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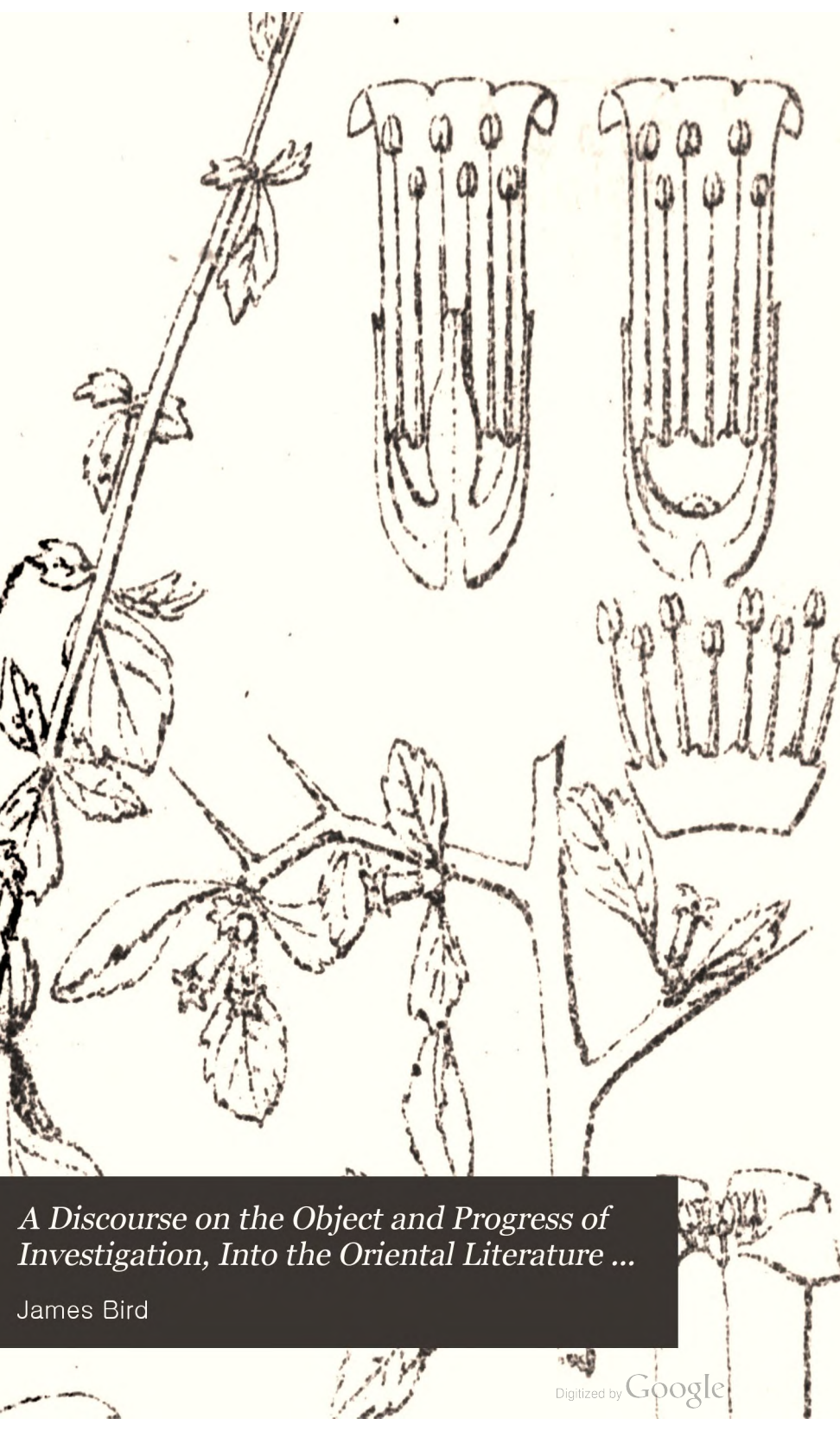
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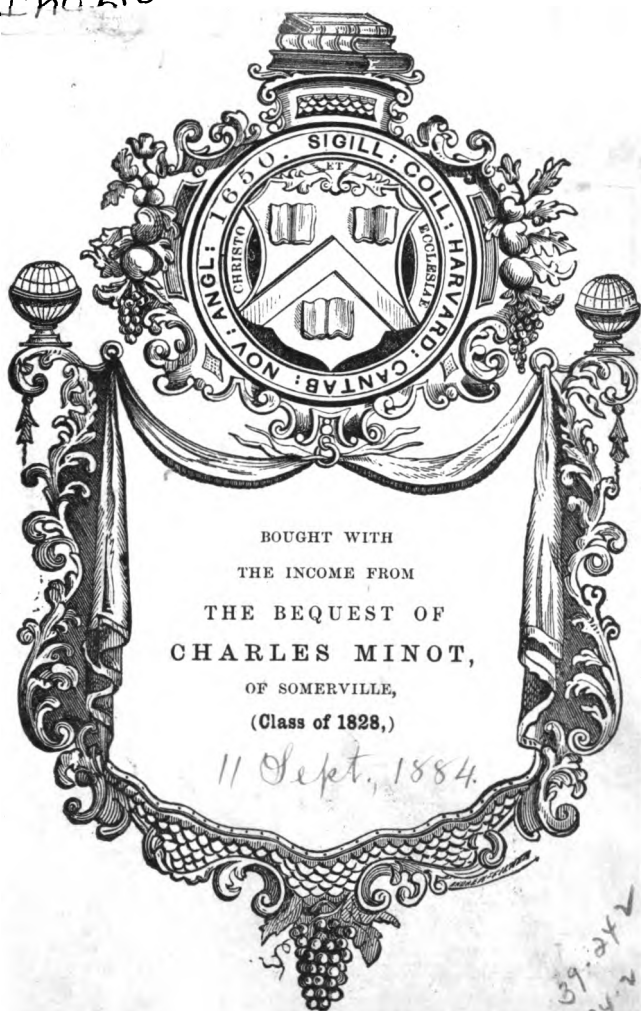
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*A Discourse on the Object and Progress of
Investigation, Into the Oriental Literature ...*

James Bird

Ind 2.8



THE
JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY

EDITED BY THE SECRETARY.

VOL. II.
JULY 1844 to JULY 1847.

Quot rami tot arbores.

BOMBAY:
AMERICAN MISSION PRESS.
T. GRAHAM, PRINTER.
1848.

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PREFACE.

ALTHOUGH the objects for which the Bombay Branch of the Royal Asiatic Society was originally instituted, have been steadily kept in view since the publication of the first number of its Journal, and the Editor feels much indebted to those who have enabled him to arrive at the completion of this its second Volume, yet it cannot be observed without regret, that with a field so wide and with so many opportunities open to the Members for extending our knowledge of the Archæology, Philology, Geography, &c. of Western India, Persia, Arabia, Ethiopia and other neighbouring countries, so little comparatively speaking has been accomplished.

It was anxiously hoped, that the literary and scientific communications to the Society on subjects connected with Oriental Research, would have maintained a quarterly issue of its Journal, but experience has proved them to be insufficient.

Much credit however is due to those who have contributed. To Dr. Stevenson and Professor Orlebar, who have most kindly and cordially rendered their aid on Literary and Scientific subjects; to Assistant Surgeon Carter for his papers on the Tribes, Language, and Natural Products, of Southern Arabia; and to the Rev. J. Murray Mitchell, who has enriched the present volume with two interesting and highly useful synoptical accounts of the Parsi Religion, and the system of the Vedas.

In the death of the late Ball Gungadhur Shastree, remarkable among the native community for his great talent and acquirements, the Society has lost a valuable and most useful contributor of *Indian Inscriptions*,—that branch to which Professor Lassen has particularly called the attention of our members, as being the only means of obtaining a clear and authentic knowledge of the early history of this country.

The Editor on taking leave of the Society, in consequence of his return to England, feels it due to state to his learned Associates, that the pleasure he has ever experienced in rendering his services to the Society, as well as the interest he has taken in all that concerns its welfare and the advancement of its objects, will suffer no diminution, although he may no longer be present to assist in its operations.

Bombay ; 30th, November, 1847.

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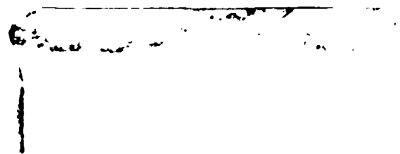
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Note.—Opposite to Dr. Stocks' descriptions of the Balsam-trees of Sindh, will be found original drawings of parts of the plants themselves, executed under his superintendence. They scarcely require numbers for reference, each plate containing representations of *old branches* with the flowers, fruit and fascicled leaves on them; and of *young shoots*, on which the leaves are arranged alternately. In the dissections are seen the nut enveloped by its pulp, with the deciduous valves by its side, also sections of the two and the three valved ovary &c. &c.—*Ed.*



JOURNAL

OF THE

BOMBAY BRANCH

OF THE

ROYAL ASIATIC SOCIETY.

OCTOBER, 1844.

ART. I.—*Two ancient Inscriptions, in the Cave character, and Sanskrit language, which, engraved on Copper plates, are translated into English, by BALL G. SHASTREE, Esq., with remarks by the Secretary.*

TO JAMES BIRD, Esq., *Secretary to the Bombay Branch R. A. S.*

MY DEAR SIR,—I have now the pleasure of returning the Copper plate, you gave me the other day, with correct transcripts in the original and Balbúd characters, as well as a translation of its contents into the English language.

On comparing the names of kings, mentioned in this grant, with Mr. Walter Elliott's genealogy of the *Chalukya* race, as ascertained from the numerous inscriptions collected by that gentleman, (Journal Roy. As. Society, London, No. VII. p. 7,) I am disposed to think that the Prince, *Vishnu Vardhan*, referred to in this grant, must be the grandson of king *Vikrama*, or *Vikramāditya*, the beginning of whose reign is placed in the *Shaka year* 655, or in 733 A. D.; and whose son, the father of our donor, according to both authorities, is of the name of *Kirtí Varma*. The antiquity of the document is fully borne out by the nature of the character; which, were there no proof to the contrary, may indeed make it two or three centuries older, as may be easily seen from an inspection of Mr. Prinsep's Table of the ancient Alphabets, in the VIIth Volume of the Bengal Asiatic Society's Journal. We would certainly be at liberty to identify *Vikrama* with an elder prince of that name, the date of

whose reign is 514 *Shaka*, if it were not for a disagreement in the names that follow.

The language of the grant, unlike that of other writings of this kind, is extremely simple; and the description of the family of the reigning monarch is confined to two of his ancestors. These circumstances may perhaps be attributed to the decline of the power of the *Chalukyas*, which soon afterwards was very much curtailed, if not altogether annihilated, at least, for a considerable length of time.

The inscription is full of orthographical errors, too numerous to be enumerated. There is one particular symbol used, which I have nowhere met with. I allude to the mark **ॐ** for **ई** (i) instead of **ॐ**. The medial **ऋ** (u) is expressed both by **ॐ** as well as **ॐ**, which latter form, being that of the modern Deva Nagari, may indicate that the Cave character was in a state of transition when the grant was written. The inscription on the seal is literally श्री बिदुरस, *Shrī Bidurasa*, which I must leave to your superior judgment to explain. The village of Aland Tirtha, the grant of which is commemorated in the Plate, may be identified with Alandi near Puna, as I know of only one other Aland, but it is situated to the north of the Bhima and not to the south.

Connected with the history of the *Chalukyas*, I send you herewith an Inscription, taken from a Copper plate grant, of the 5th century of the Christian era, which Professor Orlebar presented to your Society in 1841, after carefully comparing it with the original at my request. As confirming the few records of that period found by Mr. Elliott, it is a document of some importance; and as it has not up to this day been published in the Transactions of the Parent Society, to whom I believe, it was transmitted, you may, if you think proper, give it a place in your Journal, along with this additional relic of the *Chalukya* family, which has been brought to light through your exertions.

I am sorry that I could not prevail upon the Thakur, who brought me the Plate, to part with it on any consideration.

Believe me, dear Sir,

Your's most sincerely,

BALL G. SHASTREE.

7th August, 1844.

No. 1.

Translation of a Copper plate grant of land, found at Sattara, and now in possession of JAMES BIRD, Esq.

Blessing. King *Rana Vikrama* was descended from the family of the *Chálukyas*; the sons of *Hariti*, of the same Gotra as the descendants of *Manú*, meditators on the feet of *Swami Mahasena* (1); the chain of whose arms was protected by the body of the mothers of the world, and who had been blessed with the Boar signet, by Vishnu on being aroused from his slumbers in the milky ocean. May this king be glorious; who, being himself a good ruler, was gifted with good ministers and good counsellors; who had humbled the pride of all his enemies, and who had acquired great renown by his virtuous deeds in chastising the wicked men of the *Kali Yúg*. His son *Kirti Varma* was a famous protector of the earth, and reigned for a long time, distinguishing himself for worthy actions. His son was as handsome as *Kandarpa* (2). Knowing his duties and having a feeling of gratitude, he equalled Arjuna, as if he was intended by the Creator, like that hero, to remove the vanity of men who support themselves by arms. This prince named *Vishnu Vardhan*, while he had conciliated the attachment of the world, and was in the habit of receiving homage from the crowned heads of numerous humiliated vassals, during his regency (3), bestowed formally, (pouring water, &c.) on the 15th Kartika at Kummarathya, a village called *Aland Tirtha*, situated to the south of the Bhima and to the north of the free hold called Anopalwa, upon the sons of Lakshumana Swami of the *Kaushika Gotra*, (the descendants of Viswamitra,) who had penetrated through the Vedas with all their branches—to Achala Swami, Deva Swami, Aditya Swami, Nagkumara with all their sons, grandsons, &c. This grant is made to support the performance of *Vaishwadeva*, *Agnihotra*, and other ceremonies, with the view of securing virtue to the donor himself and his parents, and is to last as long as the sun, the moon, and the earth exist. Let it be known to all the authorities on the frontier, our

(1) The son of Mahadeva, usually called Kártikeya, and Commander-in-Chief of the celestial armies.

(2) The god of love.

(3) This passage is susceptible of a different interpretation. It may mean the "Grant is made by the regent of Vishnu Sharma, named Vishnu Sidhi."

vassals, heads and great men of the place, &c. that this village is not to be entered into by troops of the state or of persons living on usury. Knowing that the grant is lawful, and that the duration of this life is as transient as the waves of the sea agitated by a gale, the same should not be resumed. Whoever, having his sense obscured by the mist of ignorance, should interrupt our grant or approve of its being interrupted, shall be guilty of the five great sins. As Vyasa, the expounder of the Vedas, says; He who makes a grant of land, lives 60,000 years in heaven; whoever resumes it, or approves of its resumption, is doomed to reside in hell for an equal length of time. Sagara and many other kings, &c. who make grants of land, do not gain so much merit as those who protect the grants of others. O king Yudhishtira! maintain with care all the former grants of land. O good king, the preservation of a grant is a more virtuous act than the giving of it. A man, though he may be on the verge of death, should never think of depriving a Brahman of his estate; for what is burned by fire springs up again, but what is burned by a Brahman's curse never revives. Whoever seizes the land, &c. Those who resume grants of land become black serpents in the hollows of trees in the arid deserts of the Vindhya. This edict is written in the 8th year of the king.

No. 2.

Translation of an Inscription of a Copper plate grant, belonging to a Thákur of the name of NARSU BHALA, of Nandgám in the Northern Konkan. 1841.

Peace. Glory be to the Boar (1), in whom Vishnu was made manifest, who agitated the ocean, and bore the earth on the tip of his uplifted right tusk. *Shri Kirti Varma Rája*, whose body became pure as the Avabhrittha bath of the Ashwamedha sacrifice, adorned the family of the prosperous *Chalukyas*, of the same Gotra (2) as the descendants of Manú; who are praised by the whole world; the sons of Háríti (3); brought up by seven

(1) The third incarnation of Vishnú for the recovery of the earth from the waters.

(2) A distinctive appellation of Bráhmaṇ and Kshatriya families, denoting their descent from particular Rishis.

(3) Probably some local goddess, worshipped by the family.

