ila lov\uof "Sivapura, or Sin ••J»•<*- ,>, *Indrahusiis I'udor*,is, I'/.sv/r-Jayas, *SauuYhavi.s%* <.ij\mg on the hanks of the

Sfind'hu), *RaiuTkrac&racaSt* *Brahmat'as*, *Bhirarohacas*, *^sSutid-muc^jhas_y*, *Urdd'hamanus*. The Ganges flows through the *Gand'harvas*, *Cbinaras*, *Yacshas*, *Racshasas*, *VidyfaVharas*, *Urogas* (or large snakes; these are tribes of demons, good and bad, in the hills), *Cdlapagrdmacas*, *Pdradas*, *\\$vigaras*, *\\$x>asas* *Ciratas*, *Pulindas*, *Curavas* in *Curu* about *Tanehs'ar*, *Sam-Bhdratas*, *Panchdlas*, *Cfo'i* or *Benares*, *Matsyas*, *Magadlias* (or South *Bahar*), *Brahmottaras*, *Angus*, *Bangas*, *Calingas*, *Tamralptas* (or *Tamhok*), *Sam-Blidrata* or *Sammarata* as pronounced in the spoken dialects, signifies a native of *India*: and I am told, that it is used, though very seldom, in that sense. The *Hlddini* or *Brahmaputra* goes through the *Nishddas*, *Rao Shasas*, *l^jpa-Hatigas*, (or near *Ren gal*), the *Dhivaras* (or boatmen), */lev/z/ow*, *?ih:muchas^* *Ceralas*, *Oshtacarrias*, *Cirutas*, *Catodaras*, *J Ivan? as*, *Cujndras*, *Sivarnahhushitas* (living near *Szvarna-gam*, or *Sonargaum*, near *Dlutcca*.)

The *Puvan'i* flows through countries inhabited by the *-lpat'has*, or whose country is without paths, then through the large lake of *ha'rsurinuinma*, through the *CliarpaHias'*, living near difficult passes, the *Indra.i'fD.'dtupaf'has*, the *Jfad'hya;;od'hd~mis*, the *Xataa^caras*, the *Cusa-prd %aran'as*, 'hen falls into that >ea, in u inch is *Ifa!ra-uzripu*, and which joins the s<a of salt. 1 lie A////.' goes through the 7.*ntmras*, rema/Table for the quivers, as implied by t' : 'r name, through the *iiansa-m&r-gas*, or those li ^ n ^ near the path** of the *A?iStres*, or watei fowls, flett is to say, among lnarsncs; through the .S'/.>//// *haras*, or u h< seem to repeat incessantly !he words < > " l'.-/Ai;', ::ke the *Chinese*, then, ahrr fnvinj; its wav inrou. o m my hills, it goes t| ronuli <J; C>?r/ui/-ruvarjtU!S, or wearing ear-) i; ;s, Mun through the *Asva-nuccfias*, horse-

faced, *Sicatas*, parrot-faced, *Parvatamanus* or hill-men, and *flyAcVharas*, and falls into the *Mahodad*hi*₉ or great sea.

t

The *Pavani* is probably the river of *PA* or *Bhd_y* and called *Pa-chu* or water of *Pa* before it enters *China*, where it is called *Kin-sha-ki/ang*, and *Yatfvtsa-kyang*. The lake of *Indradliyumna* is probably that, which covered once the province of *iu-quang*% and was drained up in great measure by one of the Emperors of *China*; some extensive lakes in the lower grounds still remain. The epithet of *Namascaras* is well adopted to the *Chinese*, from their polite and ceremonious behaviour, with bowing, &c.

The *div'tpa* of *Indra*, a very large island, appears to be *Japan*: for it is described as the island of the rising sun, which is the* meaning of the words *Japan* or *Gepiun*. The *Xalini*, railed *Sindlu^* or *Jlufra-At'ock* by pilgrims from *India*, is the *llvang-ho* or *Cara-Moran*. It is called the great *Attach*, or forbidden river, because strangers are seldom permitted to go beyond it. This forbidden river is noticed by *Puvv**, though lit⁴ (Lis not mention its name. It was c(|ualiv forbidden to those, who came from the West, on the part of the Romans (*ncgutiatmws*) *u>stn* ', or to those who came from *India*. For there were two ro;uU •ficquented by merchants, according to i'ro! i \i v, from the metropolis of CY/////; one leading to *llartra*, and the Western countries, and the other to *Palibut!u\i\x\i\ India*.

The learned in \aj-a!% consider the *P.rnlttu'iputrii* to be the *Illadini* of then* .sa<':cd books. ltheie

came to *Benares*, about nine years ago, a most respectable native from that country, called BHAGI-HAT'HA : being very old, he wished to die on the banks of the *Ganges*, at the holy place of *Cast*. He had been to *China*, and favoured me with a short account of his journey. There, he says, that the *Burrampooter* is the same with the *Hludini*, and that the *Ilara-inoren* is the *Nalini*. This river, says he, is also called, by *Hindu* pilgrims, the *Burrah-aftaca*, or threat *Attack*, or forbidden river. Jic had promised to favour me with further particulars; but soon after, the venerable old man breathed his last on the banks of the *Ganges*.

The *the/pa* of *Chmidra* in the West will appear, in the course of this work, from the *Purdn-js*, to include the *British* isles: but as it is considered here as one of the nine <Tand divisions of the Empire of *Bhdrata*, the *Paurdn'ics* must have comprehended under that appellation a, more extensive region altogether, than the¹ *British* isles, and including the Western parts of *Europe*, under the name of *Lignria*, or *Lloegpr*, which I shall shew hereafter to be synonymous with the country of *Chandra*, or *Banns*, emphatically called *Lrupa*, or the Lord of the *'/.mUae*. J lie kinLI; of the *d:-'ipa* of *Chan'dra* bein^ considered as a vassal, w'so^ occasionally summoned to appear before his Lord Paramount, with all the *Kini;s* of tlw world in *j/idia,* at least, according to the *Rcva chxnda*, a section of the *ScinuL: pitrun'it*.

SECTION II.

*tist of MOUNTAINS, RiVeflJi, &nd Cotmfft*Kg, from the PURA'N'AS, and other Books.*

I. IK the *Bralwuirida-Pur&ria** we have thd following list of the mountains, rivers, and coun- ties in the Empire of BHA'RATA.

To the East it is hounded by tlie tribes of *CirtU tas*, or shepherds, living in the hills to the North and North-East of *Bengal*; to the West, hy **the** *Yavanas*, or *Greeks* of *Raetriaia*. The four great tribes live in the middle, and there are seven prin- cipal ranges of mountains, or *cula panatas*: *Ma- hendra*, toward *Madras*, *Malaya*, on the coast of *Malabar*, *Sahya*, toward *Paonah*, *Suctinto/i*, *Ric* sha*> *Viridhya* (the *Bind* hills), and *Puriyutra*.

The inferior mountains are *Mandara*, *Vaibara** *Dardura*, *Coldhala*, *Sasurasa*, *Manuka*, *t'hlbyuta*, *Sripurvata*, *Cutuea** *Cid'asa'ila*, *Tungapraftlia*, *Crish- ndgiri*, *Godb'ana*, *Hari-panata*, *Pusbpag'wi*, *Jayath ta*, *Ruivdtaca*, near the *Reva%* or *Xarmad/i* river. In these mountainous .countries live the *l-tryya* *Mlecliha.s*, or foreigners; and all these mountains arc in the *Deccwi*.

The principal rivers are *Giinga*, *Siridbu*, *Sara?- rati*, *Satadra* or *Sat la j*, *Cbundrubba»a* or *C/timtb*, *Yajnuna* or *Jumna*. *Sarayu* or *Sarjru* *Airavafi* or *Ran/*, *fifasfa* ov *Hidasfa*, *l'ipasu* or *Reya*, *Device* *Cuhu*, *Goniafi*, *IXhufpapa*, *Babudd*, *Dnshudvati*, *Cans'ici* or *Cosa*, *frttiya*, *Sinird*, *Gait dad*, *tcsbu*,

* Station of the l.artli.

Lohitd: all these flow from *Himavat*, or the snowy mountains.

Vedasmftti, *Vedavati*, *Vratraghnl*, *Sindlm*, *Vardntd*, *Chan'dand*, *Sadf/nird*, *Mala* near *Cambay*, *Pdrd*, *Charmanvati* *Vidis'd*, *Vetrdvati*, or *Betwd* river, *Siprd* near *Ujjain*, *Avanti*: all these rivers flow from the mountains of *Pdriydtra*. *Sand*, *Narmadd*, *Sunm h ddruind*, *Manddcini*, *Das am'd* from *Cliitracutd*, *Tamasd*, *Pippald* *Srcn'i*, *Caratoyd*, *Cur rat yd*, *Pisdchicd* *Chiiotpala*, *Vipasd*, *Jambuld*, *Vdbccdhim*, *Sbierajd*, *'Suctbnati*, *A/at-cun'd*. *Trldrcd*, *Cramd*: These are horn from the *Ricsha* mountains.

The *Tdpi* *Tiipiti*, *Pcwo.slijii* *Xirv'uid'hyd*, *Madrd*, *Nishad^ha*, *J'cuavd*, *I'aitaran'i* near *Cuttac\ Sini~bahu-i* *Cumudvat'i*, *Xipd*, *Alakd-gaurj*, *Durgd*, *Antahsild* ; ail these spring from the *li/ufhya* mountains. *Goddruri*, *Bhbuarat'lii*, *Crlshtid*, *lv/u₉* *Van* jtihi*, *Tungabkadra*. *Suprayogd*, *Caverv*: all these come from t^w *Sahya* mountains. *Cntamdla*, *Ttwirapanii*, *Cannajd*, *Pu/t t/a/dvati*, from the *MaLii/a* mountains. *Tri^niid*, *Ritucalya*, *Dracshald*, *7/7-divd*, *Ldngulnii*, *I'ansad'hard*: These proceed from the mountains of *Mahnulra*.

R'ixhicd, *Sucumdr'h* *Mandagd*, *Matulavahbu*, *0/7-pd*, *Palds'int*, from the mountains o^l *buci'unun* ; ail these rivers flow immediately into the ocean. This is not true, for the *Satwvuti*, *Yamiuia*, *Gomatii* *S;c.* fall into the *Gcwgts*.

Then follow a list of countries: the names are in the plural, and of eonr>e signify the inhabitants of these countries. *Curu* near *Tahthsur*. *Pat/cftaia*, *'Sdlva* or *Salava*, *Jangalu*, *Suvasc/it^* the *V/wY//i of ARIUAV, *Bliadracara*, *Hod[%]/ta_y*, *PaCh<'s:caray*

Vatsa, Cisirhhta, Culya, Cuntala, CMcos'ala or Benares, Tilinga, MagatVha, Fr tea: thcap are in Mad'hyadcs'a or middle of India,

In the North of the *Sahya* mountains rises the *Godaveri*: on the hanks of the *Crlshna*, are extensive and famous districts: there is the mountain *Govadd'hana*, made by INOKA; through KAMA'S pleasure it is *Siccrga*, or heaven. There HUAKADWA'JA built a town, with gardens and pools. *Cdli-lica Balh\ Vatad'hdna, Abh'ira or Pallis, in Can-deish ; Cdlatoyaca, Apanta, Sridra, Palncava. Char-via-cha'n'daca*, probably the *Charaur* of PLINY, *Catnboja, Ca)* or (*\tj, lhJi-Coj or Arachosia, IJa-rada Darda Dduurd, Barbara or I'arcara Prit/a-laucica, P'ma, Tnshara*, or snowy country. *Bahija-todara* ; there live the descendants of ATKI and BHARADWA JA ; *Prasfhata, Ca-wruca, Lampaaisthndava*, those who live near the *sthdn* of *Latnpaca* or *Lantech*, now *Lamgan* ; *Pidica. Jnhdda, Apagn, Alunadra*, there live *Cirafa.>* or shepherds ; *Tnmara^ Hamamarga, Casmira, Tdngana, Cbdlica, Bdluica* in the *Vayu Parana, lluwa, Prrn'a-dana.*

To the East are the *Aruihra\aca, Sajarara, Antaragiri* within the lulls, *Baha-giri'*without the hills, *Ptavangava, Angtya J/<</,v//, or Mdttda, Malacarli, Brnft/h'tttara, Pra'i}''.t\ia9 Bh&rgavdngiya, ArthiWL Pragjyofi.sha%* now (*i<diati*, in *Assam, Afnnda, VidrJia* the *cotiiiUy* of the famous JA \ ACA : *Tamraliptica* or *'inuduoh^ Mala*, the *Ma/ti* and mount *Matins* of *Pi i.w*, toward the *Ganges*, now *Alid-bbaom* in *Midnapfpnr, Magadlut. or South Bahar, (ioi'ind'/ia. Toward the Soutn is Pandi/a, the country of Pwmov, Crrala, Ccrala-disa, Chuilya or Chtdti Cortnnamltla, Cith/a Sefnai, Mu-&hica, Cnnu'ma, Maha-ltasht'ras Mtiha-rat(as, Ma~hishica, Cttinga, Abbira, or Paths, laisluka, Ala-*

vya, living in the middle of thick forests, Vara, Putinda₅* Vind'hya-murvica, Vaidarbha \$r Burra-Nagpoor, * Dan'daca, Paunica, Maunka, Asmaca, Bfwga-varð liana, Nairn ica. CuntaUi* Andhra^ now Tdingana, Lhlbh'ida, Nalaca, Alka.

The next are in front of the llnd'hya mountains : Suryucdra, Colavana, Durga, CalUaca_f Pulcya, Surala, Hupasa, Tupasa* (these arc probahly the 'Jabus.si of PTOLJ MV : for, in the DLIU/L they pronounce that word Tabd-sa^) Surasitu, Carcmcara, Nusici/u% .lfitara-Narmada within the ^sur/nada, lihunU't 'aclilia, Mdhvya, SiisvatcL

The following are behind the mountains of rind'hj/ti: Malavd. Caru*hd% Mwuhi along the Narmaib'r, called also J/av/A/, I tcuhi, or O/V'A-VJ, LttaintiVinuh llsurun'u, i the country oj' Do6arau> in the Piinrns and IMoii \iv.) P^nju, OV/-t///</'h(/cd, 'l>Mi/d% (Jhe 'J'i.'SdU oi Prof i MY, and Jtstiiri of V.urupunt traveling.' (. V >•<///. 1'ruijura or 'Vippvrub. I finiicd, '///;/.-//;v/, 'd_t;n</, Si< illusion near isanhiidliid-iUML Anuria. v in the /V, //^ l'urmia% . //////////////,) 7///< </<< A/, / \:il(Otrd, ljdUc.jdl/d.

There arc aNn other (ountncs- called St^arluiira for axdrhard, called Sai'triuir \\\ the ./</// Acbiri, wvux CubitL I!an*xin<(<rid. the Ilunsu% probahly the white Ilmmi of COSMOS I\oori 1 i si, % in tlu" sixth ceutm\, and wh«* mi.aiuud th<" uppir part of \\\v Punjab. Their chi« isuut cadrd (l.'d\\ and it is reflated, that once thiiraimy hoicauura city, drank up all the waUr numd it ; as water is very scarce in tli.it count! \, i^f is vcr\ pi vsihle. l)ur-*C(K Sulianbdca, /rigurfa, Mt./dvu. (irutu Tuan/ta.

II. Iu the Vara snnhitii, an astronomical treatise, there is a nio;c complete list. In Mauln^tm^

Sind'hi-Calaca, *Raiv&taca* > *Surfaht'ra*, *Badara*, *Dravida*. These are in the great sea, or near the great sea, *Manimdn*, *Meghvdn*, *Vanogha*, *Cshurar-pana*, AST.AGIRT, APAIIA'NTICA, at the end of the West, *Sdnatica*, perhaps *Sintica*, *Ilaihaya* the *Per-slam*, *Prasastudri*, *Uec/ma*, *Panchanada*, or *Pan-jab*, *Rymala*, *Panda*, *Turacsliica*, *Jringa*, *Vaisija*, *Canaca*, [\Suca](#), *Nirmaryudanilvchlias*. These are impure tribes living on the borders. In the North-West, *Mun'davya*. *Tusliura*, *Tula*, *Ilala*, *Madra*, *Asmara*, *Culu*, *Iakiha*, (*Strirajah*) or *^nuizones*, *Nrisinharmui*. (*'liasta** 1 *\)iuniat*, *Plwlagaha a*, *Jlguraha** *Marnha*, *Turuea*, *Channarangu*, *Ecardo-chancu* (onc-ued,) *Salica*, *Dirghagrira*, or with long necks.

To the North is *Cailusa*, 1 lunar an, *Ya^iundngui*, *Dimmish mun*, *Craiowha Myra*, *Cttara-Cunt* with the epithet of *Cs!iudran:um*, or North Cunt under the lesser Fish, or the lesser Fear.

Caicaya Cahirf, *Vasdii*, or *Ydu<uiut*, *Bhcgaprasta* or *Han/war*, *Arjun-nun.a*, */i^uidlmi*, *Adavs'a*, *An-taradxnph \hcJ)/ab* between the (ranges and the *Jun,na*, *Tngartta*. *lahura*, *'Luraguma* or *jlsva-mucluu* *Ct's'adliara*, (*'hipifiidsica*, *Dascraca*, *lu-tadlii'uuL* [\Sarau](#)'huna, 1 <usha-sUa in the *J'nhal-eathd*, (these are railed *Tacshila*, the *'laxUa* of the Greeks, and the ruins of w Inch are to be seen between the *Vvfast'i* and *Indus*.) *Pushcalaruta*, *Cai-vdtara*, *Ccud udliuua*, *Ambara*, *Madraca*, *Miliar a*, *Paulara*, (*'acid ha*, *Dan da*, *Pingalaca*, *Mdnahala*, (now *Manhdl* in the mountains to the **North** of the *Punjab*.) *liana*, (the *Hunnoi* of COSMAS,) *CO-hala*, *Sdtaca*, *Muudaiya*, *B/u'dapura*, *Gand hara*, *Yasvrati*, *llvnuddla*, *Rdjanya*, *Cachara*, *Garya*, *Yaud'heya*, *Samcya*, *'Hydmaca^* *Cshanadliurtta*.

To the North-East (it should be to the North-West,) is *Meruca*, (the mount *Meros* of the Greeks,) *Nasht'a-r&jya** *Phhupala*, *Cira*, *Cds'mira*, *Abhimra* (which includes part of *Cds'mira* to the North-West: this was the kingdom of *ABISARES*; by *Abhisdra* they oftener understand *Cdxmira*.) *l)a-rac/a*, *Tangana*, *Cu/dfa*, *Saiiritya*, *Vana-rashtra*. *BraJima-pura*, *Ddrvada*, *Amaravdna*, *Rdjya-Cirdta*, *Chhia*, *Caulinda*, *Palava*, *Lola*, *Jatdd'hara*, *Cunaha*. *C'hasa*, *Ghosha*, *Canchka*, *Eca-cliama*, *Suvai*n'a-bhu*, *Vasud'hana*, *Dk'islita*, *Pauvara*, *Chrcara*; *Niva-sana*, *Trinetra*, (or with three eyes,) *Munjddri*, *Soma*, *Gandliarca*. Then *Pdnchdla*, *Mligadldca*, *Cdlinga*, *"Avartta*, *Wnarlla* or *Dzvdraca*, *Sindliu*, *Sauvira*, *Hdrhaura*, *Mculrcsa*,

To the Smith of the *Jambund*, *Prayaga*, or *Allahabad*, *Narmadd*, *Arddlia-Sorid* the bone, (which is considered as the half of the *Narmadd*.) *Undra*, *Vanga*, *Suh ma*, *Calinga*, *Ydblica*, or *Balk*, *"Saca*, *Yavana*, *Magadlia*, [*Sabara*](#) *J>rdgjyolisha* in *Assam*, *China*, *Camh(>)a* *AvavlwAa*, *Mccala*, *Cirdta*, *Jlcatd*, *Bah'irdnta-Saila*, (within and without the hills,) *Pulinda*, *Drarira*, (all these are South of the *Yaviand*.) *Chambd*, *Udiunbara*, *Caasdmibi*, *I tdi*, *l'«nd%hydl'av'*, (the forests of the *VimVhyan* hills,) *Calinga*, *Pan'dra*, *Go/dngula*, [*Sriparvata*](#), *Varddlunnd/i*, or *Banned*!), *Jcxhamati*, *'Jdscara*. (a tribe of robbers,) *Pdrata*, (*'antara*, *Gopai'/ja*, *Tushadlt/nya*, *Catuca*, *TarU'Canaca*, (or golden tree,) *.Dahana-visha*, *Samarasura*, *Bheshaja*, *Bhishaca*, *Chalushpada*, (with four feet,) *Criahicara*, *Nripahinxra*, *Pdpapapi* (these are tribes of robbers,) *lyaidranya*, (the woods of snakes,) *Yashoyuta*, *7/7v///'*/*, (the Sun rules there,) *Girlsalila*, *Durpyi-cvxhala*, *Alarucacliha*, *Saiiiudra-Romaca*, (the sea of *Ilvnicj '}* *d~shdra* *Yaaavast*, *Tancr:;/(*, *I lata*, *Str'irqjya*, and the islands in the *Mahdrn'ava*, or great sea, *HI ad-*

kurk-rma, *Cuswmapkata*, some read *Madkura*, *Ra-saca* *Sunmphala*, (this last is the name of the country at the source of the *Ganges*, according to the divines of *Tibet*, and the lake *Su-Mnpank* seems to be called by them the sea of *MatrobaySalila-mmri* the jewel of the sea, *Lava na* the sea of salt, "*Sancha*, *Mauctica*> *Abja*, *Mandacini*, *Uttara^pandya*, or North *Pandu*, on the banks of the *Hystaspes*. Between the river *ShuThu* and *Mofhura* on the *Yamuna*, is *Bhiirata*, and the *Sauviras*, (*Snir* in the spoken dialects,) *Sughna*, *Dwya*, (a river, the *Vipasa* or *Beyah*,) **Satadru*, "*Satlaj*, the country of *Ramata*, "*Sdlava*, *Traigartta*, now *Tdhorah*, *Paurava* or country of *Puru*, (Poms,) *Ambashta* B A D, near *Tanthasar*, *IJ/nmya*, *YamClteya* or country of *YuddAia*, *Ayuiid* between the *Vtiasta* and *Sind'hu*, the country of *Sarasvafa*, *Arjumtyana*, *Matsya*, *Arddlw-grdma*, *Hastyas'vapura*, *Mangalya*, *Paush-tica*, *Sacta Carioiya*. The following tribes drink of the waters of the *Airavati*; *Ravy*, *Vitasta*, and *Chandrabhdgd*, the *Prastlurfas*, *Malava*, *Caicaya*, *Das'arna*, *L'shlnara*. The country of *Caicaya* is acknowledged to be *Cabuf*, and *Malava* is *Alalwa*, and of course they cannot drink of the waters of the above mentioned rivers; such blunders and inaccuracies are very frequent in the *Puranas*: in the present list *CiiH-m'ira* is placed to the North-East of *India* : and I could point out many more.

III. The *Tacsha-sitas* mentioned in this list, are called *Tacshilas* in the *Vrihat-cafha*, and their country is said there to be on the banks of the *Vitasttij* or *Tlystaspes*. They still exist as a numerous tribe, under the name *osyalas* or '*Seyalas*, and are divided into several branches; the *Sydlas* proper, those *oVSyal-cote*, of *Jchung-Syal*> whose principal town is called *YehungiUUan*, by Major KENNEL, the *Cac-Sydlas*, &c.

The immense ruins of *Tacshmla*, as it is **spelt** also, cover a vast extent of ground, upon which a town and several considerable villages have been built; but these ruins are now mere rubbish. The *Sydlas* are exceedingly proud of their antiquity, talk of ancient heroes, yet they remember nothing of ALEXANDER, and his conquests. They are a fine race of men, tall, bold, and generous, like their neighbours the *Chdtars*, the *Ckateri* of DIODORUS, the *Sicilian*; the greatest part of the latter are still *Hindus*, and I have seen several of them at *Benares*: and their tribe is well known in *Penjab*. The *Sya/as*, and *Chdtdrs* are certainly a distinct race in that part of the country. The *Sydlas*, or *Tacshas'ailas*, or *Silas* are also called simply *Tacshas* as well as *Sydlas*. The *Sydlas* say, that the ancient name of their city was *Uda-ndgri*, and *Hud* that of their country, from one HUND-TALLALA, or the shepherd, called YULLULEAH by *Persian* authors, and LILAIOS, by the *Greeks**. The country of *Hud* is called *Hodu*, in the book of *Esther*[^] and seems to have included what is called *Sind* by *Persian* writers, at least the Northern parts of it. It is called *Yud'dheya* in the *Pur arias*, and *Ayud* or *Auoud* by *European* travellers of the sixteenth century.

Serai Ravaut, called *Rubbaut* by Major REKNELL, is built upon the site of *Tacshila*, *mar Serai-Puckah*.

* PLUTARCH *dejmift. voce Indus.*

CHAPTER THE THIRD.

GEOGRAPHICAL EXTRACTS FROM THE PURAVAS.

FOR the satisfaction of the reader, I shall give a few specimens of the geographical style of the *Hindus*, in the very words of the *Pauraniics*. The first specimen is from the *Brahm&rida-puraria*.

Now I shall describe the length, and breadth of the earth; and give a true account of the seas and islands. Between the seven islands are thousands of smaller ones. I shall now describe the seven islands, with the Moon, the Sun, and the planets, with their dimensions, to the satisfaction of mankind. I shall describe the nine divisions of the island of *Jamba*, which exists from old, their length and circumference *mYqjanas*. The breadth of *Jambu-duipa* is 100,000 of *Yojanas*: it is very large, beautiful, and circular. It includes nine divisions, with mansions full of living beings; it is surrounded by the sea of salt; the breadth of which is equal to that of *Jambu-dwipa*. Six ranges of mountains, with their divisions or countries, extend toward the East; which on both sides, East and West, join the Ocean.

Himapraya is *Himavdn*, or full of snow: *Ilemacutaca*, full of gold, *hlfemavdn*: *Nishadlui* resplendent with gold, like the rising Sun: *Mtru* of gold of four colours is the greatest of mountains; its body appears high in all its dimensions, of many colours all round, united by the skill of PRAJAPATE BRAHMA'. Eastward it is white, like the offspring of *IJRAHMA*', born from the navel of *VISHNU*; South it is yellow, and appears like a

Vais'ya. On the sMe of *Varuria*, West, it is like the dry leaves of a tree; and like a*Sudra*, looks like a *Miru* of many names. North it is red, and looks like a *Cshetri*: these are conspicuous from their colours.

Like the *Vaidurya*, or *Lapis Lazuli* gem, is the *Nila* mountain: "Swetas'ringa 'abounding, with gold, and *Sringavan* like the feathers of the peacock. These are the chief hills, like so many kings; inhabited by *Siddlias* and *Gandliarvas*. The spaces between them are .9000 *Yqjanas*. In the middle is *Ilavrata*, round *Merit*, a space of 9000 *Yqjanas*, and this mount *Merit*, like fire without smoke, stands in the middle. The surface of the *Ivarth* stands one half on the South of *Mini*, and the other half on the North. Between these seven divisions are hills; their breadth is C,000 *Yujanas* each, and 2,000 *Yqjanas* their height.

I have mentioned the breadth of *Jambu-dictpa*, now the two middle ranges *Nila* and *Nishaxlha*, are 10,000 *Yu)anas* less, (in the *Bhagavata* 1000 only). 'Siceta and *Ilemacid'a*, likewise 10,000 less than the two former in length, and so are *Ilima->iu'm* and *Sringavdn*. In these seven Countries are seen the footsteps of living creatures, with hills here and there, as if scattered at random. The Country below *liimavat* is *Wiarata* by name: beyond is *Haimacat' a* with *Cimpurusha*: beyond is *Naishadlta* with golden peaks, arid the Country of *Harivarshani*: and beyond *Ilarivarsham* is *Mem* and *Il/rcrata*; beyond *Ilavrata* are the *Nila* mountains, and the Country of *ltamyaca*; beyond 'Ramyacn is *Jliran'nuv/a*; beyond this is *Sringa*, and the Country of *Cvru*. Know that the countries South and North of *Mini*, are shaped hke a

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trnrn^; These are four districts»«markable for their length, between them is *Ildyrata*. The division of the surface behind *NishadTha* is called the Southern division: the division beyond *NUa* is called the Northern one. South of *NUa*, and North of *Nishad'ha* length-wise, and towards the East is *Mah/axHin*, a thousand *Yojanas*; high, like *NUa* and *Nishad'hg*, Its length is 34,000 *Yojanas*, West of it is the mountain of *Gandliamadana*. Its length and breadth like *Malyavdnds*. In the middle of a sort of circle, is *Mkru* high, and of four colours; of four sides is this golden mountain, the greatest of all.

These four sides are remarkable, as they are the four paths of the five affections of the mind, from which, *as they answer to the five elements*, are produced all living beings.

The great GOD, the great, omnipotent, omniscient one, the greatest in the world, the great Lord, who goes through all the worlds, incapable of decay, and without body, is born a moulded body, of flesh and bones, *made*, whilst himself *teas not made*. His wisdom and power pervades all hearts; from his heart sprung this *Padma Lotos* like world in times of old. It was *then* in this, that appeared, *when* born, the GOD of Gods with four faces, the Lord of the Lords of mankind, who rules over all, the Lord of the world: *when* this flower was produced by *VrsiiNu*, *then* from his navel sprang the worldly *Lotos*, abounding with trees, and plants: *then* the dimensions of this worldly *Lotos* became obvious to the sight.

Round it are four great islands or countries; in the middle like the germ is *Meru* thus called; a great mountain of various colours all round,

toward the East *Para* it is white I say: yellow toward the South: *tfptfra* Westward it is black; and to the North red like the dawning morn *balarca* Its height is 84,000 *Yojanas*: 16,000 below the surface of the Earth. In the middle it is hollow like the germ of the *Lotos* Its breadth is *above* 32,000 *Yojanas*: its circumference twice that, *added to it*. Round it are four larger countries, and many smaller ones. *Bhadrasya*'*Bharata*, *Cetumdra* to the West, and to the *North the *Cur anas Curu*, in the singular number; in which are men abounding in righteousness, 'the circumference of the germ *carriica* is 90,000 *Yojanas*, the internal circumference is 84,000: the *Stamina*, filaments, or chives *ces'arajala* extend length-wise to the number of 100,000; and their circumference is 300,000 *Yojanas*. The four petals are 80,000 long, and as many broad, I am now going to describe this great and wonderful germ *carriica*, drupe, or pericarp.

It consists of 100,000 angles: BHRtau says 3000; SA'VERNI 8000; VARSHAPANI 1000; BHA'GURI says it is square; GA'LAVA that it is hollow; GRA'MYA that it is like an egg, with the broad end below. URD'HVEI'N, like three twisted locks of hair, whilst others will have it to be spherical. Every *Rishi* represents this Lord of mountains, as it appeared to him from his station. BRAHMA', INDRA, and all the Gods, declare, that this largest of all mountains, is a form, consisting of jewels-of numberless colours; the abode of various tribes; like gold, like the dawning morn, resplendent, with a 1000 petals, like 1000 water pots, with 1000 leaves.

Within it is adorned with the self moving cars of the Gods, all beautiful: in its petals are the abodes of the Gods, like heaven: in its thousand

Petals they dwell with their consotros there re-
 Stiffes above BRAHMA', God of Gods,, with four
 i|Cfesy the greatest of those, who know the *Vedas*,
 •the greatest of the great Gods, also of the inferior
 once. There is the court of BRAHMA', consisting
 of the whole Earth, of all those who grant the ob-
 ject of our wishes: thousands of great Gods are in
 thrs beautiful court; there the *Brahmarishis* dwell ;
 it is called by all the world *Manovati* There in
 the East is INDRA for ever to be praised, the God
 setting upon a *vimana*, resplendent like a thousand
 suns. There the Gods and tribes of *Rishis* are
 always sitting in the presence of the four faced
 God: these the God makes happy with his re-
 splendence: there the Gods are singing praises to
 him. There is the Lord of wealth, beautiful with
 a thousand eyes, the destroyer of towns: the *In-
 dralocas* enjoy all the wealth of the three worlds.
 In the second interval, between the East and the
 South, is the great *vimana* of *Agni pyjire*, with a
 great resplendence, variegated with a hundred
 sorts of metals, resplendent; and from whom
 sprang the *Vcdiu*: there is his court; lie does good
 to all, and his name is JI'VANI', in the mouth of
 whom the sacred elements of the *homa* are put.
 There fire ANALA, the greatest of Gods, is seen in
 his proper form; lie who gives delight to all the
 Gods.

On the third side, in this very same manner,
 know there is the great court of VAIVASWATA-
 YAMA, called by mankind SU-SAN YA MA'. Thus
 in the next or fourth, is the court *Sabhd* of the
 Lord of the corner, or *country*, of *Nairita*: his
 court is called *Crishnfmgana* ; his name is VIRU'-
 PACSHA', with a disagreeable ccuvAevance. On the
 West, know that there is the court of YARUN'A,
 called SUBHAVATI': Now toward the North, in
 the North-west, is the court of VATU', called

GANDHAVITI In the comer is the Sabha of the Lord of the Zodia, called MAWODAITAV hfs seat, most beautiful, is of PMMrya, m lapis lazuli. In the eighth comer is the aeaf of IS'A'NA, or ^VSI VA ; its colour is of fervid gold, and it is called iW?-*vati. These are the great m^ beautiful viyianas in the eight corners of the eight most benevoleift Gods, called *Indra-mudhyas*. "There dwells on the summit the God of Gods, with four faces. There is the beautiful court of BRAHMA⁷, served by tribes of *Rislus*: it is called *Manovati*, by mankind. There the *Rishis*, the Gods, and *Gand'harvas*, the *Apsarfoas*, the great snakes are the attendants, most fortunate, and constantly lifting up their hands.

Such is this *Carnica*, or germ, above the surface of the earth. Its circumference at the surface of the Earth is 48,000 *Yojanas*. This *M6ru*, above the surface of the Earth, is declared to be a hill full of inhabitants. On all sides, in every country, are *maryadd*) or dividing mountains. In these countries are mountains with seven channels, "one from each hill, with beautiful peaks, like gold, yellow, with many streams : without, there are threexhannels, and as many within *Jat'ara*, and *Deva-cutd*, are two hills to the East. Their length is from North to South equal to that of *Nila* and *Nishad''ha*: *Caildsa* and *Himavan* are South and North of (jftch other: their length is East* and West, jutting into the sea. Of this *Mtru* very high, and of gold, the supports, or *buttreß* like mountains, I shall now describe, like so many feet on four sides: 10,000 *Yqjcmas* is their breadth; and they are adorned on all sides with great *vimanas*. East is *Man-dtira*, *SbuthGand'hamddana*; *Vipula* West, *Supdrs'vtr*, North. Their thousand peaks are so many seats adorned with black and red coral. There, are four

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large trees, each with as many roots *sa-mula*, and branches with thousand smaller ones, all beautiful, and with flowers: these trees are the largest in the *duipas*. On the summit of the *Mmdata* mountain is a beautiful *Cadamba* tree: its fruit is like a rt waterpot, with flowers, with open *Calices*.

fragrance is felt one thousand *Yqjanas*, and above, all round: consider it then as a large flag: from its excellence, the country it is in, is called *Bhadrh'va*. Here is seen *RKSHICES'A*, *BHAGAVA'NA*, and he, with numerous *Lidd'kas*, rules there; here *HARAHARI* the great, the white, did obtain the tree *Rudracadamba*; he who does good to every body. No great man, famous and karned among the *bipedes*, ever saw this whole island called *Bhadrs'va*. The *Jambu* tree, most beautiful, is on the South of the mountain of *Mtru*; the fruits of which are *Amritcalpani*, like those of the *Calpa-vrUcsha*, and fall on the summit of the mountain. From this mountain issues the *Jambu* river, flowing with honey: in it is found the gold called *J&mbu-nada* with which the Gods are adorned. This flag-like tree is in the Southern part of the *dwipa*, and is called *Jambu* by mankind: from it *Jambu-dwipa* derives its name.

On the *Vipula* mountain, toward the West, is the *Placsha* tree: from this flag-like tree, or *Citu*, the country is called *Cetu-Mala*; the Gods, and *Gand''haroas* worship it. On *Stfpars'va*, in the North, on its summit is a large tree, the *Nyagrod'ha*: its large branches, and their circumference extend many *Yojanas* all round. Thus I have described the flag-like tree of the North, *Curus*. There are the seven *Curavas*, or *Curtis*: for *Curava* is a plural form, truly fortunate, and who obtained Happiness, unalterable, most exquisite in this world, for a long time: and after them this island or

country was called the Steven Curaws, or Curas- simply in the singular number.