[illegible]

Hampton's Lith.



mothers, who were even as the seven mothers of the world (4); who, through the protection of Kártikeya, gained a succession of blessings; and who, under the eye of the Boar signet, obtained through the favour of the god Narayan, subjugated all the kings of the earth. His son was *Shri Palakeshi Vallabha*, whose lotus-like feet were touched by the crowns of many hundred kings; whose firmness was as that of the mountains Merú, Malaya, and Mandara, whose whole army of infantry, cavalry, chariots, and elephants, was increasing day by day; who on his noble horse Kanta Chitra (5) reconquered his own dominions, and (afterwards) the three kingdoms of *Chera*, *Chola*, and *Pandya*; who gained a new title by the defeat of *Shriharsha*, lord of the northern countries; who ever meditated upon the feet of *Shri Nága Vardhan*, and was an eminent follower of Mahádeva. His younger brother *Jaya Sinha*, the supporter of the earth, subdued all his rivals. His son, the prop of the three (6) worlds, *Raja Shri Nága Vardhan*, informs all the present and future kings:—Be it known to you that at the request of *Ballám Thakúr*, we have assigned (pouring water &c.) for the support of the holy inhabitants of Balegram, and in furtherance of the Guggul worship of *Kupuleshwar*, the said village, which is situated on the boundaries of Goparashtra, with its public buildings, and appurtenances, with the quarters of the impost and the military; (7) that (the glory of) our father and mother may endure as long as the sun, the moon, the sea, and the earth exist, and that our own virtue and fame may be promoted. May then this our grant be respected and observed by our descendants, or other future kings, remembering that life is as transient as the clouds of November. According to the saying of the holy Vyasa, “Sagar and many other kings have enjoyed the earth, whoever may be the master of the earth, this is the fruit thereof. Whoever resumes the land which

(4) Seven female deities well known in the Hindú mythology as Bráhmī, Maheshwarī, &c. the energies of Brahma and other gods.

(5) कंठचित्राख्य is erroneously written कंठचन्द्राख्य.

(6) Here we have त्रुभुवन, instead of त्रिभुवन.

(7) This was the sense that the passage appeared to me to convey, when I originally translated the Inscription. I have been however satisfied, that it means “the village is not to be entered into by the troops and followers of the king.”

either he himself or others have given, becomes a worm, doomed to pass sixty thousand (8) years in filth."

Remarks on the foregoing Inscription.

1.—The Copper plate, of which a copy and an English translation are herewith submitted to the Society, consists of two pieces 7 inches by 5, connected by two rings, one of which bears a seal, which is exactly represented in the fac-simile. It belongs to Narsu Bhalá, a Thakur, originally an inhabitant and a Wataudár of Kavanái, in the valley of Trimbakeshwar, but now living at Nándgam in the Northern Konkan. His family has been in possession of it from time immemorial, and believing that it contained some grant to his ancestors, he was induced to send it to me to be decyphered.

2.—By the help of Mr. Prinsep's table of the Indian Alphabets, I succeeded in reading the whole of the inscription without much difficulty. The character in which it is written will be found to bear a close resemblance to that of the Allahabad Pillar, which, according to the Journal of the Bengal Asiatic Society for March 1838, belongs to the 5th century of the Christian era.

3.—The Plate bears no date, nor makes any mention of the place where the deed was written; but it will be found that the grant was made by Nága Vardhan, the nephew of Pulakeshi, the most mighty of the well known Chalukya race of Kallian (in the Dekhan), on whose history much light has already been thrown by the elaborate researches of Mr. Walter Elliott, of the Madras Civil Service. (9) If according to the Copper deed in the possession of Major Jervis, quoted in Mr. Elliott's paper, Pulakeshi reigned in the year 411 of Shalivahana, the Inscription now submitted cannot be more than a few years later than that period, a result which remarkably verifies what is stated as probable in the preceding paragraph.

4.—On comparing the present Inscription with one that accompanies Mr. Elliott's paper, the fact that first strikes notice is the great similarity of language. Both the documents begin with the same invocation to

(8) The word वर्ष, a year, is spelled वरिष.

(9) See Mr. Elliott's Essay on the subject p. 8. R. A. Society's Journal for May 1837.

Varāha, and designate the Chalukya family as "Manovyasa Gotra," "the children of Hariti," "supported by the seven mothers," and as having subdued all their enemies in an instant by the boar signet obtained from the favour of Bhagvān Narāyan." An indubitable proof of the identity of the king Pulakeshi, mentioned in both grants, is furnished by the allusion to his horse "Kantha Chitra," and the performance of the "Ashwamedha" sacrifice, which from the amount of its expense and the difficulty of its conditions, (of which the exaction of tribute from all the contemporary sovereigns is the principal one,) has not been undertaken by many modern princes. This king, according to Mr. Elliott's genealogical table, is the son of Rāna Raja or Rāja Sinha, while according to the Inscription before us, he is the son of Kīrti Varma. There is, however, no real contradiction between the two accounts; for as the name Rāja Sinha occurs in one place according to Mr. Elliott, and he regards it as doubtful, we may suppose it was a mere title of honour like Rāna Rāja, and that Kārtik Varma is the proper name of this king. It will be seen that the younger brother of Pulakeshi bears the name of Jaya Sinha, the same as that of his grandfather, who may be supposed to be the founder of the Chalukya (10) dynasty in the Dekhan. Thus the Copper plate now brought to light, supplies us with three additional names of the Chalukya kings; viz. Kīrti Varma, Jaya Sinha, and Nāga Vardhan, the father, the younger brother, and the nephew of Pulakeshi.

5.—With regard to the position of the "Gopa Rashtra," on the frontiers of which "Balegrama" is said to have been situated, we have some ground on which to hazard a conjecture. A tradition exists that near the village of Anjan Niri, about five miles from Trimbakeshwar, where extensive ruins of a town and a strong fort are still to be seen, there formerly stood the capital of the *Gaoli* or Cowherd kings. We may therefore suppose that the valley of Nashik was called Goparashtr in the time of the Chalukya kings. This hypothesis is further supported by the site of the original residence of the Thakur's family, where it is reasonable to suppose that the grant must have been found. (11)

6.—On asking Narsú Bhālā whether there was any tradition current

(10) Chāluka is a common family name among the Marathas.

(11) Balegram near Yavlé, may be said to be situated on the frontiers of this Goparashtra, but it would require a better proof to identify it positively with the village mentioned in the grant.

in his family or in his tribe respecting Ballam Thákur, at whose request the village is said to have been granted, I could obtain no information. The mention of his name, however, on so old a document proves, that the Thakurs formed a portion of the original inhabitants of the Dekhan ; and some of them possessed great influence with the reigning sovereigns of the time.

7.—In conclusion I have only to remark that the language in which the deed is written is elegant, but simple and unaffected ; and is evidently the production of a period anterior to that when the taste of the Hindus was vitiated, and they became fond of a bombastic style, abounding in laboured rhymes, far-fetched metaphors, and childish play upon words. The few errors, which occur principally in the spelling, are marked on the margin of the translation.

8.—I have already said that the character of this grant is nearly the same as that of the Allahabad Pillar. None of the initial vowels occur, with the exception of उ (u) ; the medials are more nearly allied to those of the Gujarat Plates of the 4th Century than of the Allahabad Inscription ; the only difference being that ई (i) is written ८ instead of २ ; and ए (e) and ऐ (ai) are joined as in modern Bálbudh, and not as in Bengali to which the corresponding letters in the Gujarat Plates are al.ke. Among the consonants I notice some dissimilarity in the following letters :—

	च	य	व	म	ल	स	श	श्री
Allahabád Inscription.	४	ॐ	□	५	८	१	२	३
The Nandagám.	४	ॐ	३	४	८	८	२	३

I may observe that म and स of the Plate exactly correspond to those in the Gujarat Plates. It is worthy of notice that the letter ण (ṇ) occurs in two distinct forms ४ and ८. The former of these is that of the Allahabad Pillar, and the latter of the Kutila Inscription from Bareilly of the year 992 A. D. The first form however is found only in composition.

Additional remarks on the two preceding Inscriptions, by the Secretary.

The earliest records of the Hindu social system, contained in the *Ramayana*, *Mahabharata*, and *Manu*, confirm the uniform traditions of the people, that Bengal, Orissa, and the whole of the Dekhan, south

of the *Nermada* river, were about the beginning of the Christian era inhabited by outcaste and barbarous tribes, similar to the people called by Pliny *Calingæ*, or *Parthiales*; who inhabited the sea coast, at the summit of the bay of Bengal, from point Godaveri to cape Negrais. The ascertained independent origin of the primitive words of the *Tamul* language, which are not derived from *Sanskrit*, afford strong confirmatory evidence of the comparatively recent amalgamation of these tribes with the present Hindu state, and that they were converted to the Brahmanical system, and from barbarity, by an enlightened and civilized people from the North. The numerous inscriptions, on copper and on stone, which have been arranged and commented on, with great research, by Mr. Walter Elliott, of the Madras Civil Service, supply additional proofs, relative to this subject; and clearly indicate that the *Brahmans* of the North, who introduced the foreign faith and language, were accompanied by a warlike race of *Kshatriyas*; who, from their devotion to the worship of fire, and the ceremonial observances enjoined by the *Vedas*, were denominated *Agnikulas*, and subsequently *Rajputs*. The inscriptions here translated, relative to this stage of the Hindu history of the South, are of considerable interest; and illustrate the origin of the Rajput family of the *Chalukyas*, who ruled over *Kuntala Desha*, in the Dekhan, of which the capital was Kalliani.

In an inscription, engraved on copper, in a very ancient type of the Purvada Hallâ Kanara character, and in the Sanskrit language, dated Shaka 411, (A. D. 490),* the *Chalukyas*, are said to be descended from *Manu*, by the lineage of *Harita*;† who, according to the *Vishnu Purana*, was one of the sons of the *Kshatriya Viswamitra*, who obtained Brahmanhood through devotion; and from whom the *Gotra*, or family of the *Kaushika Brahmins* derive their origin. According to the inscription just mentioned, and in the possession of Major T. B. Jervis of the Bombay Engineers, the earliest member of the *Chalukya family*, cotemporary with the date of the grant, A. D. 490, was *Pulakeshi*, who conquered the South, and subdued the kingdoms of *Chera*, *Chola*, and *Pandya*, or Mysore, Tanjore, and Madura. He is mentioned in No.

* See Journal of the Royal Asiatic Society, London, volume V. p. 343.

† According to the Vishnu Purana the *Harita* are classes of gods, belonging to the twelfth *Manwantara*; but in the preceding Inscriptions the name is feminine *Harati*, who among Bauddhas is a *Yakshane*, or female demon.

2 of the present Inscriptions ; and seems to have been preceded by ancestors in the North ; who came from the Bauddha capital of *Sawathipura*, thought to be the same with *Kosala*, or *Oude*. It is mentioned in the Ceylon Bauddha annals ; and is erroneously called *Watatipura*, in Mr. Elliott's Ye-ur inscription.

The *Vishnu Vardhan*, No 1 of the Inscriptions now translated, was probably the grandson of *Pulakeshi*, by his son *Kirti Varma*; and if so, his date, ascertained from other inscriptions, would place the present Copper plate grant, about the beginning of the sixth century A. D.

The Chalukyas generally profess themselves of lunar origin, and may do so probably from deriving their title from one of the four classes of Bauddha followers, called *Chailaka* : but they must have subsequently adopted the ceremonial faith of the *Vedas*, and *Agnikulas* or worshippers of fire : as *Kirti Varma Raja* is said, by inscription No. 2, to have performed the *Ashwamedha* sacrifice. Their signet of the *Varaha*, or Boar being the third incarnation of *Vishnu*, for the elevation of the earth, submerged by the waters, and supposed by Professor H. Wilson, to be a type of the ritual of the *Vedas*, may have been adopted by the *Chalukyas*, on their conversion from Bauddha principles to the orthodox faith of the Brahmans. In both inscriptions *Kartikeya*, or the *Hindu Mars*, is the special object of reverence by the *Chalukyas*, indicating their warlike character, and probably Indo-Scythic origin.

No. 1. Transcript in Devanagri.

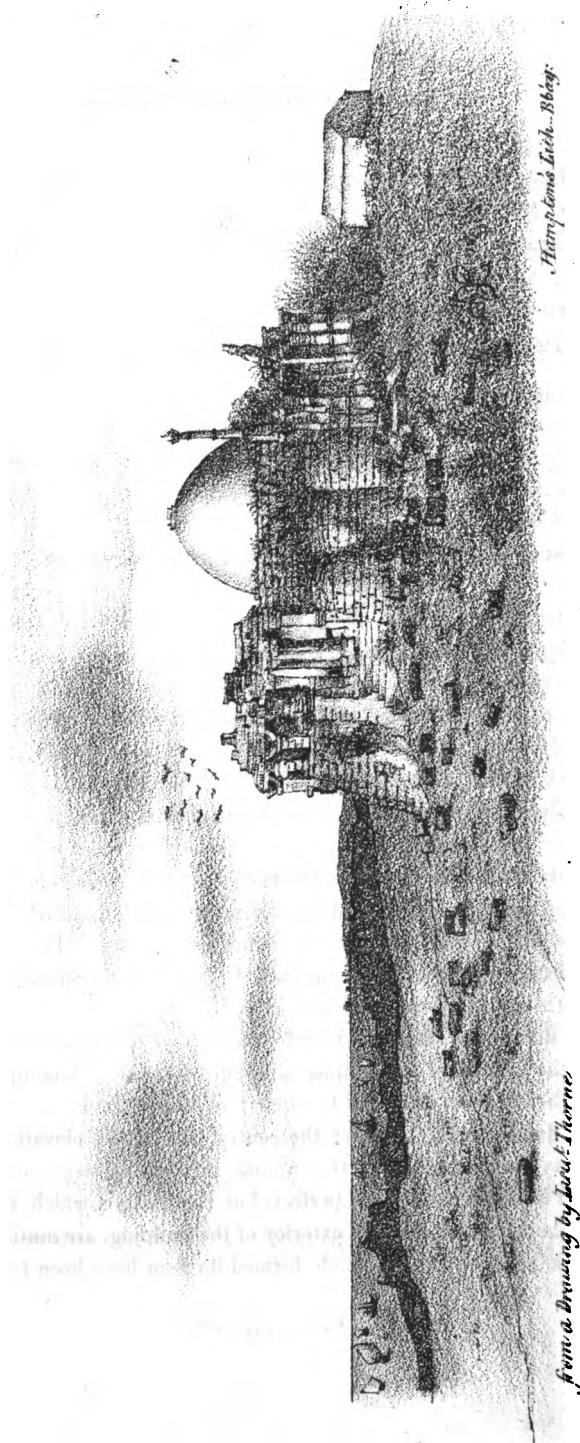
स्वस्तिस्वामिमहासेनपादानुध्यातानामानव्यसगोत्राणांहारीतीपुत्राणां
मातृगणप्रसादपरिरक्षितभुजार्गलानांक्षीरोदधिशयनसुप्तोत्थितप्रसादप-
रिलब्धवराहलान्छनानांचलिकयानांवंशेशंभूतः शक्तित्रयसंपन्नः ॥ जयति
रणाविक्रमनृपोनिरस्तरिपुनृपतिशौर्यमदरागः ॥ कलियुगखलनिर्मथनेसखा
श्रयभाविताश्चरितैः॥ अभवत्तस्यसकीर्तिकीर्तिवर्मास्थिरस्थितिः॥ सुतःसुच-
रिताधारः कृतकृत्यः पतिः क्षितेः ॥ तस्यपुत्रोमहातेजाकंदर्पइवमूर्तिमान्॥
धर्मज्ञश्चकृतज्ञश्चपार्थतुल्यपराक्रमः॥अभिमानमिवोत्थुर्नराणांशस्त्रजीविनां

विधानाविहितोलोकेसचबीभत्सुरेवच ॥ तेनअनेकसामंतप्रणतमुकुटचूडा
मणिनिघृष्टचरणारविदेनसकलमहीमंडलतिलकभूतेनश्रीपृथिवीवल्लभवि-
ष्णुवर्धनयुवराजविषमसिद्धिनाकुरूमरथ्यावस्थितेनमातापित्रोरात्मनश्चपु-
ण्यावासयेकार्तिकपौर्णमास्यांबेदेवेदांगपारगानां ॥ घृतकौशिकसगोत्रा-
णांविश्वामित्रव (धृत) लक्ष्मणस्वामिपुत्राणांअचलस्वामिवेदस्वामिदेवस्वामि
आदित्यस्वामिनागकुमारसहितानांपुत्रपौत्रादीनामव्यात्संगेनाचंद्रार्कक्षि-
तिस्थितिसमकालंबलिचरुवैश्वदेवामिहोत्रहवनपंचमहायज्ञार्पणार्थम्श्री -
निलयभोगोअणोपल्वामाहारस्योत्तरतः भीमरथीदक्षिणतटेअलंदतीर्थना
मग्रामोविधिवदुदकपूर्वदत्तः ॥ विदितमस्तुसर्वेषांपर्यंतविषयपतिसामंतग्रा
मभोगीकमहत्तरादीनांआचाटभटकुसीदादीनामप्रवेश्यः सर्वादानविभु-
(ज्ञु) ध्येयवगम्यचलपवनप्रेरितोदधिजलतरंगचंचलजीवलोकमनुप्रेक्ष्य-
(प्य) तस्मात्लोपोनकार्यः ॥ योवाज्ञानतिमिरपटलावृतमतिरा (दा)
छिद्यदा (रा) छिद्यमानयोवानुमोदेत्सपंचभिर्महापातकैः संयुक्तोभविष्य
तीत्युक्तंचभगवतावेदव्यासेनव्यासेन ॥ षष्टिवर्षसहस्राणिस्वर्गेतिष्ठतिभूमि-
दः ॥ आच्छेत्ताचानुमंताचत्तान्येवनरकेवसेत् ॥ बहुभिर्वसुधाभुक्काराज-
भिस्सगरादिभिः ॥ यस्ययस्ययदाभूमिस्तस्यतस्यतदाफलंतादृक्पुण्यंनदा-
तरंजायतेनोधराभुजां ॥ भुवमन्यप्रतिष्ठात्य (प्य) यादृग्भवतिरक्षतांपूर्वद
त्तांदिजातिभ्योयन्नाद्रक्षयुधिष्ठिर॥ महींमहिमतांश्रेष्ठादानात्श्रेयोनुपालनं॥
ब्रह्मस्वेमामतिकुर्यात्पाणैःकंठगतैरपि ॥ अग्निदग्धानिरोहंतिब्रह्मदग्धनरो-
हति ॥ स्वदत्तांपरदत्तांवायोहरेतवसुंधरां ॥ षष्टिवर्षसहस्राणिकुंभीपाकेषुप
च्यते ॥ विंध्याटवीष्वतोयासुशुष्ककोटरवासिनः ॥ कृष्णाहयोभिजायंते
भूमिदानापहारिणः श्रीमहाराजस्यप्रवर्धमानकसंवत्सरेअष्टमेशासनंलि-
खितमिति ॥

No. 2. Transcript in Devanagari.

स्वस्ति जयत्वाविष्कृतविष्णोर्वाराहंक्षोभितार्णवं । दक्षिणोन्नतदंष्ट्राग्रवि
श्रान्तभुवनंवपुः

श्रीमतांसकलभुवनसंस्तूयमानमानव्यसगोत्राणांहारीतीपुत्राणांसप्तलोक
मातृभिःसप्तमातृभिरभिवर्धितानांकार्तिकेयपरिरक्षणावाप्तकल्याणपरंपरा
णांभगवन्नारायणप्रसादसमासादितवराहलाञ्छने क्षणक्षणवशीकृताशेष
महीभृतांचालुक्यानांकुलमलंकरिष्णोरश्वमेधावभृथस्नानपवित्रीकृतगात्र
स्यसत्याश्रयश्रीकीर्त्तिवर्मराजस्यात्मजोनेकनरपतिशतमकुटतटकोटिषृष्ट
चरणारविंदोमेरुमलयमन्दरसमानधैर्योहरहरभिवर्धमानवरकरिरयतुरगप
दातिबलोमनोजवैकण्ठचित्रारव्यःप्रवरतुरंगमेनोपार्जितस्वराज्यविजितचे
रचोलपाण्ड्यक्रमागतराज्यत्रयःश्रीमदुत्तरापथाधिपतिश्रीहर्षपराजयोपल
ब्धापरनामधेयः श्रीनागवर्धनपादानुध्यातपरममाहेश्वरःश्रीपुलकेशिवल्लभः
तस्यानुभोभ्राताविजितारिसकलपक्षोधराश्रयःश्रीजयसिद्धधर्मराजस्तस्य
सूनुःतृभुवनाश्रयश्रीनागवर्धनराजः सर्वानेवागामिर्वर्त्तमानभविष्यांश्चनरप
तीन्समनुदर्शयत्यस्तुवः संविदितंयथास्माभिर्गोपराष्ट्रविषयांतपातिबलेग्राम
सेङ्गसपरिकरसचाटभटप्रवेशसुचंद्रार्काणवक्षतिस्थिति समकालीन
मातापित्रोरुद्दिश्यात्मनश्चविपुलपुण्ययशोभिवृध्यर्थंबलाम्मठकरविज्ञासिक
याकापालेश्वरस्यगुगुलपूजानिमित्ततन्निवासिमहाव्रतिभ्य उपभोगायसलि
लपूर्वकंप्रतिपादितस्तदस्मद्वंश्यैरन्यैर्वागामिनृपतिभिः शरदभ्रचंचलंजीवि
तमाकल्य्यायमस्मदायोनुमंतव्यः प्रतिपालयितव्यश्चेत्युक्तंभगवताव्यासेन
बहुभिवसुधाभुक्ताराजभिस्सगरादिभिः यस्ययस्ययदाभूमिस्तस्यतस्यतदा
फलमिति । स्वदत्तांपरदत्तांवायोहरेतवसुंधरांषष्टिवर्षसहस्राणिविष्टायांजाय
तेकृमिः।



TEMPLE OF SOMNATH.

from a Drawing by Lord Thorne

ART. II.—*An Account of the temple of Somnath, translated from the Persian of the Appendix to the Mirat Ahmedi, By JAMES BIRD, Esq.: to which is added a translation, from Sanskrit into English, of an Inscription at Pattan Somnath, relative to the restoration of the temple in Samvat 1272, A. D. 1215. By W. H. WATHEN, Esq.*

Recent events, and the proposed restoration to the ancient temple of *Somnath* of the gates brought from Ghazna, said to have been originally part of it, have given this place a modern notoriety little inferior to its former celebrity. If indeed these gates formed part of the ancient temple, it may be doubted whether they ever belonged to the now existing ruins of the building at *Pattan Somnath*; where the shrine, according to the excellent account of it contained in the Appendix to the *Mirat Ahmedi*, was several times destroyed and restored. Agreeably to the Sanskrit inscription, translated in the sequel, the hall of this temple was rebuilt sometime after its destruction by Mahmúd of Ghazna, and a fresh image, or *lingum*, installed in the shrine so late as A. D. 1215, or almost two hundred years after the original one had been destroyed by that celebrated conqueror. The only modern account of this building, which we have on record, is that given by the late Sir Alexander Burnes, which was published in the Journal of the Royal Asiatic Society.* He thus describes the ruins:—"The great temple of Somnath stands on a rising ground on the north-west side of Pattan, inside the walls, and is only separated by them from the sea. It may be seen from a distance of twenty five miles. It is a massy stone building, evidently of some antiquity. Unlike Hindú temples generally, it consists of three domes, the first of which forms the roof of the entrance, the second is the interior of the temple, the third was the "sanctum sanctorum," wherein were deposited the riches of Hindú devotion. The two external domes are diminutive: the central one has an elevation of more than thirty feet, tapering to the summit in fourteen steps, and is about forty feet in diameter. It is perfect, but the images which have once adorned both the interior and exterior of the building, are mutilated, and the black polished stones which formed its floor have been removed by

* Vol. v. page 105.

the citizens for less pious purposes. Every thing in the vicinity of Pattan corroborates its age, and confirms the relations of the people."

The *Mirat Ahmedî's* account of this celebrated temple, being interesting, is here appended as translated from the Persian.

Somnath, the greatest and most celebrated of temples to be met with, is visited by the worshippers of idols from the four quarters of Hindustan. This also is the name of the city situated on the shore of the sea of Oman, and in the district of *Sorath*, where there is a strong fortress, now named *Pattan Deo*, and otherwise called *Prabhas Pattan*, because in that country the *Khetri* tribe is known by the name of *Prabhas*.* At this time the place of the idol is in a great measure destroyed, but it is celebrated in every country, and among the Hindûs is considered the oldest of the temples: wherefore travellers and strangers have noticed it in their books both in prose and verse. The author of the *Haft Iklim* relates that there were many golden images in this temple, and that they called the greatest of them *Manat* †: but the general opinion regarding this matter, is that *Manat* was not one of the idols worshipped by the Brahmans, although it be said that this deity, before the time of *Krishna* now four thousand years, was worshipped by the Brahmans. *Mahmud Ghazi* of Ghazna, however, led by inevitable destiny, having in the year of the Hejirah 416, A. D. 1020, come into Gujarat from Ghazna, in order to throw down and destroy the idols of this temple, laid siege to it. So obstinate was the contest on both sides, during the period of the siege, that for one day no advantage was gained by the Mahomedans, but having prepared next day the usual war machines, they bravely exerted themselves in battle, while the people of Somnath crowded to the temple; from whence, after having embraced the idol, and sought its assistance, they with loud wailings rushed out and fought until more than fifty thousand persons were slain, and the fortress was yielded up. The Sultan entering the temple

* *Prabhasa*, in Sanskrit, means light or radiance, and was applied as an appellation of the *Saiva linga*, which under the name of Somnath, represented *Siva* or *Mahadeva* at Pattan Somnath; which is called, in the *Vishnu Purana*, *Prabhasa*. The Mahatmyam, or legend of the temple, said to be a part of the *Skanda Purana*, is entitled *Prabhasa Kshetra Mahatmyam*, and relates the origin of the temple—that *Soma*, or the moon, who had lost his lustre by the imprecation of *Daksha*, having propitiated *Siva*, and erected to the honor of this deity a splendid *lingum*, regained the favor of *Siva*, who conferred on the pagoda the name of *Somnatha*. The account, which the author of the *Mirat Ahmedî* here gives for the origin of the name, is not therefore correct.

† The name of one of the three idols, which, during the times of idolatry in Arabia, were worshipped in the temple of Mekka.

beheld a place, of great breadth and length, containing fifty pillars adorned with all kinds of jewels ; within which he found the idol *Manat*, in height about five cubits, and partly buried in the earth. The Sultan on beholding this broke it to pieces with the baton he had in his hand, and afterwards carrying the pieces to Ghazna strewed them in front of the great mosque where they remain to this day. Jewels of great value fell from the belly of the idol ; but this story in detail is related in the fourth volume of the *Rauzat-as-Safa*, (a work of seven volumes,) and in other entertaining books. In fine, the people of India are only in part acquainted with the religious rites of Somnath ; which they washed daily with fresh water brought from the Ganges, and conveyed from station to station, by persons placed for the purpose, and from a distance exceeding two hundred *farsakh*. Moreover, more than a thousand populous villages were bequeathed for the use of this temple ; more than twenty thousand Brahmans were employed in the ceremonies of its worship, and who had so arranged for commencing such, that they began their devotions whenever a golden chain, which was suspended in the temple, was set in motion. Three hundred persons were ready to shave the heads of the devotees who frequented the temple to worship the idols, and five hundred dancing women were also attendant on them. Many of the princes of India devoted their daughters to the service of this temple, and of Somnath ; and whatever wealth was obtained by the treasury of Sultan Mahmud, not less than a million of gold coins were carried away.

It must be generally known that whatever is evident in the old books of the Brahmans is collected at the temple of the idols, and they therefore say that the original object of worship in the temple of Somnath was a *linga*, which represents the god *Mahadeva*. There were formerly twelve *lingas* named *jot lingas*, the first word of which signifies splendour ; and is one of the many names given to *Mahadeva*, such as Bhimnath, Gopinath, Somnath, &c. : but in their estimation the original title of *jot linga* is the greatest of all, regarding which they tell many wonderful stories, and that there are eleven other *lingas* in the neighbouring countries. On a certain fixed day crowds of Hindus from every distant quarter assemble here to worship, because in their belief Somnath is a holy place and contains the *linga* of radiance, besides many golden and gilded images, which have been taken away : and relative to what they relate regarding the object of worship in the original temple being buried five cubits in the earth, it appears to have been a *linga*, which they set up in this manner ; and every *linga*, except the *jot linga*, one of the twelve, which is made of cut stone, is named and worshipped under one of the appellations of *Mahadeva*.

In the year of the Hejirah 666, A. D. 1296, when *Alagh Khan*, agreeable to the orders of *Allah-ad-Khilji*, king of Delhi, conquered the province of Gujarat, he carried an army against Somnath, and destroyed the *linga*

which had been set up after the time of Mahmud of Ghazna ; and which being restored afresh was popularly worshipped. Wherefore he destroyed the stone and forwarded many articles of wealth to Delhi.

In the year of the Hejirah 790, A. D. 1387, when Zafar-Khan had erected the standard of independence in Gujarat, the Brahmans having cut and set up another *linga*, he went and destroyed it ; and again in the time of Khuld Makan it was a third time destroyed. At the present day the remains of the temple are a few columns, outside the citadel of Pattan Deo, on the banks of the river Sirsuti.

A letter from Purani Ramdat Krishna Datt, at Prabhas Pattan, (Somnath) to Lieutenant Colonel Tod, dated the 15th of the first Chaitra Shud, Samvat, 1879. (26th March 1823).

Sir,—Further, you were pleased to commission me to make a copy of the Slokes, (verses) on the pillar near the Kazi's house, and to send it to you. I have therefore made a copy, which cost me much trouble ; because, in many parts the letters are not legible, as known to you. I succeeded, however, in copying this inscription after a labour of thirty-two days ; during which time I and my son jointly, with great difficulty decyphered the letters and arranged them. I long ago sent you this copy, through the medium of *Dada Raghupant* and *Sheth Hansraj* ; along with a letter to you, one to *Baba Maratha*, and one paper relating to this copy (of the inscription) ; but I know not whether these papers ever reached, as no answer has been received. Having made another copy I now transmit it enclosed ; and on its arrival you will oblige me by writing an acknowledgment of its receipt : for a letter from you, Sir, would gratify me greatly ; and my trouble will be rewarded by the pleasure of receiving such. This is my wish : therefore being kind, favor me with a letter.

Translation of an Inscription at Pattan Somnath in Khatyavar. By
W. H. WATHEN, Esq.

I adore that eternal Being who is the source of the twenty-five principles.*

* The allusion to the twenty-five principles shews the connexion of this Inscription with the doctrines of the Sanchya philosophy, both schools of which, *atheistical* and *theistical*, acknowledge three sources of evidence ; namely perception, inference and affirmation : from which we derive acquaintance with twenty-five principles : and of these *Nature*, *Mulaprakriti*, the root or plastic origin of all, is the chief.—*Ed.*

The pulses of the five principles, Æther, Air, Fire, Water and Earth, are the *Sun* and *Moon*. Whoever contemplating these obtains abstraction, and thus discovers that which is perfection, such a one becomes concentrated in the universal spirit.

Praise be to Siva ! and the destroyers of the *daityas* (demons), *Lakshmi*, *Narayana*, these are renowned throughout the universe, and are deserving of worship !

This temple of *Sri Somnatha* is beautiful as a *Ratnakanti*, (sparkling gem,) and, in magnificence, brilliant as the splendour of the *Sun* and *Moon*.

This Deity (*Somnatha*), consisting of an assemblage of virtues, containing in himself every description of treasure, destroys and removes all kinds of pain and distress. Almighty Being ! thou art victory ! thou reignest on the shores of the ocean.

The Brahman *Sompara* is perfect, and well acquainted with the rites of sacrifice, the rules of meditation, worship, and the ceremonies of making offerings.

There was a prince, of the *Sandilya** race and *Raja Vira's* family, who caused a great sacrifice to be performed.

This Raja, sovereign of *Anahillapura Pattana*, this *Mula Raja*,† was a protector to the world.

He caused the *Ganga-ghat* to be built on the river ; many were the pious acts done by him.

Mula Raja, caused to be formed reservoirs of water, wells, tanks, temples, religious places, schools and dharmasalas, caravanserais—hence these became as ensigns displaying his good name. Towns, villages and hamlets, were established by him and governed happily.

He became, as a *Chudamani* gem, (unexampled,) in this universe; how can I describe his mighty feats ! He conquered the whole world by his own power, and then protected his conquest.

* *Sandilya* was a Muni or sage, from whom one of the three principal families of the *Kanauj* Brahmans were descended and named.—*Ed.*

† *Anahilla* was the original name for *Nehrvala Pattan*, the ancient capital of Gujarat, where reigned in succession various tribes of *Rajputs*; among which were the *Chalukyas*, to which race *Mul Raja*, according to the inscription from *Abu*, belonged. He was the first of his family, and preceded the invasion of *Mahmud* of *Ghazna*.—*Ed.*

The son of *Mula Raja*, named *Sri Madhu*, then contemplated the subjection of this earth.

He caused his kingdom to become populous and well cultivated; he enjoyed his government without fear (of his enemies.)