This will suffice to give an idea of the geographical turn of the *Hindus*, and I shall leave off, in future, the descriptions of mountains, dales, and lakes, as if viewed through a prism, omitting the enchanting *buzz* of the six-footed *Bhramara*, a beetle, or rather a large black *bee fucus*, or drone, the names of fragrant flowers, and precious stones, with which the *Hindus* are as much delighted, as children are with the bare names of sweetmeats, and flowers jumbled together.

II. In the description of *Bhadrfo'va*, or *China*, as we have observed before, the *Paur&riics* take peculiar notice, that this extensive country had never been visited by great men, that is to say, by men of learning and respectability. The author then gives an account of the four sacred streams in these words:

Hear now what divine streams issue from the lakes, abundant with *ogha* living waters. The water of the Ocean, coming from heaven upon *M6ru*, is like *amfita*; and from it arises a river, which, through seven channels, encircles *Miru* for a space of eighty-four *Yojanas*[^] and then divides into four streams springing over the four sacred hills, toward the four cardinal points. One stream goes over *Mandaro*, in the East, and encircles the beautiful grove of *Chaitra-rafha*, and falls into the *Jrunodd*, or *Aruna* lake, and goes thence to the mountains of *Sitanta*, *Samanta*, *Sumanajasa*, *MMhyavanta*, to *Faicanca*, *Maiii*? *Rishabka*, from hill to hill; then falls to the ground, and waters the country of *Bhadras'va*, a *Stt~mak4-dwipa*, or beautiful and extensive island, or coun-

tg|ipM|thei^ii joins the Eastern **Ocean near the Puma-dwipa**, or Eastern island, called^ in other *Purdrias*, the island of *Indra*, and of the rising si*% a& implied also in its present Chinese name of *Gepuen*, or JtfjOaw.

The Southern branch goes to *Gand'harnddanUy* from hill to hill, from stone to stone; it encircles the forest of *Gand'kamddana*, or *Deva-nandana*, where it is called *Alacananda*. It goes to the Northern lake, called *Manasa*, thence to the King of mountains with three summits, thence to the mountains of *Caiinga*, *Ruchaca*, *Nishad'ka*, *Jam-rabha*, or copper mountains, "Swetodara, *Sumula*, another King of hills, *Vasudlidra*, *Hemacut'a*, *Deva-s'finga*, *Pishdchaca*, a great mountain, *Panchd-citt'a*, or with five peaks; then to *Cailas'a*, thence to *Himavat*, or snowy range; and then, this *Ma-hdbhdgd*, or most propitious river, having watered many countries, falls into the Southern Ocean, MAHA'DEVA received it on his own head, from which, spreading all over his body, its waters are become most efficacious. It falls then upon *Himd*ckala*, from which it gangs its w&y upon earth: hence it is called *Gang A*.

To the West, *apara* is a large river encircling the forests of *Vaibhrdjd*: it is *Mahd-bhdgd*, most propitious: it falls into the lake *Sitodd*, called by *Persian* authors *Diva-Sdran*: thence it goes to the *Su-Bacshd* mountains, and to the *Purn'oda* lake, or the *Caspian Sea*, to the mountains called *Sic'hi*, *Canca Faidurya*, *Capila Gand'ha-mddana*, *Pinjara*, *Cumuda Madlmmnta*, *Injana*, *Mucuta Crishna*. *Sweta* filled with large snakes, to the mountain with 1000 peaks, to the *Pdrijdta* mountain, through *Cttumdl*^ a latge country, then falls into the Western Ocean, It is the *Chacshu* or *Qxus*.

'\$ACBE»vw^/t*;ffi?i.-yjeax,. &c. iH

Norty from Mint there falls a branch called Bha-
 <2r4 and B^mdrA-somA tf|on Suparsva of gold, whieli
 it encircles; and goes to the lake called *Silodaca/m*
 the forest of *Bhadra-soma*, thence to the mountains
 of **Sancha~cut'a*, *Vrisha Vatm*, *Nila*, *Caphijala*, *Indra-*
nlla, *Mak/i-nUa*, *Hcmasringa,-'Swttasringa*, *Sunuga*,
 to the mountain with an hundred peaks. *Push-*
car a, *Dwijra-rajra*, *Far ah a* boar, *Mayura* peacock,
 to the single peak *Jatudhi*; then after corrodng a
 thousand inferior hills, it goes to the mountain
 with three peaks, to *Vishnddlia*; then goes into
 the Northern Ocean. This mountain of *VdUa* is
 said by astronomers to be in the same meridian
 with *Lanca*, and as such is mentioned by several
French authors, as BAILLJ, GENTIL, &C.

Close to the *Gandliamddana^* along the banks of
 the *Jpara-Gandkd*, or Western *Gtm'dicd*, is the
 country of *Cetii-mala*, 34,000 *Yojanas* in, length,
 and 32,000 broad. The *Celum/das* are mighty in
 deeds, strong and powerful; the women bright
 like the *Lotus* flower: and whoever sees them, falls
 in love with them. There is the great tree *P&nasa*,
 the *Ygdrasil* of the *Edda*, from which {low the
 sixth juices. There resides IS'WAIHA, or IS'A, the
 son of BRAHMA'. The proper name of this coun-
 try is *Cetu*, which has an obvious affinity with the
Cetiim of Scripture, a plural form, and in the sin*
 gular number *Ceti*, and with the *Ccrd* of prophage
 authors.

On the East, in *Bhadrasva* or *China*, is the
Purxa-Ganakd^x' Eastern *Gandkd*: and the length
 of its course is the same with that of the *Jipara*,
 or Western one. In the *Varahthjurrdra*, it is said
 that the course of the *Purca-Gcu-'dka* is 1000 *Yo~*
jaws> but that of the *J para* or Western, is only

350 IN EASSY ON THE

on which is *move* conformable truth as the C[^]_w does not fell into the *Atlantic* Oiean,

The author then gives an account of the countries round *MSru*, as far as the seas surrounding the old continent. He treats first of the *Droriis*, vallies, or countries situated between ranges of mountains. The *Brahma*, *Vayu*, and *BrahmfaidapurariaSy* are the most copious on this subject. The mountainous tracts to the North of *India*, are so little known to us, and to the *Hindus* themselves, that I can by no means throw any light upon so extravagant and obscure descriptions of them, as are to be found in these *Puran's*. I shall of course pass them over, after having taken notice of two curious passages, one relates to the famous mountain of *Cailasa* or *Cailas*, the heaven of 'SIVA, and often used by his followers for heaven in general, as *Coilus*, *Coilwn*, and *Coila*, by the *Latians*. There resides 'SIVA, called also ARHAN, or URANUS: for 'SIVA, like URANUS, presides over Astronomy,

It is said to be one hundred *yojanas* in length, and fifty broad; and a most extravagant description of it is given in the *Puran's*. I have conversed with many pilgrims, who had seen this famous mountain, and they uniformly declared to me, that it is only eightor nine miles to the South of the lake of *Rdvana*, the *Lanfcen* of the maps. It is about three coss long, or seven miles, and shaped like a *mandap*, by which they understand a building, like a barn. *Vakanta*, the heaven of VISHNU, is toward *Assam*; and that of BRAHMA', towards *Tartary*, a considerable way to the North. In the *Vdyu-puraria* we read, that in the Southern vallies with regard to *Meru* is the immense forest of UJDUMBARA, in which is the place of abode of

CARDDAMES WARA, the eldest son of ADAM- Tilly place they suppose to be in the vast Mediterranean island, in the *Paltze* lake in *Tibet*, a very proper place for him, and also to the Eastward of *Eden*.

But let us pass to the mountains, vallies, and champain countries to the West of *Mem*. It is said, in the *Brahma-pur an a*, that in *Bhadras'va*, or *China*, VISHNU resides with the countenance and head of a Horse. In *Bharata*, he has the countenance of a Tortoise: in *Cetu-mala*, or *Europe*, he resides in the shape of a *Karaha*, or *Boar*, and he is described as the chief of a numerous offspring, or followers in that shape. He is then in *Cetu-mala Varahapa*, or the chief of the *Varahas*, or *Boars*; a word to be pronounced according to the idiom of the spoken dialects, *warapa*. In *Curu* he has the countenance of a *Matsga*, or fish: and, of course, he is there *Sira-matsi/a*, or with the head or countenance of a fish. He is probably the CHKADO of the *Goths*, who was represented standing upon a fish in the waters. For the extensive country of *Curu* is declared to be *South* of the Northern Ocean, and *North* of *Mem*, in the *Fur arias*, and particularly in the beginning of the *Brahma-pur aria*. It begins immediately at the foot of the Northernmost range of Hills, a little beyond fifty-two degrees of latitude North, and extends from sea to sea.

TIL In the *Vayu-puraria*, the countries to the West of *Mem* are thus described; and the author begins with the vallies, and champain countries,

There are many vallies and flat grounds to the West of *Mem*, divided by numerous ranges of hills. About the mountains of *Su-hac\$ka*, the *Becuis* of PTOLEMY, and *'Sichi-s'aiUi* is a level coun-

try about a hundred *ydjana** in extent; **mdilierG** the ground emits flames. It is a juost dismal place, horrid to the sight, inaccessible to mortals: the sight of it, makes the very hair stand. It is the abode of the superior deities. There is **VIBHA'-VASU**, or **VASU** simply, who presides over the fire, burning without fuel; he who is the great deity, alid there fire seems to have life. When performing holy rites with offerings to the Gods, men always give lire his share. There that very fire, which one day will spread over, and encompass the whole universe, is constantly burning. Within the mountains is the abode of the illustrious and powerful Gods; with the place of the *Matu-linga*, ten *yqjanas* broad, and there is the hermitage of **VRIHASPATI**,

Like these two mountains are *Cumuda* and *Anjana*: between these is an extensive vailey with a lake. The *Cumuda* range answers to the *Comedi* mountains of **PTOT B I V**: and the *Anjana* or black range, to the *Anthcma of Persian* writers, as I observed before, and there is the *A'yatana*, or abode of **VISHNU**.

The *sfhan* of **VASTT** is obviously a volcano in the *Al-burz* mountains, and a volcano is really *Vasavayaiana*, or the abode of **VASU** in a derivative form: and here we have the etymology of *Vesevus*, *Vesuvius*, and *Aifna* or *Ætna*, which words have been improperly divided. Between the great mountains *Cr'ishna* and *Paridura*, the black and white mountains, is a level country. In it is a *Pad mini* land, or marshy ground abounding with *Lotos*. There resides the GOD with a thousand bodies. Mankind call it *Ananta-sada*, or *Anantec-scdes*, the seat of **HARI**, with the title of *Ananta*, In the middle of the *Cumuda* mountains with a thousand peaks, there is a forest fifty *yojanas* long, and thirty

broad There is the famous pool of the *Jpsirasmf* many holy men live there, and drmk of its "pure waters.

Between ^x*Sancu-cuta*, or the peak like a wooden-pin, and the *Vrishabha* mountains, is the *sthali*, or country of *Parushaca*, many *yojanas* in length, ^rThere live the *Cinnaras*, *Uragas*, serpents, and holy men.

The tract between the mountains of *Capinjala* and *Naga-saila*, is two hundred *yojanas* in length, and one hundred broad, truly delightful, adorned with many groves. It abounds with fruits, and flowers of various sorts. The *Cinnaras*, and *Uragas*, with tribes of pious Iffid good men live there. There are beautiful groves of *Dracsha* or vine trees, *Ndga* trees, or *Ndga-rimga*, the orange-tree, and plum, or rather stone-fruit trees. It abounds with lakes and pools filled to the brim, with sweet and refreshing waters. What part of it lies between the *Puslipaca* and *Mahd-Meglia* mountains, about one hundred *yojanas* long, and sixty broad, is as flat as the palm of the hand, as known to every body, with v*ry little water, which is whitish. The soil is hard, and tenacious, without trees, and even i.without grass. There are few living creatures: and the few inhabitants are without fixed habitations: this desert is so dreary as to make the traveller's hair stand up. The whole country is called *Cdnana*, or *Cdnan*. There are several large lakes, likewise great trees, and larger groves, called *Canta*. The smaller lakes, pools, groves, orchards, producing delightful juices, are numberless. The vallies, depths, lakes, and groves are, some ten, others twelve, seven, eight, twenty, or thirty *yojanas* in circumference. There are caves, in the mountains, most dreary and dark, inaccessible to the rays of the sun, cold, and difficult of access.

In tfyat country are *Sidd'has*, or prophits, with the gift: of miracles; learned and famous *Brahmens* bright like fire; hundreds of thousands of them arc in that country.

It is truly surprising to find so plain, and sensible a description of a country in the *Puranas*: for the translation is faithful, and I have not left out, as before, any passage on any account whatsoever. It appears to be *Syria* in its largest dimensions, and which the author calls *Cdnan*; because the *Cqnanea7?s*, and amongst them the *Phoenicians*, were possessed of the greatest and best part of it, and were, morcoyer, famous all over the East.

The dimensions in *yqjanas* in general, must be considerably reduced: but there are particular instances when they must be retained, and such cases are by no means numerous. I have noticed that the description of this country was a plain narrative, which, if not true, bore at least every mark of probability.

The mountains of *Capinjala*, a sort of bird, and *Ndga*, or of the Serpents, are unknown: the region between them was 200 *yqjanas*, or about 900 miles long, and 100 broad, or about 450 miles. These are the dimensions of *Syria* from *Babylon* to the *Mediterranean* sea. It consisted of two parts, a dreary desert, and the other a most charming and fruitful country, with six or seven lakes, called seas, the largest of which is the *Asphaltite* sea, thirty *yqjanas* in circumference, according to JOSEPMUS'S account

The *Paurariics*, in their description of countries, never mention, at least as far as 1 can recollect,

the Tine, and plum, pr olive tree, -not the *Ndgar ranga*, or orange tree, unless we are to understand the latter of trees, bearing golden apples. The larger lakes, the numberless pools, the caves in the mountains, the abundance of vineyards and orchards filled with orange and olive trees, is perfectly correct, as well as the description of the desert, with its scanty waters of a whitish colour, and a few inhabitants, without any fixed habitations, is literally true. The numerous and learned *Lcvites*, who were really *Brahmens*, the *Sidd'has* or prophets working miracles, are certainly wonderful circumstances.

The *Cinnaras* may be the inhabitants of the country of *Cinnereth*, round the lake of the same name with the town of *Cinnereth*. The tribe of *Uragas*, or serpents, were probably the *Hivites*, whose name implies the same thing. *Vadari* signifies a plum tree, but, in general, a stone-fruit tree; and is, of course, applicable to the olive tree, for which, I believe, there is no name in *Sanscrit*. It is not understood here of the date tree, for which there is a name in that language.

This curious passage proves the existence of an early intercourse between the *Hindus* with the inhabitants of the more Western countries, and particularly the *Israelites*. I shall show, in the course of this work, that such an intercourse existed formerly: and LUCIAN takes a particular notice of the *Hindus* visiting holy places in *Syria*, such as the *sph&n* of *Maha-bhaga-devi*, called *Bomhyce*, and now *Manheg*. This, in my humble opinion, explains an obscure passage of the prophet ISAIAH, who lived in the eighth century before CHKIST*:

* ISAIAH, chap. ii. v. 6—See also **Bishop** LOWTH on ISAIAH.

^^feriljf thou h^st fbrsakeirt thy people, tfiefidflSe
 ^ af JACOB; because thfcy are filledVith DIVJNKBS
 M from the EAST, from *more than* or *beyond*the
 "EAST; who are soothsayers like those of tjie
 " *Philistines*; and they delight in the society pf
 " children of strangers." This passage I conceive
 tp allude to *Hindtcs*, from the very forcible expres-
 sion of *from the East, from beyond the East, or*
from the remotest parts of the East. The prophet
 did not mean the *Chaldeans*, who were well known
 to him, as he repeatedly takes notice of them.

IV. The next mountains are those of *Sitanta*, many *yojanas* in extent, abounding with all sorts of metals and gems. It is skirted by a most delightful country, well watered, enlivened with the harmonious noise of the black bee and frogs. There are towns with gates: and the refreshing moisture of this country, proceeds from *Urupa*, or the Lord of the *Zodiac*; and re-uniting together, forms a stream, called the *Vahd* of the Moon, or *Chan'dra-vaha*. There live the *Sidd'has* and *Yacshas*, in caves, with intricate but delightful mazes. There, among immense caves, is the *Cridavona*, or place of dalliance of MAHENDRA, where knowledge and the completion of our wishes is fully obtained. There is the great forest of the *Parijata* trêe, of the kings of the Gods, known through the three worlds: and the whole world sings his praise from the *VMas*: such is the place of dalli*
 ance of him with 1000 eyes, or INDRA.

One side is *Suvarn'a* of gold, as implied by its name, full of hills of the purest gems and corals. In*this charming grove of SACRA, or INDRA, the Gods, the *Danavas*, the snakes, *Yacshas*, *Racshasas*, *Guhya*, or *Gwveras*, *Gand'harvas*, *Vidyad'haras* live happy, as well as numerous tribes of *Apsarasas*, fond of sport.

1b Ihe East of this lord of .mou&tainn- is *Cumuk*,
apeak, with eight towns of the proud *DAnavas*.
Iu the mountains of *Vajracti*, with many peaks,
live *RAcshams*, frightful, assuming whatever coun-
tenance they please, strong, and performing won-
derful achievements: these *Racshasas* are called
Nilacas.

In *Mtiha-Nila*, or the great blue range, are fif-
teen towns belonging to the *Haydnana*, or *Asfva-*
muc'ha, or horse-faced tribe, probably the *Par-*
thians, and the descendants of *Torgama*, who bred
horses, and carried them to the principal fairs in
the East. In *Sanscrit*, *Turangama*, perhaps the
same with *Thorgama*, for thus *Thogarma* is also
written, signifies a horse, and implicitly a horse-
man : and the *Hindus* derive from it the appella-
tion of *Turcoman*. They are originally *Cinnaras*,
courageous like the leader of the armies of the
Gods; CA'RTICE'VA, with large hands, and strong
like the *Indradicas*. There are fifteen chiefs of the
Cinnaras, elated with pride. Therein towns, under
ground, like *Ramiyan*, live people like snakes; no
man can look them in the face, and meet their eyes:
their looks are like fire, like the poison of serpents.
These live upon the golden *stamina* of certain
flowers. In the hills there are above a thousand
abodes of *Daityas*: the houses are elegant, like
high-embattled forts.

In *Vcn'u-manta*, or *Veriuman*, are three forts be-
longing to the *VidytkCharaSy* thirty *yojanas* long,
and twenty-five broad. These belong to the *Ulu-*
cas, the *Romashas*, or *Romacas*, and the *MaM-*
netras. These rank among the greatest of the
Vidyad"haras, and whose mighty deeds equal those
of *INDRA*. The country of *Venttmanta* is one hun-
dred and forty miles long, and about sixty broad :

in it there are three strong fortain
 the same time by the three most po\yerfu{ nations
 then existing. The *Romaskas*, ox *Romacm*, are
 the *Romans*, called *Romaicoi* in *Greeks* and often
 mentioned in the *Pur tolas* and other books of the
Hindus^ but only in general terms. The *Ulucas*
 are the "*Sacas*, called also *Bolga*, *Volcce*, and *Wolkce*;
 these were probably the *Parthians*. The *Jkfahd-*
netra, or with large eyes, are probably the *Arme-*
nians: and it was in the first century, that these
 three powerful nations were thus brought in con-
 tact, on the borders of *Syria*, *Armenia*, and *Per-*
sia, in a country bordering upon the lake *Van*, thus
 called from a town of the same name, which in the
Armenian language signifies a fortified place. *Har-*
Mimri, or *Ilar-Minmth*, signifies the mountains of
Minnith, or *Armenia*, and *Vani-minnithj* or *Vanni-*
minni, the strong holds of *Ar-minni*, *Armona*, *Ar-*
mana, ox *Armenia*: for thus its name is variously
 written.

In the *Brahnarlda* it is declared, that in the coun-
 try of *Cusa*, including *Iran*, *Syria*, and *Arabia*, is
 the *Camudvatl*, or *Euphrates*, with the *Curnuda*
 mountains; from which *Cusa* is also denominated
 the *dwipa*, or country of *Curnuda*. There live the
Sacas, a powerful nation: the *Parasicas* remark-
 able for their beauty, and the [Syamacas](#) seemingly
 thus called from their black complexion. These
 were subdued by RAGIUU: and in the book of his
 wars, a few remarkable circumstances relating to
 that extensive country, occur occasionally. Other-
 wise the *Parasicas*, or natives of *Parasa*, or *Persia*,
 are seldom noticed by the *Paurdriics*. In *Curnuda*
 is the *Cumudvati* river, and the *sthdn* of MAHA'-
 BHA'GA-DEVI', the sister of M AHA'-DJSVA. Of this
 famous place, I took particular notice in my Essay
 on *Semiramis*, utfder the name of *Mabog* and
Manbeg.

the destroyer of serpents: it is found with metals and precious stones. A strong and turbulent wind swiftly passes over this mountain, in a human form, called *Sugriva*. The offspring of PUNNA'-GA'RI', or GAUUIVA, in the shape of birds, fly about this mountain: they are strong, fly quickly, and mighty are their achievements. On *Caraja* always resides the mighty lord of living beings, who manifests himself there to human sight, the great GOD riding upon a Bull, hence called VRISHA-BHANCA-SANCAHA, the chief of *Yogis*. The inhabitants, like MAHA'-DKVA, always carry poison about them: they are *Pramatias*, or servants, of MAHA-DEVA, and difficult of access. MAHA'-DEVA resides there among them.

On *Vasu-dliara* in *Vasumati*, a mountain and country full of fire, as implied by their names, are the *stians*, or places of the eight forms of MAHA'-DEVA, the merciful GOD. They are full of resplendence, and proper places of worship. There are seven *stidns* of *Sulci has*: and the *sfdn* of BRAHMA' with four faces, the mighty lord of created beings, on a high peak: all living creatures bow to it. The eleven *Rudras* reside there, on the *Gaja-s'aila*, or elephant mountain.

Su-Megha is full of metals, a king of mountains it is, like the clouds *Megha*, with many caves in its bosom, and harbours in its skirts. It is the *Ayatanan*, or place of abode of the twelve Suns, and of the eight forms of *Rudra*. There also the *stliims* of VISHNU, and the *Aswinau* or *Dioscuri*, with many belonging to the *Sidd'has* and Gods. There* the *Yacshas*, *Gand'harvas*, and *Cinmr'as*, probably priests and minstrels, are constantly performing the *puja*. In the bosom of this mountain,

are famous and large cities of the *Gand harvaa* resplendent like *Amara-puri*, with lafge forts well embattled, in which reside the *Siddlitis*, and *Gandharvas* deeply skilled in war, with their king CA-PINJALA, God and king of kings. From him these are cajoled the *Caphijala* mountains, of which I took notfce before.

On *Anala*, a fire mountain also, reside tribes of *Racshasas*, or evil spirits with a human body, on this mountain with live peaks, with the *Ddnavas*, proud, enemies of the Gods, great, strong, and of mighty deeds. These *Danavas* are perhaps the *Greeks*, the offspring of DANAUS.

On *Sata-srings* or with one hundred peaks, reside the *Yacshas*, a benevolent tribe. On *Tamrabha*, or the copper mountain, is a town inhabited by the *Cadravei/as*, or children of CADRU, the wife of CA'S'YAPA, and by *Tacshacas*, a serpentine tribe of artists.

In the great and beautiful *Visacacha* are many caves in its skirts: it is the famous place of abode of the God, who always dwells in caves, CA'RTI-CEY'A, or MARS. On *Swectodara*, or with a white belly, is a large town, and settlement of the beneficent SUNA'DHA, the son of GARUDA.

On the large mountain of *Paisachaca*, is a settlement of the *Cuveras*, (called also *Cuberas* and *GuhyaSy* and the same with the *Cahirian* tribes,) with a commodious palace, resorted to by the *Yacshas* and *Gandliarvas*. On *Ilari-cut'a* resides the God HARI, to whom all the world bows: the famous navel of this most resplendent mountain is remarkable for its splendour.

On *Cumuda* reside the *Cinnaras*: on *Anjana* the great Snakes on *Crishna* are the towns of the *GancTharvas* with large houses.

On *Plindhra*, on a beautiful peak, is the town of *Vidyadhara*, well fortified, and a large palace with battlements.

On the mountain with a thousand peaks, reside the *Daityas* and *Danavas* in a thousand towns. They are all shining with gold, and their voice is most melodious.

On *Sucuta* reside the chiefs of the *Pannagas*, or great Snakes: and on *Pushpaca* many tribes of *Munis*. On *Supacsha*, or *Subacsha*, are the four mansions of VAIVASWATA, or NOAH, of the Moon, of VAYU, and NA'GA'D'I-UPA', or King of Serpents. The *Gamriuirvas*, *Cintutras*, *Yacshas*, *Nagas* and *VidyyuV haras*, and their chiefs, are constantly worshipping their ISHTA, or favourite deity.

The place of VAIVASWATA, or MAITLAM, is near *Cabul*, in the country of *Lampacam*, as it is called in the *Purarias*, and *Lamgam*, by the natives. Of this place, I took particular notice in my Essay on mount *Caucasus*,

V. In this *Parana*, the author, whilst describing the mountains to the South, and South-West of *Mtru*, mentions a circumstance truly curious and interesting. Here, says lie, in the forest of *S'ancha* was born SHADA^NANA, or CA'RTICE'YA, MARS with six faces. Here he wished, or formed the resolution of going to the mountains o^*Crauncha*, *Germany*, part of *Poland*, &c. to rest, and recreate himself after his fatigues in the wars of the Gods with the giants. There, in the skirts of

the mountains of *Crauncha*, he* flung his sword, the very same which *ATTILA*, in the fifth century, asserted he had found under a clod of earth. It was placed in his tomb, where it is probably to be found.

In the *Devi-Purdn'a*, it is declared, that *DEVI'* in her character of *JAYA-PEVI'*, or goddess of victory, is worshipped in the *dxvipa* of *Craiincha*, under the emblem of a sword.

The rest of the more Western countries is neglected by the compiler, as they are described in other paragraphs, under the names of *dxvipas* or countries of *'Placsha*, *Salmali*, *Craiincha Sacam*, and *Pushcara*. He takes particular notice of a singular region in *S'almati*, called the peak-land of the Gods.

Hear now: in *Deva-cut'a*, or peak-land of the Gods, which is a mountain dividing, parting countries, or, in other words, a long and extensive range, is this place where *GARU'DA*, the son of *VINATA'*, was born; which is also his *Uhama** *damns* home, on a broad peak of this great range, with a beautiful palace. This country is one hundred *yojanas* in circumference, or about four hundred and ninety miles. There resides the numerous offspring of *GAIUJ'PA*, in the shape of large birds, *and of men also* swiftly flying, strong, ruling all over the country, and full of pride. This is the first mansion of the lord of birds, generous and merciful, swift like the stormy wind, and who resides in the *dxvipa* of *Salmali*. It is toward the South on one of the peaks of this mountain, conspicuous, full of wealth,' beautiful, seven in number, bright like the morning and evening skies, with forts of silver, well embattled,* adorned with chaplets of houses made by the Gods, forty *yojanas*

long, two hundred miles, and thirty broad, one hundred and fifty miles. These are called the seven towns of the *Gand'harvas*, full of men and women. This is a peculiar tribe of the *Gandliarvas*, called *Agneyas*, fire-men, or rather artificers by fire, very strong, and of mighty deeds. They are the servants of the *Cwveras*, or *Guhyas*, whose principal employment is to explore the bowels of the earth in search of wealth. The rest of this curious description will be hereafter the subject of a particular section.

Before we pass to the second part, it will be requisite to give some explanation of the accompanying Plates :

No. I, represents the worldly *Lotos*, floating upon the waters of the Ocean, which is surrounded, and its waters prevented from falling into the vacuum by the *Suvarria-bhumi*, or land of gold, and the mountains of *Localocas*.

No. II, represents the globe of the Earth, according to the *Hindu* astronomers. It is projected upon the plane of the equator, and the Southern hemisphere expanded in such a manner, that the South pole, instead of a point, becomes the largest circle of this projection. They also represent the two hemispheres, separately upon the plane of the equator.

No. III, represents the same, projected upon the plane of a meridian. These two projections are against the tenor of the context of the *Pwan'as*: a Southern hemisphere being then absolutely unknown.

II&re I have placed the three ranges of mountains according to the documents of *Hindu* astronomers : but not according to their usual delineations : for, according to these, the three ranges should be represented by three coticentric half circles, parallel to the meridians of the projection. It is acknowledged, that these ranges are in the direction of as many parallels of latitude. In that case the outermost ranges must be the longest: and this is the opinion of the *Jainas* as I observed before, in the sixth paragraph of the first chapter.

No, IV, exhibits the old Continent, projected upon an imaginary circle passing through the North pole, am? just grazing the equator in the South. Instead of a circle, it should be an oval, with the longest diameter East and West. But as the tracing of an oval would be attended with some difficulty, the indolent *Paiwariks* have adopted the circle in its room ; and seldom use the other. As such a delineation would be useless, I have, of course, omitted it.

The chasm in the North-West through the mountains surrounding the world, was made by CRYSHNA, when he went to see his prototype VISHNU, or the great spirit, the *Faramatma* of the world, whose abode is among waters, in the land of darkness. Several heroes have passed since through this chasm, which will be the subject of a particular paragraph hereafter.

No. V, explains the true system of the known world, according to the *Par an as*, and the *Jamas*, reconciled with that of the astronomers of *India*.

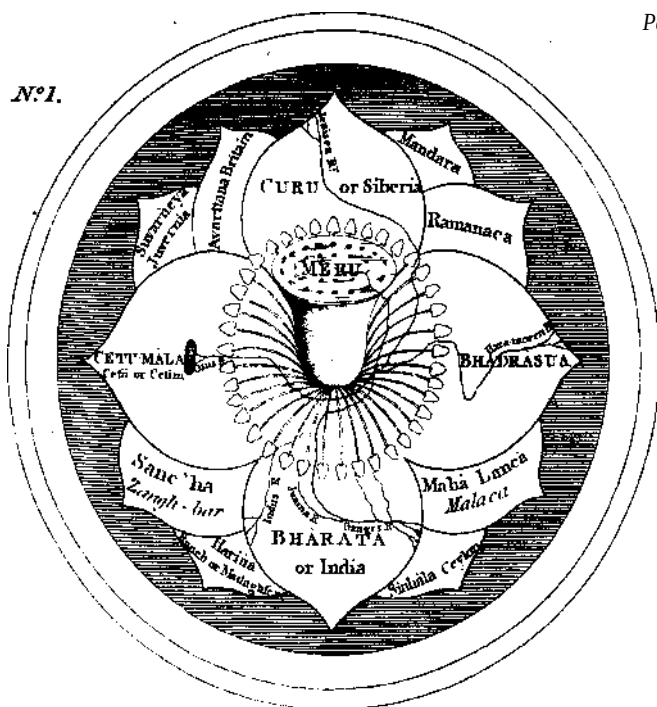
Here the *Mtru* of the *Paurariics* is brought back to its proper place, whilst the *Meru* of the astro-

Homers remains under the North pole. The zones between *Jambu* or *India*, and the *Meru* of the astronomers, are obviously our seven climates; and the points where the astronomical zones intersect the zones of the *Paiiraniacs* round their respective centres equally called *Meru*, shew the true situation of the *chmpas* or countries, from which these^zones, according to the system either of the astronomers or of the *Paurdnics*, are equally denominated, whether they are reckoned relatively to the North pole, or to a central point in the elevated plains of *Tartary*.

No. VI, is a delineation of the country of *Bharata*, in the fullest acceptation of that denomination. Its nine divisions with (*urn*, or *Siberia*, and the Northern parts of *Europe*, making in all ten districts, were all destroyed by-a violent storm, and inundation, except one. Thus the ten divisions of the *.Itlantis* were all destroyed by a flood, except one, called *Gades*, which probably included *Spain*.

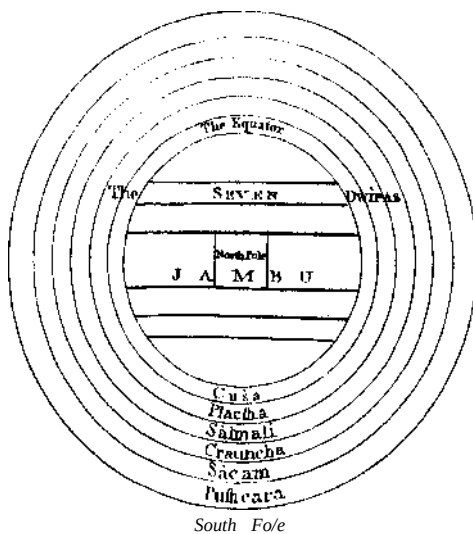
Some also are of opinion, that, out of the seven *dzvipas*, six were likewise overwhelmed by a flood. This circumstance is also noticed in the third volume of the *ty'in-Acheri*. But I believe that this notion originated with the *Purcm'icas*, who, unable to point out these wonderful countries, described in so extravagant a manner in their sacred books, found that the best way was to swear, that they had disappeared.

N^o 1.



The Worldly LOTOS.

N^o 2



Nº3.

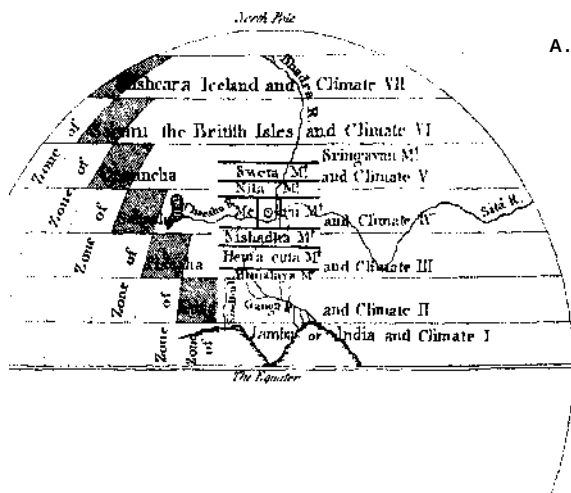


USD of PAROUS
full oft Waters; Abode
the Great Spirit, or,
Vislmu.

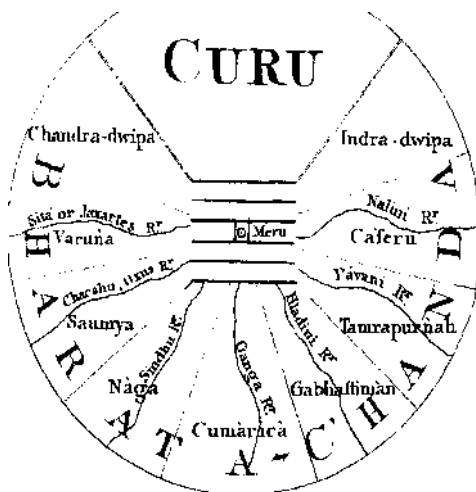
A Chastu in the Mon...

Nº4.





N76.



VIII.

On the VE'DAS, or SACRED WRITINGS of the
Hindus.

BY II. T. COLEJBROOKE, ESQ.

IN the early progress of researches into *Indian* literature, it was doubted, whether the *FSdas* were extant; or, if portions of them were still preserved, whether any person, however learned in other respects, might be capable of understanding their obsolete dialect. It was believed too, that, if a *Brahmana* really possessed the *Indian* scriptures, his religious prejudices would nevertheless prevent his imparting the holy knowledge to any, but a regenerate *Hindu*. These notions, supported by popular tales, were cherished long after the *Vklas* had been communicated to DA'RA' SHUCOH; and parts of them translated into the *Persian* language, by him, or for his use*. The doubts were not finally abandoned, until Colonel POLIER obtained from *Jtycpur* a transcript of what purported to be a complete copy of the *Vedas*, and which he deposited in the *British Museum*. About the same time, Sir ROBERT CHAMBERS collected, at *Benares*, numerous fragments of the *Indian* scripture: General MARTINE, at a later period, obtained copies of some parts of it: and Sir WILLIAM JOISTES was successful in procuring valuable portions of the *Vedas*, and in translating several cu-

* EXTRACTS have also been translated into the *Hindi* language: but it does not appear, upon what occasion this version into the vulgar dialect was made.

rious passages from one of **them** *. I have been **still** more fortunate in collecting at *Benares*, **the** text and commentary of a large portion of these celebrated books; and, without waiting to examine them more completely, than has been yet practicable, I shall here attempt to give a brief explanation of what they chiefly contain.