The son of this prince was *Durlabha Raja*, who, as *Siva* reduced Kamadeva to ashes, did so destroy the power of inimical kings.

His younger brother was *Vikrama Raja*, in strength resembling a lion.

Having assembled a numerous army, he took possession of the throne; and having subjected Fairy Devanyini, his fame became spread throughout the three worlds.

This prince, of high descent, governing with all the virtues required of a good king, rendered his people most happy.

Having made his own the goddess of victory, she became his standard bearer.

Of this Paramar race,* of Sri Vikrama's family, *Sri Kumarapala Raja* arose, a mighty hero.

He was a most renowned warrior, he was a king terrific and formidable, as the waves of the ocean.

The descent of Sri Kumarapala is now to be described.

The Chalukya race is most famous; and in it have arisen Rajas, generation after generation, forming a lofty tree of virtue; Rajas who caused, like Rudra, the forms of religion and the ways of justice to be observed; inasmuch as they showered favors on their people, as clouds by rain fertilize the earth.

Of this family arose a king of high renown, a great hero, named *Galla Raja*, who caused to be built the Hall of the Temple of Someshwara, and a famous sacrifice called Meghadwana was performed by his orders.

His son was Lalakhia, whose son was Bhabhakhia; he was a great warrior, and Bhima Raja was his friend. This prince Lala, when seated on his throne, resembled the full moon in splendour.

Whose son *Jaya Sinha*, having reigned with fame on this earth, as-

* A race of Rajputs, so named from destroying their enemies, and well known to History as the *Pauvars*. They were a branch of the *Chalukyas*, as appears from this Inscription; but the Prince Kumarapala, whose era is A. D. 1174, here said to belong to them, is styled a *Chalukya* in the Sanskrit Inscription from *Abu*, No. XVIII.—*Ed.*

cended to the realms of bliss ; his son Raja Sinha caused Samvat *Kumarapala* to be placed on the throne, but he himself conducted the affairs of the state.

The son of *Kumarapala* was *Sri Rohina*, a great sovereign, endued with all virtues ; splendid as the sun, he became as *Sridhara* bright as the moon.

The protector of the world, the mighty, the renowned, Raja *Sri Bhima Bhupati*, paid much attention and respect to merchants.

Description of Sridhara Raja.

In the generations of the Chalukya family, appeared this prince, as a gem brilliant as the moon, possessor of every valuable quality, famous as Sri Rama.

Beautiful as Kamadeva, such was *Sridhara Raja*; in him was centred every virtue ; by him was adoration shewn to the *deities*, respect to the *priests*, a prince perfect in truth.

As Iswara, superior to all the *deities* of *Vaikuntha*, so was he to the lords of this earth, exalted as Indra.

As the cow *Kamadhenu*, granting the desires of all, thus liberal was he, exceedingly compassionate, and possessed of great humility.

Again superior to other Rajas, as Rajahansa to other birds, his fame and splendour pervade this globe as the rays of the moon.

In Praise of Sri Somnatha.

Who can wash away sins as the water of a torrent, who can render his worshippers prosperous and successful, such a deity is *Sri Somnatha*.

This Temple is unique in the three worlds, a fit spot for devotion : whoever has an auspicious birth meditates on this god ; the virtues of this deity are universally known, he is pure and undefiled.

Such is that Siva ! from hearing whose praise the mind becomes pure. He will bestow on his worshippers all good things, and will grant them entrance into Paradise.

Resembling a gem, his place is central ; he of his goodness will pardon the sins of those born in the *Kali age*.

His majesty and might are, as his virtues, spread throughout the world. May he always be predominant ! Serpents are his ornaments.

He is lord of the universe ; he is the sole asylum of mercy in the three worlds.

Description of Pattana.

This is a city called *Devaka Pattana*, possessing, by favor of Siva, lofty mansions, magnificent temples, numerous gardens, and delightful groves.

Description of Sridhara.

As the sea by its waves can remove mountains of sin, so *Sridhara* by his army governs *Somnatha Puri*.

There is in this city a beautiful temple of *Sri Krishna*; there is also a minister of great prudence, who expels evil doers and the vicious.

This *Sridhara*, having had several invocations recited, and sacrifices performed, has erected temples for the sake of religion, and has encircled them with gardens, groves and bowers. These temples resemble the pinnacles of the golden *Merú* in splendour and brilliancy. Of these, that of *Somnatha* is most wonderful; there are cupolas of various forms, with a variety of flags; so that the place resembles the holy mountain.

Description of the Priest of the Temple.

The Priest is the most excellent of mankind, the abode of virtue, the compassionate *Maheshwara*.

A constant worshipper of Siva, one who possesses all the most estimable and requisite qualities of a priest, an unwearied performer of sacred rites and sacrifices.

His mind is most pure, always engaged in the worship of *Hari*; he also pays adoration to *Vishnu*.

Whose devotion is such as to secure to him the possession of whatever he may desire; which will ensure him the happiness of the immortals, as well as the blessings of this life, and the comforts desired by mankind; which will obtain for him whatever object he may have fixed his inclination on; which is auspicious, which grants him all kinds of bliss.

By the virtues of this *Sri Somnatha* good fortune is procured for men. He is lord of the moon.

Sridhara Maharaja shines forth pre-eminent in his race; by this prince is great respect shewn to the Brahmans of this deity.

The king pays devoted regard to this temple of *Sri Somnatha*, he bows to the renown of *Siva*: this temple is the abode of saints. It is inhabited by *Lakshmi*, by worshipping this *Siva's* feet, all sin is removed.

By beholding this temple even the stain of evil deeds becomes effaced ; pain and disease also disappear.

In *Samvat* of Sri Vikramaditya Raja, 1272, A. D 1215, Vama-chhavadu 4th, being Friday, this Image was installed.

ART. III. — *The late Mr. James Prinsep's Correspondence, with Dr. Alexander Burn, on the subject of Indian Antiquities.*

The learned world at large, and the Indian public in particular, interested in penetrating the gloom that overshadows the history of this country, must accept with gratitude every relic of Mr. Prinsep's labours in Indian antiquities, which his ingenuity and genius served to adorn, and render more interesting to all. We have much cause for regret that he was not spared to complete them ; as his acquirements and industry promised to illumine what less gifted investigators must leave untouched.

SECRETARY OF THE SOCIETY.

To the Secretary of the Asiatic Society of Bombay.

DEAR SIR,—I beg to present, to the museum of the Society, eight letters of the late James Prinsep to my address.

The interest which attaches to the memory of one so deservedly loved, and esteemed, induces me to hope that they will be an acceptable present : — for there are many parts of them, from which such persons as are desirous of prosecuting inquiry, into the languages and customs of the ancient inhabitants of Western India, may obtain valuable hints and suggestions.

I believe that the figures on the copper plates and coins of Gujarat were what led him to the discovery of the ancient numerals, and in which much still remains to be done, for up to the time of his death, or since, I believe nothing farther has been done than is shown by the last letter of this series.

I remain, dear Sir, yours faithfully,

Bombay, 2d June, 1842.

A. BURN.

TO DR. ALEXANDER BURN, Kaira.

MY DEAR SIR,—I have submitted the copies of the two Copper plate grants, you have been so very kind as to send me, to the inspection of the Asiatic Society, at the meeting of the 1st instant, and I was directed to express the Society's best thanks for your zealous attention to its interests. I then proceeded to transcribe one of the plates, but although much of the text is readily legible, and all the essential part, regarding the succession of Rajas, might be put together and unravelled at once, it is plain that a great many passages must remain obscure, and a great deal of time be taken up in guessing contents, which, were the plates themselves here, or their exact fac-simile, would be rendered easy and distinct. I thankfully therefore accept your kind offer of sending round the plates, if you can find a convenient opportunity and a speedy one; but should the engraving be deep, and the letters not filled with dirt, you will find it very easy to take off an exact fac-simile, fully as good as the plate itself for the purpose of decyphering. Thus:—prepare some printing ink not too liquid, daub it on with a printer's dauber all over the plate, moisten some paper, (China will do,) place it carefully on the plate and press it on with the palm of the hand; it will come off with the letters in white on a black ground. I have adopted this plan even for lithographing them; passing immediately the impression, thus taken, through the rollers with a sheet of plain paper. I get the text unreversed; and this is passed on to the lithographic stone in the usual way.

I am much provoked that the Journals have not reached you regularly. Our opportunities by sea for Bombay are irregular, but all have been dispatched long since to the care of Mr. Noton; and, now that the dak rules admit of their going direct, I hope he has sent them on. Meantime I cannot refrain from sending a duplicate of the number containing the notice of Saurashtra coins, as I wish particularly just now to combine all efforts for the further elucidation of the old *Sak* coins, and their successors, of which Mr. Wathen has sent me one or two very good specimens. Any you can add, that are at all legible, I shall be much obliged for. The group I am now on have reverse  like a man; also , and then come the peacock reverse, the obverse containing always a head—but I must break off for the dak is going.

Yours very sincerely and obliged,

3d November, 1837.

J. PRINSEP.

MY DEAR SIR,— Your last two pages of Copper plate grants are so beautifully done, that the pundit could not find half a dozen errors in my transcript, and he read it off immediately. He says it is in a good style, and has a double meaning in parts, (a fanciful way of shewing wit). I shall give a full account in January, and by that time I hope we shall make out all of the former larger plate, which is in a rather older form of character, and either less accurately copied, or perhaps more worn on the plate, so that you could not make it out so readily: with care however it can all be restored. The termination is quite clear, and it is this that makes me now write thus hastily to you.

I have, I think, discovered a clue to the numerals of this ancient character; and I wish to get as many examples of them together, and as accurately copied as possible. In words your inscription gives *Samvat* 380, in figures ३८० . The first (3) corresponds with the Cashmirian 3 nearly, and also with the old Nagari ३ or ३ . It is found on Mr. Wathen's plate thus ३०७ , and reads I think 307—though he reads it, *Samvat* 9 (of the Balabhi era). It is 307 of the *Vikram Sam.* of course, and this is confirmatory of the Balabhi theory; also of the age of the alphabet, &c. &c. The same 3 is found on the Bhilsa monument; also a little modified on the Gúmsur grant. It is in your other plate also ३४५ (probably 345), but I should much wish for a more accurate fac-simile of this and every other date you can give me, along with the extract in words of the date, year, month, &c. wherein they occur. I can then carefully analyze them by the time the translation is ready.

I am overwhelmed with inscriptionary tribute from all sides! To-day a most curious and important inscription from Cuttack has come in, with a formal Bhuddist invocation $\text{ॐ नमो अराहन्तानाम्}$ *namo arahantanam*. Glory to the saints, &c.

I can make nothing of your large medal; the others are all old acquaintances. The large bricks are found in Assam!! The glass seal is Mahomedan of course. I have now to scrutinize General Ventura's collection and never was so hard pressed.

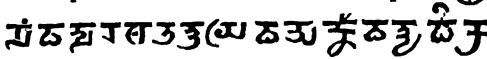
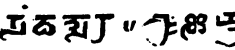
Let this plead my excuse for so hurried a reply to your welcome letter.

Yours sincerely,

Calcutta, December, 2d, 1837.

J. PRINSEP.

MY DEAR SIR,—You have partly anticipated my request in sending me your fac-simile of the 10th November. It contains another date written, and in numerals, and enables me to fix the value of the number 9, the very symbol which so puzzled us in the Bhilsa inscription ⊕

The written date is  *Samwatsara sat traya Chaturnnavatty adhiko*, three hundred and ninety-four; then in figures  *vaisakh*, &c. I confess I should rather have taken  for a four, but unless there is some uncertainty in the copy, it must remain as now read. We have just before another figure somewhat similar, and very like the number in Mr. Ommanney's Baitul grant  The pundits find some difficulty in reading

my transcript of this and of your first plates. Can you not send me impressions, taken like the enclosed? Ink the whole over with printer's ink laid on with a dauber, and then lay on a sheet of China or other paper moistened, as for printing. Press it on with a dauber of cotton, or with the palm of the hand, and you will find the whole writing left white and quite legible, provided always the letters are not choked up with dirt or verdigris, in which case they must be cleaned first, and there is some danger in doing this, of mistaking the direction of the letters. The eye then comes into use. But in general the eye is so fallacious as not to be trusted. For proof, see the revision of the Allahabad inscriptions from the fac-simile, compared with Dr. Mill's reading.

With repeated thanks to you for your most welcome communications,

Believe me, yours sincerely,

19th December, 1837.

J. PRINSEP.

MY DEAR SIR,—The communication between our part and Bombay is so irregular, that I can never manage to be regular with my subscribers in that quarter of the globe. Nevertheless I fancy all the numbers have been sent, and I trust ere this your missing ones have come to hand—that is the later ones; the former ones and useful tables you shall have duplicates of. It will be better to defer sending them until the new dak regulation takes effect, which will enable them to travel at very moderate rates—3 or 4 Nos. in a *bangy* parcel.

I will use your permission to draw for the amount on Remington & Co. I have about Rs. 800 or 900 due in the Bombay Presidency, which

cuts a sad hole in the balance sheet of the publication, but I know it will all come in some time or other. You ask me if copies of the inscription grants will be *acceptable* to me. Acceptable is too ordinary a word for the value I put on such articles ! I have at this moment the more intense interest in them, because I have been fortunate enough to unravel the mysteries of the *lath* character—no fewer than 20 sheet samples (fac-similes) just received from *Sunchee* near Bhilsa, which have proved the half of the whole. This has followed on the heels of another discovery equally fortunate, viz. the reading of all the Khatyawar or *Saurashtra* coins with the long character. As the latter will most interest you, I enclose a proof of the legends, accounts of which you will have in the ensuing No. It gives me 11 kings of the *Sah* dynasty, all *elective* monarchs. The first line (as a sample) runs thus—

राज्ञःकृत्रिमस रुद्रसाहस स्वामि जनदमपुत्रस.

There are, as you see, no vowel marks. The obverses have *Greek* and perhaps *Pehlavi*, with the face of paramount Parthian sovereigns.

My last No. was full of coins that will also interest you ; but you are in a field beyond my reach, and can pick up coins that will serve excellently to illustrate what we have. The **सं४ मृ४ टे य** is most likely *Samanta Deva*? What surprises me, is its exact resemblance to the coppers of our *Chandra Gupta* series. Impressions (or duplicates) of our coins of this kind, and the little **४ रु४ टे** kind with names, would be valuable to me. *Item* all of the peacock device with good legends, which I hope to make out immediately. The middle series or **प्र४ ट** *Paramaras*, I am now going to look at again, but we have no very perfect ones. The more inscriptions of the *Siladityas*, &c. we publish, the better. There must be items of novelty and collateral interest in them. I have all the *Girnar* fac-similes, from Mr. Wathen, to digest—a labour of months, but I hope it will prove productive.

Believe me, ever yours sincerely,

23d May, 1837.

J. PRINSEP.

MY DEAR SIR,—I have delayed thanking you for your last most welcome reply, enclosing fac-similes of numerals and of one of the coppers, (which latter is very satisfactory when placed along side of your transcript, for it shews that you are scrupulously accurate,—indeed so true

places, beginning only with Antiochus' name, which is perfect. No time for more.

Your's very sincerely,

3d March, 1838.

J. PRINSEP.

MY DEAR SIR,—Your zeal and enthusiasm in the matter of antiquities far exceeds all I could have expected. To undertake a journey of 180 miles at this season, was so much beyond my hopes, that I wrote to Lieut. Postans of Bhuj, thinking to have two strings to my bow; and when I found on completing my *Girnar* tablets that they spoke of Ptolemy as well as Antiochus, and that the neighbouring Junagarh Sanskrit inscription spoke of Asoka's Greek Raja building a bridge over the *Palashini Nadi*, I thought it imperative even to do more than solicit private aid; so I wrote to Lord Auckland to have Lieut. Postans, (or any one else equally zealous and disposable,) deputed at the public charge to take minute copies of all, both inscriptions and buildings, and to survey the whole of this rich field of antiquities. No answer yet, but Lieut. Postans says he cannot yet leave, but has written to his friend, (perhaps Capt. Lang,) to do the needful.

Had I known Capt. Lang's name at first, I should have addressed him as the author of the cloth fac-similes I now possess; they are beautiful, but not perfect. To point out where a revision is desirable would require to re-copy the whole document. This will be saved by my referring you at once to the ensuing Journal, which will contain the whole *Girnar* inscription set up in type, and the notes appended will sufficiently point out the doubtful places; but an absolute fac-simile of the whole is far the easiest to take, and the most satisfactory. I give in the same Journal a comparative table of alphabets, which may be of some aid in your researches, and will add duplicate plates as well as a copy of the Junagarh Asoka inscription, in anticipation of my April number. The printer is perplexed with the nature of my materials, and cannot keep pace with my wishes at all.