It is well known, that the original *Veda* is believed, by *Hindus*, to have been revealed by BRAHMA'; and to have been preserved by tradition, until it was arranged in its present order by a sage, who thence obtained the surname of VYA'SA, or VK'DAVYA'SA ; that is, compiler of the *Vedas*. He distributed the *Indian* scripture into four parts, which are severally entitled *Rich*, *Yajushy* *Sdman*, and *"Atliarcan'a* ; and each of which bears the common denomination of *Veda*.

Mr. WILKTXS and Sir YV'ILIJAM JONES were led, by the consideration of several remarkable passages, to suspect, that the fourth is more modern than the other three, It is certain, that MENU, like others among the *Indian* lawgivers, always speaks of three only, and has barely alluded to the *"At'harvan'a* without however terming it a *Vtdcu* Passages of the *Indian* scripture itself seem to support the inference : for the fourth *Y'eda* is not mentioned in the passage, cited by me in a former essay†; from the white *Yajush* ||; nor in the following text,

* See Preface to M KNU, page vi. and the Works of Sir WILLIAM JONES, Vol. VI.

† MENU, chap 11, v. 33.

‡ Essay Second, on Religious Ceremonies. See *Asiatic Researches* Vol. VII. page 251.

|| Fix: the 31st chapter; which, together with the preceding chapter (30:L), relates to the *Pwiulianid'ha*, a type of the allegorical immolation of NARA'YAN'A, or of BRAHMA in that character.

quoted from the *Indian* scripture by the commentator of the *Rich*.

" The *Rigveda* originated from fire; the *Yajur**
 " v*Sda* from air; and the *Sdmaveda*, from the
 it He "
 sun .

Arguments in support of this opinion might be drawn even from popular dictionaries; for AMEHA-SINHA notices only three *Vedas*, and mentions the *Afharoan'a* without giving it the same denomination. It is, however, probable, that some portion at least of the [4fharvaria](#) is as ancient as the compilation of the three others; and its name, like theirs, is anterior to VYA'SA'S arrangement of them : but the same must be admitted in regard to the *Itihdsa* and *Purdrias*, which constitute a fifth *Veda*, as the [4fharvaria](#) does a fourth.

It would indeed be vain to quote in proof of this point, the *Purdrias* themselves, which always enumerate four *Vedas*; and state the *Itihdsa* and *Pur arias* as a fifth: since the antiquity of some, among the *Pururias* now extant, is more than questionable; and the authenticity of anyone, in particular, does not appear to be as yet sufficiently established. It would be as useless to cite the *Mariduca* and *Tapaniya Upanishads*, in which the *Afharva-reda* is enumerated among the scriptures, and in one of which the number of four *Vedas* is expressly affirmed : for both these *Upanishads* ap-

* MENU alludes to this fabulous origin of the *Vedas*, (chap. 1, v. 23). His commentator, M E D'HA TIT'HT, explains it by remarking, that the *Rigvtda* opens with a hymn to fire; and the *Yajurveda*, with one, in which air is mentioned. But CTJLLU'CA-BHATT'A has recourse to the renovations of the universe. 'In one *Calpa*, the *Vedas* proceeded from fire, air, and the sun; in another, from BRAHMA', at his allegorical immolation.

pertain to the Afharvaria itself. The mention of the sage AT'HARVAN in various places, throughout the *Veda***, proves nothing: and even a text of the *Yajurveda*f, where he is named in contrast with the *Rich*, *Yqjusli*, and *Sdman*, and their supplement or *Brahman a*, is not decisive. But a very unexceptionable passage may be adduced, which the commentator of the *Rich* has quoted, for a different purpose, from the *Clihandogya Upanishad*, a portion of the *S/mian*. In it, NA'REDA, having solicited instruction from SANATCUMA'RA, and being interrogated by him, as to the extent of his previous knowledge, says, ' I have learnt the *Rig-veda*, the *Yajurveda*, the *Sdmaveda*, the "*Afhar-mn'a*, [which is] the fourth, the *Itihdm* and *Pu-rdn'a*, [which are] a fifth, and [grammar, or] the *Veda oiVcdas*, the obsequies of the manes, the art of computation, the knowledge of omens, the revolutions of periods, the intention of speech [or art of reasoning], the maxims of ethicks, the divine science [or construction of scripture], the sciences appendant on holy writ [or accentuation, prosody, and religious rites], the adjuration of spirits, the art of the soldier, the science of astronomy, the charming of serpents, the science of demigods [or music and mechanical arts]: all this have I studied ; yet do I only know the text, and have no knowledge of the soul;].'

* Vide *Vedas* passim.

f In the *Taittiriya Upanishad*.

J *Ctihandogya Upanishad*, cli. 7, § 1. I insert the whole passage, because it contains an ample enumeration of the sciences. The names, by which grammar and the rest are indicated in the original text, are obscure; but the annotations of SANCARA explain them.

This, like any other portion of a *Veda* where it is itself named, (for a few other instances occur;) must of course be more modern than another part, to which the name had been previously

From this, compared with other passages of less authority, and with the received notions of the *Hindus* themselves, it appears, that the *Rich*, *Yajush*, and *Sdman*, are the three principal portions of the *Veda*; that the *At harvaria* is commonly admitted as a fourth; and that divers mythological poems, entitled *Itlhasa* and *Puran'as*, are reckoned a supplement to the scripture, and, as such, constitute a fifth *Veda**.

The true reason, why the three first *Vedas* are often mentioned without any notice of the fourth, must be sought, not ill their different origin and antiquity ; but in the difference of their use and purport. Prayers, employed at solemn rites, called *Yqjtnjas*, have been placed in the three principal *Vedas*: those, which are in prose, are named *Yajus fl*; such, as are in metre, are denominated *Rich*; and some, which are intended to be chanted, are called *Saman*: and these names, as distinguishing different portions of the *Vedas*, are anterior to

assigned. It will hereafter be shown, that the *Vedas* are a compilation of praters, called *mantras* ; with a collection of precepts and maxims, entitled *Bra/una na*; from which last portion, the *Upanishad* is extracted. The prayers are properly the *Vedas*, and apparently preceded the *Urahmana*.

* When the study of the *Indian* scriptures was more general than at present, especially among the *Brahman'as* of *Canyacuhja*, learned priests derived titles from the number of *Vedas*, with which they were conversant. Since every priest was bound to study one *Veda*, no title was derived from the fulfilment of that duty; but a person, who had studied two *Vedas*, was surnamed *Dwlvedi*; one, who was conversant with three, *Trivtdi*; and one, versed in four, *Clutiurvedi*: as the mythological poems were only figuratively called a *Veda*, no distinction appears to have been derived from a knowledge of them, in addition to the four scriptures. The titles, abovenientioned, have become the surnames of families among the *Brahmins* of *Canoj*, and are corrupted by vulgar pronunciation into *Dobe*, *Tiware*, and *Chaube*

their separation in VYA'SA'S compilation. But the *Afkarvaria*, not being used at the religious ceremonies above-mentioned, and containing prayers employed at lustrations, at rites conciliating the deities, and as imprecations on enemies, is essentially different from the other *Vtdas*; as is remarked by the author of an elementary treatise on the classification of the *Indian sciences* *.

But different schools of priests have admitted some variations in works which appear under the same title. This circumstance is accounted for by the commentators on the *Vedas*, who relate the following story taken from *Purarias*, and other authorities. VYASA, having compiled and arranged the scriptures, theogonies, and mythological poems, taught the several *Vedas* to as many disciples: viz. the *Rich* to PATLA; the *Yajush* to VAIS'AMPA'YANA, and the *Sdman* to JAJMINI; as also the '*At harvana* to SUMANTU, and the *Itihdsa* and *Purarias* to SU'TA. These disciples instructed their respective pupils, who, becoming teachers in their turn, communicated the knowledge to their own disciples; until, at length, in the progress of successive instruction, so great variations crept into the text, or into the manner of reading and reciting it, and into the no less sacred precepts for its use and application, that eleven hundred different schools of scriptural knowledge arose.

The several *Sanhitas*, or collections of prayers in each *VMa*, as received in these numerous schools, or variations, more or less considerable, admitted by them either in the arrangement of the whole text (including prayers and precepts), or in regard to particular portions of it, constituted the *Sac'has*

* MAD'HTJSUDANA SARASWATI, in the *Prast'hdnabhtda*.

or branches of each *VMa*. Tradition, preserved in the *Pur&ricis*, reckons sixteen *Sanhitds* of the *Rigvkla*; eighty-six of *thzYqjush*; or, including those which branched from a second revelation of this *Veda*, a hundred and one; and not less tlian a thousand of the *Samcrceda*; besides nine of the "*At'harvaria*, But treatises on the study of the *Veda* reduce the *Sachets* of the *Rich*, to five; and those of the *Yajush*, including both revelations of it, to eighty-six *.

The progress, by which (to use the language of the *Puran'as*) the tree of science put forth its numerous branches, is thus related. PATLA taught the *Rigvcdā*, or *Bahvrich*, to two disciples, BAH-CAJA and L\DRAPRAMATI. The first., also called *BalicaU*, was the editor ol" a *Sanhita*, or collection of prayers; and a SACHA, bearing his name, still subsists : it is said to have first branched into four schools; afterwards into three others. LVDRA-PRAMATI" communicated his knowledge to his own son MAN'DUCKVA, by whom a *ScmJuta* was compiled: and from whom one of the *Sachas* has derived its name. VK/DAMITUA, surnamed S'A'CAI.-YA, studied under the same teacher, and gave a complete collection of prayers: it is still extant; but is said to have given origin to live varied editions of the same text. The two other and principal '*Sac has* of the *Rich* are those of ASVA-LA'YANA and SANC'HYA'VANA, or, perhaps, CAU-SHI'TACT: but the *Vistuiaparatia* omits them, and intimates, that SA'CAPU'KN-I, a pupil of INDRA-PRAMATI, gave the third varied- edition from this teacher, and was also the author of the *Niructa*: if

* The authorities on which this is staled, are chiefly the *Vishnu purdha*, part 3, c jap. 4, and the *Vijnjavilasa* on the study of scripture; also, tiie *Charariavybha*, ou the *Suc'hds* of the *Vtdas*.

m, he is the same with YA'SCA. HIS *seftodl^eejpi* to have been subdivided by the formation of three Others derived from his disciples.

The *Yqjusk*, or *Ad'hzvaryu*, consists of two different *Vedas*, which have separately branched out into various *Sadhas*. To explain the names, by which both are distinguished, it is necessary to notice a legend, which is gravely related in the *Piirtirias*, and in the commentaries on the *Veda*.

The *Yajush*, in its original form, was at first taught by VAIS'AMPA'YANA, to twenty-seven pupils. At this time, having instructed YAJXYA-WALCYA, he appointed him to teach the *Veda* to other disciples. Being afterwards offended by the refusal of YA'JN YA WALCYA to take on himself a share of the sin incurred by VAIS'AMPA'YANA, who had unintentionally killed his own sister's son, the resentful preceptor bade YA'JNYAWALCYA relinquish the science, which he had learnt*. He instantly disgorged it in a tangible form. The rest of VAIS'AMPAVAXA\S disciples, receiving his commands to pick up the disgorged *Veda*, assumed the form of partridges, and swallowed these texts which were soiled, and, for this reason, termed "black:" they are also denominated *Ta\it-tiriya*, from *tittiri*, the name for a partridge.

YA'JNYAWALCYA, overwhelmed with sorrow, had recourse to the sun; and, through the favour of that luminary, obtained a new revelation of the *Yqjush*; which is called "white," or pure, in contradistinction to the other, and is likewise named *Vajasaneyi*, from a patronymick, as it should

* The *Vishnu purdn'a*, part 3, chap. 5. A different motive of presentment is assigned by others,

seern of YA'JNYAWALCTA himself: for veda declares, 'these pure texts, revealed by the sun, are published by YA'JNYAWALCYA, the offspring of VA'JASANI *.' But, according to the *Vishriu puriria* (3. 5. ad finem), the priests, who studied the *Yqjush*, are called *Vqjins*, because the sun, who revealed it, assumed the form of a Horse (*Vdjin*).

I have cited this absurd legend, because it is referred to by the commentators on the white *Yqjush*. But I have yet found no allusion to it in the *Vtda* itself, nor in the explanatory table of contents. On the contrary, the index of the black *Yqjush* gives a different and more rational account. V A I - S'AMPA'YAVA, according to this authority †, taught the *Yqjurveda* to YA'SCA, who instructed TITTIRI ‡ : from him UC'HA received it, and communicated it to A'TREVA : who framed the *Sucha*, which is named after him; and for which that Index is arranged.

The white *Yqjush* was taught by YA'JNYAWALCYA to fifteen pupils, who founded as many schools. The most remarkable of which are the "*Sachas* of CANWA and MADIIYANDIXA; and, next to them, those of the *Jdbldas*, *Baud'hay anas*, and *Tapariiyas*. The other branches of the *Yajush* seem to have

* *Vriliad Aranyaca* ad calcem. The passage is cited by the commentator on the *Rigveda*. In the index likewise, YA'JNYAWALCYA is stated to have received the revelation from the sun.

† *Cond anucrama*, verse 25. This index indicatorius is formed for the "*Atrtyi S'acha*. Its author is CUN'DINA, if the tegtt (verse 27) be rightly interpreted.

‡ This agrees with the etymology of the word *Taittiriya*; for, according to grammarians (see *Pdnini* 4. in. 102), the derivative here implies "recited by *Tittiri*, though composed by a different person/ A similar explanation is given by commentators on the *Upanishads*.

been arranged in several classes. Thus the *Char racas*, or students of a *Sdc'hd*, so denominated from the teacher of it, CHARACA, are stated as including ten subdivisions; among which are the *Cafhas*, or disciples of CAT'HA, a pupil of VAI-S'AMPA'YANA; as also the 'Swetas-wataras, *Aupa-manyavas*, and *Maltrdyanias*: the last mentioned comprehend seven others. In like manner, the *Taxttiriyacas* are, in the first instance, subdivided into two, the *Auchydyas* and *Chawdictyas*; and these last are again subdivided into five, the *A'pas-tambiyas*, &c. Among them, A'PASTAMB'ASACHA is still subsisting; and so is A'TRE'YA'S, among those which branched from UC'HA : but the rest, or most of them, are become rare, if not altogether obsolete.

SUMANTU, son of JAIMIXI, studied the *Sdma-veda*, or *Chandogya*, under his father: and his own son, Sue ARM AN, studied under the same teacher, but founded a different school; which was the origin of two others, derived from his pupils, HIRAN'YANA'BHA and PAUSHYINJI, and thence branching into a thousand more. For LOCA'CSHJ, CUTHUMI, and other disciples of PAUSHYINJI, gave their names to separate schools, which were increased by their pupils. The *S'dc'hd*, entitled *Caufhumi*, still subsists. HIRAN'YANA'BHA, the other pupil of SUCARMAN, had fifteen disciples, authors of *Sanhitds*, collectively called the northern *Sdmagas*; and fifteen others, entitled the southern *Sdmagas*: and CRITI, one of his pupils, had twenty-four disciples, by whom, and by their followers, the other schools were founded. Most of them are now lost; and, according to a legend, were destroyed by the thunderbolt of INDRA. The pJ-yacipal *S'dclid* now subsisting, is that of the *Bdridyanias*, including seven subdivisions; one

of Which is entitled *Caut humi*, as above-men* tioned, and comprehends six distinct schools. That of the *Talavacdras*, likewise, is extant, at least, in part J as will be shown in speaking of the *Upanishads*.

The *Jfharva-veda* was taught by SUMANTU, to his pupil CABAND'HA, who divided it between DE'VADARS'A and PAT'HYA. The first of these has given name to the *Sacha*, entitled *Dtvadarsi*; as PIPPALA'DA, the last of his four disciples, has, to the *S'achd* of the *Paippaladis*. Another branch of the *Afharvajta* derives its appellation from SAUNACA, the third of PAT'HYA'S pupils. The rest are of less note.

Such is the brief history of the *Veda*, deducible from the authorities before cited. But those numerous *S'achas* did not differ so widely from each other, as might be inferred from the mention of an equal number of *Sanhitds*, or distinct collections of texts. In general, the various schools of the same *VSda* seem to have used the same assemblage of prayers; they differed more in their copies of the precepts or *Brahmanas*; and some received, into their canon of scripture, portions which do not appear to have been acknowledged by others. Yet the chief difference seems always to have been the use of particular rituals taught in aphorisms (*Sutras*) adopted by each school; and these do not constitute a portion of the *Veda* ; but, like grammar and astronomy, are placed among its appendages.

It may be here proper to remark, that each *Vida* consists of two parts, denominated the *Mantras* and the *Brahmanas*; or prayers and precepts. The complete collection of the hymns, prayers, and invocations, belonging to one *veda*, is entitled

its *SanhM*. Every other portipn of *Indian* scrip* tare is included under the general head of divinity (*Brdhmana*). This comprises precepts, which inculcate religious duties; maxims, which explain those precepts; and arguments, which relate to theology*. But, in the present arrangement of the *Vedas*, the portion, which contains passages called *Brahmaias*, includes many which are strictly prayers or *Mantras*. The theology of the *Indian* scripture, comprehending the argumentative portion entitled *Ved/mta*, is contained in tracts denominated *Upanishads*; some of which are portions of the *Brahman'a*, properly so called; others are found only in a detached form; and one is a part of a *Sanhita* itself.

On the RIGVE'DA.

THE *Sanhita* of the first *Veda†* contains *mantras*, or prayers, which, for the most part, are encomiastick; as the name of the *Rigveda* implies ‡. This collection is divided into eight parts

* The explanation, here given, is taken from the *Prastlidna bheda*.

† I have several copies of it, with the corresponding index for the *Sac'alya*, *S'ac'ha*; and also an excellent commentary by SAYAN'ACHARYA. In another collection of *mantras*, belonging to the '*As'waldyan'i S'dchd* of this *Vtda*, I find the first few sections of each lecture agree with the other copies; but the rest of the sections are omitted. I question whether it be intended as a complete copy for that *S'dchd*.

X Derived from the verb *rich*, to laud; and properly signifying any prayer or hymn, in which a deity is praised. As those are mostly in verse, the term becomes also applicable to such passages of any *Veda*, as are reducible to measure according to the rules of prosody. The first *Vtda*, in VYA'SA'S compilation,

(*Chanda*); each of which is subdivided into as many lectures (*ad'hyaya*). Another mode of division also runs through the volume; distinguishing ten books (*mandate*), which are subdivided into more-than a hundred chapters (*anuvaca*), and comprise a thousand hymns or invocations (*sucta*). A further subdivision of more than two thousand sections (*barga*) is common to both methods : and the whole contains above ten thousand verses, or rather stanzas, of vaiious measures.

On examining this voluminous compilation, a systematical arrangement is readily perceived. Successive chapters, and even entire books, comprise hymns of a single author: invocations, too, addressed to the same deities, hymns relatrag to like subjects, and prayers intended for similar occasions, are frequently classed together. This requires explanation.

In a regular perusal of the *Veda*, which is enjoined to all priests, and which is much practised by *Mahrddtas* and *Telingas*, the student or reader is required to notice, especially, the author, subject, metre, and purpose of each *mantra*, or invocation. To understand the meaning of the passage is thought less important. The institutors of the *Hindu* system have indeed recommended the study of the sense; but they have inculcated with equal strenuousness, and more success, attention to the name of the *Rlshi* or person, by whom the text was first uttered, the deity to whom it is addressed, or the subject to which it relates, and also its rhythm or metre, and its purpose, or the

comprehending most of these texts, is called the *Rigveda*; or, as expressed in the Commentary on the Index, " because it abounds with such texts (*Rich*)"

religious ceremony at which it should be used, the practice of modern priests is conformable with **these** maxims. Like the *Koran* among the *Mohammedans*, the *Veda* is put into the hands of children in the first period of their education; and continues afterwards to be read by rote, for the sake of the words without comprehension of the sense.

Accordingly the *VSda* is recited in various superstitious modes: word by word, either simply disjoining them, or else repeating the words alternately, backwards and forwards, once or oftener. Copies of the *Rigveda* and *Yajush* (for the *Sama-vida* is chanted only) are prepared for these and other modes of recital, and are called *Pada*, *Cwma*, *Jatd*, *Ghana*, &c. But the various ways of inverting the text are restricted, as it should appear, to the principal *Vedas*; that is, to the original editions of the *Rigveda* and *Yajush*: while the subsequent editions, in which the text, or the arrangement of it, is varied, being therefore deemed subordinate "*Sdc'kds*," should be repeated only in a simple manner.

It seems here necessary to justify my interpretation of what is called the "*llishi*" of a *mantra*." The last term has been thought to signify an incantation rather than a prayer; and, so far as supernatural efficacy is ascribed to the mere recital of the words of a *mantra*, that interpretation is sufficiently accurate; and, as such, it is undoubtedly applicable to the unmeaning incantations of the *Mantra-sasfira*, or *Tantras* and *A'gamas*. But the origin of the term is certainly different. Its derivation from a verb, which signifies 'to speak privately' is readily explained by the injunction for meditating the text of the *Veda*, or reciting it

inaudibly: and the import of any *mantra* in the *Indictn* scriptures, is generally found to be a prayer, containing either a petition to a deity, or else thanksgiving, praise, and adoration.

The '*Rishi* or saint of a *mantra* is defined, both in the index of the *RigvSda*, and by commentators, " he, by whom it is spoken : " as the *Dēvatd*, or deity, is, " that, which is therein mentioned." In the index to the *Vajasantyi Yajur-vtda*, the *Rishi* is interpreted " the seer or rememberer " of the text; and the *Dfaata* is said to be " contained in the prayer; or [named] at the commencement of it; or [indicated as] the deity, who shares the oblation, or the praise." Conformably with these definitions, the deity, that is lauded or supplicated in the prayer, is its *Dtvata*: but in a few passages, which contain neither petition nor adoration, the subject is considered as the deity, that is spoken of. For example, the praise of generosity is the *Dtvata* of many entire hymns addressed to princes, from whom gifts were received by the authors.

The *Rishi*, or speaker, is of course rarely mentioned in the *mantra* itself: but, in some instances, he does name himself. A few passages too, among the *matras* of the *Veda*, are in the form of dialogue; and, in such cases, the discourses were alternately considered as *Rishi* and *Dtvata*. In general, the person, to whom the passage was revealed, or, according to another gloss, by whom its use and application was first discovered *,

* Translating literally, " the *Rishi* is he, by **whom the text was seen.**" PAN'INI (4. ii. 7) employs the same term in explaining the import of derivatives used as denominations of passages in scripture; and his commentators concur with those of the

is called *the Rishi* of that *mantra*. *MiMh* evidqitiy then the author of the prayer; notwithstanding the assertions of the *Hindus*, with whom it is an article of their creed, that the *Vedas* were composed by no human author. It must be understood, therefore, that, in affirming the primeval existence of their scriptures, thry deny these works to be the original composition of the editor (VYA'SA), but believe them to have been gradually revealed to inspired writers.

The names of the respective authors of each passage are preserved in the *Anancramam*, or explanatory table of contents, which has been handed down with the *Veda* itself, and of which the authority is unquestioned*. According to this index, VISVA'MITRA is author of all the hymns contained in the third book of the *Rigveda*; as BHARADWA'JA is, with rare exceptions, the composer of those collected in the sixth book; VASISHTYIA, in the seventh; GKITSAMADA, in the second; VA'MADE'VA in the fourth; and BUDHA† and other descendants of A mi, in the fifth. But, in the remaining books of this *Veda*, the authors

Veda, in the explanation here given. By *Rishi* is generally meant the supposed inspired writer; sometimes, however, the imagined inspirer, is called the *Rishi*, or saint of the text; and, at other times, as above noticed, the *dialogist* or speaker of the sentence.

* It appears from a passage in the *Vijeya rilasa*, as also from the *Vedadipa*, or abridged commentary on the *Vajasaneyl*, as well as from the index itself, that CA'TYA'YANA is the acknowledged author of the index to the white *Yajnah*. That of the *Rigveda* is ascribed by the commentator, to the same CA TYA'-YANA, pupil of SAUNACA. The several indexes of the *Veda* contribute to the preservation of the genuine text; especially, where'the metre, or the number of syllables, is stated; as is generally the case.

† First of the name, and progenitor of the race of Kings called children of the moon.

are more various: among these, besides AGASTYA, CAS'YAPA, son of MARI'CHI, ANGIRAS, JAMA-DAGNI, son of BHRYGU, PARAVARA, father of VY-A'S'A, GOTAMA and his son N6D'HAS, VRiHASPATi, NA'REDA, and other celebrated *Indian* saints, the most conspicuous are C A N W A, and his numerous descendants, MEVHATIT'HI, & C; MAD'HUCII'HAN-DAS, and others among the posterity of YISWA-MITRA ; S'UNASYP'HA, son of AJIGARTA; CUTSA, HIRAN'YASTU'YA, SAVYA, and other descendants of AVGTRAS ; besides many other saints, among the posterity of personages above-mentioned.

It is worthy of remark, that several persons of royal birth (for instance, five sons of the king VaiiiiAiviGiu; and TRAYYARUN'A and TRASADAS'YU, who were themselves kinds'); are mentioned among the authors of the hymns, which constitute this *Vkda*: and the text itself, in some places, actually points, and in others obviously alludes, to monarchs, whose names are familiar in the *Indian* heroic history. As this fact may contribute to fix the age, in which the *Veda* was composed, I shall here notice such passages of this tendency, as have yet fallen under my observation.

The sixth hymn of the eighteenth chapter of the first book, is spoken by an ascetic named C A O SHIVAT, in praise of the munificence of SWANAYA, who had conferred immense gifts on him. The subject is continued in the seventh hymn, and concludes with a very strange dialogue between the king BHA'VAYAVYA and his wife ROMASA', daughter of VRiHASPATi. It should be remarked, concerning CACSHI'VAT, that his mother Us'ic was bondmaid of king ANGA'S queen.

The eighth book opens with an invocation,

which alludes to a singular legend. 'ASANGA, son of JPLAY6GA, and his successor on the throne, was metamorphosed into a Uroman; but retrieved his sex\ through the prayers of ME'D'HYATIT'HI, whom he therefore rewarded most liberally. In this hymn he is introduced praising his own munificence; and, towards the close of it, his wife SAS'WATI', daughter of ANGIRAS, exults in his restoration to manhood.

The next hymns applaud the liberality of the kings VIBHINDU, PACAST'HAMAN (son of CURA-YA'N'A), CURUNGA, CAS'U (son of CHE'DI), and TIRINDTRA (son of PARAS'U), who had severally bestowed splendid gifts on the respective authors of these thanksgivings. In the third chapter of the same book, the seventh hymn commends the generosity of TRASADA'SVU, the grandson of MAND'-HA'TR*. The fourth chapter opens with an invocation containing praises of the liberality of CHITRA ; and the fourth hymn of the same chapter celebrates VARU, son of SUSHA'MAN.

In the first chapter of the tenth book, there is a hymn to water, spoken by a king, named SIND'HU-DWI'PA, the son of AMBARISHA. The seventh chapter contains several passages, from the fifteenth to the eighteenth *sucta*, which allude to a remarkable legend. ASAMA'TI, son or descendant of Icsn-WA'CU, had deserted his former priests, and employed others: the forsaken *Brahman* as recited incantations for his destruction; his new priests, however, not only counteracted their evil designs, but retaliated on them, and caused the death of one of those *Brahman*'as: the rest recited these prayers, for their own preservation, and for the revival of their companion.

The eighth chapter opens with a hymn, which alludes to a story respecting NA'BHAVS'DISHT'A, BOXI of MENU, who was excluded from participation with his brethren in the paternal inheritance. The legend itself is told in the *Aitartya Brahmaria* *, or second portion of the *Rtgveda*.

Among other hymns by royal authors, in the subsequent chapters of the tenth book of the *Sanhitd*, 1 remark one by MA'ND'HATRJ, son of YU-VANAVWA, and another by S'JVI, son of USYNARA, a third by VASUMANAS, son of R6HIDAS'WA, and a fourth by PRATARDANA, son of DIVODA'SA, king *of cast.* '

The deities invoked appear, on a cursory inspection of the *Veda*, to be as various as the authors of the prayers addressed to them: but, according to the most ancient annotations on the *Indian* scripture, those numerous names of persons and things are all resolvable into different titles of three deities, and ultimately of one god. The *Nighanti*, or glossary of the *Vidas*, concludes with three lists of names of deities: the first comprising such as are deemed synonymous with fire; the second, with air; and the third with the sunf. In the last part of the *Niructa*, which entirely relates to deities, it is twice asserted, that there are but three gods; 'Tisra ha devatah‡ The further

* In the second lecture and fourteenth section of the fifth book.

† *Nig'hanti*, or first part of the *Niructa*, C. 5.

‡ In the second and third sections of the twelfth chapter, or lecture, of the glossary and illustrations of the *Veda*. The *Niructa* consists of three parts: the first, a glossary as above-mentioned, comprises five short chapters or lectures. The second, entitled *Naigama*, or the first half of the *Niructa*, properly so called, consists of six long chapters; and the third entitled *Dai-vat a*, or second half of the proper *Niructa*, contains eight more.

inference, that these intend but one deity, is supported by many passages in the *Vida*; and is very clearly and concisely stated in the beginning of the index to the *Rigveda*, on the authority of the *Niructa*, and of the *Veda* itself.

'YASYA vaeyam, sa rishir; ya tenochyate, sa devata; yad acshara-parimdnam, tach ch'hand6. Art'hepsava rishayo devatas clVhandobhir abhyadhdvan.

'*Tisra ha devatah* ; cshity-antaricscha-dyu-st'hatik, agnir vavuh suna ity: evam vyahrttayah pr6cta vyastah; samastanam prajapatir. O'ncara sarvad^vatyah, paramesht'hyo va, brahm6, daivo va, ad'hyatmicas. Tat tat st'hana anyas tad vibhiitayah; carina prft'hactwad **d'hi** prithag abhid'-Mna stutayo bhavanty: ec'aiva va mahan atma devata; sa surya ity achaeshate; sa hi sarva-bhut'atma. Tad uctam rishin'a : " *sarija atma jagatas tasfkashas' cliiti*" Tad vibhutayo nya devatas. Tad apy etad ri'shin" octam : " *Indram Mitram Vainn am Agnim ahur iti*"

'The *Rishl* [of any particular passage] is he, whose speech it is ; and that, which is thereby addressed, is the deity [of the text]: and the number of syllables constitutes the metre [of. the prayer]. Sages (*RWiis*), solicitous of [attaining] particular objects, have approached the Gods with [prayers composed in] metre.

¹ The deities are only three; whose places are, the earth, the intermediate region, and heaven: [namely] fire, air, and the sun. They are pro-

The chapter, here cited, is marked as the twelfth including the glossary, or seventh exclusive of it.

Bounced to be [the deities] of the mysterious names* severally; and (PRAJA'PATI) the lord of creatures is [the deity] of them collectively. The syllable *O'm* intends every deity: it belongs to (*Paramishfhi*) him, who dwells in the supreme abode; it appertains to (*Brahme*) the vast one; to (*Diva*) God; to (*Adliyatma*) the superintending soul. Other deities, belonging to those several regions, are portions of the [three] Gods; for they are variously named and described, on account of their different operations: but [in fact] there is only one deity, THE GREAT SOUL (*Mahdn titma*). He is called the sun; for he is the soul of all beings; [and] that is declared by the sage, "the sun is the soul of (*jagat*) what moves, and " of (*fast[†] hash*) that which is fixed." Other deities are portions of him : and that is expressly declared by the sage : " The wise call fire, INDRA, MITRA, " and VARUN'A ;" &c.]

This passage of the *Anucramarti* is partly abridged from the *Niructa* (c. 15), and partly taken from the *Brahman'a* of the *Veda*. It shows (what is also deducible from texts of the *Indian* scriptures, translated in the present and former essays), that the ancient *Hindu* religion, as founded on the *Indian* scriptures, recognises but one God; yet not sufficiently discriminating the creature from the creator.

* *Bhur*, *bhuvah*, and *swar*; called the *Vyahritis*. See MENU, c. 2, v. 76. In the original text, the nominative case is here used for the genitive; as is remarked by the Commentator, on this passage. Such irregularities are frequent in the *Vedas* themselves.

† *Niructa*, c. 12, § 4, ad finem. The remainder of the passage, that is here briefly cited by the author of the Index, identifies tire with the great and only soul.

The subjects and uses of the prayers contained in the *Vkda*, differ more than the deities which are invoked, or the titles by which they are addressed. Every line is replete with allusions to mythology*, and to the *Indian* notions of the divine nature and of celestial spirits. For the innumerable ceremonies to be performed by a householder, and, still more, for those endless rites enjoined to hermits and asceticks, a choice of prayers is offered in every stage of the celebration. It may be here sufficient to observe, that INDRA, or the firmament, fire, the sun, the moon, water, air, the spirits, the atmosphere and the earth, are the objects most frequently addressed: and the various and repeated sacrifices with fire, and the drinking of the milky juice of the moon-plant or acid asclepiasf, furnish abundant occasion for numerous prayers adapted to the many stages of those religious rites. I shall, therefore, select for remark such prayers as seem most singular; rather than such as might appear the fairest specimens of this *Vkla*.

In the fifteenth chapter of the first book, there are two hymns ascribed to CUTSA, and also to TRITA, son of water. Three asceticks, brothers it should

* Not a mythology which avowedly exalts deified heroes (as in the *Puran'as*); but one, which personifies the elements and planets; and which peoples heaven, and the world below, with various orders of beings.

I observe, however, in many places, the ground-work of legends, which are familiar in mythological poems; such, for example, as the demon VRITRA, slain by INDRA, who is thence surnamed VRITRAHAN; but I do not remark anything that corresponds with the favourite legends of those sects, which worship either the *Linga*, or *Sacti*, or else RA'MA or CRISHN'A. I except some detached portions, the genuineness of which appears doubtful; as will be shown towards the close of this essay.

† *Soma-lata*, *Asclepias acida*, or *Cynanchum viminale*.

seem, since they are named in another portion of the *VSda* as (*Aptya*) sons of water (*Ap*), were oppressed with thirst while travelling in a sandy desert. At length, they found a well; and one of them descended into it, and thence lifted water for his companions : but the ungrateful brothers stole his effects, and left him in the well, covering it with a heavy cart-wheel. In his distress he pronounced the hymns in question. It appears from the text, that Curs A also was once in similar distress ; and pronounced the same or a similar invocation : and, for this reason, the hymns have been placed, by the compiler of the *Veda*, among those of which CUTSA is the author

The twenty-third chapter of the same book commences with a dialogue between AGASTYA, INDRA, and the MARUTS ; and the remainder of that, with the whole of the twenty-fourth chapter, comprises twenty-six hymns addressed by AGASTYA to those divinities, and to the *As'wins*, fire, the sun, and some other deities. The last of these hymns was uttered by AGASTYA, under the apprehension of poison; and is directed by rituals to be used as an incantation against the effects of venom. Other incantations, applicable to the same purpose, occur in various parts of the *Vfalq*; for example, a prayer by VASISHVHA for preservation from poison (book 7, ch. 3, § 18).

The third book, distributed into five chapters, contains invocations by VIS'WA'MITRA, son of GA'T'HIN, and grandson of CUS'ICA. The last hymn or *Suet a*, in this book, consists of six prayers, one of which includes the celebrated *G&yatri*: this remarkable text is repeated more than once in other *Vbdas*; but, since VIS'WA'MITRA is acknowledged to be the *Rishi*, to whom it was

first revealed; it appears, that its proper and original place is in this hymn. I therefore subjoin a translation of the prayer, which contains it, as also the preceding one, (both of which are addressed to the sun;) for the sake of exhibiting the *Indian* priest's confession of faith with its context; after having, in former essays, given more than one version of it apart from the rest of the text. The other prayers, contained in the same *Sucta*, being addressed to other deities, are here omitted.

' This new and excellent praise of thee, O splendid, playful, sun (*Pushan*)! is offered by us to thee. Be gratified by this my speech : approach this craving mind, as a fond man seeks a woman. May that sun (*Pmhan*), who contemplates, and looks into, all worlds, be our protector.'

' LET US MEDITATE ON THE ADORABLE LIGHT OF THE DIVINE RULER (*SAVITRI*)* : MAY IT GUIDE OUR INTELLECTS. Desirous of food, we solicit the gift of the splendid sun (*Savitri*), who should be studiously worshipped. Venerable men, guided by the understanding, salute the divine sun (*Savitri*) with oblations and praise.'

The two last hymns, in the third chapter of the 7th book, are remarkable; as being addressed to the guardian spirit of a dwelling house, and used as prayers, to be recited with oblations, on building a house. The legend, belonging to the second of these hymns, is singular: *VASISHVHA*,

* *S'AYAN'A'CHA'RYA*, the commentator whose gloss is here followed, considers this passage to admit of two interpretations: ' the light, or *Brahma* constituting the splendour, of the supreme ruler, or creator of the universe;' or ' the light, or orb, of the splendid sun.'

q^rmng at |ight to the house of VARUN'^A^ (with the intention of sleeping tfttfe, say'some but,'as others affirm, with the design of steah'tig grain to appease his hunger, after a fast of three days,), was assailed by the house dog. He uttered this prayer, or incantation, to lay asleep the dog who wak barking at, and attempting to bite, him. A literal version of the first of those hymns" is here sub-joined,

' Guardian of this abode! be acquainted with us; be to us a wholesome dwelling; afford us what we ask of thee; and grant happiness to "our hipeds and quadrupeds. Guardian of this house! increase both us and our wealth. Moon! while thou art friendly, may we, with our kine and our horses, be exempted from decrepitude : guard us as a father protects his offspring. Guardian of this dwelling! may we be united with a happy, delightful, and melodious abode afforded by thee: guard our wealth now under thy protection, or yet in expectancy : and do thou defend us.'

The fourth hymn, in the fourth"chapter, concludes with a prayer to RUDRA, which, bc'in^ used with oblations after a fast of three days, is supposed to ensure a happy life of a hundred years. In the sixth book, three hymns occur, which, being recited with worship to the sun, are believed to occasion a fall of rain after the lapse of live days: the two first are aptly addressed to a cloud; and the third is so, to frogs, because these had croaked while VASISHVHA recited the preceding-prayers, which circumstance he accepted as a good omen.

The sixth chapter of the tenth book closes with two hymns, the prayer of which is the destine-
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tion of enemies, and which are used at sacrificed for that purpose.

The seventh chapter opens with a hymn, in which SURYA', surnamed SAVITRI', the wife of the moon*, is made the speaker; as DACSHINA', daughter of PRAJA'PATI, and JUHU, daughter of BRAHMA', are, in subsequent chapters †. A very singular passage occurs in another place, containing a dialogue between YAMA and his twin-sister YAMUNA', whom he endeavours to seduce; but his offers are rejected by her with virtuous exposition.

Near the close of the tenth chapter, a hymn, in a very different style of composition, is spoken by VA'CH, daughter of AMBHRKN'A, in praise of herself as the supreme and universal soul ‡. *vack*, it should be observed, signifies speech; and she is the active power of BRAHMA', proceeding from him. The following is a literal version of this hymn, which is expounded by the commentator, consistently with the theological doctrines of the *VSdas*.

* This marriage is noticed in the *Aitareya Brtihmaria*, where the second lecture of the fourth book opens in this manner; 'PRAJA'PATI gave his daughter, SURYA' SAVITRI', to SOMA, the king.' The well known legend in the *Purdnas*, concerning the carriage of SOMA with the daughters of DACSHA, seems to be founded on this story in the *Vedas*.

† In the introduction to the index, these, together with other goddesses, who are reckoned authors of holy texts, are enumerated and distinguished by the appellation of *Brahmevadini*. An inspired writer is, in the masculine, termed *Brahmevadin*.

‡ Towards the end of the *Vrihadaranyaca*, VA'CH is mentioned as receiving a revelation from AMBHI'NI, who obtained it from the sun: but here she herself bears the almost similar patronymic AMBHRIN'I'

' I range with the *Rudras*, withe the *Vasus* with the "*Adityas*, and with the *Vis'wadevas*. I uphold both the sun and the ocean [MITRA and VARUN'A], the firmament [INDRA] and fire, and both the AS'WINS. I support the moon [SO'MA], destroyer [of foes]; and [the suii entitled] TWASHTKI, PUSHAN, or BHAGA. I grant wealth to the honest votary who performs sacrifices, offers oblations, and satisfies [the deities]. Me, who am the queen, the conferrer of wealth, the possessor of knowledge, and first of such as merit worship, the gods render, universally, present every where, and pervader of all beings. He, who eats food through me, as he, who sees, who breathes, or who hears, through me, yet knows me not, is lost; hear then the faith, which I pronounce. Even I declare this self, who is worshipped by gods and men: I make strong, whom I choose; I make him *Brahmci*, holy, and wise. For RUDRA I bend the bow, to slay the demon, foe of BRAHMA; for the people I make war [on their foes]; - and I pervade heaven and earth. I bore the father, on the head of this [universal mind]; and my origin is in the midst of the ocean*: and, therefore, do I pervade all beings, and touch this heaven with my form. Originating all beings, I pass like the breeze; I am above this heaven, beyond this earth; and what is the great one, that am I'

* Heaven, or the sky, is the father; as expressly declared in another place: and the sky is produced from mind, according to one more passage of the *Vedas*. Its birth is therefore placed on the head of the supreme mind. The commentator suggests three interpretations of the sequel of the stanza: ' my parent, the holy *Ambhrin'a*, is in the midst of the ocean;' or, ' my origin, the sentient deity, is in waters, which constitute the bodies of the gods;' or, ' the sentient god, who is in the midst of the waters, which pervade intellect, is my origin.'

The tenth chapter closes with a hymn to night ; and the eleventh begins with two hymns relative to the creation of the world. Another, on this subject was translated in a former essay*: it is the last hymn, but one, in the *RigvSda.*; and the author of it is AG'HAWARSHAN'A (a son of M A D - HUCH'HANDAS), from whom it takes the name by "which it is generally cited. The other hymns, of which a version is here subjoined, are not ascribed to any ascertained author. PRAJA'PACI, surnamed *Param&shfhi*) and his son YAJNYA, are stated as the original speakers. But, of these names, one is a title of the Primeval spirit; and the other seems to allude to the allegorical immolation of *Brahma*.

I. ' Then was there no entity, nor nonentity; no world, nor sky, nor ought above it; nothing, any where, in the happiness of any one, involving or involved: nor water, deep and dangerous. Death was not; nor then was immortality: nor distinction of day or night. But THAT f breathed without afflation, single with (*Sxvadlia*) her who is sustained within him. Other than him, nothing existed, [which] since [has been]. Darkness there was; [for] this universe was enveloped with darkness, and was undistinguishable [like fluids mixed in] waters: but that mass, which was covered by the husk, was [at length] produced by the power

* *Asiatic Researches*, Vol. V. p. 361.

t The pronoun (*tad*)_x thus emphatically used, is understood to intend the supreme being according to the doctrines of the *Veddnta*. When manifested by creation, he is the entity (*sat*); while forms, being mere illusion, are nonentity (*asat*). The whole of this hymn is expounded according to the received doctrines of the Indian theology, or *Veddnta*. Darkness and desire (*Tamas* and *Cmna*) bear a distant resemblance to the Chaps ami Eros of HESIOD. Theog. v. li6\

of contemplation. First desire was formed in his iriind: and that 'became the original productive! seed; which the wise, recognising it by the intellect in their hearts, distinguish, in nonentity, as the bond of entity.'

' Did the luminous ray of these [creative acts] expand in the middle? of above? or below? That productive seed, at orice, became providence [or sentient souls], and matter [or the elements]: she, who is sustained within himself*, was inferior; and he, who heeds, was superior/

^c Who knows exactly, and who shall in this world declare, whence and why this creation took place? The gods are subsequent to the production of this world: then who can know whence it proceeded? or whence this varied world arose? or whether it uphold [itself], or not? He, who, in the highest heaven, is the ruler of this universe, does indeed know; but not another can possess that knowledge.'

II. ' That victim, who was wove with threads on every side, and stretched by the labors of a hundred and one gods, the lathers, who wove and framed and placed the warp and woof, do Worship. The [first] male spreads and encompasses this [web]; and displays it in this world and in heaven: these rays [of the creator] assembled at the altar, and prepared the holy strains, and the threads of the warp.'

' What was the size of that divine victim, whoni all the ffods sacrificed ? What was his form ? what

* So *Swad'hA* is expounded: and the commentator mak&es it equivalent to *Maud*, or the world of ideas*

tlfm motive? the fence? the metre? the oblation? and the prayer? First was produced the *G&ydtl* joined with fire; next the sun (*Savitri*) attended by *Ushnih*; then the splendid moon with *Arvukh-t'ubh*) and with prayers; while *VriJiati* accompanied the elocation of *VRKHASPATI* (or the planet JUPITER). *Virati* was supported by the sun and by water (*MITRA* and *VARUN'A*); but the [middle] portion of the day and *Trishtubh* were here the attendants of *INDRA*; *Jagati* followed all the gods: and by that [universal] sacrifice, sages and men were formed.'

* When that ancient sacrifice was completed, sages, and men, and our progenitors, were by him formed. Viewing with an observant mind this oblation, which primeval saints offered, I venerate them. The seven inspired sages, Avith prayers and with thanksgivings, follow the path of these primeval saints, and wisely practise [the performance of sacrifices], as charioteers use reins [to guide their steeds].'

Some parts of these hymns bear an evident resemblance to one, which has been before cited from the white *Yqjush**, and to which I shall again advert in speaking of that *Veda*. The commentator on the *Rigveda* quotes it to supply some omissions in this text. It appears also, on the faith of his citations, that passages, analogous to these, occur in the *Taittiriya*, or black *Yajush*, and also in the *Brahmaria* of the *Veda*.

The hundred and one gods, who are the agents in the framing of the universe typified by a sacri-

fice, are, according to this commentator, the years of BRAHMA'S life, or his afflations personified in the form of ANGIRAS, &c. The seven sages, who instituted sacrifices in imitation of the primeval type, are MARI'CHI, and others. *Gdyatri*, *Ushnih*, &c. are names of metres, or of the various lengths of stanzas and measured verses, in the *Vkdas*.

The preceding quotations may be sufficient to show the style of this part of the *Vkda*; which comprehends the prayers and invocations.

Another part belonging, as it appears, to the same *Veda*, is entitled *Altar ey a Brahman a*. It is divided into eight books (*panjica*), each containing five chapters or lectures (*ad'hyaya*), and subdivided into an unequal number of sections (*c'han'-da*), amounting in the whole to two hundred and eighty-five. Being partly in prose, the number of distinct passages contained in those multiplied sections need not be indicated.

For want either of a complete commentary *, or of an explanatory index f, I cannot undertake from a cursory perusal, to describe the whole contents of this part, of the *Veda*. I observe, however, many curious passages in it, especially towards the close. The seventh book had treated of sacrifices performed by kings: the subject is continued in the first four chapters of the eighth book; and three of these relate to a ceremony for the consecration of kings, by pouring on their

* I possess three entire copies of the text, but a part only of the commentary by SA'YAN'A'CHARYA.

f The index before-mentioned does not extend to this part of the *Vida*.

[^ d ^ w] i i | e seated on a throne **prepare**^ for, the purpose, water mixed with honey, **clarified butter**, and spirituous liquor, as well as two sorts of grass and the sprouts of corn. This ceremony, called *Abhishtca*, is celebrated oji the accession of a king; and subsequently, on divers occasions,^as part of the rites belonging to certain solemn sacrifices, per_rformed for the attainment of particular objects.

The mode of its celebration is the subject of the second chapter of the eighth book; or thirty-seventh chapter, reckoned (as is done by the commentator) from the beginning of the *Aitarhya*. It contains an instance, which is not singular in the *Vcdas*^ though it be rather uncommon in their didactick portion, of a disquisition on a difference of opinion among inspired authors. ' Some,' it says, * direct the consecration to be completed with the appropriate prayer, but without the sacred words (*Vyahfitis*), which they here deem superfluous: others, and particularly SATYACA'JUA, son of JA'BA'JJV, enjoin the complete recitation of those words, for reasons explained at full length; and UDPA'LACA, son of ARUN'A, has therefore so ordained the performance of the ceremony.'

The subject of this chapter is concluded by the following remarkable passage. ' Well knowing all the [efficacy of consecration], JAXAME'JAYA, spn of PARICSIIIT, declared; " Priests, conversant with this ceremony, assist me, who am likewise apprized [of its benefits], to ccelebate the solemn rite. Therefore, do I conquer [in single combat]; therefore, do I defeat arrayed forces with an arrayed army: neither the arrows of the gods, nor those of men, reach me: I shall live the full period of life; I shall remain master of the whole earth." Truly neither the arrows of the gods,

\$Qr those of rhen, do reach htrii, whoiri weliiil^
 struqtad! priests assist in cdebratitig tlie Woltititt
 rite: he lives the full period of life; he reniaitis
 master of the whole earth/

The thirty-eighth chapter (or third of the dgthih book) describes a supposed consecration of iNDRk*, when elected by the gods to be their king. It consists of similar, but more solemn, rites; including, among other peculiarities, a fanciful construction of his throne with texts of the *Veda*; besides a repetition of the ceremony of consecration in various regions, to ensure universal dominion. This last part of the description merits to be quoted, on account of the geographical hints which it contains.

^c After [his inauguration by PRAJA'PATI], the divine *Vasus* consecrated him in the eastern region, with the same prayers in verse and in prose, and with the same holy words, [as before-mentioned,] in thirty-one days, to ensure his just domination. Therefore, [even now,] the several kings of the *Prachyas*, in the East, are consecrated, after the practice of the gods, to equitable rule (*Savirujija*); and [people] call those consecrated urir.ces, *Scmir raj*'V

' Next the divine *Ritdras* consecrated him in the southern region, with the same prayers in Verse and in prose, and with the same holy words, in thirty-one days, to ensuic increase of happiness. Therefore, the several kings of the *sJafcttsj* in the

* In the nominative ruse, *K<mirat*, *Samrud*, or *Samr&l*; substituting in this place a liquid idler, which is peculiar to the *Vcda*₉ and to the southern dialects of *India*; mid which approaches, in sound, to the common /,

south, are consecrated, after the practice of the gods, to the increase of enjoyment (*Bhbjya*); and [people] name those consecrated princes, *Bhdja*.

ⁱ Then the divine *Adityas* consecrated him in the western region, with, &c, to ensure sole dominion. Therefore, the several kings of the *Nichyas* and *Apdchyas*, in the West, are consecrated, &c. to sole dominion; and [people] denominate them *Swardj**.

¹ Afterwards all the gods (*ViswS diva*) consecrated him in the northern region, with, &c, to ensure separate domination. Therefore, the several [deities, who govern the] countries *oiUttara curu* and *Uttara madra*, beyond *Himavat*, in the North, are consecrated, &c. to distinct rule (*Vairdjya*), and [people] term them *Virjd f*-'

^c Next the divine *Sddliyas* and *A'ptyas* consecrated him, in this middle, central, and present region, with, &c, for local dominion. Therefore, the several kings of *Curu* and *Panchdla*, as well as *Vas a* and *U&inara*, in the middle, central, and present region, are consecrated, &c. to sovereignty (*Rdjya*); and [people] entitle them *Rdjd*..

¹ Lastly, the *Maruts*, and the gods named *Angiras*, consecrated him, in the upper region, with, &c, to promote his attainment of the supreme abode, and to ensure his mighty domination, superior rule, independent power, and long reign: and, therefore, he became a supreme deity (*Parameshf hi*) and ruler over creatures.

* In the nominative case, *Swardt'*, *Sivardd*, or *Swardl*,

f In the nominative, *Virtd*, *Virdd*, or *Virdl*.

OE SACEEB WUmiWmW WUS HINDUS.

* Thus consecrated by that great inauguration[^] INDEA subdued all conquerable [earths], and woa all worlds: he obtained, over all the gods, supremacy, transcendent rank and pre-eminence. Conquering, in this world [below], equitable domination, happiness, sole dominion, separate authority, attainment of the supreme abode, sovereignty, mighty power, and superior rule; becoming a self-existent being and independent ruler, exempt from [early] dissolution; and reaching all [his] wishes in that celestial world; he became immortal: he became immortal *.'

The, thirty-ninth chapter is relative to a peculiarly solemn rite, performed in imitation of the fabulous inauguration of INDRA. It is imagined that this celebration becomes a cause of obtaining great power and universal monarchy; and the three last sections of the chapter recite instances of its successful practice. Though replete with enormous and absurd exaggerations, they are here translated at full length, as not unimportant, since many kings are mentioned, whose names are familiar in the heroick history of *India*.

§. VII. ' By this great inauguration similar to INDRA'S, TURA, son of CA V ASH A, consecrated JANAME'JAYA, son of PARICSHIT; and, therefore, did JANAME'JAYA, son of PARICSHIT, subdue the earth completely, all around, and traverse it every way, and perform a sacrifice with a horse as an offering.

* In the didactick portion of the *V(da*, the last term, in every chapter, is repeated to indicate its conclusion. This repetition was not preserved in a former quotation, from the necessity of varying considerably the order of the words.

tMflttHflhg- that¹&ferti*i k^i f i^r^ M s^ ^ ^
 is universitychantydi-in Asandhayat JANAME -
 jXYA'boihid [as an offering] to the gods a horess
 fed With graih, 'taaitktd Avfth-a white stat' *an* his
 foft'h^d, aftdbearing a •gre'etl Wreith Ground his
 Deck."

^c By this, &c. CIIYAVAN^, s6n of Bilftfcrr, con-
 secrated SA'RYA'TA sprung from the race of MKNU :
 and, therefore, did he"subdue, &c. He became
 likewise a householder in the service of the gods.

¹ By this, &c. SO'MAS'USIIMAN, grandson of VA'-
 JARATNA, consecrated 'SATA'NI'CA, son of SATRA-
 JIT : and, therefore, did he subdue, &c.

' By this, &c. PARVATA and NAREDA conse-
 crated A'MBA'SHT'HYA : and, therefore, &c.

' By this, &c. PARVATA and NA'REDA conse-
 crated YUD'HAVSRAUSHTI, grandson of UGRA-
 SE'NA ; and, therefore, &c.

' By tliis, &c. CASYAPA consecrated VIS'WA-
 CARMAN, son of BHUVANA; and, therefore, did
 he subdue, &c.

^c The earth, as sages relate, thus addressed him :
 " No mortal has a right to give me away; yet
 thou, O VISWACARMAN, son of BHUVANA, dost
 wish to do so; f will sink in the midst of the
 waters; and vain has been thy promise to CA'SY-
 APA*."

* So great was the efficacy of consecration, observes the com-
 mentator in this place, that the submersion of the earth was
 thereby prevented, notwithstanding this declaration.

By this, ;&c. VASTSHITHA consecrated SUDAS son of PIJAVANA; and, therefore, &c,

By this, &c. SAMVARTA, son of ANGIRAS, consecrated MARUTTA, son of AVICSHIT; and, therefore, &c.

Oh that subject this verse is every where chanted, " The divine *Maruts* dwelt in the house of M A - RUTTA, as his guards; and all the gods were companions of the son of AVICSHIT, whose every wish was fulfilled*."

§ VIII. ' By this great inauguration similar to INDRA'S, UDAMAYA, son of ATRI, consecrated ANG A; and, therefore, did ANG A subdue the earth completely all around, and traverse it every way, and perform a sacrifice with a horse as an offering.

' He, perfect in his person, thus addressed, the priest, who was busy on some sacrifice], " Invite me to this solemn rite, and I will give thee [to complete it], holy man! ten thousand elephants and ten thousand female slaves."

' On that subject these verses are every where chanted, " Of the cows, for which the sons of PRIYAME'D'HA assisted UDAMAYA in tho solemn rite, this son of ATRI gave them, [every day] at noon, two thousand each, out of a thousand millions.

" The son of VTRO'CHANA [ANGA] unbound and gave, while his priest performed the solemn sacrifice, eighty thousand white.horses lit for use.

* Ali this, observes the commentator, was owing to his soleam inauguration.

'The son of ATRI bestowed in gifts ten thousand women adorned with necklaces, all daughters of opulent persons, and brought from various countries.

' While distributing ten thousand elephants in *Avachatruca*, the holy son of ATRI grew tired and dispatched messengers to finish the distribution.

" A hundred [I give] to you;" "A hundred to you;" still the holy man grew tired; and was at last forced to draw breath, while bestowing them by thousands *.'

§ IX. ' By this great inauguration, similar to INDRA'S, DI'RG'HATAMAS, son of MAMATA', consecrated BHARATA, the son of DUHSHANTAI; and, therefore, did BHARATA, son of DUHSHANTA, subdue the earth completely all around, and traverse it every way, and perform repeated sacrifices with horses as offerings.

' On that subject too, these verses are every where chanted. " BHARATA distributed in *Mashriara*\, a hundred and seven thousand millions of black elephants with white tusks, and decked with gold.

* It was through the solemn inauguration of ANGHA, that his priest was able to give such great alms. This remark is by the Commentator.

t So the name should be written, as appears from this passage of the *Veda*; and not, as in copies of some of the *Purāṇas*, DUSHMAMTA, Or DUSHYANTA.

‡ The several manuscripts differ on this name of a country; and, having no other information respecting it, I am not confident that I have selected the best reading. This observation is applicable also to some other uncommon names.

" A sacred fire was lighted fof BHARATA, soil of DUHSHANTA, in *Sdchi guria*, at which a tho'ti-sand *Brdhmanas* shared a thousand millions of cows apiece.

" BHARATA, son of DUHSHANTA, bound seventy-eight horses [for solemn rites] near the *Yamuna*; and fifty-five, in *Vritraghna*, on the *GangL*

" Having thus bound a hundred and thirty-three horses fit for sacred rites, the son of DUHSHANTA became pre-eminently wise, and surpassed the prudence of [every rival] king.

" This great achievement of BHARATA, neither former nor later persons [have equalled]; the five classes of mfen have not attained his feats, any more than a mortal [can reach] heaven with his hands*."

' The holy saint, VRIHADUCT'HA, taught this great inauguration to DURMUC'HA, king of *Panchala*; and, therefore, DURMUC'HA, the *Ptmchala*, being a king, subdued by means of that knowledge the whole earth around, and traversed it every way '†

' The son of SATYAHAVYA, sprung from the race of VASISHT'IIA, communicated this great inauguration to ATYARA'TI, son of JANANTAPA; and, therefore, ATYARA'TI, son of JANANTAPA,

* All this, says the commentator, shows the efficacy of inauguration.

† It is here remarked, in the commentary, that a *Brdkmw'a*, being incompetent to receive consecration, is liowever capable of knowing its form: the efficacy of which knowledge is shown in this place.

of that knowledge the whole earth around, and traversed it every way.

' SA'TYAHAVYA, of the race of VASISHT'HA, addressed him, saying, " Thou hast conquered the whote earth around; [now] aggrandize me." ATYARA'TI, son of JANANTAPA, replied; " When I conquer *Uttaracuru*, then thou shalt be king of the earth, holy *mm!* and I., will be merely thy general" SA'TYAHAVYA rejoined; " That is the land of the gods; no mortal can subdue it: thou hast been ungrateful towards me; and, therefore, I resume from thee this [power]." Hence the king S'USHMIN'A, son of S'IVI, destroyer of foes, slew ATYARA'TI, who was [thus] divested of vigour find; deprived of strength,

' Therefore let not a soldier be ungrateful towards the priest, who is acquainted [with the form], and practises [the celebration, of this ceremony]; lest he lose his kingdom, and forfeit his life: lest he forfeit his life.'

To elucidate this last story, it is necessary to observe, that, before the commencement of the ceremony of inauguration, the priest swears the soldier by a most solemn oath, not to injure him. A similar oath, as is observed in this place by the commentator, had been administered previously to the communication of that knowledge, to which ATYARA'TI owed his success. The priest considered his answer as illusory and insulting, because *Uttara Guru*, being north of Afera, is the land of the gods, and cannot be conquered by men: as this ungrateful answer was a breach of his oath, the priest withdrew his power from him; and, in consequence, he was slain by the foe.

The fortieth and last chapter of the *Aitareya iirdhman'a*, relates to the benefit of entertaining a *Picr6hita*, or appointed priest; the selection of a proper person for that station; and the mode of his appointment by the king; together with the functions to be discharged by him. The last section describes rites to be performed, under the direction of such a priest, for the destruction of the king's enemies. As it appears curious, the whole description is here translated ; abridging, however, as in other instances, the frequent repetitions with which it abounds.

^f Next then [is described] destruction around air (*Brahme*)*. Foes, enemies, and rivals, perish around him, who is conversant with these rites. That, which [moves] in the atmosphere, is air (*Brahme*), around which perish five deities, light-^{*}ning, rain, the moon, the sun, and fire.

' Lightning having flashed, disappears behind rain: it vanishes, and none know [whither it is gone]. When a man dies, he vanishes; and none know [whither his soul is gone]. Therefore, whenever lightning perishes, pronounce this [prayer]; " May my enemy perish; may he disappear, and none know [where he is]." Soon, indeed, none will know [whither he is gone].

^c Rain having fallen, [evaporates and] disappears within the moon, &c- When rain ceases, pronounce this [prayer], &c.

ⁱ The moon, at the conjunction, disappears

* So this observance is denominated, viz. *Brahman'ah parimarah*.

† Behind a cloud.

within the sun, &c. When the moon is dark, pronounce, &c.

' The sun, when setting, disappears in fire, &c*. When the sun sets, pronounce, &c.

' Fire, ascending, disappears in air, &c. When fire is extinguished, pronounce, &c.

ⁱ These same deities are again produced from this very origin. Fire is born of air; for, urged with force by the breath, it increases. Viewing it, pronounce [this prayer], " May fire be revived; but not my foe be reproduced: may he depart averted," Therefore, does the enemy go far away.

' The sun is born of fire†. Viewing it, say, " May the sun rise; but not my foe be reproduced, &c."

' The moon is born of the sun ‡. Viewing it, say, " May the moon be renewed, &c."

' Rain is produced from the moon§. Viewing it, say, " May rain be produced, &c."

* The *Taittiriya Yajurveda* contains a passage, which may serve to explain this notion ; ' The sun, at eve, penetrates tire ; and, therefore, fire is seen afar at night: for both are luminous/

† At night, as the commentator now observes, the sun disappears in tire: but re-appears thence next da v. Accordingly, fire is destitute of splendour by day, and the sun shines brighter.

I The moon, as is remarked in the commentary, disappears within the sun at the conjunction; but is reproduced from the sun, on the first day of the bright fortnight.

§ Here the commentator remarks, Rain enters the lunar orb, whih consists of water; and, at a subsequent time, it is reproduced from the moon.

' Lightning coities of rain. Viewing it, say, "May lighthing appear, &c."

'Such is destruction around air. MAITRE'YA, son of CUSHARU, communicated these rites to SUTWAN, son of CIRIS'A, descended from BHA'R-GA. Five kings perished around him; and SUT-WAN attained greatness.

' The observance [enjoined] to him [who undertakes these rites, is, as follows]: let him not sit down earlier than the foe; but stand, while he thinks him standing. Let him not lie down earlier than the foe; but sit, while he thinks him sitting. Let him not sleep earlier than the foe; but wake, while he thinks him waking. Though his enemy had a head of stone, soon does he slay him : he does slay him.'

Before I quit this portion of the *Veda*, I think it right to add, that the close of the seventh book contains the mention of several monarchs, to whom the observance, there described, was taught by divers sages. For a reason before-mentioned, I shall subjoin the names. They are VIS'WANTARA, son of SUSHADMAN; SAIIDE'VA, son of SARJA, and his son SOMACA; BABIIRU, son of DE'VA'-YRID'HA, BHIMA of VIDARBHA, NAGNAJIT of GAND'HA'RA, SANAS'UUTA of ARINDAMA, RITU-viDofjANACA; besides JANAME'JAYA and Su-DA'S, who haVe been also noticed in another place.

The *Aitarcyā A'rmyāca* is another portion of the '*Rtgvida*. It comprises eighteen chapters or lectures unequally distributed in five books (*A'ra-n'yaca*). The second, which is the longest, for it

mutAm seven lectures, constitutes with the third an *Upanishad* of this *Veda*, entitled the *Bahvr̥fch Br&hman'ci Upanishad*; or, more commonly, the *Aitartya*, as having been recited by a sage* named AITARE'VA*. The four last lectures of that second *A'rariyaca*, are particularly consonant to the theological doctrines of the *V&danta*; and are accordingly selected by theologians of the *Vtdanti* school, as the proper *Ailareya Upanishad*†. The

* It is so affirmed by ANANDATI'RT'HA in his notes: and he, and the commentator, whom he annotates, state the original speaker of this *Upanishad* to be MAHIDASA, an incarnation of NA'RA'YAN'A, proceeding from VJS'A'LA, son of ABJA. He adds, that, on the sudden appearance of this deity at a solemn celebration, the whole assembly of gods and priests fainted: but, at the intercession of BRAHMA', they were revived; and, after making their obeisance, they were instructed in holy science: this *Avatdra* was called MAHIDASA, because those venerable personages (*CMahln*) declared themselves his slaves (*dam*).

In the concluding title of one transcript of this *A ran ya*, I find it ascribed to A's WALAYANA: probably, by an error of the transcriber. On the other hand, SAUNACA appears to be author of some texts of the *Aranya*; for a passage, from the second lecture of the fifth (*Ar. 5, lect. '2, § 11*), is cited as SAUNACA'S, by the commentator on the prayers of the *Rlgveda* (*lect. 1, § 15*).

† I have two copies of SANCARA'S commentary, and one of annotations on his gloss by NA'RA'YAN'ENDHA; likewise a copy of SA'YAN'A'S commentary on the same theological tract, and also on the third *A'ran'yaca*; besides annotations by ANANDATI'RT'HA on a different gloss, for the entire *Upanishad*. The concluding prayer, or seventh lecture of the second *A'ran'yaca*, was omitted by SANCARA, as sufficiently perspicuous: but is expounded by SAYAN, whose exposition is the same, which is added by SANCAIIA'S commentator: and which transcribers sometimes subjoin to S ANGARA'S gloss.

As an instance of singular and needless frauds, I must mention, that the work of ANANDATI'RT'HA was sold to me, under a different title, as a commentary on the *Tuitilr'iya mnkita* of the *Yajurveda*. The running titles, at the end of each chapter, had been altered accordingly. On examination, I found it to be a different, but valuable work; as above described.

fallowing is literally translated from this-poxtknir of the second *A'rariyaca*.

The AITARE'YA A'RAN'YA. B. 2.

§ IV. ' Originally this [universe] was indeed SOUL only ; nothing else whatsoever existed, active [or inactive]. HE thought, " I will create worlds:" thus HE created these [various] worlds; water, light, mortal [beings] and the waters. That "water," is the [region] above the heaven, which heaven upholds; the atmosphere comprises light; the earth is mortal; and the regions below are " the waters *."

' HE thought, " these are indeed worlds ; I will create guardians of worlds." Thus HE drew from the waters., and framed, an embodied being †. HE viewed him; and of that being, so contemplated, the mouth opened as an egg: from the mouth, speech issued ; from speech, lire proceeded. The nostrils spread; from the nostrils, breath passed; from breath, air was propagated. The eyes opened ; from the eyes, a glance sprung; from that glance, the sun was produced. The ears dilated; from the ears came hearkening; and from that, the regions of space. The skin expanded: from the skin, hair rose; from that, grew

* *Amhhas* water; and *A'pas* the waters. The commentators assign reasons for these synonymous terms being employed, severally, to denote the regions above the sky, and those below the earth.

† *Purusha*: a human form.

herbs and trees. The breast opened; from **the** breast, mind issued: and, from mind, the moon. The navel burst: from the navel, came deglutition*; from that, death. The generative organ burst: thence flowed productive seed; whence waters drew their origin.

* These deities, being thus framed, fell into this vast ocean ; and to HIM they came with thirst and hunger: and HIM they thus addressed; " Grant us a [smaller] size, wherein abiding we may eat food." HE offered to them [the form of] a cow : they said, " that is not sufficient for us." HE exhibited to them [the form of] a horse: they said, " neither is that sufficient for us." He showed them the human form: they exclaimed: " well done! ah ! wonderful!" Therefore man alone is [pronounced to be] " well formed."

"HE bade them occupy their respective places. Fire becoming speech, entered the mouth. Air, becoming breath, proceeded to the nostrils. The sun, becoming sight, penetrated the eyes. Space became hearing and occupied the ears. Herbs and trees became hair and filled the skin. The moon, becoming mind, entered the breast. Death, becoming deglutition, penetrated the navel; and water became productive seed and occupied the generative organ.

' Hunger and thirst addressed him, saying "Assign us [our places]." HE replied : " You I distribute among these deities; and I make you parti-

* *Apana*. From the analogy between the acts of inhaling and of allowing, the latter is considered as a sort of breath or inspiration: hence the air, drawn in by deglutition, is reckoned one of five breaths, or airs inhaled into the body.

participant with them." Therefore is it, that to whatever deity an "oblation is offered, hunger and thirst participate with him.

' HE reflected, " These are worlds, and regents of worlds: for them I will frame food." HE viewed the waters : from waters, so contemplated, form issued; and food is form, which was so produced.

ⁱ Being thus framed, it turned away, and sought to flee. The [primeval] man endeavoured to seize it by speech; but could not attain it by his voice: had he by voice taken it, [hunger] would be satisfied by naming food. He attempted to catch it by his breath; but could not inhale it by breathing: had he by inhaling taken it, [hunger] would be satisfied by smelling food. He sought to snatch it by a glance; but could not surprise it by a look: had he seized it by the sight, [hunger] would be satisfied by seeing food. He attempted to catch it by hearing: but could not hold it by listening: had he caught it by hearkening, [hunger] would be satisfied by hearing food. He endeavoured to seize it by his skin; but could not restrain it by his touch : had he seized it by contact, [hunger] would be satisfied by touching food. He wished to reach it by the mind; but could not attain it by thinking: had he caught it by thought, [hunger] would be satisfied by meditating on food, He wanted to seize it by the generative organ, but could not so hold it: had he thus seized it, [hunger] would be satisfied by emission. Lastly, he endeavoured to catch it by deglutition; and thus he did swallow it: that air, which is so drawn in, seizes food; and that very air is the bond of life.

HE [the *universal soul*] reflected " How can this [body] exist without me?" He considered by which extremity he should penetrate. HE though " if [without me] speech discourse, breath inhale, and sight view; if hearing hear, skin feel, and mind meditate; if deglutition swallow, and the organ of generation perform its functions; then who am I ?"

' Parting the suture [*si-man*], HE penetrated by this route. That opening is called the suture (*vidriti*), and is the road to beatitude (*nandana*) *.

' Of that soul, the places of recreation are three; and the modes of sleep, as many : this (*pointing to the right eye*) is a place of recreation; this (*pointing to the throat*) is [also] a situation of enjoyment; this (*pointing to the heart*) is [likewise] a region of delight.

' Thus born [as the animating spirit], he discriminated the elements, [remarking] " what else [but him] can I here affirm [to exist];" and he contemplated this [thinking] person, the vast expanse ‡, [exclaiming] IT have I seen. Therefore is he named IT-SEEING (IDAM-DJIA) : IT-SEEING is indeed his name: and him, being IT-SEEING, they call, by a remote appellation, INDRA; for

* The *Hindus* believe, that the soul, or conscious life, enters the body through the sagittal suture; lodges in-the brain; and may contemplate, through the same opening, the divine perfections. Mind, or the reasoning faculty, is reckoned to be an organ of the body, situated in the heart.

† *Pur whet*.

‡ *Brahme*, or the great one.

gods generally delight in the concealment [of their name]. The gods delight in privacy*.

' § V. 'This [living principle] is first, in man, a fetus, or productive seed, which is the essence drawn from all the members [of the body]: thus* the man nourishes himself within himself. But, when he emits it into woman, he procreates that [fetus]: and such is its first birth.

' It becomes identified with the woman; and being such, as is her own body, it does not destroy her. She cherishes his own self, thus received within her; and, as nurturing him, she ought to be cherished [by him]. The woman nourishes that fetus: but he previously cherished the child, and further does so after its birth. Since he supports the child before and after birth, he cherishes himself: and that, for the perpetual succession of persons; for thus are these persons perpetuated. Such is his second birth.

' This [second] self becomes his representative for holy acts [of religion]: and that other [self], having fulfilled its obligations, and completed its period of life, deceases. Departing hence, he is born again [in some other shape]: and such is his third birth.