The third inscription also at Junagarh, and I believe on the same stone, is almost wholly illegible, and yet it *ought* to be the plainest, being more modern than the others by some centuries; it is of the time of *Skandagupta*, whose coins have the  symbol, and is in good preservation. It should be carefully copied by hand, as well as printed in fac-simile, and

reference to the alphabet of the 5th century after Christ in my table, will assist in making it out, or to the alphabet so called no. 2 of Allahabad. I write off in a great hurry, as you say you wait my reply. Should you be able to go I shall be exceedingly pleased, because your copper plate fac-similes are a promise of perfect fidelity of copy; not a letter or vowel mark has to be altered in reading these—your present one especially, which is verbatim the same as one of the former, all but the date. I am only puzzled about the vowel i. You make  the short i, and Wathen the long one, the short one in his plate being  without the dots. In some of your plates the vowel is written  but never without the two dots.

I am so engaged in these antiquarian researches, that I leave myself no room to speak of mulberries and silk; not that I do not fully feel the importance of your efforts in this way. I hope the Government has given you all the aid you want. Your account of *Balabhipura* makes me wish for a full description of the place, and whoever does go to Girnar should be an artist, for Dr. Wilson gives a most tempting description of the sculpture in and about the place, and it evidently ought to be illustrated in the most complete manner.

Do not start until you have ascertained from Capt. Lang or Lieut. Postans what they have done. Were it the season for a trip of pleasure, the most agreeable way would be to meet there, and each work in his separate department to make a joint essay or volume. I only wish I could hie thither too.

Believe me, ever yours sincerely,

22d April, 1838.

J. PRINSEP.

MY DEAR DR. BURN,—I hasten to announce the safe arrival of the Copper plates, and of the parcel of antique coins. The former are in a perfect state, and will doubtless serve to remove all our difficulties of the pen-transcript. I will print off a fac-simile in lithography, as of the Bulal plate in the January number.

The sight of the coins reminds me of your question how to clean decayed coppers. — Certes such as these are beyond cleaning; a hard brush, sometimes a metallic wire brush, answers the purpose.

One of your coins was a *date* one, and very acceptable of course. I think there are but two figures on the  coins, and fear they are only

dates of the reign. My reading of the Junagarh inscription you will see in the April number; it leads to another useful link,—the *Sah* dynasty are antecedent and posterior to Asoka! — and the name read by me *Kritrima* 𑀓𑀲𑀭𑀸𑀓 turns out to be *Kshatrapa*, which is the title of all the dynasty; in the inscription 𑀓𑀲𑀭𑀸𑀓𑀲𑀭𑀸𑀓 is the proper writing, the 𑀓𑀲𑀭𑀸𑀓

deceived me; kri, I now know (vide my table), should be for that date 𑀓𑀲𑀭𑀸𑀓.

The value of our coins of that group is thus enhanced and the cause of their Grecian obverse explained. But I can write no more. The object of this is to send the enclosed, (after perusal), through you, to Lieut. Postans, at Girnar; should he, as his letter to me seems to indicate, have started to save the monsoon. If not, act all in concert after receiving the *hookm* from Bombay. I incline to recommend a pause until winter, but this is against my curiosity I confess. I have gutted some Journals to put Postans, or whoever is deputed, in possession of materials; the remainder shall follow, and in a few days I hope to have the April number out.

I put in duplicates of the alphabets. The Journal must go I fear by *bangy* under present regulations, but I take the liberty of franking it, being in truth for the public service.

I enclose specimens of my new mode of printing coins.

On second thought, I make them into two parcels for two successive dates.

Your's very sincerely,

9th May, 1838.

J. PRINSEP.

MY DEAR DR. BURN,—Just too late was your last, or I had certainly introduced your theory of the 𑀓𑀲𑀭𑀸𑀓 and other symbols, on the Buddhist coins, along with my plate of the *Saurashtras*. I shall still have a famous opportunity of doing so when I give a plate of all the symbol coins with old character legends. I like your account of the 𑀓𑀲𑀭𑀸𑀓 much and have little doubt you have hit the right solution, and once in the true course we shall fall on all the rest. I have been questioning my pundit and find the whole can easily be explained by him from practices yet prevailing; as in the fire worship, they make the *Chardwara Marhanthi* ground 𑀓𑀲𑀭𑀸𑀓. The *tripundra* 𑀓𑀲𑀭𑀸𑀓 is also common to Brahmans; one would think it were the original

of craniological bumpism. I cannot exactly concur in your *yon*i theory; the name has too palpable reference to other matters connected with the *lingite* worship to be construed into *yavana*. The fact of hospitals now existing so generally is curious. I must hoard up all these illustrations against the time when I shall be able to put the whole into a connected form.

Your silver coin is most welcome, though not as you hope a new name; it is *Viswasah*, son of *Rudra Dama*; the little one is a *Kumara Gupta Mahendra*; you have cleaned the letters of this excellently. The surprising thing after all is that we find such small variety of names on our coins; passing through several centuries we should have surely more than 2 Maharajas. How comes it too that we have no *Siladityas*?

I have sent the No. of the Journal, (which I hope you will get with this,) through the Secretary of the Bombay Government, to Lang or Postans at Girnar, as either or both may be appointed; the former is most conveniently situated. I regret you are not of the party, as from all I hear you would have contributed, in geology, and botany, and other physical ways to the produce of the expedition.

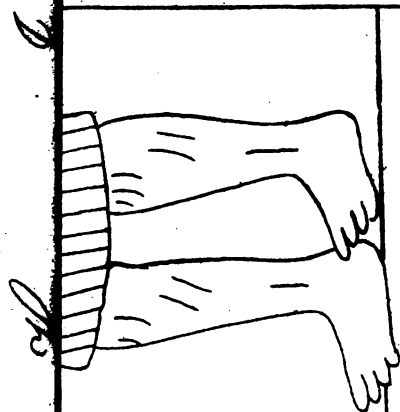
I shall be anxious to see what you say to my numerals; they almost all depend on your plates. I hope others may still turn up to give us the 1, 2, 6, 7, in an unequivocal shape.

Your's very sincerely,

J. PRINSEP.

ART. IV.—*Hamaiyaric Inscriptions, from Aden and Saba, translated into English: with observations on the establishment of the Christian faith in Arabia.* By JAMES BIRD, Esq.

The elegant discourses of Sir William Jones, on the various nations of antiquity, published in the early volumes of the Asiatic researches, owe their fame, more to the celebrity of his name and the universality of his learning, than any profoundness of investigation which they display. In that early period of oriental research, they were calculated to excite curiosity, if they did not exhaust learning: and this result is no where more obvious than in his fourth discourse on the Arabs; where, relative

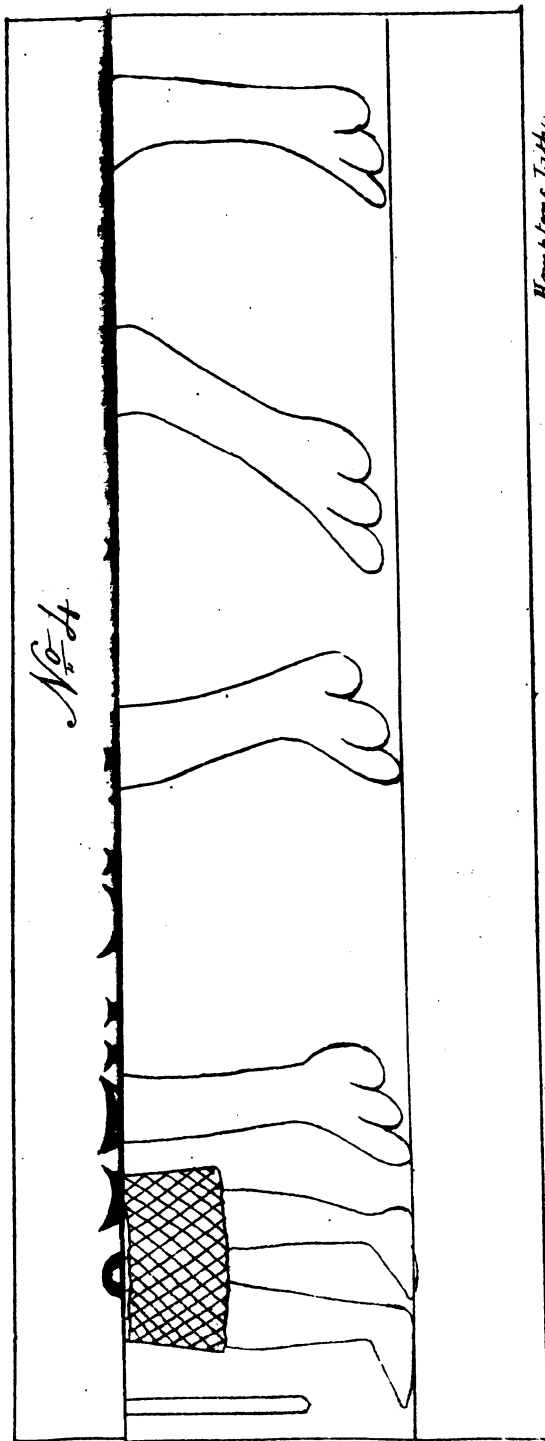


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Plate v.

Inscriptions from Mareb or Saba continued.

No. 4.



Hampton's Lith.

to the characters, in which the old compositions of Arabia were written, he remarks,—“The Koran originally appeared in those of *Cufah*, from which the modern *Arabian* letters, with all their elegant variations, were derived, and which unquestionably had a common origin with the *Hebrew* or *Chaldaick*; but, as to the *Hamaiyaric* letters, or those which we see mentioned by the name of *Almusnad*, we are still in total darkness, the traveller *Niebuhr* having been unfortunately prevented from visiting some ancient monuments in *Yemen*; which are said to have inscriptions on them: if those letters bear a strong resemblance to the *Nagari*, and if a story current in India be true, that some *Hindu* merchants heard the *Sanskrit* language spoken in Arabia the happy, we might be confirmed in our opinion, that an intercourse formerly subsisted between the two nations of the opposite coasts, but should have no reason to believe, that they sprang from the same immediate flock.” That which was inaccessible to *Niebuhr* has, through the enterprize of Officers in the Indian Navy, and recent surveys of the Southern Coast of Arabia, been laid open to our investigation: and we can only wonder that a subject of such interest, connected as it is with the history of *Arabia* and *Ethiopia*, should have been so long neglected. The profoundly learned investigation of Professor Gesenius, on the subject of *Phœnician monuments* and *Palæography*, * will greatly assist those in their researches who may be disposed to turn their attention to the origin of the *Hamaiyaric* letters; which, consisting of consonants possessing inherent vowels expressed by characters, supported on props, were called by the ancient Arabs *Al-Musnad*, or the propped character.

This in the opinion of Gesenius was remotely derived from the *Phœnician* letters, and had its origin among the *Hamaiyar* Arabs of *Yemen*, giving rise to the modern *Ethiopic*, almost similar to the ancient character. It will be our endeavour to shew in another paper the peculiarities of both alphabets, and whence they originated, but in the mean time confine our observations to the translation of the present *Hamaiyaric* inscriptions submitted to notice, which have been brought to light through the exertions of Captain Haines at Aden, and the late Dr. Mackell of the Bombay Medical Service; who, while resident at *Sanaa*, obtained them from the neighbourhood of *Mareb* or *Saba*. The stones, on which Nos. 1, 4, and

* *Scripturæ Linguaeque Phœniciae monumenta*. Guil: Gesenii p. 84.

5, are engraved, may be seen in the museum of the Bombay Branch of the Royal Asiatic Society, and were presented to the Institution by Dr. Smyttan : in whose possession I also inspected a gold coin, brought from *Mareb*, which was probably of the time of *Naosherwan*, and supported an inscription in Zend characters.

The first inscription, engraved on a circular polished slab of white marble, found at the depth of twenty feet in digging some old ruins at *Aden*, was sent from thence by Captain Haines ; and is supposed by him to relate to the period when the Christian chiefs of *Axum*, or *Ethiopia*, possessed themselves of Southern Arabia and re-established Christianity. This would make the inscription as late as A. D. 521 ; while its context appears as written when Christianity was first established in Arabia ; or rather when *Aden* was first made the seat of a resident Bishop. This latter event took place during the reign of the Emperor Constantius, about A. D. 356, when *Zafar* ظفار, or *Saphar*, became the Archiepiscopal seat of Christianity among the *Hamaiyar* Arabs, and a Church and Bishop were established at *Aden*.*

This inscription reading. — SHAKIR SHARAA ZA NABAK BADWIY
MAGGA SHAMA BA ABADAN PAPA RAS ADEN.

شاكر شرع ذاباق بدوي مككاشام بابادان پاپا راس عدن

May be translated :—“*He the Syrian philosopher in Abadan, Bishop of Cape Aden, who inscribed this in the desert, blesses the institution of the faith.*”

Aden, the *Arabia emporium* of the Romans, was prior to the Council of *Chalcedon*,† the seat of a Christian Bishop, who was subject to the Metropolitan of *Zafar* ظفار ; under whom also were the Bishops of *Najran*, *Hormuz*, and the *Island of Socotra*. These Churches were subject to the Jacobite Patriarch of Alexandria, until between the years A. D. 435 and 476, when the Nestorians, who spread themselves over Southern Arabia, seceded from the orthodox faith, under the Archbishops of Seleucia and Persia.‡ Soon after the latter date, or A. D. 535, Cosmas Indicopleustes writes there were Nestorians in India, Arabia Felix, and the island of Socotra, whose Bishops and clergy were ordained from

* Bibliothæca Orientalis Assemani: vol. iii. par : secunda p. 719 and 784.

† The council of Chalcedon was held A. D. 450.

‡ Assemanus ; tom. iii. pag. 77 ad pag. 80.

Persia. The town of *Abadan*, situated on the river Tigris, and distant from *Basra* about one and half a day's journey, being mentioned in the Aden inscription, would render the supposition probable, that, in place of having reference to the first institution of the Christian faith in Arabia, it bears allusion to the propagation of the Nestorian creed. In the modern Persian Dictionary, *Abadani*, signifying a native of *Abadan*, is the name of a man celebrated among the Arabians, for his learning and piety; and offers a curious confirmation of this Aden inscription, and of what we otherwise know from history. In the above inscription the Arabic شاكِر *Shakir*, or *Ethiopic* ሸሸፒ, is written سقر; the original *Hamai-yaric* using *sh* and *s* indiscriminately, and having only one character of the letter k פ in place of two as in the more modern alphabet. *Magga*, a corruption of the Greek word ΜΑΓΟΣ, signifying a Persian philosopher, has in the inscription the evident meaning of priest; as both Arabians and Ethiopians were wont to designate the priests, or presbyters of the Christian religion, *Kahans* كاهان, or sorcerers. Regarding these Major Price, in his essay on the history of Arabia, tells us, on the faith of the *Tarikh-Tabary*, that "the *Kahans* are described as a class of men, found both in *Arabia* and *Syria*, professing to give information on things unseen, not yet in existence, or to come to pass at some future period; to discover thefts; to describe the circumstances of an untold dream, and to furnish the interpretation: in short without any kind of previous explanation, to give to individuals, in all occurrences of life, a satisfactory reply to every inquiry. In Arabia, these soothsayers bore the name of *Kahans*, but the *Oustauds*, or masters, in this occult profession, at the period under consideration, were two persons of the name of *Shakh* and *Setteiah*, to whom all in Arabia looked up for instruction in the mysteries of the art.