' This was declared by the holy sage. " Within the womb, I have recognised all the successive births of these deities. A hundred bodies, like

* Here, as at the conclusion of every division of an *Upanhad*, or of any chapter in the didactic portion of the *vedas*, the last phrase is repeated.

† For the man is identified with the child procreated by him.

iron chains, hold me down: yet, like a falcon, I swiftly rise." Thus spoke WMADE'VA, reposing in the ^porab : and possessing this [intuitive] knowledge, he rose, after bursting that corporeal confinement; and, ascending to the blissful region of heaven*, he attained every wish and became immortal. He became immortal'

§ VI. 'What is this soul? that we may worship him. Which is the soul? Is it that by which [a man sees]? by which he hears? by which he smells odours? by which he utters speech? by which he discriminates a pleasant or unpleasant taste? Is it the heart [or understanding]? or the mind [or will]? Is it sensation? or power? or discrimination? or comprehension? or perception? or retention? or attention? or application? or haste [or pain]? or memory? or assent? or determination? or animal action? or wish? or desire?

* All those are only various names of apprehension. But this [soul, consisting in the faculty of apprehension,] is BRAHMA⁷; he is INDRA; he is (PRAJAPATI) the lord of creatures: these gods are he; and so are the five primary elements, earth, air, the ethereal fluid, water and light': these, and the same joined with minute objects and other seeds [of existence], and [again] other [beings] pro-

* SWARGA : or place of celestial bliss.

i Asu: the unconscious volition, which occasions an act necessary to the support of life, as breathing, &c.

J BRAHMA' (in the masculine gender) here denotes, according to commentators, the intelligent spirit, whose birth was in the mundane egg; from which is named HIRAN'YAGARBHA. INDRA is the chief of the gods, or subordinate deities; meaning the elements and planets. PRAJAPATI is the first embodied spirit, called VIRAJ, and described in the preceding part of this extract. The gods are here, and the rest as there stated.

duced from eggs, or borne in wombs, or originating in hot moisture *, or springing from plants; whether horses, or kine, or men, or elephants, whatever lives, and walks or flies, or whatever is immovable [as herbs and trees]: all that is the eye of intelligence. On intellect [every thing] is founded: the world is the eye of intellect; and intellect is its foundation, Intelligence is (*Brahme*) the great one.

' By this [intuitively] intelligent soul, that sage ascended from the present world to the blissful region of heaven ; and, obtaining all his wishes, became immortal. He became immortal.

§ VII. ' May my speech be founded on understanding: and my mind be attentive to my utterance. Be thou manifested to me, () self manifested [intellect]! For my sake [O speech and mind!] approach this *Veda*. May what I have heard, be unforgotten: day and night may I behold this, which I have studied. Let me think the reality; let me speak the truth. May it preserve me; may it preserve the teacher: me may it preserve: the teacher may it preserve; the teacher may it preserve; may it preserve the teacher†.'

On the CAUSHL'TACI'.

Another *Upanhhad* of this *Veda*, appertaining to a particular *S'aelia* of it, is named from that,

* Vermin and insects are supposed to be generated from hot moisture.

i This, like other prayers, is denominated a *mantra*; though it be the conclusion of an *Upanhltad*.

and from the *Brahman'a*, of which it is an extract, *Camkitaci Brahman a Upanishad*. From an abridgement on it (for I have not seen the work at large), it appears to contain two dialogues; one, in which JNDIHA instructs PRATARDANA in theology; and another, in which AJA'TAS'ATRU, king of CAS'J, communicates divine knowledge to a priest named BALACI. A similar conversation between these two persons is found likewise in the *Vrihad'arariya* of the *Yqjn'rveda*; as will he subsequently noticed. Resnectinsr the other contents of the *Brdhman'a*, from which these dialogues are taken, I have not yet obtained any satisfactory information.

The abridgment above-mentioned occurs in a metrical-paraphrase of twelve principal *Upanisliads*, in twenty chapters, by VIDYA'RAN'YA, the preceptor of MA'DHAVA *ucharija*. He expressly states *Camh'itaci* as the name of a *S'aclui* of the *Rigveda*.

The original of the *Catishitaci* was among the portions of the *Veda*, which Sir ROBERT CHAMBERS collected at *Benares*; according to a list, which he sent to me, some time before his departure from *India*. A fragment of an *Upanhhad*, procured at the same place by Sir WILLIAM JONES, and given by him to Mr. BLAQUIERK, is marked in his hand writing, "The beginning of the *Cautiitaci*" In it, the dialogists are CIHTRA, surnamed GA'NGA'YANI, and SWE'TACE'TU, with his father UDDA'LACA, son of ARUN'A.

I shall resume the consideration of this portion of the *Rlgveda*, whenever I have the good fortune to obtain the complete text and commentary, either of the *Brahman'a*, or of the *Upanishad*, which bears this title.

Of SACKED WHITINGS OF THE HINDIS

On the WHITE YAJURVE'DA.

The *Vjāsankyi*, or white *Yqjush*, is the shortest of the *VHās*; so far as respects the first and principal part, which comprehends the *Mantras*. The *Sanhita*, or collection of prayers and invocations belonging to this *Veda*, is comprised in forty lectures (*Ad'hyaya*), unequally subdivided into numerous short sections (*can'died*); each of which, in general, constitutes a prayer or *Mantra*. It is also divided, like the *Rigveda*, into *Anuvdcas* or chapters. The number of *Amwacas*, as they are stated at the close of the index to this *Veda*, appears to be two hundred and eighty-six: the number of sections, or verses, nearly two thousand (or exactly 1,987). But this includes many repetitions of the same text in divers places. The lectures are very unequal, containing from tliirteen to a hundred and seventeen sections (*candied**).

Though called the *Yajurveda*, it consists of passages, some of which are denominated *Rich*, while only the rest are strictly *Yajusli*. The first are, like the prayers of the *Rlqtrda*, in metre: the others are either in measured prose, containing from one to a hundred and six syllables; or such of them as exceed that length, are considered to be prose reducible to no measure.

The *Yajurveda* relates chiefly to oblations and

* 3 have several copies of MA'D'HYAN^INA'S white *Yapish*, one of which is accompanied by a commentary, entitled *Fidadipa*; the author of which, MAHIO'HAIIA, consulted the commentaries of UVAT'A and MA'D'IIAVA, as he himself informs us in his preface.

sacrifices, as the name itself implies*. The first chapter, and the greatest part of the second, contain piyers adapted for sacrifices at the full and change of the moon: but the six last sections regard oblations to the manes. The subject of the third chapter is the consecration of a perpetual fire, and the sacrifice of victims: the five next relate chiefly to a ceremony called *Agmshtbma*, which includes that of drinking the juice of the acid asclepias. The two following relate to the *Vqjaphfa* and *Rajasuyd*; the last of which ceremonies involves the consecration of a king. Eight chapters, from the eleventh to the eighteenth, regard the sanctifying of sacrificial fire; and the ceremony, named *Sautrdman'i*, which was the subject of the last section of the tenth chapter, occupies three other chapters from the nineteenth to the twenty-first. The prayers to be used at an *As'wamtdlia*, or ceremony emblematic of the im~ isolation of a horse and other animals, by a king ambitious of universal empire, are placed in four chapters, from the twenty-second to the twenty-fifth. The two next are miscellaneous chapters; the *Sautr&mmii* and *Asnamed'hu* are completed in two others; and the *Pur ashamed' ha*, or ceremony performed as the type of the allegorical immolation of NA'RA'YAX'A, fills the thirtieth and thirty-first chapters. The three next belong to the *Sarramtdlia*, or prayers and oblations for universal success. A chapter follows on the *Pit rimed'ha*, or obsequies in commemoration of a deceased ancestor: and the hist five chapters contain such passages of this *Veda* as are ascribed to DAIMIYACH,

* *Yajusk* is derived from the verb *Yaj*, to worship or adore. Another etymology is sometimes assigned: but this is most consistent with the subject; viz. (*Yajnya*) sacrifices, and (*homa*) oblations to tire.

son or descendant of AT'HARVAN : four of them consist of prayers applicable to various religious rites, as sacraments, lustrations, penance, &C.; and the last is restricted to theology.

Excepting these five chapters, most of the passages contained in the preceding part of this collection of prayers, are attributed to divine personages : many are ascribed to the first manifested being, named PRAJA'PATI, PARAME'SHT"HI, or NA'-RA'YAN'A PURUSHA; some are attributed to SWA-YAMBIIU' BRAHMK, or the self existent himself: the reputed authors of the rest are VRIHASPATI, INDRA, VARUN'A, and the AS'WTNS: except a few scattered passages, which are ascribed to VASISH-T^HA, VISWA'MITRA, VA'MADEVA, MAD'HUCH'-HANDAS, ME'D'HA'TIT'III, and other human authors; and some texts, for which no *Rishi* is specified in the index, and which are therefore assigned either to the sun (*Vivaswat* or *A 'ditya*), as the deity supposed to have revealed this *Veda*; or to YA'JNYAWALCYA, as the person who received the revelation: in the same manner, as the unappropriated passages of the *Rigveda* are assigned to PRAJA'PATI, or BRAHMA'.

Several prayers and hymns of the *Yajur-VSda* have been already translated in former essays*; and may serve as a sufficient example of the style of its composition. I shall here insert only two passages, both remarkable. The first is the beginning of the prayers of the *Sarvamcdlia*. It constitutes the thirty-second lecture, comprising two chapters (*anuvdea*) and sixteen verses.

' FIRE is THAT [original cause]; the sun is that;

* *Asiatic Researches*, Vol. V. and VII.

so is air; so is the moon: such too is that pure BRAHME, and those waters, and that lord of creatures. Moments [and other measures of time] proceeded from the effulgent person, whom none can apprehend [as an object of perception], above, around, or in the midst. Of him, whose glory is so great, there is no image : he it is, who is celebrated in various lofty strains*. Even he is the god, who pervades all regions: he is the first born: it is he, who is in the womb; he, who is born; and he, who will be produced : he severally, and universally, remains with [all] persons.

' HE, prior to whom, nothing was born; and who became all beings; himself the lord of creatures, with a [body composed of] sixteen members, being delighted by creation, produced the three luminaries [the sun, the moon, and fire].

' To what God should we offer oblations, but to him, who made the fluid sky and solid earth, who fixed the solar orb (*swar*), and celestial abode (*naca*), and who framed drops [of rain] in the atmosphere? To what god should we offer oblations, but to him, whom heaven and earth mentally contemplate, while they are strengthened and embellished by offerings, and illuminated by the sun risen above them.

' The wise man views that mysterious [being]; in whom the universe perpetually exists, resting on that sole support. In him, this [world] is absorbed; from him, it issues : in creatures, he is twined and wove, with various forms of existence. Let the wise man, who is conversant with the

* The text refers to particular passages.

import of revelation* prcptopty leeiebrate tñiifc iinmoftat being, the mysteriously existing and various abode : he, who knows its three states [its creation, continuance and destruction], which are involved in mystery, is father of the father. That [*Brahme*] in whom the gods attain immortality, while they abide in the third [or celestial] region, is our venerable parent, and the providence which governs all worlds.

⁶ Knowing the elements, discovering the worlds, and recognising all regions and quarters [to be him], and worshipping [speech or revelation, who is] the first-born, the votary pervades the animating spirit of solemn sacrifice by means of [his own] soul. Recognizing heaven, earth, and sky [to be him], knowing the worlds, discovering space and (*swar*) the solar orb [to be the same], he views that being: he becomes that being; and is identified with him, on completing the broad web of the solemn sacrifice.

" For opulence and wisdom, I solicit this wonderful lord of the altar, the friend of *INDRA*, most desirable [fire]: may this oblation be effectual. Fire! make me, this day, wise by means of that wisdom, which the gods and the fathers worship: be this oblation efficacious. May *VARU'NA* grant me wisdom; may fire and *PRAJA'PATI* confer on me sapience; may *INDRA* and air vouchsafe me

* For the word *Gand'harba* is here interpreted, as intending one, who investigates holy writ. In another place (*Asiatic Researches*, Vol. VII. p. 297), the same term signified the sun; and should have been so translated, instead of " heavenly quister, or celestial chorister;" which is not the meaning in that place, though it be the most common acceptation of the word.

knowledge: may providence give me understanding be this oblation happily offend! may the **preast and** the soldier both share my prosperity; may tñbe gods grant me supreme happiness: to thee, who art that [felicity], be this oblation effectually presented.'

The next passage which I shall cite, is a prayer to fire *.

' Thou art (*samvatsara*) the [first] year [of the cycle]; thou art (*parivatsara*) the [second] year; thou art (*iddvatsara*) the [third] year; thou art (*idvat-vatsara*) the [fourth] year; thou art (*vatsara*) the [fifth] year: may mornings appertain to thee; may days and nights, and fortnights, and months, and seasons, belong to thee; may (*samvatsara*) the year be a portion of thee: to go, or to come, contracting or expanding [thyself], thou art winged thought. Together with that deity, remain thou firm like ANGIRAS.'

I have quoted this almost unmeaning passage, because it notices the divisions of time, which belong to the calendar of the *Vedas*; and which are espaijied in treatises on that subject annexed to the sacred volume, under the title of *Jyotish*. To this I shall again advert, in a subsequent part of this essay. I shall here only observe, with the view of accounting for the seeming absurdity of the text now cited, that fire, as in another place †, sacrifice, is identified with the year and with the cycle, by reason of the near connexion between

* Ch. 27, § 45th, and last

† In the *S'atapataha Brahman'a*, b. 11, ch. 1. The reason, here assigned, is expressly stated by the commentator.

Consecrated fire, and the regulation of tiipe relative to religious rites; at which one is used, and which *the* other governs.

The fortieth and last chapter of this *Vkda* is an *Upaniskad*, as before intimated: which is usually called *I'sa-vasyam*, from the two initial words; and sometimes *Isa 'dkyaya*, from the first word; but the proper title is '*Upanishad* of the *Vajasa-nkya sanhitd*.' The author, as before-mentioned, is DAD'HYACH, son or descendant of AT'HARVAN *. A translation of it has been published in the posthumous works of Sir WILLIAM JONES.

The second part of this *Veda*, appertaining to the *Mdd'hyandina S'dc'hd*, is entitled the *S'ata-patlia Brahmana*; and is much more copious than the collection of prayers. It consists of fourteen books (*cdrida*) unequally distributed in two parts (*hhdga*): the first of which contains ten books; and the second, only four. The number of lectures (*ad'hyadya*), contained in each book, varies; and so does that of the *Brahman as*, or separate precepts, in each lecture. Another mode of division, by chapters (*Prapdt'aca*), also prevails throughout the volume: and the distinction of *Brdhman'as*, which are again subdivided into short sections (*can'dic&X* is subordinate to both modes of division.

* Besides MAHI'D'HARA'S gloss on this chapter, in his *Veda-dipa*, I have the separate commentary of S'ANCARA, and one by BA'LACRISHN' 'A'NANDA, which contains a clear and copious exposition of this *Upanishad*. He professes to expound it, as it is received by both the *Cdnum* and *Mad'hyandina* schools. Sir WFLLIAM JONES, in his version of it, used S'ANCARA'S gloss; as appeals from a copy of that gloss, which he had carefully studied, and in which his hand-writing appears in more than one place.

The fourteen books, which constitute this of the *Vkda*, comprise a hundred; lectiugtf corresponding to sixty-eight chapters. The whole number of distinct articles, entitled *Brahman 'av* is four hundred and forty : the sections (*caridica*)*mt* also counted, and are stated at 7624*.'

The same order is observed in this collection of precepts concerning religious rites, which had been followed in the arrangement of the prayers belonging to them. The first and second books treat of ceremonies on the full and change of the moon; the consecration of the sacrificial fire, &c. The third and fourth relate to the mode of preparing the juice of the acid *Asclepias*, and other ceremonies connected with it, as the *Jyotisht'oma*, &c. The fifth is confined to the *Vajapeya* and *Rajasuya*. The four next teach the consecration of sacrificial fire : and the tenth, entitled *Agni rahasya*, shows the benefits of these ceremonies. The three first books of the second part are stated, by the commentator †, as relating to the *Sautramarti* and *As'wamed'ha*; and the fourth, which is the last, belongs to theology. In the original, the thirteenth book is, specially denominated *Aswamtd'hya*; and the fourteenth is entitled *Vrihad arariyaca*.

The *As'wamedlia* and *Purushamed'ha*, celebrated

* My copies of the text and of the commentary are both imperfect ; but the deficiencies of one occur in places, where the other is complete; and I have been thus enabled to inspect cursorily the whole of this portion of the *Veda*.

Among fragments of this *Brdhmaria*, comprising entire books, I have one which agrees, in the substance and purport, with the second book of the *Mad'hyaridina S'qtapat'ha*, though differing much in the readings of almost every passage. It probably, belongs to a different *S'dc'hd*.

† At the beginning of his gloss on the eleventh book.

In the manner directed by this *veda*, are not really sacrifices of horses arid mem In the first mentioned ceremony, six hundred and nine animals of various prescribed kinds, domestic and wild, including birds, fish, and reptiles, are made fast; the tame ones, to twenty-one posts; and the wild," in the intervals between the pillars: and, after certain prayers have been recited, the victims are let loose without injury. In the other, a hundred and eighty-five men of various specified tribes, characters, and professions, are bound to eleven posts: and, after the hymn, concerning the allegorical immolation of NA'RA'YAN'A*, has been recited, these human victims are liberated unhurt: and oblations of butter are made on the sacrificial fire. This mode of performing the *Aswamtd'ha* and *Purushamed'ha*, as emblematic ceremonies, not as real sacrifices, is taught in this *Vkda*: and the interpretation is fully confirmed by the rituals †, and by commentators on the *Sanhitct* and *Brahmana*; one of whom assigns as the reason, 'because the flesh of victims, which have been actually sacrificed at a *Yajnya*, must be eaten by the persons who offer the sacrifice: but a man cannot be allowed, much less required, to eat human flesh †.' It may be hence inferred, or conjectured at least,

* *Asiatic Researches*, Vol. VII, p. 251. The version of the hymn, as there given, should be amended by substituting, at the 15th verse, * binding* for * immolating/. A similarity of terms led to that error, which the context did not correct; for the 9th verse is rightly translated. However, to follow the commentaries strictly, even the term, which there occurs, and which properly signifies ' immolated/ may be translated, ' consecrated/

† I particularly advert to a separate ritual of the *Purushamtd'-ha* by YA JNYADB'VA.

‡ Cited from memory: I read the passage several years ago; but I cannot now recover it,

that human sacrifices were not autoized^{hy} *the veda ikmi* but were either then abrogated, and an emblematical ceremony substituted in their place; of they must have been introduced in later times on the authority of certain *Purdrias*, or *Tantras*, fabricated by persons, who, in this as in other matters, established many unjustifiable practices on the foundation of emblems and allegories^ which they misunderstood.

The horse, which is the subject of the religious ceremony called *Atfwam6d"ha*, is also, avowedly, an emblem of *Viraj*, or the primeval and universal manifested being. In the last section of the *Taittiriya YajwvSda*, the various parts of the horse's body are described, as divisions of time, and portions of the universe: 'morning is his head; the sun, his eye; air, his breath; the moon, his ear; &c.' A similar passage in the 14th book of the *S'atapafha brdhmaria* describes the same allegorical horse for the meditation of such, as cannot perform an *As warned" ha* ; and the assemblage of living animals, constituting an imaginary victim, at a real *As'wamid'ha*, equally represent the universal being, according to the doctrines of the *Indian* scripture. It is not, however, certain, whether this ceremony did not also give occasion to the institution of another, apparently not authorized by the *VbdaS*) in which a horse was actually sacrificed.

The *VrUad arariyaca*, which constitutes the fourteenth book of the *S'atapafha brahmara*, is the conclusion of the *Fqjasmeyi*, or white *Yajush*. It consists of seven chapters or eight lectures: and the five last lectures, in one arrangement, corresponding with the six last lectures in the other, form a theological treatise entitled the *Vrihad Upankkad*,

OR *Vajasangey upmhhml*, But *thbr6^6m^ numlf dted &f the Prtlffiari SrM'yftta* *. Thcf greatest part of it is in dialogue; and YA'JNTAWALCTA is trie principal speaker. As an *Upanishad*, *ih* properly belongs to the *Cdnxva S'&€ha*; at least, it fi so cited by VtDYA'RAN'rA, in his paraphrase of *Upanishads* before-mentioned. Thefe does not however, appear to be any material variation in itf, as received by the *MdcVhyandina* school: unless in the divisions of chapters and sections; and fn the lists of successive teachers, by whom it was handed down f.

To convey some notion of the scope and style of this *Upanishad*, I shall, here, briefly indicate some of the most remarkable passages; and chiefly those which have been paraphrased by Vriyr/t-RAN'VA. A few others have been already cited; and the following appears likewise to deserve ftp*-tice.

Towards the beginning of-the *Vrihad arariyctca*, a passage, concerning the origin of fire hallowed for an *As'wamSd'ha*, opens thus : ' Nothing existed in this world, before [the production of tñindj: this universe was encircled by death eager⁵ to devour; for death is the devourer. He framed mind, being desirous of himself becoming endued vritfi a soul'

* Besides three copies of the text, and two transcripts of S'AN-CARA'S commentary, I have, also in duplicate, another very excellent commentary by NITYA'NAND' ASRAMA, which is entitled *Mitacahara*; and a metrical paraphrase of S'ANCAR A's gloss, by SURES WAR'ACHARYA, as well as annotations in prose by ANANDA GIRI.

+ This is the *Upanishad*, to which Sir WILLIAM JONES refers, in his preface to the translation of the *Institutes of MENU* : p. viii.

Here the commentators explain death to be the intellectual being who sprung from the golden mundane egg: 'and the passage before cited from the *Mgvida**, where the primeval existence of death is denied, may be easily reconciled with this, upon the *Indian* ideas of the periodical destruction and renovation of the world, and finally of all beings but the supreme one. .

The first selection by VIDYA'AN'YA, from this *Upaniskad*, is the fourth article (*brahmavidya*), of the third lecture of the *Vrihad dranyaca*. It is descriptive of VIBA'J, and begins thus:

* This [variety of forms] was, before [the production of body], soul, bearing a human shape. Next, looking around, that [primeval being] saw nothing but himself; and he, first, said " I am I . " Therefore, his name was " I f and, thence, even now, when called, [a man] first answers " it is I , " and then declares any other name which appertains to him.

ⁱ Since he, being anterior to all this [which seeks supremacy], did consume by fire all sinful [obstacles to his own supremacy], therefore does the man, who knows this [truth], overcome him, who seeks to be before him.

' He felt dread; and, therefore, man fears, when alone. But he reflected, " Since nothing exists besides myself, why should I fear?" Thus his terror departed from him; for what should he dread, since fear must be of another?

'He felt not:delight; atid/therefore, *tiim* delights not, when alone, He wished [the existence of] another; and instantly he became such, as is man and woman in mutual embrace. He caused this, his own self, to fall in twain; and thus became a husband and a wife. Therefore, was this [body, so separated], as it were an imperfect moiety of himself: for so YAJNYAWALCYA has pronounced it. This blank, therefore, is completed by woman. He approached her; and, thence, were human beings produced.

^{1<} She reflected, doubtingly; " how can he, having produced me from himself, [incestuously] approach me? I will now assume a disguise." She became a cow ; and the other became a bull, and approached her; and the issue were kitie. She was changed into a mare, and he into a stallion; one was turned into a female ass, and the other into a male one: thus did he again approach her; and the one-hoofed kind was the offspring. She became a female goat, and he a male one; she was an ewe, and he a ram : thus he approached her; and goats and sheep were the progeny. In this manner, did he create every existing pair whatsoever, even to the ants [and minutest insect].'

The sequel of this passage is also curious; but is too long to be here inserted. The notion of VIRAJ dividing his own substance into male and female, occurs in more than one *Parana*. So does that of an incestuous marriage and intercourse of the first MENU with his daughter S'ATARUPA': and the commentators on the *Upanishad* understand that legend to be alluded to hi this place. But the institutes, ascribed to MENU, make VIRAJ to be the issue of such a separation of persons,

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and MENG himself to be his offspring*. Here is indeed as the reader may observe from the passages cited in the present essay, much disagreement and consequent confusion, in the gradation of persons interposed by *Hindu* theology between the supreme being and the created world.

The author of the paraphrase before-mentioned, has next selected three dialogues from the fourth lecture or chapter of the *Vnhadhrartyaca*. In the first, which begins the chapter and occupies three articles (*Brahmanas*), a conceited and loquacious priest, named BA'LA'CI (from his mother BALA'CA'), and GA'RGYA (from his ancestor GARGA), visits AJA'TAS'ATRU, king of *Cas'r*, and offers to communicate to him the knowledge of GOD, The king bestows on him a liberal recompense for the offer; and the priest unfolds his doctrine, saying he worships, or recognises, as GOD, the being who is manifest in the sun; him, who is apparent in lightning, in the ethereal elements, in air, in fire, in water, in a mirror, in the regions of space, in shade, and in the soul itself. The king who was, as it appears, a well instructed theologian, refutes these several notions, successively; and, finding the priest remain silent, asks " is that all you have to say?" GA'RGYA replies, ".that is all." Then, says the king, " that is not sufficient for the knowledge of God." Hearing this, GA'RGYA proposes to become his pupil. The king replies, " It would reverse established order, were a priest to attend a soldier in expectation of religious instruction: but I will suggest the knowledge to you." He

* See Sir W. JONES'S translation of MENU. Ch. I, v. 32 and 33.

takes him by the hand; and, rising, conducts 'Wm to a place, where a man was sleeping. He eaife the sleeper by various appellations suitable to the priest's doctrine; but without succeeding in awakening him: he then rouses the sleeper by stirring him; and, afterwards, addressing the priest, asks, " While that man was thus asleep, where was his soul, which consists in intellect? and whence came that soul when he was awakened?" GA'RGYA could not solve the question: and the king then proceeds to explain the nature of soul and mind, according to the received notions of the *Vtdanta*. As it is not the purpose of this essay to consider those doctrines, I shall not here insert the remainder of the dialogue.

The next, occupying a single article, is a conversation between YAJNYAWALCYA, and his wife, MAITRE'YI'. He announces to her his intention of retiring from the civil world; requests her consent, and proposes to divide his effects between her, and his second wife, CATYAYANI'. She asks, " Should I become immortal, if this whole earth, full of riches, were mine?" "No," replies YAJNYAWALCYA, " riches serve for the means of living; but immortality is not attained through wealth." MAITRE'YI' declares she has no use, then, for that, by winch she may not become immortal; and solicits from her husband the communication of the knowledge, which he possesses, on the means, by which beatitude may be attained. YAJNYAWALCYA, answers, "Dear wertthou to me; and a pleasing [sentiment] dost thou make known: come, sit down; I will expound [that doctrine]; do thou endeavour to comprehend it." A discourse follows, in which YA'JNYAWALCYA elucidates the notion, that abstraction procures immortality; because affections are relative to the

seil which should therefore be contemplated and considered in all objects, since every thing is soul; for all general and particular notions are ultimately resolvable into one, whence all proceed, and in whichall merge; and that is identified with the supreme soul, through the knowledge of which be-atitude may *be* attained.

I shall select, as a specimen of the reasoning in this dialogue, a passage, which is material on a different account; as it contains an enumeration of the *Vedas*, and of the various sorts of passages, which they comprise; and tends to confirm some observations hazarded at the beginning of this essay.

' As smoke, and various substances, separately issue from fire lighted with moist wood; so, from this great being, were respired the *Rigv&da*, the *Yajurveda*, the *Samaveda*, and the *Afharvan* and *Atigiras*; the *Itihdsa* and *Parana*; the sciences and *Upanishads*; the verses and aphorisms; the expositions and illustrations: all these were breathed foFth by him.'

The commentators remark, that four sorts of prayers (*Mantra*), and eight kinds of precepts (*Brdkmana*) are here stated. The fourth description of prayers comprehends such, as were revealed to, or discovered by, AT'HARVANT and ANGIRAS: meaning the *A't'harvana* *okda. The *Itihdsa* designates such passages in the second part of the *Vedas* entitled *Brdhman'a*, as narrate a story: for instance, that of the nymph URVAS'I' and the king PURURAVAS. The *Purdna* intends those, which relate to the creation and similar topics. " Sciences" are meant of religious worship. " Verses" are memorial lines. " Aphorisms" are short sentences in a concise style. " Expositions" interpret

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Such sentences; and "illustrations elucidated nnganiag of the prayers.

It may: not be superfluous to observe in this place, that the *Itihdsa* and *Purdrias*, here meant, are not the mythological poems bearing the -same title; but certain passages of the *Indian* scriptuitip,- which are interspersed among others, throughout that part of the *Vedas*, called *Brdhnuma*, and instances of which occur in more than one quotation in the present essay.

The dialogue between YA'JNYAWALCYA and MAITOEYI', above-mentioned, is repeated towards the close of the sixth lecture, with a short and immaterial addition to its introduction. In this place, it is succeeded by a discourse on the unity of the SQLI : said, towards the conclusion, to have been addressed to the two A'swim, by DAD'HYACH, a descendant of AT'HARVAN,

The fourth lecture ends with a Hst of the teachers, by whom that and the three preceding lectures, were handed down, in succession, to PAUTIMA'SHYA. It begins with him, and ascends, through forty steps, to AYA'SYA; or, with two more intervening persons, to the A'swim; and from them, to DAD'HYACH, AT'HARVAN, and MRITYU, or death; and, through other gradations of spirits, to VIRAJ; and finally to BRAHME. The same list occurs again at the end of the sixth lecture: and similar lists are found in the corresponding places of this *Upanishad*, as arranged for the *Madliyangina* "Sdchci. The succession is there traced upwards, from the reciter of it, who speaks of himself in the first person, and from his immediate teacher SAURYANA'YYA, to the same ori-

ginal revelation through nearly the same *number* of gradations. The difference is almost entirely confined to the first ten or twelve names *.

The fifth and sixth lectures of this *Upantshad* have been paraphrased, like the fourth, by the author before-mentioned. They consist of dialogues, in which YA'JNYAWALCYA is the chief

* JANACA, a king paramount, or emperor of the race of *Vidkhas*, was celebrating at great expense, a solemn sacrifice, at which die *Brdhmanas* of *Curu* and *Panchaia* were assembled; and the king, being desirous of ascertaining which of those priests was the most learned and eloquent theologian, ordered a thousand cows to be made fast in his stables, and their horns to be gilt with a prescribed quantity of gold. He then addressed the priests, " whoever, among you, O venerable *Brahmands*, is most skilled in theology, may take the cows." The rest presumed not to touch the cattle; but YA'JNYAWALCYA bade his pupil SA'MAS'-\$AVAS drive them to his home. He did so; and the priests were indignant, that he should thus arrogate to himself superiority. AS'WALA, who was the king's officiating priest, asked him, " art

* I do not find VYA'SA mentioned in either list: nor can the surname *Parasarya*, which occurs inore than once, be applied to him ; for it is not his patronymick, but a name deduced from the feminine patronymick *Pdrdsari*. It seems therefore questionable, whether any inference, respecting the age of the *Vedas*, can be drawn from these lists, in the manner proposed by the late Sir W. JONES, in his preface to the translation of MENU (p. viii.). The anachronisms, which I observe in them, deter me from a similar attempt to deduce the age of this *Vide* from these and other lists, which will be noticed further on.

thou, O YAJNYAWALKS more skilled in
 Ipgy than we are?" He replied " I bow *to the*
 most learned; but I was desirous of possessing the
 cattle."

This introduction is followed by a long dialof?u%
 or rather by a succession of dialogues, in which
 six other rival priests (besides a learned female,
 named OA'RGI', the daughter of VACHACRU;) take
 part as antagonists of YA'JN YAWALCYA ; proposing
 questions to him, which he answers; and, by re-
 futing their objections, silences them successively.
 Each dialogue fills a single article (*Urahmand*);
 but the controversy is maintained by GA'EGI' in
 two separate discussions; and the contest between
 YA'JNYAWALCYA and VIDAGD'HA, surnamed SA'-
 CALYA, in the ninth or last article of the fifth
 lecture, concludes in a singular njanner.

YA'JNYAWALCYA proposes to his adversary an
 abstruse question, and declares, " if thou dost not
 explain this unto me, thy head shall drop off."
 ' SA'CALYA (proceeds the text) could not explaiji
 it; and his head did fall off; and robbers stole
 his bones, mistaking them for some other thing.'

YA'JNYAWALCYA then asks the rest of his anta-
 gonists; whether they have any question to pro-
 pose, or are desirous, that he should propose any.
 They remain silent, and he addresses them as
 follows;

" Man is indeed like to a lofty tree: his haries
 are the leaves; and his skin, the cuticle. From
 his sldn flows blood, like juice from bark; it,
 issues from his wounded person, as juice from a
 stricken tree. His flesh is the inner bark; and
 the membrane, near the bones, is the white sufe-

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*m®m@\$ tlife wood *. The bonds within iw \$fc wobd it&etf: and marrow and pith fere £like. If #i^ti a felled tree spring anew from the root; from what root does mortal man grow again, when hewn down by death? Do not say, from prolific seed; for that is produced from the living person. Thus, a tree, indeed, also springs from seed; and likewise sprouts afresh [from the root] after [seemingly] dying: but, if the tree be torn up by the root, it doth not grow again. From wnat foot, then, does mortal man rise afresh, when hewn down by death? [Do you answer] He wa\$ bora [once for all]? No; he is born [again]: and [I ask you] what is it, that produces him anew?"*

The priests, thus interrogated, observes the commentator, and being unacquainted with the first cause, yielded the victory to YA'JNY^WALCVA- Accordingly, the text adds a brief indication of the first cause as intended by that question. 'BRAHME, who is intellect with [the unvaried perception of] felicity, is the best path [to happiness] for the generous votary, who knows him, and remains fixed [in attention].'

The sixth lecture comprises two dialogues between YA'JNYAWALCYA, and the king JANACA; in which the saint communicates religious instruction to the monarch, after inquiring from him the doctrines which had been previously taught to the king by divers priests.

These are followed by a repetition of the dialogue between YA'JNYAWALCYA and his wife MAI-TKE'YI'; with scarcely a variation of a single

word, except the introduction as above-mentioned*
The sixth lecture concludes with repeating the list of teachers, by whom, successively, this part of the *Vida* was taught.

Concerning the remainder of the *Vrihad ctrart-yaca_y*, I shall only observe, that it is terminated by a list of teachers, in which the tradition of it is traced back from the son of PAUTIMA'SHIV through forty steps, to YAJNYAWALCYA; and, from him, through twelve more, to the sun. In copies belonging to the *Madliyardina Sachd*, the list is varied, interposing more gradations, with considerable difference in the names, from the reciter who speaks in the first person, and his teacher, the son of BHA'RAMvA'ji, up to YAJNYAWALCYA; beyond whom both lists agree.

The copy, belonging to the *Canxva Sac ha*, subjoins a further list stated by the commentators, to be common to all the *Sac has* of the *Vajin*, or *Vdjasancyi Yajarveda*, and to be intended for the tracing of that *Veda* up to its original revelation. It begins from the son of SA'NJI'VI, who was fifth, descending from YAJNYAWALCYA, in the lists above-mentioned; and it ascends by ten steps, without any mention of that saint, to TURA, surnamed CA'VASHE'YA, who had the revelation from PRAJA'PATI; and he, from BRAHME.

Before I proceed to the other *Yajurveda*, I think it necessary to remark, that the *Indian* saint last mentioned (TURA, son of CAVA.SUA) has been named in a former quotation from the *Aitareya*, as the priest who consecrated JANAM;E'JAYA, son of pAiticsHiT. It might, at the first glance, be hence concluded that he was contemporary with the celebrated king, who is stated in *Hindu his-*

tory to have reigned at the beginning of the *Call* age. **But**, besides the constant uncertainty re* specting *Indian* saints, who appear and re-appear in heroic history at periods most remote, there is in this, as in many other instances of the names of princes, a source of confusion and possible error, from the recurrence of the same name, with the addition even of the same patronymic, for princes remote from each other. Thus, according to *Pur-dnas*, PARICSHIT, third son of CURU, had a son named JANAME'JAYA ; and he may be the person here meant, rather than one of the same name, who was the great grandson of ARJUNA.

On the BLACK YAJURVE'DA.