No. 1 of the inscriptions from Mareb is executed over the figure of a person on foot, and reads,

بدوي عدوا

BADAWY ADAWA,

signifying a *Bedawin of the opposite coast*; from which it would appear that these figures must have been taken from a Christian Church, wherein were represented the characters of the several tribes constituting the *Ethiopic* government of *Azum*, and under whose power the country of

Southern Arabia more completely fell, about the year A. D. 521; when the *Nejash*, or ruler of *Abyssinia*, named *Elesbaan*, conquered the Hamaiyar Arabs of Mareb, and put to death their Jewish chief *Damaan*, otherwise called *Zú-Nowaas*.* The inference we have drawn from inscription No. 1 is supported by the evidence of inscription No. 4, which reads,

رب زان بجا شوا ادوس

RAB ZAN BUJA SHOWA ADAWASY,

and may be translated,—“*The Lord mounted the Bojas of Showa, and caused them to cross the sea.*” The modern tribe of *Beja*, or the *Bajaditæ*, called in the Greek inscription from *Azum*† *Bougæi*, BOYΓAEI were a nomadic people, who inhabited the Egyptian desert, westwards of the Nile, and possessed the gold, silver, and emerald mines in that quarter. They are the ancestors of the modern *Ababdi* and *Bisharin tribes*, and are known in the country of *Nubia*, between the first and second cataracts of the Nile, by the name of *Kanuz*. Masudi, writing regarding them in Hej. 330, A. D. 941, says that the *Bujahs* occupied the tract of country, situated between the sea of *Kulzom* and the *Nile*, were at enmity with the African tribe of *Nubah*, had mines of gold and emeralds in their country, were ruled by a chief of their own, and, on adopting the faith of *Islam*, intermarried with the Arab tribes of *Rabiah*. Their Chief, when *Masudi* visited Egypt, was *Abu Merwan bin Ishak*, belonging to the family of *Rabiah*, who was accompanied by three thousand persons of his tribe mounted on camels. This last statement of the historian illustrates the character in which the *Bujah* tribe is represented by No. 4, and tends to shew that they were carriers of merchandize, between Arabia and Egypt, from the earliest times.

* See Major Price's history of Arabia, Bibliotheca orientalis Assemani: Tom. III par: secunda p. 503.

† The Greek inscription of the time of Aeizana, king of the Axomites and Homerites, was copied from a stone at *Azum*, and may be seen in Mr. Salt's voyage to Abyssinia, p- 411- The date of the inscription is A. D. 356; as the Emperor Constantius sent an embassy, through Theophilus the Indian, to the brothers Aizana and Saizana, for the purpose of persuading them to relinquish the doctrines of Athanasius, and adopt those of the Arian Patriarch Georgius.

Inscription No. 2 may be read MYNETY SABAAN ZABYA ZA OZA
 SABAA ZAMATA. مینتی ثبا عن ضا بی زاعزی سبأ ضا مت
 and signifies—" *The monastery of the Pagan Sabeans : this is Oza of Shaba destroyed.*

The Sabeans, who derived their name from *Shaba* שָׁבָא, otherwise spelt in Hebrew Saba שָׁבָא, were sometimes called *Mendai Yahya*, or the Christians of Saint John the Baptist, who came from Galilee and settled in Arabia, and Harran on the Euphrates. They gave name to a particular form of the Syriac alphabet called *Mendæan* or Sabeian;* and, while Christians in name they were Jews in character, following the principles and practices of Pagans. D' Herbelot, on the authority of *Ibn Khallikhan* and other Mahomedan authors, says that they were Syrians or Chaldeans; differed from the *Magi*, or followers of Zoroaster, and worshippers of fire; professed a religion, composed of Jewish, Christian and Mahomedan articles of faith, of which the following are the principal:—They worship one God, venerate the angels and stars, turn in praying towards the North and sometime South, read the psalms of David, but chiefly believe a certain book written in the Chaldaic language, and ascribed to Adam. They also produce certain moral compositions, of which Adam, Seth, and Enoch are said to be the authors, pray seven times daily, fast during the month preceding the vernal equinox; hold in honor *Harran*, a city of Mesopotamia, whither they are wont to go on pilgrimage; believe in Sabin the son of Edris, and think that he is buried under one of the pyramids of Egypt. *Harran*, or Hellenopolis, where the worship of idols prevailed, seems to have been one of their earliest seats, and is still held in veneration by the now remaining followers of the sect.† They flourished cotemporary with the *Manicheans*, and had many principles of belief in common with them. After the manner of the Syrians, Phœnicians, and earliest Arabs, they worshipped the Moon, or Venus, as *Baalat Samin*, the Queen of heaven, one of the three Arabian idols, called *Lat*, *Manat*, and *Ozza*, and which are mentioned in the *Kuran*. The latter is noticed in the above *Hamaiyaric* inscription under the name of *Ozza*--العزى, which Sharistan and commentators on the *Kuran* say was an idol or tree, held sacred.‡

* See Grammatica Syriaca Joannis Davidis Michaelis, p. 17.

† See Assemanus Tom. III par. secunda p. 192.

‡ Specimen Historiæ Arabum Edvardi Pocockii p. 92. Assemanus vol. III par: secunda p. 582.

About the end of the fourth century of the Christian era, the worship of sacred trees, according to Cedrenus, became common in Egypt and the East; under which form *Nanæa*, *Alitta*, or *Ozza* of the Arabs, appears to have been worshipped; and little doubt can exist that *Uran'ia*, or *Venus*, derived her latter appellation from the Ethiopic ሀሀ *Oza* signifying a tree.

No. 3 inscription appears incomplete, and to want the right hand portion of its three upper lines; but, from what can be made out from its context, it appears to relate to the destruction of a temple of the moon. The last portion of it reads,

SABA WAHAMI WORHAKI MAGGANA سبأ واهمي ورهقي مگلنا
and signifies, *the superstitious Magi, or worshippers of the Moon of Saba.*

No. 5 inscription is of great interest as relating to the history of one of the Nestorian Bishops, called, in the chronicles of *Dionysius*, *Zacchæus*; who, about the year A. D. 759, was ordained by the Patriarch George, and set over the tribe of Arabs called *Charmæ*. Below his image, sculptured on a piece of white marble, that was probably built into the wall of a Church, the following is inscribed,

RAB SANA WARIS SHAVA INAD ZA AUM GHAHAS SADINA BA ANDAM.—MUAZZANA RAB AUM ZAGHA MAR,

رب سنا وارثشوا ايناد ذا عام گا هس سادن با اندام معزنا رب عام زا گا مار

Of which the translation is,—*The Lord of peace, heir of Shava, who by right superintended the Church of the perverse remote nations. The venerated master of the people, the Saint Zagha.*

The people called *Charmæ*, over whom *Zacchæus* of the above inscription was placed, are mentioned by Pliny as people of Arabia, in the vicinity of the *Minæi*; who were southwards of the *Atramitæ*, or people of *Hazramaut* حضرموت. Their chief city *Charma* was according to *Assemanus* * an episcopal see, subject originally to the Jacobites, but subsequently fell under the power of the Nestorians, and was united, under their Metropolitan, with Basra (Bassora) and Behrain. It appears to be the same place as mentioned by others under the name of *Sciarma*, and may be identified with the modern *Ras Sharma*, or *Cape Sharma*, on the southern coast of Arabia; distant from which, only a few hours, lies the Bedawin town of *Dees*, where the late Mr. Hulton and Mr. Smyth of the Indian Navy, found, near *Jabal Aaledma*, in the country of Ham-

* Tom. III par secunda p. 737.

*Plate VI.
Of half the Original Size*



mam, those Hamaiyaric inscriptions, which are published in the Journal of the Royal Asiatic Society.* They belong to an early period of the Christian era, and were written, as appears from some of them, when the Romans had free intercourse with the Southern Coast of Arabia.

One more point, in the inscription just translated, remains to be noticed. It is doubtful whether the name *Shawa* has here application to the *Save* of the *Periplus*, situated three days from *Moosa* and thirteen from *Aphar*, or زافار *Zafar*, in the country of *Sanaa*, or whether it bears reference to *Mareb*, or Saba, the kingdom of which, Pliny tells us was otherwise called *Save*.† This last is written Σαῦη by Ptolemy and Arrian.

In concluding our observations on the above very curious inscriptions from Southern Arabia, which have reference to the establishment of Christianity there, it will be expected that some information be given, relative to the origin and progress of the Christian faith in these parts, prior to the foundation of *Islamism*. The inscription sent from Aden belongs probably to the time already fixed for its date, the middle of the fifth century; and the inscriptions, said to have been brought from *Mareb*, or Saba, were in all likelihood found at *Zafar* the ancient Metropolitan seat of a Bishop.

The Hamaiyar Arabs of Yemen, or Arabia Felix, otherwise known by the name of Sabæans, were in their origin of Jewish descent, and of the same general stock as the *Axumitæ* of the opposite coast, more generally called Ethiopians. In classical history they are known by the names of *Homeritæ*, *Atramitæ*, and *Saphoritæ*; the first of which appellations seems to have been taken from their tribe, the two latter from their country. During the early ages of the Christian Church they were often confounded with the Indians, on account of their vicinity to the Indian Ocean; and while the *Axumitæ*, *Ethiopes* or *Abissini*, were called, as regarded their relative situation to Egypt, the *nearer Indians*; the *Hamaiyar Arabs* were denominated the *ulterior* or *interior Indians*, who live beyond. In the sacred Scriptures, and by the Hebrews, both these families of Arab Jews are called the children of Cush, and are thus mentioned by Isaiah, Chap. xlv. v. 14, "the merchandize of Ethiopia and

* Vol. V. p. 91.

† Plinius lib: VI. Cap. XXXIII, and my observations on the coast of Arabia, Journal of the Royal Geographical Society, vol. IV.

of the Sabeans shall come over unto thee." In the age of Solomon they were subject to the Queen of Sheba, who by general agreement was Queen of the South, and Mistress of Sabæa; and who by Josephus is called "Queen of Egypt and Ethiopia," because she exercised control as would appear, over the *Bejas*, who were of Arabian origin, and possessed the western shore of the Red Sea from the earliest times. Herodotus, lib. 7 § 70, distinguishes them into two tribes, the Asiatic and African; the former of which were to the East, and served with the Indians in the army of Xerxes; the others were westward, and had crisp hair like that of Africans.

These families of Arabs, who inhabited either coast, worshipped, originally like the Jews, one God; but soon mistaking the creature for the Creator, and, following the example of other nations, adopted the worship of idols. Christianity, defaced by many Pagan notions, was introduced among them, at a very early period of our era, and some are disposed to think that the Magi, who came to worship Christ at his birth, were Arabs from the land of *Saba*, asserting that what was prefigured, by the Queen of Sheba bringing gifts to Solomon, the type of Christ's coming, was fulfilled in the persons of the Magi, who under the guidance of the star, came to inquire after a king of Israel, whom they happily found.

The light of the gospel was originally brought into Arabia, as some think, by these evangelical Magi; and was further diffused by the Apostle Paul, who went not to Jerusalem, where were Apostles before him, but departed for Arabia, and after three years returned to Damascus.* Other Apostles, who evangelized Arabia, were Matthew, Bartholomew, Thomas, Mathias, Timon the deacon, Adœus, and Mares. Timon was one of the seven deacons of the Church of Bostra, in the Hauran, which was the episcopal seat of Christianity in Arabia, or rather Syria, until after the Nicæan Council, A. D. 325, when Petra in Desert Arabia was made the seat of a Bishop. Soon after this period the *Axumitæ*, during the reign of the Emperor Constantine A. D. 327 were converted to the Christian faith † by Frumentius; and the *Hamaiyar Arabs*, or *Homeritæ*, who were of the same stock and had received the Christian religion from Saint Bartholomew, adopted the Arian faith, A. D. 354, under the instruc-

* See Epistle to the Galatians Chap. 1 v. 17.

† Socrates Eccl. Hist. lib. 1 cap. 12.

tions of *Theophilus* the Indian monk and Bishop, who was sent by the Emperor Constantius to make a treaty with the Hamaiyar Arabs, and obtain permission for the erection of Churches to accommodate the converted Arab Christians and Roman navigators of the same faith, who frequented the Arabian shores.*

Baronius, who quotes from Nicephorus contends that *Adiabene* on the Euphrates was the country of the Arabian Bishop Theophilus; while others have endeavoured to shew that he was a native of the island of Deo, on the coast of *Khatiawur*, who having brought over the Arabs from the errors of the Gentiles, went into Aria, or *Khorasan*, where he built three churches. Philostorgius asserts that, having completed his mission among the *Homeritæ*, he sailed from the island of Deo, his native country, and visited other quarters of India; where, finding Christians following a wrong faith, he set them right; and then returning from India to Arabia, and Ethiopia, he joined the Roman merchants trading to these parts, and departed for Constantinople, where he was received with much honor by the Emperor. Regarding the *Homeritæ* at this time the reader *Theodorus* observes, “Immireni, gens est Persis subjecta, ad extremos noti fines habitans. Et ab initio quidem Judei fuerant, jam inde a Regina Austri, quæ ad Solomonem olim venit. Postea Gentiles facti sunt. Anastasii vero temporibus Christianam religionem amplexi sunt, et Episcopum acceperunt.”† Philostorgius corrects Theodorus by substituting the name of the Emperor Constantius in place of *Anastasius*; in which he is right, unless it be admitted that the passage from Theodorus has reference not to the conversion of the Arabs under Constantius, but to the more complete one under the Emperor *Justin*, A. D. 525; when the Nejash of Ethiopia, *Elesbaan*, conquered the *Hamaiyar Arabs*. Considerable obscurity regarding the transactions of these two several periods exists in the history both of Arabia and Ethiopia.

Previous to this period, however it is evident from the Syriac annals of the Nestorians, and the Aden inscription, that the people of Southern Arabia, between the years A. D. 435 and 496, had seceded from the Christian creed of the Patriarch of Alexandria, and joined the Nestorians of Abadan. It also appears from the testimony of *Cosmas Indi-*

* See Assemanus tom. III par. secunda p. 599, where Nicephorus is quoted on the faith of Baronius.

† Theodorus Lib. II pag. 567; and Assemanus tem. III part secunda p. 600.

copleustes, A. D. 535, already noticed, that the churches of Southern Arabia were under the Nestorian Archbishop of *Seleucia*, in Persia: and that, long after the propagation of the Mahomedan creed, Christianity had not become extinct in Southern Arabia. Inscription No. 5 and the Nestorian Church histories bear evidence that *Zacchæus* was presiding there in A. D. 759. The whole of this hitherto unexplored region is full of interest to the Christian and Historian: and we sincerely hope that some of the officers of the Indian Navy may ere long, find opportunities of penetrating to *Mareb*, and laying open to the eyes of the European world, the yet undiscovered treasures of *Saba*.

ART. V.—*Geological Observations on the composition of the hills and alluvial soil, from Hydrabad in Sindh, to the mouth of the river Indus.* By H. J. CARTER, Esq., of the *Bombay Medical Service*.

On descending the river Indus from Hydrabad, it will be observed, that this town stands on the northernmost extremity of a small range of hills, which extend about twelve miles along the left bank of the river, rising from fifty to sixty feet above the level of the surrounding plain. They are characterized by their light colour, their sterile aspect, and their isolated position in the alluvial plain of the Indus, being separated, for a long distance, from the lower hills of the Hala range, which are on the opposite side of the river, and having no other high land visible from them in any other direction. In their form, there is nothing particular, excepting that they terminate above in a level plain, covered with loose stones, the petrified portions of a former superposed stratum, and their base having been washed at different periods by the waters of the Indus, may partly account for its irregularities.

They are composed of a cretaceous, marly deposit, interstratified with a semi-crystalline, fawn-coloured limestone. Towards their summit the marly deposit is white and cretaceous, and the limestone in horizontal strata of irregular nodules, abounding in marine fossils, but towards their base the limestone strata become thicker, and the marly deposit more plastic and yellow.

The structure of the limestone is semi-crystalline, of a fawn colour, and

an uneven fracture, or more or less filled with cavities, formed of the moulds and impressions of marine shells.

Though these hills abound every where in marine fossils, yet the fossils themselves are almost entirely composed of the internal casts of the shells they represent, the carbonate of lime being replaced by the mass in which they are imbedded. Of the most common that are found among the loose stones on the summit and sides of these hills, are specimens of large crustaceous animals, cephalopoda, univalve and bivalve shells. In the collection presented to the Society, will be found the claw of a large crustaceous animal. Two specimens of *Nautilus*, and several univalve and bivalve shells, of which the most characteristic and most commonly met with, are represented in the accompanying plates. Independently, however, of these, there is a small ovoid fossil, formed of concentric layers, not unlike a grain of barley, both in size and shape, but rounded at each extremity, and grooved and ridged longitudinally, with the appearance of transverse lines across the ridges. On account of this little fossil being found in great abundance throughout these hills, it may be considered as particularly characteristic of their formation. It will also be found delineated in the accompanying plate.

Having left the range of hills just described, the river passes for some distance through its own alluvial plain, unbounded by any rising ground on either side, until it approaches Jerruk, when a number of irregularly scattered hills make their appearance on both sides of the river, some of which are conical and stand isolated in the plain, while others border on the margin of the river. They are of a deep ochre colour, horizontally stratified, and almost entirely composed of the fossilized remains of minute polythalamous shells. About half way between their base and summit, is a sandy stratum in which a small *Gryphæa* is found, resembling *G. virgula*, characterizing some of the upper Oolite formation in France. It differs from *G. virgula*, however, in being less elongated, less curved laterally, smoother externally, and more deeply carinated.* This shell appeared to be of much more recent date than the other organic remains, of which the rock is composed, both from its general appearance, and from not having partaken of the colour of the mass in which it was found im-

* The specimens of this shell were too much injured on arriving at Bombay to admit of being delineated.

bedded. At the base of these hills many veins of gypsum present themselves, irregularly traversing the rock, about an inch and a half in thickness. Specimens of the rock will be found in the collection presented to the Society, and some of the polythalamous shells, of which it is composed, are delineated in the accompanying plate.

After passing these hills, which extend along the right bank of the river for a few miles, the Indus winds its course through an alluvial plain of great extent, until it arrives at its exit, where its banks terminate in the low marshy land of that district.

Composition of the alluvial soil of Sindh in the neighbourhood of Hyderabad.

The alluvial soil in the neighbourhood of Hyderabad, is chiefly composed of a marly deposit, corresponding, in colour, composition and plastic property, with that of the adjacent hills; added to this there is a considerable quantity of mica mixed with it, and its dark stone colour is owing to the presence of an oxide of iron, and probably some carbonaceous matter. When exposed to the oxidizing flame of the blow-pipe, it becomes red, (thence the colour of the bricks of which the fort of Hyderabad is partly built), but on being mixed with charcoal and reduced, the marly portion becomes white, and the dark particles that remain, are attracted by the magnet.

Throughout the hills and the alluvial deposit for many miles round Hyderabad, there does not appear to be a single grain of quartz, although at Omerkote there is an admixture of chalcedony and agate in miliary grains to such an extent that it forms more than one-third of the soil.

In addition to the fossils in the hills round Hyderabad, there is a quantity of brown Hæmatite scattered over their surface, and it will be observed from one of the fossil shells in the collection presented to the Society, that this is originally formed in the centre of the fossils themselves.

INDEX TO PLATES VII. AND VIII.

FIG 1. Lateral view of the internal cast of a *Nautilus* $12\frac{1}{2}$ inches in its longest diameter.

- a. Front view of the same specimen.
- b. Section to shew the position of the syphon.

Plate VII.

Fig. 3

Fig. 1



Fossils characterizing
the hills in the neighborhood
of Hydrabad & terraces
Sind. P.
Henderson del.

H. I. Carter del.



Fig. 8

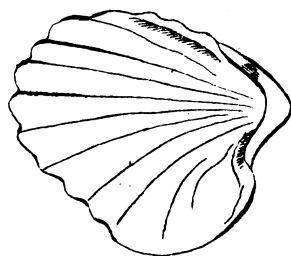
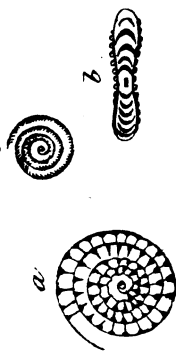


Fig. 12



*Fossils characterizing the Hills in the neighbourhood of
Hydrabad & Terruk in Sind*

H. I. Carter del.

Hamptons Lith.

FIG 2. Lateral view of another specimen with round keel, 3 inches in its longest diameter.

a. Section to shew the position of the syphon.

FIGS. 3, 4, 5. Internal casts of univalve shells.

FIGS. 6, 7, 8. Internal casts of bivalve shells.

FIGS. 9, 10, 12. Specimens of multilocular fossils, characteristic of the hills about Jerruk.

FIG 9. Specimen natural size. *a* Superficial view. *b* Section both magnified.

FIG. 10 Specimen natural size. *a* Superficial view. *b* Lateral view magnified.

FIG. 12 Specimen natural size. *a* Horizontal section. *b* Vertical section magnified.

FIG 11. Natural size of 'a fossil characterizing the hills in the neighbourhood of Hydrabad. *a* External view. *b* Section magnified.

ART. VI.—*Some desultory Observations on that class of Monuments, still extant in Scotland, called Runic Stones, supposed to belong to an age anterior to the date of the earliest writings treating of Scottish history; with a catalogue of some of the most remarkable of the Stones now extant.*
By GEO. BUIST, LL. D.

[The following paper was drawn up many years ago, but permitted to fall aside. It was laid before the Society as connected with oriental antiquities, with a view to its remaining for reference in their archives, but without any idea of its being printed in their transactions. It is now by desire of the Society published as presented: the want of books of reference and the numerous avocations of the writer depriving him of the power of removing its imperfections by correcting or recasting it as he could have wished.]

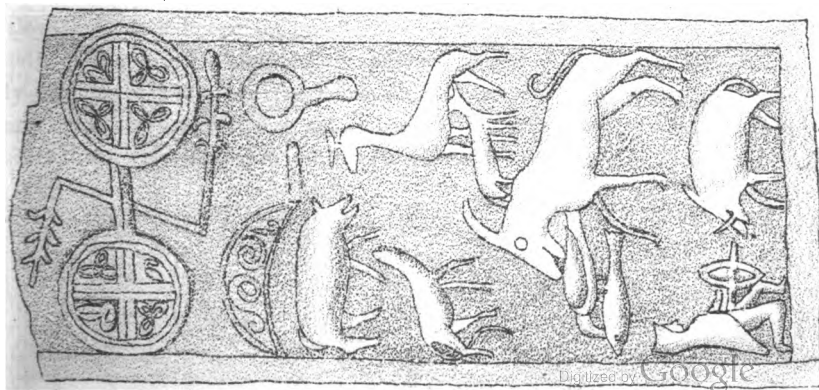
RUNIC STONES.—A designation promiscuously applied to two very different and dissimilar classes of relics, the origin of one of which is probably attended with as much mystery and interest, as any thing which has occupied the attention of the antiquary. We shall reserve the consideration of the first of these, till after we have shortly noticed that class of monuments, entitled to the designation of true Runic remains, these being distinctly attri-

butible to a Danish origin. Olaus Wormius, a learned Dane, in a work entitled "*Danicorum Monumenta*," London 1643:—and Kysler, in a work entitled "*Antiquitates Septemtrionales*," published in Hanover in 1720, fully treat of the real monuments of Denmark, and give us representations of those in innumerable illustrations. They generally consist of very massy and large blocks of stone hewn into the form of crosses, or on which a cross, and in this case generally the Maltese cross, is sculptured. Besides these, strange and fantastic groups of men and of animals, with many monstrous representations of incongruous creatures, are presented us. The serpent is a prevailing emblem, while the human figures are often provided with the heads and feet of animals, or the wings of birds. The Centaur, as delineated in classic sculpture, is not unusual, and the most singular and intricate interweavings of unintelligible tracery characterize the whole. These monuments seem to abound in Denmark and Norway; they are usually inscribed with Danish or Icelandic characters, the legends merely intimating that they were erected by such a person in honour of some friend or relative. A good specimen of this class of stones, was some years ago sent from Sweden for the use of the Scottish Antiquarian Society, and is now placed on the castle hill of Edinburgh. The scroll in this case, as in many other similar ones, is formed by the waving grooves which define the outline of the serpent. Another class of true Runic monuments with inscriptions, is found in the Isle of Man and in other places in Britain. A collection of very beautiful and apparently accurate drawings of these, by Mr. Oswald, was published in the *Transactions of the Antiquarian Society of Scotland*, for 1822. In many points, they greatly resemble the crosses about to be described in the latter part of this paper. The form of the cross itself is the same, and many of its concomitant ornaments are similar, as are the monstrous representations of men and of animals with which they both abound. But the Manx crosses are all inscribed with characters closely allied to the modern Icelandic, not one of which is ever to be found on the other class of relics; and the singular, symbolical characters, as well as the picture writing with which the latter often abound, and by which they may at all times be distinguished, are wholly wanting in the former. They are ascribed to the middle of the 10th century. The celebrated Ruthwell stone is worthy of a separate notice, though it probably belongs to the same class as those of the Isle of Man. It has been minutely described by the Rev. Dr. Duncan of Ruthwell, both in the *Antiquarian Tran-*

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Hampton's Lick.

Full sized fac-simile of the inscription on the edge of
 the St. Vigean's Crook.



St. Vigean's Stone.

sactions, and the new Statistical Account (No. III, 1833). It seems to have been an erection of different periods, and by different hands. It is now in the form of a cross. Besides the decorations, images, and emblems which adorn it, it is covered at the borders round the compartments, in which they are contained, with inscriptions, partly in Latin and consisting of scraps from the Vulgate version of the New Testament, so that the whole of them can be easily made out, despite of mutilation. The characters are partly of Runic, differing, however, widely from the Norse or Icelandic used by Danes, and nearly identical with that of the Exeter manuscript noticed by Hicks, in his *Thesaurus*, and generally admitted, as that commonly characterized as Anglo Saxon. This monument, though formerly neglected, is now very carefully preserved. It was first figured and described by Gordon (*Iter Septemtrionale*, p. 160: London 1726); who alludes to the singularity of the two varieties of inscription, and it was subsequently noticed by Pennant, Chalmers, and Hicks. Repp ultimately was able to make out and decypher the Runic portion of the inscription.

The class of monuments to the description of which we propose addressing ourselves, is widely different from the above; with which however, they have been mostly heretofore confounded. They are confined to one or two localities only; in these they are abundant, and may be yet found to throw light on the dark and mysterious portions of the annals of these countries, which doubtless enacted a distinguished part in the early epochs of incipient civilization, but the written records of whose history have utterly perished. Of the monuments of which we speak, there are probably not fewer than two hundred now extant in Scotland; and at no very distant period perhaps twice this number existed; there are at least twenty or thirty in Ireland; but there does not appear to be one in England, in Wales, or in any other part of Europe besides. In this mysterious feature of their history they agree with the celebrated round towers, of which there are two in Scotland, sixty one in Ireland, and so far as appears (notwithstanding the assertions of O'Brian, on both subjects to the contrary) not one in any other known portion of the Globe. In infinitely the greater number of cases, these monuments consist of large upright blocks of stone from 3 to 25 feet in height; (the only example of the latter stupendous dimensions being Sueno's pillar near Forres,) covered with rich and elaborate carvings, and in most cases, besides these, representing in low relief a cross of Calvary or being them-

selves cruciform. There are, however, numerous cases wherein the stone is impressed with a few rude but characteristic symbols without symmetrical or intelligible sculpture; and a number, smaller still, where a richly sculptured sarcophagus, which those of Egypt scarcely rival, takes the place of the symbolized monolith. In early ages, when written characters were little known and still less resorted to for ordinary purposes, the simple and natural practice of pictorially representing notable events, formed a convenient and universally intelligible substitute, for writing; because it appealed to a power of discerning the connection betwixt an action or series of actions, and their detailed similitudes possessed and exercised by all. This was the natural source of picture-writing, and a parallel case seems to have brought language itself into existence. It was the practice in early times, to detail on the monument of a warrior, the leading characteristics of his life, and hence, most probably, the source of those richly and elaborately detailed scenes represented on most of the monuments under consideration, and which in all probability, were, while understood, pictorial biographies of those for whose sake they were erected. It must at once be admitted, however, that very many of these carvings receive no elucidation from this view of the matter, and that the exotic or monstrous animal forms, and the mystic combinations of these which we observe, (amongst which, however, some system manifestly prevails,) are in the present state of our information, totally inexplicable. The fact of the abundance of tropical animals, as the lion and the monkey, so conspicuously detailed on the St. Andrew's Sarcophagus, and to be found on many other stones besides; of the elephant on Sueno's pillar, and apparently in a disguised form on a vast proportion of other monuments,—and represented according to O'Brian not on the crosses alone, but some of the round towers, (as that of Brechin for instance which has been well noticed in the pictorial history of England,) is beyond measure singular.

The existence of purely classical sculpture amongst the ornaments, and of classic monsters, as in the Aberlemno Centaur; and of symbols so strikingly Egyptian as that of Essie cross, is another feature of extraordinary mystery. The most characteristic figures of these stones, however, are those of a set of monstrous looking creatures, such as the lizard-like animal, on the St. Medoes cross (vide Fig.) the interwoven serpents with two, or a multitude of heads, and occasionally complicated limbs; and which are always systematically intertwined

with each other, like the warp and woof of a web (of which the corner stone of the St. Andrew's coffin furnishes an example);—the long eared, long billed, cockatrice-looking creature; and above all, an animal probably meant to be a representation of an Elephant, though it would be difficult from its distortions, to point out to what class of actual living creatures it was meant to be considered allied. In fact, whenever the simple emblematical picture is departed from, the whole remaining animal images on these stones are invariably monstrous. It is singular that the purely symbolical figures are specially alluded to by Boethius, and have scarcely ever been noticed by any subsequent author. "Boethius, is willing" (says Pennant) "that these engraven pillars should be supposed to have been copied from the Egyptians, and that the figures are hieroglyphic or expressive of meaning, as those found in the cases of mummies and sculptured obelisks of Egypt. The historian's vanity in supposing his countrymen to have been descended from that ancient nation is destitute of all authority, but his conjecture that the figures we so frequently see on the columns of this country, had their signification, and were the records of an unlettered age, is so reasonable as to be readily admitted." In this case the acute and observant traveller's censure is much more liable to criticism, as we shall afterwards more fully see, than the hypothesis of the able, but unfortunately unauthentic historian.

The symbolical figures, by one or more of which nearly the whole of the monuments under consideration are characterized, and the few which want them may be readily identified by their style of carving, are 1st a zigzag, ornamented at both ends with sceptre heads. Fig. 1st—Pairs of circles of

Fig. 1

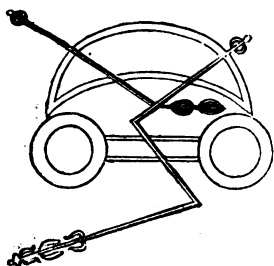


Fig. 1

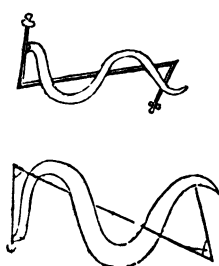


Fig. 2

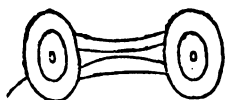


Fig. 2

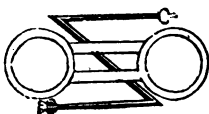


Fig. 2

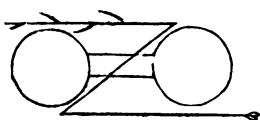


Fig. 3

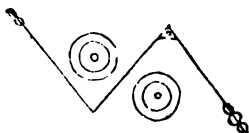


Fig. 4.