THE *Taittirii/a*, or black *Yajush*, is more copious (I mean, in regard to *mantras*,) than the white *Yajush*, but less so than the *Rigveda*. Its *Sanhitd*, or collection of prayers, is arranged in seven books (*asht'aca*, or *can da*), containing from five to eight lectures, or chapters (*adliyaya*, *prasna*, or *prapat'aca*). Each chapter, or lecture, is subdivided into sections (*anuvdea*), which are equally distributed in the third and sixth books; but unequally in the rest. The whole number exceeds six hundred and fifty.

Another mode of division, by *can das* 9 is stated in the index. In this arrangement, each book (*cdrida*) relates to a separate subject; and, the chapters (*prasna*), comprehended in it, are enumerated and described. Besides this, in the *Sanhith* itself, the texts contained in every section

are numbered; *qsld* so are the syllable\$ in each text.

The first section (*anuvdca*), in this collection of prayers, corresponds with the first section (*candied*) in the white *Yqjush**: but all the rest differ; and so does the arrangement of the subjects. Many of the topics are indeed alike in both *Vcdas*; but differently placed, and differently treated. Thus the ceremony called *Rqjasiya* occupies one *cdiida*, corresponding with the eighth *prasna* of the first book (*Asht'aca*); and is preceded by two *candas*, relative to the *Vdjapeya*, and to the mode of its celebration, which occupy fourteen sections in the preceding *prasna*. Consecrated fire is the subject of four *c&ridas*, which fill the fourth and fifth books. Sacrifice (*adluvara*) is noticed in the second and third lectures of the first book, and in several lectures of the sixth. The subject is continued in the seventh and last book; which treats largely on the *Jyotisht'oma*, including the forms of "preparing and drinking the juice of acid *Asclcpias*. The *As'xvamhVha*, *Nrimedlia*, and *Pitrimedlia*, are severally treated of in their places; that is, in the collection of prayers †, and in the second part of this *Veda*. Other topics, introduced in different places, are numerous; but it would be tedious to specify them at large.

Among the *Rlshis* of the texts, I observe no human authors : nine entire *caridas*, according to the

* Translated in a former essay, with the first verse in each of the three other *Vidas*. *Asiatic Researches*, Vol. V, p. 3(4).

† The prayers of the *Aswamcd'ha* occur in the concluding sections, between the 12th section of the 4th chapter, and the end of the fifth chapter of the 7th and last book.

second arrangement indicated by the index, appear to be ascribed to PRAJA'PATI, or the lord of creatures; as many to SO'MA, or the moon; seven to AGNI, or fire; and sixteen to all the gods. Possibly some passages may be allotted by the commentators to their real authors, though not pointed out by the index for the *A'trkyi S'dchd.*

Several prayers from this *VSda* have been translated in former essays*. Other very remarkable passages have occurred on examining this collection of *Mantras*†. The following, from the seventh and last book ‡, is chosen as a specimen of the *Taittiriya Yajurveda*. Like several before-cited, it alludes to the *Indian* notions of the creation; and, at the risk of sameness, I select passages relative to that topic, on account of its importance in explaining the creed of the ancient *Hindu* religion. The present extract was recommended for selection by its allusion to a mythological notion, which apparently gave origin to the story of the *Varaha-avatara*; and from which an astronomical period, entitled *Ca/pa*> has perhaps been taken §.

' Waters [alone] there were; this world originally was water. In it the lord of creation moved, having become air: he saw this [earth]; and upheld it, assuming the form of a boar (*vardha*); and then moulded that [earth], becoming VIS'WA-CAEMAN, the artificer of the universe. It became

* *Asiatic Researches*, Toil. V, and VII.

† I have several complete copies of the text; but only a part of the commentary by SAYANA.

‡ Book VII, Chapter 1, Section 5.

§ One of the *Calpas*, or renovations of the universe, is denominated *Vdrdka*.

celebrated (*apfahata*), and conspicuous (*prithivij*; and therefore is that name (*Prithivl*) assigned to the earth.

* The lord of creation meditated profoundly on the earth; and created the gods, the *Vasus*, *Rudras*, and "*Adityas*. Those gods addressed the lord of creation, saying; "How can we form creatures?" He replied, "As I created you by profound contemplation (*tapas*); so do you seek in devotion (*tapas*), the means of multiplying creatures." He gave them consecrated fire, saying; "With this sacrificial fire, perform devotions/' With it they did perform austerities; and, in one year, framed a single cow. He gave her to the *Vasus*, to the *Rudras*, and to the '*Adityas*, [successively]: bidding them 'guard her.' The *Vasus*, the *Rudras*, and the '*Adityas*, [severally] guarded her; and she calved, for the *Vasus*, three hundred and thirty-three [calves]; and [as many] for the *Rudras*; and [the same number] for the "*Adityas*: thus was she the thousandth.

^c They addressed the lord of creation, requesting him to direct them in performing a solemn act of religion with a thousand [kine for a gratuity]. He caused the *Vasus* to sacrifice with the *Agnisht'oma*; and they conquered this world, and gave it [to the priests]; he caused the *Rudras* to sacrifice with the *Ucfhya*; and they obtained the middle region, and gave it away [for a sacrificial fee]: he caused the "*Adityas* to sacrifice with the *Atirdtra*; and they acquired that [other] world, and gave it [to the priests for a gratuity].'

This extract may suffice. Its close, and the remainder of the section, bear allusion to certain religious ceremonies, at which a thousand cows must be given to the officiating priests.

To the second part of this *VWL** belong[^] *ah JtifiAiya*, divided, like the *Satihitd*, into lectures (*pras'na*), and again subdivided into chapters (*anii-
vdca*), containing texts, or sections, which are numbered, and in which the syllables have been Counted. Here also a division by *can das*, according to the different subjects, prevails. The six first lectures, and their corresponding *can'das*, relate to religious observances. The two next constitute three *Upariishads*; or, as they are usually cited, two: one of which is commonly entitled the *Taittiriya Upamshad*; the other is called the *Narayaria*, or, to distinguish it from another belonging exclusively to the *Afharvaxeda*, the great (*Mafia*, or *Vrihan*,) *narciyaria*. They are all admitted in collections of theological treatises appendant on the *ACHaromia*; but the last-mentioned is there subdivided into two *Upanishads*.

For a further specimen of this *YqjurvSda*, I shall only quote the opening of the third and last chapter of the *Vdrun'i*, or second *Taittiriya Upanishad*, with the introductory chapter of the first.

BHRIGU, the offspring of VARUN'A, approached his father, saying, "Venerable [father]! make known to me *Brahme*" VARUN'A propounded these: namely, food [or body], truth [or life], sight, hearing, mind [or thought], and speech:

* The *Taittiriya*, like other *Vedas*, has its *Brdhman'a*: and frequent quotations from it occur in the commentary on the prayers, and in other places. But I have not yet seen a complete copy of this portion of the *Indian* sacred books.

† I use several copies of the entire *A'rariya*, with SANCARA'S commentary on the *Taittiriya Upamshad*, and annotations on his gloss by ANANDAJNYANA: besides separate copies of that, and of the *MahdnMyana*; and a commentary on the *Vdrun'i Ujwnpshad* entitled *Laghu dipicd*.

arid thus proceeded, " That, whence all beings are produced; that, by which they live when born; that, towards which they tend; and that, into which they pass; do thou seek, [for] that is *Brahme*"

' He meditated [in] devout contemplation ; [ind> having thought profoundly, he recognised food [or body] to be *Brahme*: for all beings are indeed produced from food; when 'born, they live by food; towards food they tend; they pass into food. This he comprehended; [but yet unsatisfied] he again approached his father VARUN'A, saying, " Venerable [father]! make known to me *Brahme*" VARUN'A replied, " Seek the knowledge of *Brahme* by devout meditation: *Brahme* is profound contemplation.¹

¹ Having deeply meditated, he discovered breath [or life] to be *Brahme*; for all these beings are indeed produced from breath; when born, they live by breath; towards breath they tend; they pass into breath. This he understood ; [but] again he approached his father VARUN'A, saying, " Venerable [father]! make known to me BRAHME." VARUN'A replied, " Seek him by profound meditation : *Brahme* is that."

' He meditated in deep contemplation, and discovered intellect to be *Brahme*: for all these beings are indeed produced from intellect; when born, they live by intellect; towards intellect they tend; and they pass into intellect. This he understood : [but] again he came to his father VARUN'A, saying, " Venerable [father]! make known to me *Brahme*" VARUN'A replied, " Inquire by devout contemplation: profound meditation is *Brahme*"

'He thought deeply; and, having thus meditated [with] devout contemplation, he knew *Ananda* [or felicity] to be *Brahme*: for all these beings are indeed produced from pleasure; when born, they live by joy; they tend towards happiness; they pass into felicity.

'Such is the science which was attained by BHRKGU, taught by VARUN'A, and founded on the supreme etherial spirit. He who knows this, rests on the same support; is endowed with [abundant] food; and becomes [a blazing fire], which consumes food: great he is by progeny, by cattle, and by holy perfections; and great by propitious celebrity/

The above is the beginning of the last chapter of the *Vdrmi Upanishad*. I omit the remainder of it. The first *Taittiriya Upanishad* opens with the following prayer. 'May MITRA [who presides over the day], VARUN'A [who governs the night], ARYAMAN [or the regent of the sun and of sight], INDRA [who gives strength], VIKHAŚPATI [who rules the speech and understanding], and VISHN'U, whose step is vast, grant us ease. [I] bow to *Brahme*. Salutation unto thee, O air! Even thou art *Brahme*, present [to our apprehension]. Thee I will call, "present *Brahme*:" thee I will name, "the right one:" thee I will pronounce, "the true one." May THAT [*Brahme*, the universal being entitled air], preserve me; may that preserve the teacher: propitious be it*.

* I have inserted here, as in other places, between crotchets, such illustrations from the commentary, as appear requisite to render the text intelligible.

On other UPANISHADS *of the* YAJURVE'DA.

Amonoj the *Sddhds* of the *Yqjurckda*, one "entitled *Maitrdyarii*, furnishes an *Upanishad*, which bears the same denomination. An abridged paraphrase of it, in verse *, shows it to be a dialogue in which a sage, named S'A'CA'YANA, communicates to the king VRIHAD RAT'HA* theological knowledge derived from another sage, called MAITRA.

A different *Sdchd* of this *Veda*, entitled the *Cafha*, or *Cdfhaca*, furnishes an *Upanishad* bearing that name; and which is one of those most frequently cited by writers on the *Vedunta*. It is an extract from a *Urdhmara*; and also occurs in collections of *Upanishads* appertaining to the *Afharvawa*.

S'WE'TA'SVATARA, who has given his name to one more *Sdchd* of the *Yajurveda*, from which an *Upanishad* is extracted!, is introduced in it, as teaching theology. This *Upanishad*, comprised in six chapters or lectures (*ad'hyaya*), is found in collections of theological tracts appertaining to the *Atliarxavda* ; but, strictly, it appears to belong exclusively to the *Yajush*.

* By VIDYA'RAN'YA. I have not seen the original,

† In the abridgment of it by *Vidyaranya*, this is the description given of the *S wctfswara Upanishad*..

On Me SA'MAVE'DA.

A peculiar degree of holiness seems to be attached, according to *Indian* notions, to the *Sama-vēda*; if reliance may be placed on the inference suggested by the etymology of its name, which indicates, according* to the derivation* usually assigned to it, the efficacy of this part of the *Vidas* in removing sin. The prayers, belonging to it, are, as before observed, composed in metre, and intended to be chanted, and their supposed efficacy is apparently ascribed to this mode of uttering them.

Not having yet obtained a complete copy of this *Veda*, or of any commentary on it, I can only describe it, imperfectly, from such fragments as I have been able to collect.

A principal, if not the first, part of the *S&ma-vēda* is that entitled *A'rckica*. It comprises prayers, among which I observe many, that constantly recur in rituals of *Sdmavedh/a*, or *Ctihandoga* priests, and some of which have been translated in former essays † They are here arranged, as appears from two"copies of the *A'rchiea*‡, in six chapters (*prapat'aca*) subdivided into half chapters, and into sections (*dasalt*) ; ten in each chapter, and usually

* From the root *Sho*, convertible into *so* and *sd*, and signifying 'to destroy.' The derivative is expounded as denoting something 'which destroys sin.'

† *Asiatic Researches*, Vol. V. and VII.

J One of them dated nearly two centuries ago, in 1672 *Samvat* This copy exhibits the further title of *Ch'handasl Sanhitd**

containing the exact number of text verses each. The same collection of prayers, in the same order, but prepared for chanting, is distributed in Seventeen chapters, under the title of the *Gramag&ya g/tna*. That, at least, is its title in the only copy which I have seen. But rituals, directing the same prayers to be chanted, employ the designation of *Archica gana*, among other terms applicable to various modes of rhythmical recitation.

Another portion of the *Samwo&dq*, arranged for chanting, bears the title of *Aranya garia*. Three copies of it*, which seem to agree exactly, exhibit the same distribution into three chapters, which are subdivided into half chapters and decades or sections, like the *A'rchka* above-mentioned. But I have not yet found a plain copy of it, divested of the additions made for guidance in chanting it.

The additions here alluded to, consist in prolonging the sounds of vowels, and resolving diphthongs into two or more syllables, inserting likewise, in many places, other additional syllables^ besides placing numerical marks for the management of the voice. Some of the prayers, being subject to variation in the mode of chanting them, are repeated, once or oftener, for the purpose of showing these differences; and, to most, are prefixed the appropriate names of the several passages.

* The most ancient of those in my possession, is dated nearly three centuries ago, in 1587 *Samvat*.

† This *A'ranya* comprises near!) three hundred verses (*Shnnnn*). or exactly 290. The *A'rchica* contains twice as many, or nearly 600.

Under the title of *Anhaya Brahman a*, I have found what seems to be an index of fliese two portions of the *Sdmaveda*. For the -names of the passages, or sometimes the initial words, are there enumerated in the same order, in which they occur in the *Grama gaja*, or *A'rchica*, followed by the *A'ranya gana*. This index does not, like the explanatory tables of the other *Vbdas*, specify the metre of each prayer, the deity addressed in it, and the occasion on which it should be used; but only the *Rishi*, or author: and, from the variety of names stated in some instances, a conclusion may be drawn, that the same texts are ascribable to more than one author.

It has been already hinted, that the modes of chanting the same prayers are various, and bear different appellations. Thus, the rituals frequently direct certain texts of this *Vtda* to be first recited simply, in a low voice, according to the usual mode of inaudible utterance of the *Vedas*; and then to be similarly -chanted, in a particular manner, under the designation of *A'rchica gana*; showing, however, divers variations and exceptions from that mo'de, under the distinct appellation of *Ani-ructa gana**. So, likewise, or nearly the same passages, which are contained in the *A'rchica* and *Grdmaglya*, are arranged in a different order, with further variations as to the mode of chanting them, in another collection named the *Uha gana*.

From the comparison and examination of these parts of the *Sdmaveda*, in which, so far as the collation of them has been carried, the texts appear

* The ritual, which is the chief authority for this remark, is one by SA'YAN' ACHARYA, entitled *Yajnyatantra Sud'hani-d'hl*

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to be the same, only arranged in a different order, and marked for a different mode of recitation, I am **led to** think, that other collections, under similar names*, may not differ more widely from the *A'rchica* and *Arariya* above-mentioned: and that these may possibly constitute the whole of that part of the *Sdmaveda*, which corresponds to the *Sanhitas* of other *Vedas*.

Under the denomination of *Brdhmarva*, which is appropriated to the second part or supplement of the *Veda*, various works have been received by different schools of the *Sdmaveda*. **Four** appear to be extant; three of which have been seen by me, either complete or in part. One is denominated *Shadvlma* ; probably from its containing twenty-six chapters. Another is called *Adbhuta*, or, at greater length, *Adbhuta Brdhmaria*. The only portion, which I have yet seen, of either, has the appearance of a fragment, and breaks off at the close of the fifth chapter: both names are there introduced, owing, as it should seem, to some error; and I shall not attempt to determine which of them it really belongs to. A third *Brahmaria* of this *Veda* is termed *Panchavinsa*; so named, probably, from the number of twenty-five chapters comprised in it: and I conjecture this to be the same with one in my possession not designated by any particular title, but containing that precise number of chapters.

* Sir ROBERT CHAMBERS'S copy of the *Sdmaveda* comprised four portions, entitled *Gdna*, the distinct names of which, according to the list received from him, are *Vigdna A'rnd*, *Vtgana*, *Ugdna*, and *Uhya gana*. The first of these, I suspect to be the *A'ranya*, written in that list, *A'rnd*: the last seems to be the same with that which is in my copy denominated *Uha gdna*.

The best Known among the Brahman'as of the Samawida, is that entitled Tfoidya. It was expounded by SAVANVCHA'RYA; but a fragment of the text with his commentary, including the whole of the second book (*panjica*), from the sixth to the tenth lecture, is all that I have been yet able to procure. This fragment relates to the religious ceremony named *Agnislioma*. I do not find in it, nor in other portions of the *S'imavMa* before described, any passage, which can be conveniently translated as a specimen of the style of this *V&da*.

Leaving, then, the *Mantras* and *Brahmanas* of the *Sdmavtda*, I proceed to notice its principal *Upanishad*, which is one of the longest and most abstruse compositions bearing that title.

The *Ctihandogya Upanishad* contains eight chapters (*prapdtacas*), apparently extracted from some Eortion of the *Brahmanra*, in which they are numbered from three to ten *. The first and second, not being included in the *Upanishad*, probably relate to religious ceremonies. The chapters are unequally subdivided into paragraphs or sections; amounting, in all, to more than a hundred and fifty.

A great part of the *CKhandbgya* † is in a didactic form : including, however, like most of the other *Upanishads*, several dialogues. The beginning of one, between SANATCUMARA and NA'RXDA,

* I have several copies of the text, with the gloss of S'ANCAR A, and annotations on it by ANANDAJNYA NAGIRI ; besides the notes of VYA'SATIRT'HA on a commentary by ANANDA-TIRT'HA.

† Its author, indicated by VYA'SATIRT'HA, is HAYAGRI'VA.

which occupies the Whole of the seventh chapter* has been already quoted. The preceding chapter consists of two dialogues between SWE'TACE'TU, grandson of ARUN'A, and his own father, UDDA-LACA, the son of ARUN'A. These had. been prepared in the fifth chapter, where PRAVA'HANA, son of JfvALA, convicts S'WE'TACE'TU of ignorance in theology: and where that conversation is followed by several other dialogues, intermixed with successive references for instruction. The fourth chapter opens with a story respecting JA'NAS'RUTI, grandson of PUTRA ; and, in this and the fifth chapter, dialogues, between human beings, are interspersed with others in which the interlocutors are either divine or imaginary persons. The eighth or last chapter contains a disquisition on the soul, in a conference between PRAJA'PATI and IXDRA.

I shall here quote, from this *Upanishad*, a single dialogue belonging to the iifth chapter.

' PRA'CHI'NAS'A'LA, son of UPAMANYU, SATY-AYAJNYA, issue of PULUSIIA, INDRADYU-MNA, offspring of BHALLAVF, JAN A descendant of S'AR-CARA'CSHYA, and VUDTLA sprung from AS'WA-TARA'SVA, being all persons deeply conversant with holy writ, and possessed of great dwellings, meeting together, engaged in this disquisition, " What is our soul? and who is *BrahmeT*

" These venerable persons reflected, " UDDA'LA-CA, the son of ARUN'A, is well acquainted with the universal soul: let us immediately go to **him.**"

* That is the seventh of the extract which constitutes this *Upanishad*; but the ninth, according; to the mode of numbering the chapters, in the book, whence it is taken.

iTheyviireiit: but he reflected " these great and verylearned persons will ask me; and I shall not [be able) to communicate the whole [which they inquirej: I will at once indicate to them another [instructor]." He thus addressed them, " AS'WAPATI, the son of CE'CAYA, is well acquainted with the universal soul; let us now go to nim."

" They all went; and, on their arrival, [the king] caused due honours to be shown to them respectively; and, next morning, civilly dismissed them; [but, observing that they staid, and did not accept his presents,] he thus spoke : " In my dominions, there is no robber; nor miser; no drunkard; nor any one neglectful of a consecrated hearth; none ignorant; and no adulterer, nor adulteress. Whence [can you have been aggrieved] ?" [As they did not state a complaint, he thus proceeded ;] " I must be asked, O venerable men! [for what you desire]."* [Finding, that they made no request, he went on;] " As much as I shall bestow on each officiating priest, so much will I also give to you. Stay then, most reverend men." They answered: " It is indeed requisite to inform a person of the purpose of a visit. Thou well knowest the universal soul; communicate that knowledge unto us." He replied; " To-morrow I will declare it to you." Perceiving his drift, they, next day, attended him, bearing [like pupils] logs of firewood. Without bowing to them, he thus spoke :—

" Whom dost thou worship as the soul, O son of UPAMANYU ?" " Heaven," answered he, " O venerable king!" "Splendid is that [portion of the] universal self, which thou dost worship as the soul: therefore, in thy family, is seen [the juice of the acid asclepias] drawn, expressed, and pre-

mitted, [for religious rites]; thou dost consume food [as a blazing fire]; and dost view a [son or other] beloved object. Whoever worships this for the universal soul, similarly enjoys food, contemplates a beloved object, and finds religious occupations in his family. But this is [only] the head of the soul. Thy head had been lost," added *thb* king, " hadst thou not come to me."

' He now turned to SATYAYAJNYA, the son of PULUSHA, saying; " Whom dost thou worship as the soul, O descendant of PRACHINAYOGA ?" " The sun," answered he, " O venerable king P " Varied is that [portion of the] universal self, which thou dost worship as the soul; and, therefore, in thy family, many various forms are seen; a car yoked with mares, and treasure,- together with female slaves, surround thee; thou dost consume food, and contemplate a pleasing object. Whoever worships this, for the universal soul, has the same enjoyments, and finds religious occupations in his family. But this is only the eye of soul. Thou hadst been blind," said the king, " hadst thou not come to me/'

(He next addressed INDRADYUMNA, the son of BHALLAVI : " Whom dost thou worship as the soul, O descendant of VY'AGHRAPAD," " Air," replied he, " O venerable king¹!" " Diffused is that portion of the universal self, which thou dost worship as the soul; numerous offerings reach thee; many tracts of cars follow thee: thou dost consume food : thou viewest a favourite object. Whoever worships this, for the universal soul, enjoys food and contemplates a beloved object: and has religious occupations in his family. But this is only the breath of soul. Thy breath had expired/' said the king, " hadst thou not come to me."

'He then interrogated JANA, the son of SARCARASIHITA: " Whom dost thou worship as the soul son of SARCARA'CSHYA ?" "JEhe ethfciaj p\@me\$>" said he, " O venerable king!" " Abundant is that universal *sclt*) whom thou dost worship as the soul; and, therefore, thou likewise dost abound with progeny and wealth. Thou dost consume food; thou viewest a favourite object. Whoever worships this, for the universal soul, consumes *ibod*, and sees a beloved object; and has religious occupations in his family. But this is only the trunk of soul. Thy trunk had corrupted," said the king, " hadst thou not come to me."

' He afterwards inquired of VUDILA, the son of AS'WATARASWA: " Whom dost thou worship as the *spyl*, O descendant of VYA'GHRAPAD?*" " Water," said he, " O venerable king!" " Rich is *tjia*t universal self, whom thou dost worship as the soul; and, therefore, art thou opulent and thriving. Thou dost consume food; thou viewest a favourite object. Whoever worships this, for the universal soul, partakes of similar enjoyments, contemplates as dear an object, and has religious occupations in his family. But this is only the abdomen of the soul. Thy bladder had burst," said the king, " hadst thou not come to me."

^c Lastly, he interrogated UDDALACA, the son of ARUNT'A. " Whom dost thou worship as the soul, O descendant of GOTAMA?" " The earth," said he, " O venerable king!" " Constant is that universal self, whom thou dost worship as the soul: and, therefore, thou remainest steady, with offspring and with cattle. Thou dost consume food; thou viewest a favourite object. Whoever worships* this, for the universal soul, shares like enjoyments, and views as beloved an object, and

fcps religious occupations in his family. But this firms only^jthe feet of the soul. Thy feetha\$ keen lame," said the king, " hadst thou *rim* come tome."

* He thus addressed them [collectively]: " Yqtf consider this universal soul, as it were an individual being; and you partake of distinct enjoyment. But he, who worships, as the universal soul, that which is known by its [mantfestedj portions, and is inferred [from consciousness], enjoys nourishment in all worlds/in all beings, in all souls: his head is splendid, like that of this universal soul; his eye is similarly varied; his breath is equally diffused; his trunk is no less abundant; his abdomen is alike full; and his feet are the earth; his breast is the altar; his hair is the sacred grass; his heart, the household fire; his mind, the consecrated flame; and his moufh, the oblation.

" The food, which first reaches him, should be solemnly offered : and the first oblation, which he makes, he should present with these words : " Be this oblation to breath efficacious," Thus breath is satisfied; and, in that the eye is satiate; and, in the eye, the sun is content; and, in the sun, the sky is gratified ; and, in the sky, heaven and the sun, and whatever is dependant, become replete: and after that, he himself[who eats] is frilly gratified with offspring and cattle; with vigour proceeding from food, and splendour arising from holy observances *.

* Several similar paragraphs, respecting four other oblations, so presented to other inspirations of air, are here omitted for the sake of brevity. The taking of a mouthful, by an orthodox *Hindu*

" But whoever makes an oblation to fire, being unacquainted with the universal soul, *acts in the same manner, as one who throws live coals into ashes: while he, who presents an oblation, possessing that knowledge, has made an offering in all worlds, in all beings, in all souls. As the tip of dry grass, which is cast into the fire, readily kindles; so are all the faults of that man consumed. He, who knows this, has only presented an oblation to the universal soul, even though he knowingly give the residue to a *Chi'm-ddta*. For, on this point, a text is [preserved] : " As, in this world, hungry infants press round their mother; so do all beings await the holy oblation : they await the holy oblation/'

Another *Upanishad* of the *Samartda* belongs to the' *Sacha* of the *Talamcdras*. It is called, the "*Cfatshita*" or, "*CtncT Upanishad*, from the word, or words, with which it opens: and, as appears from SANCARA'S commentary*, this treatise is the ninth chapter (*adliydyā*) of the work, from which it is extracted. It is comprised in four sections (*chan'da*). The form is that of a dialogue between instructors and their pupils. The subject is, as in other *Upanishads*, a disquisition on abstruse and mystical theology. I shall not make any extract from it, but proceed to describe the fourth and last *Veda*.

theologian, is considered as an efficacious oblation: and denominated *Pr&ntignihotra**

* I have S'ANCARA'S gloss, with the illustrations of his ann#tator, and the ample commentary of CRISHN A'NANDA : besides a separate gloss, with annotations, on the similar *Upanishad* belonging to the *Atharvavida*.

On /Aa" AT'HARVA-VE^DA.

The *Sanhitd*, or collection of prayers and invocations, belonging to the *A'tharvana*, is comprised in twenty books (*cdnda*), subdivided into sections (*anuvaca*), hymns (*sucta*), and verses (*rich*). Another mode of division by chapters (*prapataca*) is also indicated. The number of verses is stated at 6015; the sections exceed a hundred; and the hymns amount to more than seven hundred and sixty. The number of chapters is forty nearly.

A passage from this *Vida* was quoted by Sir W. JONES in his essay on the literature of the *Hindus**; and a version of it was given, as a specimen of the language and style of the *A'fharvana*. That passage comprises the whole of the forty-third hymn of the nineteenth book"† In the beginning of the same book, I find a hymn (numbered as the sixth) which is almost word for word the same with that, which has been before cited from the thirty-first chapter of the white *Yajush*'X. Some of the verses are indeed trans-

* *Astatic Researches*, Vol. I. p. 347.

† Sir W. JONES cites it, as from the first book; I suspect, that, in Colonel POLIER'S copy, the nineteenth book might stand firsin the volume. It does so, in General MARTIN'S transcript, though the colophon be correct. I have another, and very complete, copy of this *Veda*. General MARTIN'S, which I also possess, k defective: containing only the ten first and the two last books. An ancient fragment, also in my possession, does not extend beyond the sixth.

I *Asiatic Researches*, Vol. V I I . p. 251.

H h 3

ON THE VEDAS,

posed, and here and there a word differs: for example, it opens by describing the primeval man (*purusha*) with a thousand *arms, instead of a thousand heads[^]. The purport is, nevertheless, the same; and it is needless, therefore, to insert a version of it in this place.

The next hymn, in the the same book, includes an important passage. It names the twenty-eight asterisms in their order, beginning with *Crittica*: and seems to refer the solstice to the end of *Asf-Uska*, or beginning of *Magha*. I call it an important passage; first, because it shows, that the introduction of the twenty-eighth asterism is as ancient as the *Atliarva-veda*; and, secondly, because it authorises a presumption, that the whole of that *Veda*, like this particular hymn, may have been composed when the solstice was reckoned in the middle, or at the end, of *Aslfoha**, and the origin of the Zodiac was placed at the beginning of *Crittica*. On the obvious conclusion, respecting the age of the *Veda*, I shall enlarge in another place.

An incantation, which appears to be the same that is mentioned by Sir W. JONES^f, occurs in the fourth section of the nineteenth book. It is indeed a tremendous incantation; especially the three *Suctas*, or hymns, which are numbered 28, 29, and 30. A single line will be a sufficient specimen of these imprecations, in which, too, there is much sameness.

* The middle of *As'lishd*, if the divisions be twenty-seven, and its end, when they are twenty-eight equal portions, give the same place for the colure.

† *Astatic Researches*, Vol. L p. 348.

' Destroy, O sacred grass * My foes; extern initiate my enemies; annihilate all those, who hate me, O precious gem!'

The *Atkaroa-vida*, as is well known, contains many forms of imprecation for the destruction of enemies. But it must not be inferred, that Such is the chief subject of that *V6da*; since it *M\SQ* contains a great number of prayers for safety and for the averting of calamities : and, like the other *Vbdas*, numerous hymns to the gods, with prayers to be used at solemn rites and religious exercises, excepting such as are named *Yqjnya*.

The *Gbpatlia Br&hmaria* appears to belong to the second part of this *Vida*. Not having seen a commentary, nor an index, of this work, I can only speak of it from a copy in my possession : this contains five chapters (*prapdtacaj*, with the date of the transcript f and name of the transcriber, at the end of the fifth, as is usual in the colophon at the close of a volume.

The first chapter of this *Gbpatlia Brdhman'a* traces the origin of the universe from *Brahme*; and it appears from the fourth section of this chapter, that AT'HARVAN is considered as a Pr«-*japati* appointed by *Brahme* to create and protect subordinate beings.

In the fifth chapter, several remarkable passages, identifying the primeval person (*purusha*) with the year (*samvatsara*), convey marked allusions to the calendar. In one place (the fifth section), besides stating the year to contain twelve, or thirteen

* *Darhha*, *Poa Cynosuroides*.

† It is dated at *Mat'hurd*, in the year (*Sarnvat*) 1732.

lunar months, the subdivision of that period is **tmrsued** to 360 days; and, thence, to **10,800 mukurtas**, or hours.

I proceed to notice the most remarkable part of **the** >Afharva-v6da, consisting of the theological treatises, entitled *Upanishads*, which are appendant **on it**. They are computed at fifty-two: but this number is completed by reckoning, as distinct *Upanishads*, different parts of a single tract. Four such treatises, comprising eight *Upanishads*, together with six of those before described as appertaining to other *Vtdax*, are perpetually cited in dissertations on the *Vcd/mta* *. Others are either more sparingly, or not at all, quoted.

It may be here proper to explain what is meant by *Upanishad*. In dictionaries, this term is made equivalent to *Rehesya*, which signifies mystery. This last term is, in fact, frequently employed by MENU, and other ancient authors, where the commentators understand *Upanishads* to be meant. But neither the etymology, nor the acceptance, of the word, which is now to be explained, has any direct connexion with the idea of secrecy, concealment, or mystery. Its proper meaning, according to SANCARA, SA'YAN'A, and all the commentators, is divine science, or the knowledge of GOD: and, according to the same authorities, it is equally applicable to theology itself, and to a book in which this science is taught. Its deriva-

* The *Ctna* and *Ch'h/indogya* from the [S6.mave.da](#); the *Vri** had *Aran'yaca* and *h'dvas'ya* from the white *Yqjush*, and the *Taittiriya* from the black *Yajush*; the *Aitareya* from the *Rig-Eda*; and the *CaVha*, *Pras'na*, *Mun'daca*, and *M6riducya* from **the** *At'harvan'a** To these should be added, the *Nrmuha t&j>a-niya*.

ti#n is from the verb *sad* (*shad-lrt*), to destroy, to move, or to weary, preceded by the prepositions *upa* neat, and *wi* continually, or *nis* certainly* The sense, properly deducible from this etymdogy, according to the different explanations givelt by commentators, invariably points to the knowledge of the divine perfections, and to the consequent attainment of beatitude through exemption from passions*.

The whole of the *Indian* theology is professedly founded on the *Upanishads* f. Those, which havp been before described, have been shown to be extracts from the *Veda*. The rest are also considered as appertaining to the *Indian* scripture: it does not, however, clearly appear, whether they are detached essays, or have been extracted from a *Brahmaria* of the *Afharva-veda*. I have not found any of them in the *Sanhita* of the *Atliar-varia*, nor in the *Gopafha Brahmana*.

In the best copies of the fifty-two *Upanishads*† the first fifteen are stated to have been taken from the *Sau nam*) as, whose *Sac ha* seems to be the principal one of the *Afharva-veda*. The remaining

* SANCARA, and ANANDA'S'RAMA on the *Vrihad hrartyaca*,; as also the commentaries on other *Upanishads*: especially SANCARA on the *Cat'haca*. Other authors concur in assigning the same acceptation and etymology, to the word: they vary, only, in the mode of reconciling the derivation with the sense.

† It is expressly so affirmed in the *Ved&nta s&ra*. v. 3.

J I possess an excellent copy, which corresponds with one transcribed for Mr. BLAQUIKRE, from a similar collection of *Upanishads* belonging to the late Sir W. J ONES. In two other copies, which I also obtained at *Benares*, the arrangement differs, and several *Upanishads* are inserted, the genuineness of which is questionable; while others are admitted, which belong exclu*sively to the *Yajurveda*.

thiriy**evea appertain to various *S'&fhfo*, mostly to tliat of the *Paippai&Ms*: but some of them; ^ will be shown, are borrowed from other *Vtdis*.

TMAhridaca, divided into six sections tin* equally distributed in two parts, is the first *Upa+imimd* of the *A'fharvaria*; and is also one of the ntlist important, for the doctrines which it contains. It has been fully illustrated by SANCARA, whose gloss is assisted by the annotations of AI&ANDAJNYA'NA. The opening pf this *Upanishad*, comprising the whole of the first section, is here subjoined.

* BRAHMA' was first of the gods, frajner of the universe, guardian of the world. He taught the knowledge of GOD, which is the foundation of all science, to his eldest son AT'HARVA. That holy science, which BRAHMA' revealed to AT'HARVAN *, was communicated by him to ANGIR, who transmitted it to SATYAVAHA, the descendant of BHABADWA'JA: and this son of BHARADWA'JA imparted the traditional science to ANGIRAS.

* S'AUNACA, or the son of SuNACA, a mighty householder, addressing AXGIRAS with due respect, asked " What is it, O venerable sage, through which, when known, this universe is understood ?"

* To him the holy personage thus replied : " Two sorts of science must be distinguished; as they, who know GOD, declare: the supreme science,

* SANCARA remarks, that AT'HARVA, or AT'HARVAN, may have been the first creature, in one of the many modes of creation, which have been practised by BRAHMA\

and another., This other is the *RtffoSda*, the *Yajurveda*, the *Samavtda*, the *Atharva-veda**; the rules of accentuation, the rites of religion, grammar, the glossary and explanation of obscure terms, prosody, and astronomy: also the *Itihha* and *Puraria*; and logic, with the rules of interpretation, and the system of moral duties.

" But the supreme science is that, by which this unperishable [nature] is apprehended ; invisible [or imperceptible, as is that nature]: not to be seized; nor to be reduced; devoid of colour; destitute of eyes and ears; without hands or feet, yet ever variously pervading all: minute, unalterable; and contemplated by the wise for the source of beings*

" As the spider spins and gathers back [its thread]; as plants sprout on the earth; as hairs grow on a living person: so is this universe, here, produced from the imperishable nature. By con*templation, the vast one germinates; from him, food [or body] is produced; and thence, successively, breath, mind, real [elements], worlds, and immortality arising from [good] deeds. The omniscient is profound contemplation, consisting in the knowledge of him, who knows all: and, from that, the [manifested] vast one, as well as names, forms, and food, proceed : and this is truth."

The *Pras'na*, which is the second *Upanishad*, and equally important: with the first, consists, like it, of six sections; and has been similarly interpreted by S'ANCAUA and BA'LACRYSHN'A †. In this

* Meaning the prayers contained in the four *Vedas*, disjoined from theology.

† I have several copies of the text, besides commentaries on both *Upanishads*.

dialogue, SueEVA, the son of BHARAIWA'JA, SATYACA'MA, descended from S'IVI, SAURYWYAKI, a remote descendant of the Sun, but belonging to the family of GARGA, CAUS'AJLYA, surnamed AV-WAIVYANA, or son of AS'WALA, VAIDARBHI of the race of BHPUGu, together with CABAND'HI', surnamed CA'TYA'YANA, or descendant of CATYA, are introduced as seeking the knowledge of theology, and applying to PIPPALA'DA for instruction. They successively interrogate him concerning the origin of creatures, the nature of the gods, the union of life with body, and the connexion of thoughts with the soul.

The nine succeeding *Upanishads* (from the 3d to the 11th) are of inferior importance, and have been left unexplained by the writers on the *V6-ddnta*, because they do not directly relate to the *Sariraca*, or theological doctrine respecting the Soul*. They are enumerated in the margin †,

The *Mariduci/a* follows, and consists of four parts, each constituting a distinct *Upanishad*. This abstruse treatise, comprising the most material doctrines of the *Vedanta*, has been elucidated by the labours of GAUD'APA'DA, and S'ANCARA. GAUD'APA'DA'S commentary is assisted by the notes of ANANDAGIRI.

Among the miscellaneous *Upamshads*, the first thirteen (from the 16th to the 28th) have been left

* This reason is assigned by the annotator on S'ANCA^A'S gloss, at the beginning of his notes on the *Muridaca Upanishad*,

† 3d *Brahme-vidya* 4th *Cshuried*. 5th *Chulica*. 6th and 7th *At'hanns'irns!* 8th *Garbha*. 9th *Mahi*. 10th *Brahma*. 11th *PrdnYignihotra*,

uncommented by the principal expounders of the *Vedānta*, for a reason before-mentioned. The names of these *Upanishad* will be found in the subjoined note

*

The following six (from the 29th to the 34th,) constitute the *Nrisinha Tapaniya*; five of them compose the *Purva Tapaniya*, or first part of the *Upanishad* so called; and the last, and most important, is entitled *Uttara Tapaniya*. It has been expounded by GAUD'APA'DA, as the first part (if not the whole *Upanishad*) has been by SANCARA† The object of this treatise appears to be the identifying of NRISINHA with all the gods: but, so far as I comprehend its meaning (for I have not sufficiently examined it to pronounce confidently on this point,) the fabulous incarnation of VISH-NU, in the shape of a vast lion, does not seem to be at all intended; and the name of NRISINHA is applied to the divinity, with a superlative import, but with no apparent allusion to that fable.

The two next *Upanishads* constitute the first and second parts of the *Cāt'haca*, or *Valli*, or *Cātliavalli* (for the name varies in different copies). It belongs properly to the *Yajurveda*, as before mentioned; but it is usually cited from the *Āt'har-*

* 16th *Nīla-rudra*. 17th *Nīda-vindu*. 18th *Brahme-vindu*. 19th *Amṛita-vindu*. 20th *jyīṣṭhā-vhidu*. 21st *Tejo-vindu*. 22d *Yoga-sāma*. 23d *Yoga-tatva*. 24th *Sannyāsa*. 25th *Arunīya* or *Arurīy-yoga*. 26th *CanPhasrtUi*. 27th *Pīṇa*. 28th *Ātmd*.

+ I have several copies of the text, and of GAUD'APA'DA'S commentary; with a single transcript of SANCARA'S gloss on the five first of the treatises entitled *Tīpaniya*.

vana **and** has been commented, as appertaining to this *VSda*, by S'ANCAEA AND by BA'LACHYSHN'A*,

It comprises six sections, severally entitled *Valli*; but constituting two chapters (*axThyaifa*), denominated *Purva-valti* and *Uttara-valli*. The dialogue is supported by *Mrityu*, or death, and the prince NACHICK'TAS, whom his father, W - JASRAVASA, consigned to YAMA, being provoked by the boy's importunately asking him, (through zeal, however, for the success of a sacrifice performed to ensure universal conquest,) " to whom wilt thou give me?" YAMA receives NACHICETAS with honour, and instructs him in theology, by which beatitude and exemption from worldly sufferings may be attained, through a knowledge of the true nature of the soul, and its identity with the supreme being. The doctrine is similar to that of other principal *Upanhads*.

The *Cznhhita*, or *Cina Upanisliad*, is the thirty-seventh of the *Atliarcaria*, and agrees, almost word for word, with a treatise bearing the same title, and belonging to a *S'aclui* of the *Smnaveda*. S'ANCARA has, however, written separate commentaries on both, for the sake of exhibiting their different interpretations †. Both commentaries have, as usual, been annotated.

* The commentary of SANCARA is, as usual, concise and perspicuous: and that of BA'LACRISHNA, copious but clear. Besides their commentaries, and several copies of the text, together with a paraphrase by VJDYARANYA, I have found this *Upanishad* forming a chapter in a *Rrahmana*, which is marked as belonging to the *Stimavcda*, and which I conjecture to be the *Pancha lima Brahmana* of that *Veda*.

† Here, as in other instances, I speak from copies in my possession.

A short *Upanishad*, entitle! *Narayana* is followed by two others (39th and 40th), which form the first and second parts of *Vrihan Narayana*. This corresponds, as before mentioned, with an *Upanishad*, bearing the same title, and terminating the *Arariya* of the *Taittiriya Yajurveda*.

On the three subsequent *Upanishads* I shall offer no remarks; they have not been commented among such as relate to the *Vkdhnta*; and I have not ascertained whence they are extracted *..

Under the name of *Anandavalli* and *Bhriguvalli*, two *Upanishads* follow (44th and 45 th), which have been already noticed as extracts from the *Aranya* of the black *Yajush*, distinguished by the titles of *Taittiriya* and *Varuni*.

The remaining seven *Upanishads*† are unexplained by commentators on the *Vedanta*. They are, indeed, sufficiently easy, not to require a laboured interpretation: but there is room to regret the want of an ancient commentary, which might assist in determining whether these *Upanishads* be genuine. The reason of this remark will be subsequently explained.

Entertaining no doubts concerning the genuineness of the other works, which have been here described, I think it, nevertheless, proper to state some of the reasons on which my belief of their

* Their titles are, 41st *Sarvopanwhatsdra*. 42d *Hansa*. And 43 d *Parama hansa*.

† 46th *Garuda*. 47th *CdlagnUrmlra*. 48th and 49th *Rama tapaniya*, first and second parts. 50th *Caivalya*. 51st *Jabala*. 52d *Aframa*.

authenticity is founded It appears necessary to do so since a late author has abruptly pronounced **the** *Vidas* to be forgeries *

It has been already mentioned, that the practice of reading the principal *Vidas* in superstitious modes, tends to preserve the genuine text. Copies, prepared for such modes of recital, are spread in various parts of *India*, especially *Benares*, *Jeyenagar*, and the banks of the *Gdddviri*. Interpolations and forgeries* have become impracticable since this usage has been introduced: and the *Rigyida*, and both the *Yqjushes*, belonging to the several *S'achas*, in which that custom has been adopted, have been, therefore, long safe from alteration.

The explanatory table of contents, belonging to the several *Vidas*, also tends to ensure the purity of the text; since the subject and length of each passage are therein specified. The index, again, is itself secured from alteration by more than one exposition of its meaning, in the form of a perpetual commentary.

It is a received and well grounded opinion of the learned in *India*, that no book is altogether safe from changes and interpolations until it have been commented: but when once a gloss has been published, no fabrication could afterwards succeed; because the perpetual commentary notices every passage, and, in general, explains every word.

* Mr. PINRERTON, in his *Modern Geography*, Vol. II

Commentaries on the *Vedas* themselves exist,, which testify the authenticity of the text- Some are stated to have been composed in early times: I shall not, however, rely on any but those to which I can with certainty refer. I have fragments of UVATA'S gloss; the greatest part of SAYANVS on several *Vedas*; and a complete one by MAHID'HARA on a single *Veda*. I also possess nearly the whole of S'ANCARA'S commentary on the *Upanishads*; and a part of GAUD'APA'DA'S; with others, by different authors of less note.

The genuineness of the commentaries, again, is secured by a crowd of annotators, whose works expound every passage in the original gloss; and whose annotations are again interpreted by others. This observation is particularly applicable to the most important parts of the *Vtdas*, which, as is natural, are the most studiously and elaborately explained.

The *Niructa*, with its copious commentaries on the obsolete words and passages of scripture, further authenticates the accuracy of the text, as there explained. The references, and quotations, in those works, agree with the text of the *V6das*, as we now find it.

The grammar of the *Sanscrit* language contains rules applicable to the anomalies of the ancient dialect. The many and voluminous commentaries on that, and on other parts of the grammar, abound in examples cited from the *Vedcts*: and here, also, the present text is consonant to those ancient quotations.

Philosophical works, especially the numerous commentaries on the aphorisms of the *Mimunsa*
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and Vcdanta, illustrate and support every position advanced in them, by ample quotations from the Vedas. The object of the *Mima-ma* is to establish the cogency of precepts contained in scripture, and to furnish maxims for its interpretation; and, for the same purpose, rules of reasoning, from which a system of logic is deducible. The object of the *Vklanta* is to illustrate the system of mystical theology taught by the supposed revelation, and to show its application to the enthusiastic pursuit of unimpassioned perfection and mystical intercourse with the divinity. Both are closely connected with the *Vedas*: and here, likewise, the authenticity of the text is supported by ancient references and citations.

Numerous collections of aphorisms, by ancient authors*, on religious ceremonies, contain, in every line, references to passages of the *Vtdas*. Commentaries on these aphorisms cite the passages at greater length. Separate treatises also interpret the prayers used at divers ceremonies. Rituals, some ancient, others modern, contain a full detail of the ceremonial, with all the prayers which are to be recited at the various religious rites for which they are formed. Such rituals are extant, not only for ceremonies which are constantly observed, but for others which are rarely practised; and even for such as have been long since disused.

*The *Sutras* of A'S'WALA'YANA, SA'NC'HYA'YANA, BAUDD'-HAYANA, C AT Y AY A NA, LATAYANA, GO'BHILA, A'PAS-TAMBA, &c:.

These, appertaining to various *Suchas* of the *Vedas*, constitute the *calpa*, or systcm of religious observances. I have here enumerated a few only. The list might be much enlarged, from my own collection; and still more so, from quotations by various compilers: for the original works, and their commentaries, as well as compilations from them, are very numerous.

In all, the passages taken from the *VSdas* agree with the text or the general compilation.

The *Indian* legislators, with their commentators, and the copious digests and compilations from their works, frequently refer to the *Vedas*; especially on those points of the law which concern religion. Here also the references are consistent with the present text of the *Indian* scripture.

Writers on ethics sometimes draw from the *Vedas* illustrations of moral maxims; and quote from their holy writ, passages at full length, in support of ethical precepts *." These quotations are found to agree with the received text of the sacred books.

Citations from the *Indian* scripture occur in every branch of literature, studied by orthodox *Hindus*, Astronomy, so far as it relates to the calendar, has frequent occasion for reference to the *Vedas*. Medical writers sometimes cite them; and even annotators on profane poets occasionally refer to this authority, in explaining passages which contain allusions to the sacred text.

Even the writings of the heretical sects exhibit quotations from the *Vedas*. I have met with such in the books of the *Jainas*, unattended by any indication of their doubting: the genuineness of the original, though they do not receive its doctrines, nor acknowledge its cogency †.

* A work entitled *Niti manjari* is an instance of this mode of treating moral subjects.

† The *S'atapath'a Brdhman'a*, especially the 14th book, or *Vrihadaran'yaca*, is repeatedly cited, with exact references to the numbers of the chapters and sections, in a fragment of a treatise by a *Jaina* author, the communication of which I owe to Mr.

after its publication by PANCHAS'IC'HA, who had been himself instructed by ASURI, the pupil of CAPXLA.

To adduce more instances would be tedious: they abound in every branch of science. Among works, the authors of which are unknown, and which, therefore, as usual, are vulgarly ascribed to some celebrated name, many contain undisguised evidence of a more modern date. Such are those parts of *Puranas*, in which the prophetic style is assumed, because they relate to events posterior to the age of the persons who are speakers in the dialogue. Thus BUDT/HA is mentioned under various names in the *Matsya*, *Vishnu*, *Bhagavata*, *Garuda*, *Nrisinha*, and other *puranas*. I must not omit to notice, that SANCARVCHA'RYA, the great commentator on the abstrusest parts of the *Vedas*, is celebrated, in the *Vrihad dharma purdria**, as an incarnation of VISHNU; and GAU-D'APADA is described, in the *Sancara vjjeya*, as the pupil of Sue A the son of VYA'SA †.

I do not mean to say, that forgeries are not sometimes committed; or that books are not counterfeited, in whole or in part. Sir W. JONES, Mr. BLAQUIERE, and myself, have detected interpolations. Many greater forgeries have been at-

* In the 78th chapter of the 2d part. This is the *Puran'a* mentioned by me with doubt in a former essay. I have since procured a copy of it.

† If this were not a fable, the real age of VYA'SA might be hence ascertained; and, consequently, the period when the *Vedas* were arranged in their present form. GO'VINDANATHA, the instructor of SANCARA, is stated to have been the pupil of GAU-D'APA'DA; and, according to the traditions generally received in the peninsula of India, S'ANCARA lived little more than eight hundred years ago.

tempted: some have for a time succeeded, and been ultimately discovered: in regard to others, detection has immediately overtaken the fraudulent attempt. A conspicuous instance of systematic fabrication, by which Captain WrLFOiiD was for a time deceived, has been brought to light, as has been fully stated by that gentleman. But though some attempts have been abortive, others may doubtless have succeeded. I am myself inclined to adopt an opinion supported by many learned *Hindus*, who consider the celebrated *Sri Bhdgavata* as the work of a grammarian, supposed to have lived about six hundred years ago.

In this, as in several other instances, some of which I shall have likewise occasion to notice, the learned among the *Hindus* have resisted the impositions that have been attempted. Many others might be stated, where no imposition has been either practised or intended. In *Europe*, as well as in the East, works are often published anonymously, with fictitious introductions: and diverse compositions, the real authors of which are not known, have, on insufficient grounds, been dignified with celebrated names. To such instances, which are frequent every where, the imputation of forgery docs not attach.

In *Europe* too, literary forgeries have been committed, both in ancient and modern times. The poems ascribed to ORPHFUS, VAC generally admitted not to have been composed by that poet, if, indeed, he ever existed. NANI. or ANNIUS, of *Fiterbo*, is now universally considered as an impostor, notwithstanding the defence of his publication, and of himself, by some among the learned of his age. In our own country, and in recent times, literary frauds have been not unlVequent.

But a native of *India*, who **should** retort **the** charge, and argue from a few instances, that the whole literature of *Europe*, which is held ancient, consists of modern forgeries, would be justly censured for his presumption.

We must not then indiscriminately condemn the whole literature of *India*. Even Father H A R - D O U I N, when he advanced a similar paradox respecting the works of ancient writers, excepted some compositions of C I C E R O, V I R G I L, H O R A C E, and P L I N Y.

It is necessary in this country, as every where else, to be guarded against literary impositions. But doubt and suspicion should not be carried to an extreme length. Some fabricated works, some interpolated passages, will be detected by the sagacity of critics in the progress of researches into the learning of the east: but the greatest part of the books, received by the learned among the *Hindus*, will assuredly be found genuine. I do not doubt that the *Vedas*, of which an account has been here given, will appear to be of this description.

In pronouncing them to be genuine, I mean to say, that they are the same compositions, which, under the same title of *Vkda*, have been revered by *Hindus* for hundreds, if not thousands, of years. I think it probable, that they were compiled by D W A ' P A Y A N A, the person who is said to have collected them, and who is thence surnamed *Vyasa*, or the compiler. I can perceive no difficulty in admitting, that those passages, which are now ascribed to human authors, either as the *Rishis*, or as the reciters of the text, were attributed to the same persons so long ago as when

the compilation was made; and probably, in most instances, those passages were really composed by the alleged authors. Concerning such texts as are assigned to divine persons, according to *Hindu* mythology, it may be fairly concluded, that the true writers of them were not known when the compilation was made; and, for this reason, they were assigned to fabulous personages.

The different portions which constitute **the Vedas**, must have been written at various times. The exact period when they were compiled, or that in which the greatest part was composed, cannot be determined, with accuracy and confidence, from any facts yet ascertained. But the country may; since many rivers of *India* are mentioned in more than one text; and, in regard to the period, I incline to think, that the ceremonies called *Yajnya*, and the prayers to be recited at those ceremonies, are as old as the calendar, which purports to have been framed for such religious rites.

To each *Veda* a treatise, under the title of *Jyotish*, is annexed, which explains the adjustment of the calendar, for the purpose of fixing the proper periods for the performance of religious duties. It is adapted to the comparison of solar and lunar time with the vulgar or civil year; and was evidently formed in the infancy of astronomical knowledge. From the rules delivered in the treatises which I have examined*, it appears,

* I have several copies of one such treatise, besides a commentary on the *Jyotish* of the *Rigveda*, by an unknown author; which is accordingly assigned to a fabulous personage, Sii'sHA, NA'GA.

tfc at the cycle (*Yuga*) there employed, *k* a period of-five years only. The month is lunar; but at the end) and in the middle, of the quinquennial period, an intercalation is admitted, by doubling one month. Accordingly, the cycle comprises three common lunar years, and two, which contain thirteen lunations each. The year is divided into six seasons; and each month into half months. A complete lunation is measured by thirty lunar days; some one of which must of course, in alternate months, be sunk, to make the dates agree with the nycthemera. Tor this purpose, the sixty-second day appears to be deducted*: and thus the cycle of five years consists of 1860 lunar days, or 1830 nycthemera; subject to a further correction, for the excess of nearly four days above the true sidereal year: but the exact quantity of this correction, and the method of making it, according to this calendar, have not yet been sufficiently investigated to be here stated. The zodiac is divided into twenty-seven asterisms, or signs, the first of which, both in the *Jyotish* and in the *Vb-das*, is *Crittica*, or the Pleiads. The place of the colures, according to these astronomical treatises, will be forthwith mentioned; but none of them hint at a motion of the cciuinouxes. The measure of a day by thirty hours, and that of an hour by sixty minutes, are explained; and the method of constructing a clepsydra is taught

This ancient *Hindu* calendar, corresponding, in its divisions of time, and in the assigned origin of

* The *Athenian* year was regulated in a similar manner ; but, according to GEMINUS, it was the sixty-third day, which was deducted. Perhaps this *Hindu* calendar may assist in explaining the *Grecian* system of lunar months.

the ecliptic, with several passages of the *Vedas* is evidently the foundation of that which, after successive corrections, is now received by the *Hindm* throughout *India*. The progress of those corrections may be traced, from the cycle of five *, to one of sixty lunar years (which is noticed in many popular treatises on the calendar, and in the commentary of the *Jyotish*); and thence, to one of sixty years of JUPITER; and, finally, to the greater astronomical periods of twelve thousand years of the gods, and a hundred years of BRAHMA'. But the history of *Indian* astronomy is not the subject of this essay. I shall only cite, from the treatises here referred to, a passage in which the then place of the colures is stated.

' *Swar acramete somiircau yadi sacam savfoavau ; syat tadadiyugam, mdghas, tapas, s'nclo, 'yanan by itdac.*

' *Prapadyctt s'ravishtliadau suryachandrainaswo udac; sarfiardlit dacshiri areas ta: mag'ha-sravanaydli sada.*

' *Gharma-vridd'hira, apam prasthah, cshapa-*

* The treatises in question contain allusions to the ages of the world: but without explaining, whether any, and what, specific period of time was assigned to each age. This cycle of five years is mentioned by the name of *Yuga*, in PARA'SAR A'S institutes of law edited by SUVRATA, and entitled *Vrihat Parasara*. It is there (Ch. 12. v. 83.) stated, as the basis of calculation for larger cycles: and that of 3600 years, deduced from one of sixty (containing twelve simple *yugas*), is denominated the *Yuga* of VACPATI; whence the *yuga* of PRAJA'NA'T'HA, containing 216,000 years, is derived; and twice that constitutes the *Cali-yuga*. The still greater periods are afterwards described under the usual names.

hfha, udag gatau: dacshin'e tau viparyastau, shan rnuhurty wyanhia tu.'

The following is a literal translation of this remarkable passage, which occurs in both the treatises examined by me.

' When the sun and moon ascend the sky together, being in the constellation over which the *Vasus* preside; then does the cycle begin, and the [season] *Magha*, and the [month] *Tapas*, and the bright [fortnight], and the northern path,

'The sun and moon turn towards the north at the beginning of *Sravishtlu't*; but the sun turns towards the south in the middle of the constellation over which the serpents preside; and this [his turn towards the south, and towards the north,] always [happens] in [the months of] *Magha* and *Sravana*.

' In the northern progress, an increase of day, and decrease of night, take place, amounting to a *prasfha* (or 32 *palas*) of water; in the southern, both are reversed (i. e. the days decrease, and the nights increase), and [the difference amounts] by the journey, to six *muhurtas**'

Sravishfha is given, in all the dictionaries of the Sanscrit language, as another name of *D'hanishtha* ; and is used for it, in more than one passage of the *Vtdas*. This is the constellation which is sacred to

* I cannot, as yet, reconcile tire lime here stated. Its explanation appears to depend on the construction of the clepsydra, which I do not well understand; as the rule for its construction is obscure, and involves some difficulties, which remain yet unsolved.

the *Vasus*; as *As'ltehd* is, to the serpents. The deities, presiding over the twenty-seven constellations, are enumerated in three other verses of the *Jyotish* belonging to the *Yajmh*, and in several places of the *V&das*. The *Jyhtish* of the *Rich* differs in transposing two of them ; but the commentator corrects this as a faulty reading.

In several passages of the *Jyotish*, these names of deities are used for the constellations over which they preside; especially one, which states the situation of the moon, when the sun reaches the tropic, in years other than the first of the cycle. Every where these terms are explained, as indicating the constellations, which that enumeration allots to them*. Texts, contained in the *FMas* themselves, confirm the correspondence; and the connexion of *As'whil* and the *Aswins* is indeed decisive.

Hence it is clear, that *Tfhanlshtlui* and *A'slfoha* are the constellations meant; and that when this *Hindu* calendar was regulated, the solstitial points were reckoned to be at the beginning' of the one, and in the middle of the other: and such was the situation of those cardinal points, in the fourteenth century before the *Christian* era. I formerly! ^ a (l occasion to show, from another passage of the *VedaSj* that the correspondence of seasons with months, as there stated, and as also suggested in the passage now quoted from the *Jyotish*, agrees with such a situation of the cardinal points.

I now proceed to fulfil the promise of indicating

* I think it needless to quote the original of this enumeration.

† *Asiatic Researches*, Vol. VII. p. 288.

sach parte of the fourth *Vtda*, as appear liable to suspicion. These are the remaining detached *Upamshadsy* which are not received into the best collections of fifty-two theological tracts, belonging to the *Atliarca-vtda*; and even some of those which are there inserted, but which, so far as my inquiries have yet reached, do not appear to have been commented by ancient authors, nor to have been quoted in the whole commentaries on the *Vedanta*. Two of these *Upantshads* are particularly suspicious: one entitled *Rama tdpaniya*, consisting of two parts (*Purva* and *Vttara*); another called *Gopala tdpaniya*, also comprising two parts, of which one is named the *Crishna Upanishad*. The introduction to the first of these works contains a summary, which agrees in substance with the mythological history of the husband of SITA, and conqueror of *Lancd*. The other exalts the hero of *Mafhur*d.

Although the *Rama tdpaniya* be inserted in all the collections of *Upantshads*, which I have seen; and the *Gopala tdpaniya* appear in some; yet I am inclined to doubt their genuineness, and to suspect that they have been written in times, modern, when compared with the remainder of the *Vcdas*. This suspicion is chiefly grounded on the opinion, that the sects, which now worship RAMA and CRISHN'A as incarnations of VISHNU, are comparatively new. I have not found, in any other part of the *VSdas*, the least trace of such a worship. The real doctrine of the whole *Indian* scripture is the unity of the deity, in whom the universe is comprehended: and the seeming polytheism, which it exhibits, offers the elements, and the stars and planets, as gods. The three principal manifestations of the divinity, with other personified attributes and energies, and most of the

t)ther gods of *Hindu* mythology, are indeed mentioned, or at least indicated, in the *Vtdas*. But the worship of deified heroes is no part of that system; nor are the incarnations of deities suggested in any other portion of the text, which I have yet seen; though such are sometimes hinted at by the commentators.

According to the notions, which I entertain of the real history of the *Hindu* religion, the worship of RA'M.A, and of CRJSIIN'A, by the *Vaishriams*, and that of MAHA'DEVA and BHAVA'NI by the *Saw as* and *Si klas*, have been generally introduced, since the persecution of the *Bauddluts* and *Jamas*. The institutions of the *Vtdas* are anterior to BUDD'HA, whose theology seems to have been borrowed from the system of CAPTLA, and whose most conspicuous practical doctrine is stated to have been the unlawfulness of killing animals, which in his opinion were too frequently slain for the purpose of eating their flesh, under the pretence of performing a sacrifice or *Yajnya*. The overthrow of the sect of BUDD'HA, in *India*, has not effected the full revival of the religious system inculcated in the *Vedas*. Most of what is there taught, is now obsolete: and, in its stead, new orders of religious devotees have been instituted; and new forms of religious ceremonies have been established. Rituals founded on the *Purarias*, and observances borrowed from a worse source, the *Tantras*, have, in great measure, antiquated the institutions of the *Vedas*. In particular, the sacrificing of animals before the idols of CA'LI*,

* In *Bengal*, and the contiguous provinces, thousands of kids and buffalo calves are sacrificed before the idol, at every celebrated temple; and opulent persons make a similar destruction

has superceded the less sanguinary practice of the *Yajnya*; and the adoration of RAMA and of CRKSHN'A has succeeded to that of the elements and planets. If this opinion be well founded, it follows, that the *Upanishads* in question have probably been composed in later times, since the introduction of those sects, which hold RA'MA and GOPA'LA in peculiar veneration.

On the same ground, every *Upanishad*, which strongly favours the doctrines of these sects, may be rejected, as liable to much suspicion. Such is the *A'tmabbd'ha Upanishad**, in which CHISHNA is noticed by the title of MAD'HU-SU'DANA, son of DEVACI: and such, also, is the *Sundaritanipani†*, which inculcates the worship of DEVI.

The remaining *Upanishads* do not, so far as I have examined them, exhibit any internal evidence of a modern date. I state them as liable to

of animals at their private chapels. The sect which has adopted this system is prevalent in *Bengal*, and in many other provinces of *India*; and the Sanguinary Chapter, translated from the (*16-licd Purdna* by a member of this society, (*Asiatic Researches*, Vol. V. p. 371,) is one among the authorities on which it relies. But the practice is not approved by other sects of *Hindus*.

* I have seen but one copy of it, in an imperfect collection of the *Upanishads*. It is not inserted in other compilations, which nevertheless purport to be complete.

† According to the only copy that I have seen, it comprises five *Upanishads*, and belongs to the *AVharvana*; but the style resembles that of the *Tantras* more than the *Valas*. It is followed by a tract, marked as belonging to the same *Vida*, and entitled *Tripura Upanishad*, or *Traipurija*; but this differs from another bearing the similar title of *Tripuri Upanishad*, and found in a different collection of theological treatises. I equally discredit both of them, although they are cited by writers on the *Mantra sdstra* (or use of incantations); and although a commentary has been written on the *Tripura*, by BHAT'T'A BHA'SCAKA.

doubt, merely because I am not acquainted with any external evidence of their genuineness *. But it is probable, that further researches may ascertain the accuracy of most of them, as extracts from the *Vedas*; and their authenticity, as works quoted by known authors. In point of doctrine, they appear to conform with the genuine *Upanishads*.

The preceding description may serve to convey some notion of the *Vedas*. They are too voluminous for a complete translation of the whole: and what they contain, would hardly reward the labour of the reader; much less, that of the translator. The ancient dialect, in which they are composed, and especially that of the three first *Vedas*, is extremely difficult and obscure: and, though curious, as the parent of a more polished and refined language (the classical *Sanscrit*), its difficulties must long continue to prevent such an examination of the whole *Vedas*, as would be requisite for extracting all that is remarkable and important in those voluminous works. But they well deserve to be occasionally consulted by the oriental scholar.

* The same observation is applicable to several *Upanishads*, which are not inserted in the best collections, but which occur in others. For instance, the *Scanda*, *Caula*, *Gopichandana*, *Dars'ana*, and *Vajrasdchi*. I shall not stop to indicate a few questionable passages in some of these dubious tracts.



Phajia Butyracea.

IX.

A BOTANICAL *and* ECONOMICAL ACCOUNT of
BASSIA BUTYRACEA, *or* EAST INDIA BUTTER
TREE.

BY W. ROXBURGH, M. D.

BASSIA BUTYRACEA.

Polyandria Monogynia.

GENERIC CHARACTER.

CALYX beneath, four or five leaved. Corol,
 one petaled: Border about eight cleft. Berry
 superior, with from one to five Seeds.

Bassia Butyracea. ROXBURGH.

Calyx five-leaved; Stamens thirty or forty,
 crowning the subcylindric tube of the Corol.

Fulxah, *Phulwarahy* or *Phulwafa*, of the inha-
 bitants of the *Almorah* hills, where the tree is indi-
 genous. Flowering time, in its native soil, the
 month of *January*; Seeds ripe in *August*.

Trunk of the larger trees, straight, and about
 five or six feet in circumference. Bark of the
 young branches smooth, brown, and marked with
 small ash-coloured specks.

500 ACCOUNT OF BASSIA BUTVEACEA ;

Leaves alternate, abou' the ends of the branchlets, petioled, obovate-cuneate, obtuse-pointed, **entire;** smooth above, villous underneath; veins simple, and parallel; length, six to twelve inches; breadth, three to six.

Petioles, from one to two inches long.

Stipules, if any, minute, and caducous.

Flowers numerous, round the base of the young shoots, and from the axils of the lower leaves, peduncled, large, pale-yellow, drooping.

Calyx, four, five, or six leaved (five is by far the most common number); ovate, obtuse, covered externally with ferruginous pubescence, permanent.

Corol; tube subcylindric, length of the calyx; border of eight, spreading, oblong, obtuse divisions, longer than the tube.

Stamens; filaments from thirty to forty, about as long as the tube of the Corol, and inserted on its mouth. Anthers linear-oblong.

Pistil, germ conical, (ten or twelve celled, one seeded,) downy, surrounded with a downy nectarial ring. Style longer than the stamens; stigma acute.

Berry oblong, generally pointed by a remaining portion of the style; smooth, fleshy, containing One, two, or three, rarely more, large seeds; the first not ripened.

Seeds oblong, rather round than flat, but differ-

ing in shape according to the number contained in each fruit; smooth, shining, light brown, with a long, lanceolate, lighter coloured, less smooth, umbilical mark on the inside.

This tree, which is rendered interesting on account of its seeds yielding a firm butyraceous substance, resembles *Russia Latifolia*, (see *Coromattdel* Plants, Volume I, No. 19, also *Asiatic Researches*, Volume I, Page 300,) so much as scarce to be distinguished from it, except by the Coral and Stamina.

Here (in *Bassia butyracea*) the Corol is of a thin texture, with a tube nearly cylindric, and border of eight, large, spreading, oblong segments. There (in *Bassia latifolia*) it is thick and fleshy, with a gibbous, indeed almost globular tube; and border of generally more than eight, small, cordate, rather incurved segments.

Here, the Stamina, from thirty to forty in number, have long filaments inserted *on* the mouth of the tube of the Corol. There they are fewer in number; have very short filaments, and are arranged in two, or three series, completely *withm* the tube, to which they are affixed.

It may not be improper to notice here some other species of the same genus. The following Botanical description of *Bassia longifolia*. LINN. *Mant.* page 563, I have been favoured with by Doctor KLEIN, of *Tranqnebar*, and the account of its economical uses by the Reverend Doctor JOHN, of the same place.

DESCRIPTION *by* DOCTOR KLEIN.

Calyx, Perianth: monophyllum, 4-partitum; laciniis ovatis, acutis, coriaceis, extus tomento ferrugineo obductis, persistentibus.

Corolla monophylla, campanulata; tubo cylindraceo, inflato, carnosio, limbo 8-partito; laciniis lanceolatis, erectis.

Stamina, filamenta 16, brevissima, in duos ordines divisa, quorum octo ad incisuras laciniarum, octo in tubo corollas inserta. Antherae lineares, setaceae, acutas, extus pilosae, limbo breviores.

Pistil: Germen superum, ovatum. Stylus setaceus, corolla duplo longior. Stigma simplex.

Pericarp: drupa oblonga, 1-3 sperma, carnosia, lactescens. Seminibus subtrigonis oblongis.

Arbor magna; ramis sparsis, erectis, horizontalibusque.

Folia sparsa, petiolata, lanceolata, acuta, integerrima, glabra, venosa.

Flores longe-pedunculati, axillares, solitarii, et aggregati.

ECONOMICAL USES *of the* OIL, *Or* ILLEEPEI TREE,

Bassia longifolia.

BY THE REVEREND DOCTOR JOHN.

1st. The oil, pressed from the ripe fruit, is used as a common lamp oil, by those who cannot afford to buy the oil of the coco-nut. It is thicker, burns longer, but dimmer, smoaks a little, and gives some disagreeable smell.

2d. It is a principal ingredient in making the country soap, and, therefore, often bears the same price with the oil of the coco-nut.

3d. It is, to the common people, a substitute for ghee, and coco-nut oil, in their curries and other dishes. They make cakes of it, and many of the poor get their livelihood by selling these sweet oil cakes.

4th. It is used to heal different eruptions, such as the itch, *Sec.*

5 th. The cake (or *Sakey*) is used for washing the head; and is carried, as a petty article of trade, to those countries, where these trees are not found.

6th. The flowers, which fall in *May*, are gathered by the common people, dried in the sun, roasted, and eaten, as good food. They are also bruised, and boiled to a jelly, and made into small

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balls, which they sell or exchange, **for fish, rice,** and various sorts of small grain.

7th. The ripe fruit, as well as the unripe, is eaten by the poor, as other fruits. Of the unripe, the skin is taken off, and after throwing away the unripe kernel, boiled to a jelly, and eaten 'with salt and *Capsicum*.

8th. The leaves are boiled with water, and given as a medicine, in several diseases, both to men, and to cattle.

9th. The milk of the green fruit, and of the tender bark, is also administered as a medicine.

10th. The bark is used as a remedy for the itch.

11th. The wood is as hard, and durable, as teak wood, but not so easily wrought, nor is it procurable of such a length for beams, and planks, as the former; except in clay ground, where the tree grows to a considerable height; but, in such a soil, it produces fewer branches, and is less fruitful, than in a sandy, or mixed soil, which is the best suited for it. In a sandy soil, the branches shoot out nearer to the ground, and to a greater circumference, and yield more fruit. These trees require but little attention; beyond watering them during the first two or three years, in the dry season. Being of so great use, we have here whole groves of them, on high, and sandy grounds, where no other fruit trees will grow.

12th. We may add, that the owls, squirrels, lizards, dogs and jackals, take a share of the

timet but the- vulgar belief that the latter, especially in the tiitte of blossom, are apt to grow mad, by too much feeding on them.

Bassia obcrvata, Fo ESTERS *Prod.* No. 200; a, native of the Isle of *Tanna*, in the South Sea. Of this species, I possess no other account than the definition, which corresponds with the habit of the genus. If FORSTER has left us no account of the uses of the tree, it may be worth while to make inquiry, when an opportunity offers.

PARK'S *Shea*, or butter tree of *Africa*, we have reason, from his description, and figure, as well as from analogy, to suppose a species of this same genus. At page 359, (of his travels in the interior of *Africa*) he says, " The appearance of the fruit evidently places the *Shea* tree in the natural order of *Sapoice*, (to which *Bassia* belongs,) and it has some resemblance to the *Madhiica* tree (*Bassia latifolia*), described by Lieutenant CHARLES HAMILTON, in the *Asiatic Researches*, Volume I, page 300.

" The people were every where employed in collecting the fruit of the *Shea* trees, from which they prepare a vegetable butter, mentioned in the former part of this work*. These trees growin great abundance all over this part of *Bambarra*

* This commodity, *Shea toulou*, which, literally translated, signifies *Tree-butter*, is extracted, by means of boiling water, from the kernel of the nut, has the consistence and appearance of butter; and is in truth an admirable substitute for it. It forms an important article in the food of the natives, and serves also for every domestic purpose in which oil would otherwise be used. The demand for it is therefore great. PARK'S *Travels in Africa*. Page 26.

They are not planted by the natives, but are found growing naturally in the woods; and in clearing woodland for cultivation, every tree is cut down but the *Shea*. The tree itself, very much resembles the *American* oak, and the fruit, from the kernel of which, first dried in the sun, the butter is prepared, by boiling the kernel in water, has somewhat the appearance of a *Spanish* olive. The kernel is enveloped in a sweet pulp, under a thin green rind; and the butter produced from it, besides the advantage of its keeping the whole year without salt, is whiter, firmer, and to my palate, of a richer flavour, than the best butter I ever tasted made of cows milk. The growth and preparation of this commodity, seem to be amongst the first objects of *African* industry, in this and the neighbouring states; and it constitutes a main article of their inland commerce." PARK'S Travels in *Africa*, page 202-3.

In the following account of the *Bassia Batyracta*, by Mr. GOTT, we find the people of *Almorah* eat the dregs, left after the finer parts have been extracted; consequently there can be little doubt of the wholesomeness of the pure *vegetable butter* itself. The thick oil of *Bassia latifolia*, and *longi-Jolia*, the natives of various parts of *India*, either use alone, or mixed with ghee (clarified butter), in their diet.

On Captain HARDWICKE'S departure for *England*, in the beginning of 1803, he gave me a small quantity of the above-mentioned substance, observing, that the only account he could give of it was, that it was reported to him to be a vegetable product from *Almorah*, or its neighbourhood, where it is called *Fulwah*, or *Phulwarah*. In consequence of this information, I applied to

Mr. GOTT, (who is stationed in the vicinity of that country,) to make the necessary inquiries; and from him I procured an abundance of **well** preserved specimens, at various times, in leaf, flower, and fruit. From these, and that gentleman's account of the tree, and its product, **the** foregoing description, and the annexed figures, were taken.

The same sample, which I got from Captain HAHDWICKE, in *January* 1803, I have still by me. It remains perfectly sweet, both in taste and smell. Its flavour is that of cloves; having, I presume, been perfumed with that spice, previously to its falling into his hands, a practice mentioned in the following narrative. At this instant the thermometer is at ninety-five, and for these six weeks, it has rarely been below ninety, and has often risen to one hundred, or more, yet it continues about as firm as butter is in *England* during winter.

Mr. GOTT'S account of the tree, and its product, is as follows :—

The tree producing a fat-like substance, known in this country by the name of *Phulwah*, is a native of the *Almorah* hills, and known there by **the** same name. The tree is scarce, grows on a strong soil, on the declivities of the southern aspects of the hills below *Almorah*, generally attaining the height, when full grown, of fifty feet, with a circumference of six. The bark, of such specimens as I have been able to obtain, is inclined to smoothness, and speckled; it flowers in *January*, and the seed is perfect about *August*, at which time the natives collect them, for the purpose of extracting the above substance. On opening

the shell of the seed or nut, which is of a fine ehensnut colour, smooth, and brittle; the kernel topears of the size and shape of a blanched almond: the kernels are bruised, on a smooth stone, to the consistency of cream, or of a fine pulpy matter ; which is then put into a cloth bag, with a moderate weight laid on, and left to stand, till the oil, *or fat*, is expressed, which becomes immediately of the consistency of hog's-lard, and is of a delicate white colour. Its uses are in medicine ; being highly esteemed in rheumatism, and con* tractions of the limbs. It is also much esteemed, and used by natives of rank, as an unction, for which purpose, it is generally mixed with an *Utr* of some kind. Except the fruit, which is not much esteemed, no other part of the tree is used.

This tree is supposed to bear a strong affinity to the *Mawa*, (*Madhuca*, or *Bassia latifolia*;) but the oil or *fat*, extracted from the seeds, differs very materially. The oil from the *Mazva*, is of a greenish-yellow colour, and seldom congeals. That from the *Phulwah* congeals, immediately after expression, is perfectly colourless; and, in the hottest weather, if melted by art, will, on being left to cool, resume its former consistency. The oil from the seed of the *Mawa*^ if rubbed on woollen cloth, leaves as strong a stain as other oils or animal fat. The fatty substance from the *Phulwah*, if pure, being rubbed on woollen cloth, will leave no trace behind.

The oil of *Mawa* is expressed in considerable quantities, about *Cawnpoor*, and *Furruckabad*, and being mixed with, is sold as ghee.

This fatty substance very rarely comes pure from

the hills, and receives *more and* more adulteration, (by adding the purest ghee,) as it passes down to the lower provinces: age gives it the fkmtness of pure tallow.

ADDITIONAL REMARKS BY THE SAME, IN CONSEQUENCE OF A FEW QUERIES TRANSMITTED TO MR. GOTT.

It is supposed there might be annually procured from twenty to thirty maunds, at the price of fourteen or fifteen rupees the maund.

1st. It is never taken inwardly as a medicine, nor is it used in diet; further than that the dregs, after the purer fatty substance is expressed, are eaten, as a substitute for ghee, by the peasants, or labourers, who extract the fat.

2d. I have some pure, which has been by *me* ten months, and it has neither acquired colour, nor bad smell.

3d. After it is imported into *Rohilkhund*, it is scented with *Utr*, (an essential oil,) and a little of the flour of the *Indian* corn (*Zea Mays*) is added, to increase its consistency. N. B. This flour is added on account of its peculiar whiteness.

4th. If it is clean, and free from dirt, it never undergoes any purification; if the contrary, it is heated, and filtered through a coarse cloth.

5th. The flowers are never used. The pulp of the fruit is eaten by some; it is of a sweet, and flat taste.

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The timber is white, soft, and porous; and is never made any use of by the natives. It is nearly as light as *the Semul*, or cotton tree (*Bombaxheptaphyllum*).



X.

DESCRIPTION *of a Species of Ox, named GAYA'L.*

COMMUNICATED BY H. T. COLEBROOKE, ESQ,

THE *Gayal* was mentioned in an early volume of the researches of the *Asiatic Society* *, by its *Indian* name, which was explained by the phrase, 'cattle of the mountains.' It had been obscurely noticed (if indeed the same species of ox be meant,) by KNOX, in his historical relation of *Ceylon* †; and it has been imperfectly described by Captain TURNER, in his journey through *Bootanf*. Herds of this species of cattle have been long possessed by many gentlemen, in the eastern districts of *Bengal*, and also in other parts of this province: but no detailed account of the animal, and of its habits, has been yet published in *India*. To remedy this deficiency, Dr. ROXBURGH undertook, at my solicitation, to describe the *Gaydl*, from those seen by him in a herd belonging to the Governor General. Dr. BUCHANAN has also obligingly communicated his observations on the same cattle: and both descriptions are here laid before the society; with information obtained from several gentlemen at *Tipura*, *Siiket*, and *Chatgaon*, relative to the habits of the animal. The original drawing, from which the plate has been taken, is

* ID the second volume, (p. 183,) published in 1790.

† P. 21.

J Embassy to *Tibet*, p. 160.

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in the collection of Sir JOHN ANSTRUTHIB, for whom it was drawn by a native artist in his service.

from the information which was first received, it was supposed that the *Gayal* would not engender either with the buffalo, or with the common bull and cow, and must therefore constitute a distinct species in every system of classification. Although that be not confirmed, by the correcter information now obtained, yet on account of the considerable, and apparently permanent, difference between the common cow and the *Gayal*, this ought still, perhaps, to be considered as a distinct species, rather than as a variety. Its generic, and trivial names, with the synonyma, may be stated as follows.

Bos Gavaus.

SYNONYMA: Sansc. *Gavaya*; Hind. *Gavai*, or *Gay Al*; Beng. *Gobaygoru*; Pers. *Gaujangali*; mountaineers (*Ouch*, &c.) east of Silhet, *Mkfhana*; mountaineers (*Cuds*) east of Chatgaon, *Shidl*; Mugs, *J'hongnua*. Burmas, *Nunec*. Ceylon, *Gaicoera* *.

Bos Bubalus Gauvcra: PENNANT †.

'The *Gaydl*,' says Dr. ROXBURGH, 'is nearly of the size and shape of the *English* bull. It has short horns, which are distant at their bases, and

* KNOX'S *historical relation of Ceylon*, p. 21.

† *History of Quadrupeds*, I. p. 27.

rise a gentle curve directly out and up: a transverse section, near the base, is ovate; the thick end of the section being on the inside. The front is broad, and crowned with a tuft of lighter coloured, long, curved hair. The dewlap is deep and pendent. It has no mane, nor hump; but a considerable elevation over the withers. The tail is short; the body covered with a tolerable coat of straight, dark-brown hair; on the belly, it is lighter coloured; and the legs and face are sometimes white/

DOCTOR BUCHANAN thus describes it:

' The *Gaydl* generally carries its head with the mouth projecting forward like that of a buffalo. The head, at the upper part, is very broad and flat, and is contracted suddenly towards the nose, which is naked, like that of the common cow. From the upper angles of the forehead proceed two thick, short, horizontal processes of bone, which are covered with hair. On these are placed the horns, which are smooth, shorter than the head, and lie nearly in the plane of the forehead. They diverge outward, and turn up with a gentle curve. At the base they are very thick, and are slightly compressed, the flat sides being toward the front and the tail. The edge next the ear is rather the thinnest, so that a transverse section would be somewhat ovate. Toward their tips, the horns are rounded, and end in a sharp point. The eyes resemble those of the common ox; the ears are much longer, broader, and blunter than those of that animal.

' The neck is very slender near the head, at some distance from which a dewlap commences; but this is not so deep, nor so much undulated,

as in the *Bos Zebu*, or *Indian ox*. The dewlap is covered with strong longish hair, so as to form a kind of mane on the lower part of the neck; but this is not very conspicuous, especially when the animal is young.

' In place of the hump, which is situated between the shoulders of the *Zebu*, the *Gaylil* has a sharp ridge, which commences on the hinder part of the neck, slopes gradually up till it comes over the shoulder joint, then *runs horizontally almost a third part of the length of the back, where it terminates with a very sudden slope. The height of this ridge makes the neck appear much depressed, and also adds greatly to the clumsiness of the chest, which, although narrow, is very deep. The sternum is covered by a continuation of the dewlap. The belly is protuberant, but in its hinder part is greatly contracted. The rump, or *os sacrum*, has a more considerable declivity than that of the *European ox*, but less than that of the *Zebu*.

¹ The tail is covered with short hair, except near the end, where it has a tuft like that of the common ox; but, in the *Gay6l*, the tail descends no lower than the extremity of the *tibia*.

¹ The legs, especially the fore ones, are thick and clumsy. The false hoofs are much larger than those of the *Zebu*. The hinder parts are weaker in proportion than the forehand; and, owing to the contraction of the belly, the hinder legs, although in fact the shortest, appear to be the longest.

' The whole body is covered with a thick coat of short hair, which is lengthened out into a

matie on the dewlap, and into a pencil-like tuft on the end of the tail. From the summit of the head there diverges, with a whirl, a bunch of rather long coarse hair, which lies flat, is usually lighter coloured than that which is adjacent, and extends towards the horns, and over the forehead. The general colour of the animal is brown, in various shades, which very often approaches to black, but sometimes is rather light. Some parts, especially about the legs and belly, are usually white; but indifferent individuals, these are very differently disposed.

' In the first column of the following table is the measurement of a full grown cow: in the second is that of a young male.

	<i>Ft. In.</i>	<i>Ft. In.</i>
From the nose to the summit of the head, ...	1 6	1 8
Distance between the roots of the horns, ...	0 10	0 9
From the horns to the shoulder, ...	3 3	3 0
From the shoulder to the insertion of the tail, ...	4 3	3 10
Height at the shoulder, ...	4 9	4 7
Height at the loins, ...	4 4	4 2
Depth of the chest, ...	2 9	- -
Circumference of the chest, ...	6 7	5 7
Circumference at the loins, ...	5 10	5 6
Length of the horns, ...	1 3	- -
Length of the ears, ...	0 10	

¹ The different species of the ox kind may be readily distinguished from the *Gayal* by the following marks. The *European* and *Indian* oxen by the length of their tails, which reach to the false hoofs; the *American* ox by the gibbosity on

its **back**; the *Boves vmchatu Cafer*, *vndpumulus*, by having their horns approximated at the bases; the *Bos grunniens* by its whole tail being covered with long silky hairs; the *Bos Bubalus*, at least the *Indian* buffalo, by having the whole length of its horns compressed, and by their being longer than the head, and wrinkled; also by its thin coat of hair, by its want of a dewlap, and, above all, by its manners; the *Bos bar bat us* by the *long* beard on its chin.

' The cry of the *Gayal* has no resemblance to the grunt of the *Indian* ox, but a good deal resembles that of the buffalo. It is a kind of lowing, but shriller, and not near so loud as that of the *European* ox. To this, however, the *Gayal* approaches much nearer than it does to the buffalo.'

The result of inquiries made by Mr. MACRAE, at *Chatgaon*, has been communicated by that gentleman, in the following answer to questions which were transmitted to him.

' The *Gayal* is found wild in the range of mountains that form the eastern boundary of the provinces of *Aracan*, *Chittagong* (*Chatgaon*), *Tipura*, and *SilheL*

' The *Cutis*, or *Lunctas* a race of people inhabiting the hills immediately to the eastward of *Chatgaon*, have herds of the *Gayal* in a domesticated state. By them he is called *Shial*; from which, most probably, his name of *Gay Al* is derived; as he is never seen on the plains except Vhen brought there. By the *Mugs* he is named *JThongnuah*; and by the *Bur mas*, *Nunec. la* the *Hindu s'fatra* he is called *Gab ay*. It appears,

however, that fee i« an animal very little known beyond the limits of his native mountains, excfcjjrt; to the inhabitants of the provinces above-Eiek* tioned.

¹ The *Gayal* is of a dull heavy appearance; but, at the same time, of a form which indicates much strength and activity, .like that of the wild' buffalo. His colour is invariably brown; but of different shades, from a light to a dark tinge; and he frequently has a white forehead^ and four white legs, with the tip of the tail also white. He has a full eye, and, as he advances in age, often becomes blind; but it is uncertain whether from disease, or from a natural decay. His disposition is gentle; even when wild, in his native hills, he is not considered to be a dangerous animal, never standing the approach of man, much less bearing his attack. The *Cutis* hunt the wild ones for the sake of their flesh.

¹ The *Gayal* delights to range about in the thickest forest, where he browses, evening and morning, on the tender shoots and leaves of different shrubs; seldom feeding on grass, when he can get these. To avoid the noonday heat, he retires to the deepest shade of the forest; preferring the dry acclivity of the hill, to repose on, rather than the low swampy ground below; and never, like the buffalo, wallowing »in ifiud.

' *Gay/ils* have been domesticated among the *Ciccis* from time immemorial; and without any variation, in their appearance, from the wild stock. No difference whatever is observed in the colour of the wild and tame breeds: brown of different shades being the general colour of both. The

wild *Gay Al* is about the size of the wild bufc *Mo* of *India*. The tame *Gay&l*, among the *Ctic'ts*, being bred in nearly the same habits of freedom, and on the same food, without ever undergoing any labour, grows to the same size with the wild one*

•

€ He lives to the age of fifteen, or twenty, years: andj when three years old, the *Gaydl* cow receives the bull; goes eleven months with young; and will not again admit his embrace until the following season after she has brought forth.

' The *Gayal* cow gives very little milk, and does not yield it long; but, what she gives is of a remarkably rich quality; almost equally so with the cream of other milk, and which it also re* sembles in colour. The *Cucis* make no use whatever of the milk, but rear the *Gayals* entirely for the sake of their flesh and skins. They make their shields of the hides of this animal. The flesh of the *Gayal* is in the highest estimation among the *Cucis*; so much so, that no solemn festival is ever celebrated without slaughtering one or more *Gayals*, according to the importance of the occa^ sion.

' The *Cucis* train their *Gayals* to no labour; although, .from the great strength and gentle disposition of the animal, he must be very competent to every purpose, either of draught, or carriage, to which the buffalo, or the ox, is applicable.

' The domesticated *Gayals* are allowed by the *Cucis* to roam at large, during the day, through the forest, in the neighbourhood of the village;

but, as evening approaches, they all return itoine, of their own accord; the young *Gaydl* being early taught this habit, by being regularly fed every night with salt, of which he is very*fond: and, from the occasional continuance of this practice, as he grows up, the attachment of the *Gaydl* to his native village, becomes so strong, that, when the *Cdcis* migrate from it, they are obliged to set fire to the huts which they are about to leave, lest their *Gaydk* should return thither from their new place of residence, before they become equally attached to it, as to the former, through the same means.

' The wild *Gayal* sometimes steals out from the forest in the night, and feeds in the rice fields bordering on the hills. The *Cutis* give no grain to their cattle. With us, the tame *Gaydls* feed on *Caldi* (*phaseolus max*); but, as our hills abound with shrubs, it has not been remarked, what particular kind of grass they prefer.

' The *Hindus*, in this province, will not kill the *Gabay*, which they hold in equal veneration with the cow. But the *Asi Gayal*, or *Selo'i*, they hunt, and kill, as they do the wild buffalo. The animal, here alluded to, is another species of *Gayal* found wild in the hills of *Chatgaon*; a correct description of which will be given hereafter. He has never been domesticated; and is, in appearance and disposition, very different from the common *Gayal*) which has been just described. . The natives call him the *Asi Gaydl m* contradistinction to the *Gabay*, The *Cucis* distinguish him by the name of *Seloi*, and the *Mugs* and *Burmas* by that of *P'hanj*; and they consider him, next to the tiger, the most dangerous and the fiercest animal of their forests.'

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'*tf)e&fyM0fo:EtXM* writes from *Tipura*,) is
 lltlfc fcftoirft t6 the iiMives here; it is principally
 fcfcfcstdeitd as arf inhabitant of the *Chatgaon* hills.
 In conversation with people belonging to the
Haja of Tipura, On the subject of this animal*, I have
 tindcrstood, that it is known in the recesses of
 the more eastern part of the *Tipura* hills, but
 has never been caught. In the past year, some
 of these animals were seen in a herd of elephants,
 and continued some time with the herd: but
 they were alarmed by the noise used in driving
 the elephants, and escaped being secured in the
 fenced enclosure. The *K'htda* of that season was
 nearly five hours journey from the skirts of the
 hills.

¹ The animal is found wild, but is easily domesticated, though, in this state, he essentially partakes of wild habits. I have some *Gayals* at *MunnamuUy*; and, from their mode of feeding, I presume, that they keep on the skirts of the valleys, to enable them to feed on the sides of the mountain, where they can browse. They will not touch grass, if they can find shrubs.

* While kept at *Camclrah*, which is situated in a level country, they used to resort to the tanks, and take to the sides; frequently betaking themselves to the water, to avoid the heat of the sun. However, they became sickly, and emaciated; and their eyes suffered much. But, on being sent to the hills, they soon recovered, and are now in a healthy condition. They seem fond of the shade; and are observed in the hot weather to take the turn of the hills, so as to be always sheltered from the sun. They do not fallow in mud like buffaloes; but delight in tramping, and stand in it, during the greatest heat

of the day, with the front of their heads above the surface.

Each cow yields from two and a half, to about four sirs, of milk*, which is rich, sweet, and almost as thick as cream; it is of a high flavour, and makes excellent butter.' ,

Information, decisive of the question, whether the *Gayal* engender with the common *Indian* bull, has been received from Mr. BIRD, at *Dacca*; who ' having brought a domesticated female *Gayal* from ' *Chittagong* to that place, and not being able to * procure a male *Gayal* at *Dacca*, directed a common ' bull to be presented to her, which the female * received, upon being blinded by a cloth thrown ' over her eyes: the issue was a cow resembling ' mostly the *Gayal* mother; and from that cow, ' impregnated by a bull of the same common breed, ' another cow was produced, which also had grown ' up and was in calf by a common bull, at the ' date of Mr. BIRD'S letter/

Mr. DICK communicated the following answer from *Silket*.

' Not being able to procure, here, any satisfactory information respecting the *Gayal*, I transmitted questions to my *Vakil* at *Cackhar* (having understood, that those animals had been sent hither, from that place,) and desired him to obtain the most correct information on the subject.

* From five to eight pounds.

t Of Uie breed named *Deswdll*. It is a *Zebu* of the common kind, found in the middle districts of *Bengal*.

* Witli legard to the *Hindus* scrupling to kill a *Gaydl*, I could not obtain a direct answer: as the word " G6" is affixed to one of the names, from which they infer that it partakes of the cow, and are afraid positively to declare, that it is not improper to kill the animal; quoting a passage from the *Sdstra*, " *Gdsadfis'ah Gavayak*" 'a *Gavaya* is like an ox.' However, the *Rdjd* of *Cdch'hdr*, who is a *Cshatriya* of the *Suryabansi* race, occasionally sends several *Gaydls* to be sacrificed on certain hills in his country, in order to conciliate the *Dtoatd* of the place; as his *Vakil* informs me.'

The answers received from the *Vakil* at *Cdchhdr*, to the questions forwarded by Mr. DICK, contain the following information.

' The *Gaydl* is called *Gaujangali* in the *Persian* language, *Gavaya* in *Sanscrit*, and *Mefhand* by the mountaineers: but others name the animal *Gobay-goru*.

¹ *Gaydls* are not confined to the woods: they are domesticated. But wild *Gaydls* are found in the mountains of *Bhotant*, &c. They are kept, in a tame state, by the people who inhabit the *Cdldndgd* hills, near the district of *CKhilhtt* (*Silhet*), on the eastern border of the province of *Cdclihar*, west of *Mariipur*, and north of a tract dependant on *Tripura*, *Cdldndgds*, *Cucis*, and *Khds'is* (tribes of mountaineers), keep *Gaydls* for the sake of the flesh, not for the milk, which they do not use; nor for burden, since they have no such employment for their cattle.

' The *Gaydl* lives to the age of twenty, or twenty-five, years: it has reached its full growth at

five years; and the female is generally higher than the male. She receives the bull in her fifth year, and bears after ten months. If milked, she yields from two, to two and a half, *sirs* of milk *, or sometimes more.

⁴ The tame *Gaydls*, however long they may have been domesticated, do not at all differ from the wild; unless in temper: for the wild are fierce and untractable. The colour of both is the same; namely, that of the antelope; but some are white, and others black: none are spotted, nor piebald. They graze and range like other cattle; and eat rice, mustard, chiches, and any cultivated produce; as also chaff and chopped straw,

" The *Gavaya* is like a cow ;" consequently, not the same with a cow; a *Hindu*, therefore, commits no offence by killing one. But natives of *Bengal*, or of the mountains, who are *Hindus*, scruple to kill a *Gay Al* themselves, because it is named *Gobay-goru* (or the *Gavaya* cow).'

To this answer, an addition was made by the *Raja's Vakil*, at *Silhet*.

(*Mef hands* are sacrificed, especially by *Ndgds* and *Cuds*, before the mountain gods, *Ndkharam* and *Mairam*. The *Cuds* and *Ndgds* are fond of the meat; and, therefore, constantly keep such cattle, and eat their flesh ; and often make presents of them to the *Ildjd* of *Cdchlidr*. The *Rdjfc* preserves them, and sometimes offers *Mei'hands* in sacrifices to deities; or entertains, with their flesh, *Ndgds* and *Cuds*, who come to visit him. The

* From four to five pounds.

mountaineers are much pleased with that compliment, and eat the meat with delight.*

This information has established (what I had previously conjectured), that the animal mentioned by many Sanscrit authors, under the name of *Gavaya*, is no other than the *Gay at*. AMERASINGHA, in a chapter of his dictionary relating to animals, mentions the *Gavaya* with many wild animals; among which are the black antelope, the spotted axis, the porcine deer, the painted or white-footed antelope, the grunting ox, and the musk deer. One of his commentators (RAYAMUCUTA) says of the *Gavaya*, that, in shape, it resembles the ox. He had previously compared the form of the grunting ox (*Bos grunniens*), to that of a buffalo. Another annotator states *Gavaya*, as a name received into the common dialects. Both agree in deriving the word from *Go*, a bull or cow, and *aya* knowledge; because, as they remark, 'one might take it for an ox.'

The *Rajani ghanti*, an excellent catalogue of natural productions, with their reputed qualities in the Materia Medica, states *Gavaya* as synonymous with *Vana-go*, or wild ox: also called in Sanscrit, *Balabhadra* and *Mahdgava*: and, in the vulgar dialect, *Gavai*. Another vocabulary has added *Gavinuca* to the Sanscrit synonyma; and, according to the *Rajani ghanti*, the female is likewise named *Bhillagavi*, or cow of the *Bhilas*, (a tribe of pillagers and mountaineers).

No further evidence would seem necessary, had not the *Bhavaprakasā*, a celebrated medical work, confounded the *Gavaya* with the *Risya*, or *ffishya*, (in Hindi, *Rojh*), which is the painted or white-footed antelope, called *Nilgau*. MADA-

tf APA'&A, *m* a similar catalogue of animals coa* sidered relatively to their medical uses*, has fallen into the same error; and so, probably, other writers may have done, who. inhabit countries where the *GayM* is little known.

To correct this mistake, (without relying on the separate mention of the two animals in the *AmeracshaJ* I shall cite no less an authority, than the *Indian* scripture. The twenty-fourth chapter of the *Vajasantyl Yajurvkda*, enumerates the animals, which should be consecrated to various deities, at an *AswamMlia*. It is there directed (v. 27), that three *Risyas*, (white-footed Antelopes,) shall be consecrated to the deities named VASUS; and, towards the close of the next verse (v. 28), it is required, that three buffaloes shall be presented to VARUN'A, as many *Gavayas* to VRIHASPATI, and the same number of camels to TWASHT'RI. The commentator on the *Veda*, (MAHIVHAHA,) explains *Gavaya*, as signifying, 'wild cattle resembling kine.' It is evident, that this suits better with the *Gayal*, than with any other animal known in *India*.

From the authorities above quoted, the *Sanscrit* synonyma may be safely concluded. But it is not so easy to determine a *Persian* name of this species of ox. *GaujangaU*, or cow of the forest, mentioned by Mr. DICK'S *Vakil* at *Caciihdr*, is a suitable designation; but it does not occur, so far as I can learn, in any *Persian* work of authority. It may be necessary to caution the reader, not to suppose the *Persian Gauchtii* (which literally signifies, as Mr. GLADWIN translated iff,

* In the *Madana-vinode-nighanti*.

† *Alfaz Adriyeh*, 347.

mountain colv), to be this, or any other specie* of the ox. The *Tohfatutmuminin*, and *Makhzemil-a&oiyeh*, two celebrated treatises by *Persian* physicians, concur in describing the three varieties of *Gaiicolri*, also named *Gauzen*, or *G6zen*> and in *Arabic*, *Iyyal*, or *Uyyai* as three sorts of deer : and the last mentioned work declares it to be the same with the *Hindi Barehsingha*, or *Cervus Elaphus*.

I take this opportunity, while treating of a species of ox, to notice an error which crept into KERR'S unfinished translation of the animal kingdom in LIIVN^US'S *Systema Naturae*;⁴ and which has been followed by Doctor TURTONT in translating the general system of nature by LINN-*:US. Mr. KERR described and figured, under the name of *Bos Arnee*, an animal, which, notwithstanding the exaggerated description, given on the authority of ' a *British* officer, who met with one in the woods, in the country above *Bengal**j is evidently nothing else but the wild buffalo, an animal very common throughout *Bengal*, and known there, and in the neighbouring provinces of *Hindostan*, by the name of *Arna*. Though neither fourteen feet high, as Mr. KERR has stated, or rather as the officer, on whose information he relied, had affirmed; nor even eight feet, as Doctor TDRTON, following KERR'S inference from a drawing, asserts; yet it is a large and very formidable animal, conspicuous for its strength, courage, and ferocity. It may not be true, that the buffaloes of *Asia* and *Europe* constitute a single species; but, certainly, the wild and tame buffaloes of *India* do

not appear to differ in any thing, except the superior size, and more uniform figure, of the wild animal. A better description of the buffalo, than has been yet given, is perhaps wanted; but the *Bos Arnee*, of KERR and TURTON, must be rejected from systems of *zoology*, as an erroneous description taken from a loose drawing, assisted by the fragment of a skeleton.

APPENDIX*

INTRODUCTORY REMARKS, *intended to have accompanied Captain MAHONY's Paper on Ceylon, and the Doctrines of BUDDHA, published in the Seventh Volume of the Asiatic Researches, but inadvertently omitted in publishing that Volume.*

BY J. H. HARINGTON, ESQ.

I HAVE the pleasure of laying before the Society a paper on the island of *Ceylon*, and on the religious opinions of the greater part of its inhabitants, the worshippers of BOODH, or BUDDHA, whose religion and philosophy appeared to Sir V. JONES, "connected with some of the most curious parts of Asiatic history*," and the period of his appearance an important epoch in *Hindoo Chronology* f.

This paper, which has been procured by the Honourable Mr. DUNCAN, from Captain MAHONY, an officer of the *Bombay* establishment, for some time resident on the Island of *Ceylon*, has, with another paper already communicated to the Society by Captain MACKENZIE, anticipated and superseded some cursory remarks written by myself, during a short residence at *Columbo*, in the year 1797; and which I had hoped to render more worthy of perusal, on receiving a translation of the *Peerdwdnd P6td*, an ancient book composed in the P&H language by 'ANUNDA' MA'HA'TIRUNA'SHEE,

* *Asiatic Researches*, Volume I, page 351.

f Discourse on the *Hindus*, *Asiatic Researches*, Volume I.
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which was given to me by a priest of BUDDHA, as containing a full account of his religion; and which I left to be translated at *Columbo*, by Monsieur DE HOAN, with the assistant of "LKWIS DE SYLVA. -But the *French* version made, by them was unfortunately put on board the *Greenwich* captured by a vessel from the *Isle of France*; and it has consequently never reached me. We shall not*/ however, have to regret this accident, if Captain MAHOXY, who has given an extract from an historical work, the *Maha Raja JVallieh*, or as a \$opy of it shewn to me was called, the '*Rajuivu-he Puttur*, shall hereafter favour the society with the communication of the authentic materials for a history of the *Singakse*, their religion, manners, and customs, which I understand to be in his possession.

t

In the mean time I beg the Society*s acceptance (for their Museum) of two small images of BooDir, which I procured at *Columbo*; and of two others brought from the *Burmah* dominions by Captain Cox, late resident at *Rangoon*; the identity of which proves incontestibly that the object of worship on the *Eastern* peninsula, and the Island of *Ceylon*, is the same. I also beg- to deposit in the Society's library the accompanying copy of the *Peeroxcand Pot* a above-mentioned, of which, at some future period, we may hope to procure another translation, if that carried to *Bourbon* or *Mauritius*, should not find its way to *Europe*, and the public,

I shall only add my testimony to that of Captain MAHONY, as to the period at which the *Singalese* compute the appearance of (IOU'T.AMA BUDDHA; whose death, or rather disappearance from the earth, they state to"have been 2339 years be

fore 1797 A. Cv or 542 years before the birth of CHRIST; and as their sacred era is reckoned from this epoch, it may be esteemed deserving of credit. It also corresponds, almost exactly, with the computation pf tlie same era in *Siam*, as «sta*IH by Mr. MARSDEN, in his tract on the chronology of the *Hindus*; wherein, speaking of *Siam*, he ol)servs, " the civil reckoning is by lunar years, consisting " ordinarily of twelve months each, with an inter " calation of *seven* months in the period of jgue;- " teen years, and commencing with the new moon " that precedes the winter solstice. This era is " computed from the supposed time of the intro- " duction of their religion by SUMMONACODOM, " 544 years before CHRIST; or in the year of the " *Julian* period 416*9."

The real time at which BUDDHA, the son of SUDH6DUN, (from whom he has the appellation *SQudho-duni*, in the *Amara-cosha*,) propagated the heterodox doctrines ascribed to him by his foU lowers, and for which they have been branded as atheists, and persecuted as heretics, by the *Brdh-mens*, is, however, a desideratum which the learned knowledge, and indefatigable research, of Sir W. JONES have still left to be satisfactorily ascertained. His usual candour induced him to acknowledge his original error, in supposing this BUDDHA to have been the WODEN of the *Goths*, and genius of the planet Mercury*; and the passage from the *Bhdgwatamrita*, quoted in his dissertation on the chronology of the *Hindus*, which states that BUDDHA, (the.'ninth "Avatar), " be- " came visible the thousand and second year of the

* Dissertation on the chronology of the *Hindus*, *Asiatic Researches*, Volume If.

" *Cali-age* being past," is, I find, open to another reading, which makes it the *second thousandth* year, or the year 2000, instead of 1002. At least it was so interpreted to me by RA'DH&'CA'NT, the very *Purtdit* who is mentioned by Sir WILLIAM JONES, as having produced to him the book, from which the passage in question is quoted, and who is now one of the *Pundits* of the court of *Sudr De&pdnee Adalut*. His interpretation was also confirmed to me by Sunv6 TE'WAREE, the other *Pundit* of the court; but in justice to our revered Founder, whose regard to truth I have but imitated in this remark, I must add, that Mr. BLAQUIERE, whose knowledge of the *Sanscrit* language is too well known to need my testimony, concurs in the reading and version of Sir WILLIAM JONES.

Another point yet to be ascertained is, whether BUDDHA, the ninth "*Avatar* of the *Hindus*, be the same with the heretic BUDDHA, now worshipped at *Ceylon*, and in the eastern peninsula; as well as in *China*, *Bootan*, and *Tibet*. Sir WILLIAM JONES, in his dissertation on the Gods of *Greece*, *Italy*, and *India**, observes on BUDDHA, that "he seems¹¹ to have been a reformer of the doctrines contained in the *Vedas*; and though his good nature led him to censure these ancient books, because they enjoined sacrifices of cattle, yet he is admitted as the ninth *Avatar*, even by the "*Brahmens* of *Cdtfi*." Captain WILFORD, in his dissertation on *Egypt* and the *Nile-f*, after mentioning the subversion of the religion and government of DE'VA'DA SA, the sovereign of *Benares*, by

* *Asiatic Researches*, Volume I.

† *Asiatic Researches*, Volume III,

VISHNU, in the character of JINA, MA'HAWVA in the form of ARM AN, or MAHIMA'N, and BRAHMA' in the figure of BUDDHA, remarks, " most of " the *Brahmens* insist that the BUDDHA, who per- " verted DEVA'DA'SA, was not the ninth*incarna- " tion of VISHNU, whose name, some say, should " be written BOUDHA, or B6DDHA; but not to " mention the *Amarcosh*, the *Mugkdka-bodh*, and " the *Gita-govind*, in all of which, the ninth A'va* " tar is called BUDDHA, it is expressly declared in " the *Bhagavat*, that VISHNU should appear ninth- " ly in the form of "BUDDHA," son of JINA, for " the purpose of confounding the *Daityas*, at a " place named *Cicata*, when the *Cdli-ngp* should " be completely begun/

In this quotation, the ninth *Avatar* is called the son of JINA ; (perhaps as a descendant from JINA, or as having adopted part of his doctrines ;) but the present worshippers of BUDDHA state him to be the son of SUDHODUN, and those from whom ABOOLFUZUL took his account of BOODH in the *Ayeen Akbery*, gave him the same information; in which they are supported by the *Amara-coska*, as already noticed. The followers of BOODH, at *Ceylon*, although their long intercourse with the *Hindus* (especially since they have been governed by a *Hindu* prince) has introduced some *Hindu* tenets and observances, in addition to what may have been originally derived from them, also positively deny that their BOODH is the *Hindu Avatar*. The conclusion of Sir W. JONES*, that a second BUDDHA, assuming the name and character of the first, attempted to overset the system of the

* Dissertation on the chronology of the *Hindus*, *Asiatic Researches*, Volume II

Brdhmem, and was the cause of their persecution of the *BoudhaSy* corresponds with, and is supported by, the information given to ABOOLFUZUL, who says, " The *Brahmens* call BOODH the ninth "Avatar, but asiert that the religion which is ascribed to him is false, and fabricated by some pother person *."

i See further his account of this religion, in the Third Volume of GLADWIN'S Translation of the *Ayeen Akbery*, page 157.

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