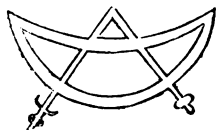


Fig. 5

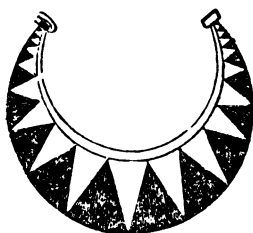
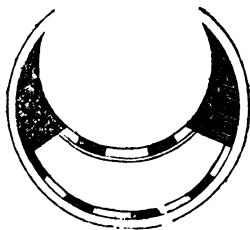
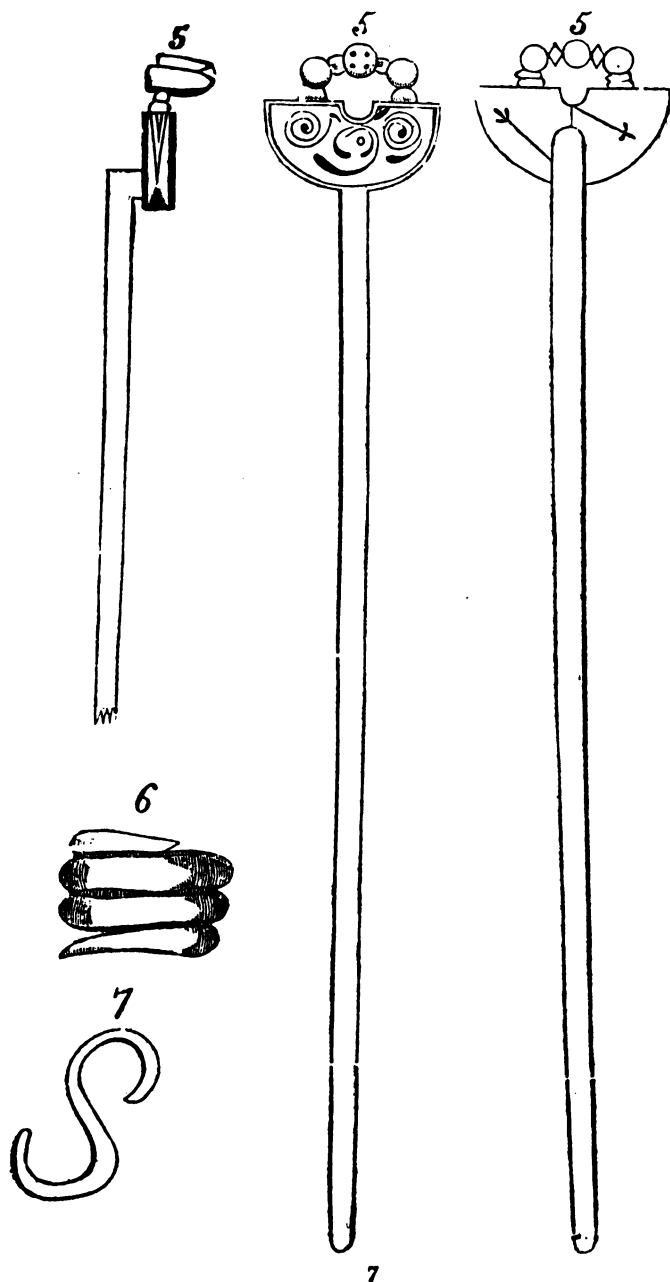
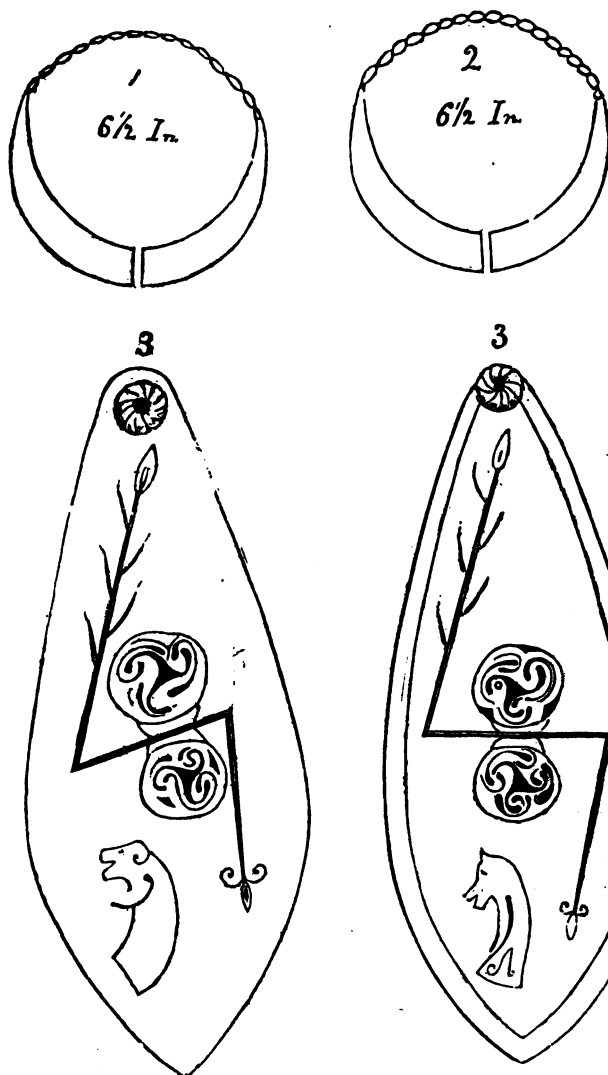


Fig. 5

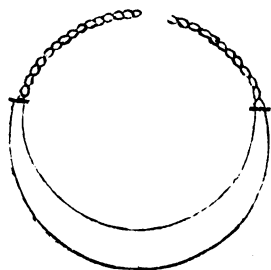


equal size fig. 2, joined together with parallel bars, and frequently divided by the zigzag fig. 1, or of unequal sizes, and joined by a single perpendicular bar, as fig. 3. A lunette divided by a something like a broken sceptre fig. 4. There are besides these other mysterious figures very generally found to prevail, but which are not so universal or uniform as to become characteristic. It does not appear, so far as the various published representations of the Irish crosses inform us, that amongst them these symbols are found. No explanation worthy of a moment's notice ever seems to have been thought of by any writer on this subject; and it is not meant that any should in the present want of information be here attempted to be given. It is a singular fact that at a place called Norries Law near Largo, in Fife, there was found (in 1819) a splendid suit of silver scale armour; of which about 180 ounces went to the melting pot of the silversmith. The helmet was barred and morrioned, and was quite entire:—the shield was triangular, about 10 inches by 14, and covered with mysterious emblems. All that now remains of these singular relics, are





the supposed armlets or collars, the scale or broaches, a bodkin, and finger ring represented below. Of these, a bodkin and a scale or clasp contain a most distinct and minute engraving of figures 1 and 2 of the Runic stones ! What are we to make of this ? Silver armour could at no time be employed as an available defence, and must have only been used on occasions of state. We have no reason to believe that within the period of authentic Scottish history, the abundance of the precious metals, or the tastes of our ancestors, were such as to lead us to look, under any circumstances, for vestures so expensive. Were the habits of those of an earlier age more luxurious ? Nothing can be more gorgeous than the attire of some of the figures on the St. Andrew's coffin. Does the occurrence of the symbol on the Largo armour, warrant us in assigning it to a period co-eval with the crosses ? Or may it have been a copy of a symbol, whose revered mysticism remained throughout later ages ? To none of these questions will the cautious antiquary venture to give a confident reply. This much we know, that on this class of monuments, and on the Largo armour, alone have the symbols 1 and 2 ever been known to be found. The excellence of the work of the bodkin and finger ring could not be surpassed in execution by any modern silversmith. At the time the present paper was drawn up, the writer had never seen the common silver collar worn by the natives of India: a representation of one of these is here also given; it corresponds, in form so exactly with the portions 1 and 2 of the armour as to leave no doubt on his mind as to the identity of their uses. The only difference betwixt them is, the one opens before, the other behind; it is not at all unlikely that this may arise from alterations afterwards made on it.



The symbol represented in figure 4, is perhaps still more frequent in its occurrence than the preceding. It bears a singular resemblance to the mysterious relics so often found in Ireland, of which the following figures are given by O'Brien, who describes it as an emblem of the sacred ships of the Buddhist worship.* "These semicircular implements, *Ledwitch* (quoted by O'Brien) acknowledges to have created more trouble to antiquarians, in determining their use, than all the other antiquities put together."

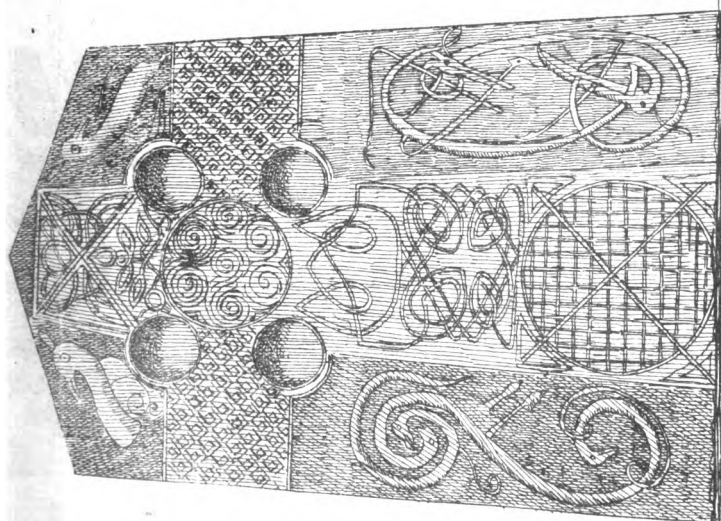
The cross however is of all the characteristics, far the most uniformly present; and is indeed wanting in only a very small proportion of them. O'Brien points out that this is by no means a purely Christian emblem; but has been generally and extensively employed in the East, either before the incarnation, or where Christianity was unknown. It is certainly a remarkable fact, that in no case we have ever seen or heard of, is a crucifixion detailed on any of these monuments, at the same time the cross is so uniformly and distinctly of the form of that called, the cross of Calvary, that we have no doubt of its being Christian.† It is generally surrounded by an ornamented circlet or halo; its shaft and transepts are covered with minute and elaborate carving, while some special enrichment commonly adorns the point of the intersection, or the extremities of the arms. It stands in relief from $\frac{1}{2}$ an inch to 3 inches according to the character of the stone. In these cases where the whole stone is cut cruciform-wise, as is frequently the case in Scotland, and still more so in Ireland, the general character and ornaments are the same as in the stones where reliefs are represented. The general character of the ornamental carving is so peculiarly marked or distinguished, that when any or all of the emblematical characteristics, above referred to, are wanting, it is quite adequate to indicate the class to which the stone belongs. The fret work represented on the shaft of the St. Madoe's cross is the most frequent variety of enrichment. Next to this in abundance, and before it in characteristicness, are the reticulated entanglements often occurring by themselves, and into which the convolutions of serpents, the tails of animals or other

* The figures referred to have, by a mistake been placed in a preceding page.

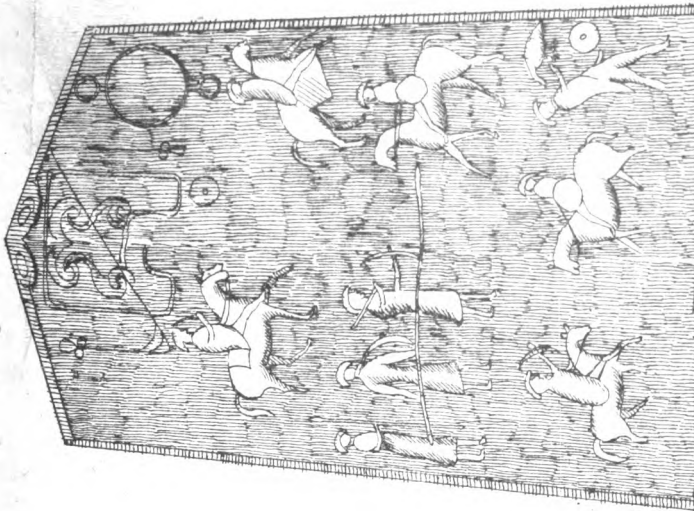
† Since the above was written, I have seen in the British museum the vesture of a Coptic priest on which the cross of Calvary is painted precisely as represented on the cross stones. Its wearer, as has been ascertained from contemporary Egyptian relics, must have flourished about the sixth century before our era.

flexible delineations, are invariably interwoven. It will be observed, (and the end pannels of the St. Andrew's stone coffin afford an excellent illustration of the fact,) that however absurd the effect produced may be, that they are always interlaced like osiers in basket work, or the warp and woof in a web; the upper and lower mandibles of a bill being made to bend alternate-wise at the sculptor's pleasure, so as to conform to the rule, however unnatural it may look for the figure represented, or inconvenient it might be for the animal if alive. The style of the carving, thus minute and elaborate, is remarkably indicative of an extremely early and rude state of society. So far as the intellectual part of the artistship is concerned, there seems to have been no adequate draught or plan of the sculpture previously prepared. It is manifest that one portion of the figure had often been cut out without any due consideration of the room required for the remainder, or the position or proportion to be assigned to it; and the consequence is, that while a head, for example, is represented of an exaggerated size or shape, the body or limbs are huddled together in whatever extent of space happened to be left for them uninvaded by previous carving. To this, however, the cross, which is always drawn with remarkable symmetry and precision, is an exception; as also, but in a less degree, are the leading emblems:—the picture department, which, from this, we may suppose was considered the least important, suffering chiefly from distortion. Connected with this, is the remarkable fact, that the blocks or slabs, from which these monuments were made, seem very rarely to have undergone such a preliminary process of preparation, as would, in more refined times, be reckoned essential for the most ordinary piece of hewn work, much more for ornamental sculpture. The stones resemble, as nearly as may be, well-formed blocks, carved just as taken from the quarry. Where "wants," or irregularities occur, they are rarely squared off or cut away, but the outline of the carving is made to accommodate itself to the irregularities of the stone. The St. Andrew's coffin, so often referred to, affords in another way a remarkable illustration of the same class of facts. Though very elaborately carved, and most likely an object of great veneration, no provision whatever has been made for jointing, cementing, or batting together the pieces of which it is composed: they, on the other hand, are furnished with rude, but strong elongated tennons, to be inserted doubtless in the floor or pedestal on which it stood. It must be added that a style of ornament somewhat similar to this, and pro-

bably imperfectly copied from it by later sculptors, prevails on monuments of a different class and more recent date. Of these Olaus Wormius, Kysler and Saxo (edition by Stephanus) furnish us with examples of the true Scandinavian stones; while the stone of lamentation and crosses of Iona and Oronsay, as represented by Pennant, and whose antiquity does not probably exceed 400 years, contains a similar style of carving. On three of these stones only have inscriptions in written characters been traced; none of them have ever been interpreted. The characters are all different from each other, belonging apparently to dissimilar alphabets. Of two of these Mr. Stewart says,—“The inscription of the Newton stone, Aberdeenshire, has already been submitted to several eminent antiquarians, none of whom have been able to decypher or explain it. The late General Vallancey, the celebrated Irish antiquary, pretended to have read the two words Gylf—Gomarra, but professed to be unable to proceed further. On the Fordoun stone is found what appears to be alphabetical writing, but so entirely defaced, that not a single letter is now distinctly legible.” It seems doubtful whether the Newton stone belongs to the class of monuments under discussion, and the inscription on that of Fordoun, which is otherwise extremely well marked, seems to have been engraven *after the sculpture of the stone itself*, part of which appears to have been hewn off to make way for it. It is very doubtful, indeed, whether any authentic case exists, of an alphabetical inscription on any of these monuments. That on the St. Vigean’s cross has most the look of authenticity. The letters seem a combination from the old Irish and Anglo-Saxon alphabets as represented by Fosbrook (*Encyclopedia of Antiquities*) and O’Brien (*Irish Dictionary*). It may, however, have been an after-thought and no part of the original sculpture. The number of these crosses believed to exist in Scotland at present, is about 200; and when we consider, that for a period of about 600 years, they have ceased to be objects of reverence; and had a protracted war of destruction waged against them, which their solidity, compactness, and general fitness for building materials greatly encouraged; that in our own day, with all our boasted refinement and love of archæological research, dozens of them are perishing unheeded before our eyes; we probably do not greatly exceed, when we say, that perhaps not less than thrice this number existed, when the full reverence which occasioned their erection was accorded them.



Hampton & In the:



ABERLEMNO Forfarshire.

This Stone together with those at Croft Town and Camus Crofts are said to commemorate the defeat of the Danes 847.

The following imperfect catalogue of those we have seen or inquired after, may help to guide the student, as to authorities and subjects of examination, and may by calling to it the attention of the public, help to stay the progress of dilapidation to which this class of our earliest and most mysterious antiquities are at present being exposed. The works chiefly referred to, are the *Itinerarium Septentrionale*, by Alexander Gordon, A. M., Edition, 1726. *Remarkable Ruins and Romantic Prospects of N. Britain, &c.*, by the Rev. Charles Cordiner, Banff, 2 vols., 1788. *Pennant's Tour*, 1790. *Observations on several monumental stones in North Britain*, by J. Logan; F. S. A., Edin., with 14 engravings, London *Archæologia*, 1827. The illustrations of this paper seem carefully and correctly drawn and engraven. An account of some sculptured pillars, &c., by John Stewart, of Inchereek hill, Gr. Prof. Aberdeen: *Trans. Scotch Antiq. Soc. Vol. 2, &c. &c.*; and the unpublished collection in the possession of the present writer, who has been for years engaged in endeavouring to elicit information, by comparing with each other carefully drawn representations of these monuments—information concerning which is still a desideratum in archæology.

The engravings of Gordon are, as specimens of art, extremely rude and defective, but tolerably correct so far as they go. Cordiner's are defaced with the abomination of affected ornaments to an extent which makes them utterly worthless as references. Pennant's are occasionally good: they seem to have been taken by his servant, without the superintendence of the traveller himself, and are occasionally quite unworthy of trust. The drawings of Logan and others in the *Archæological and Scottish Antiquarian Transactions*, seem faultless; as also are those in the new *Statistical Account*. To save space in references, the name of the author alone is given in the subjoined list.

ABERLEMNO, FORFARSHIRE:—described by Boethius and Buchanan, figured by Gordon, Cordiner and Pennant, and in unpublished collection. The stone is in good preservation. It is situated at the west end of the parish church, apparently deeply immersed in the ground:—Described by Stewart.

ABERNETHIE, PERTHSHIRE:—Two rude blocks of trap, very characteristically figured; dug from the foundation of an old house in 1830.—Unpublished collection.

AULDEAR, FORFARSHIRE:—a very well preserved cross. It is mi-

nutely described by Pennant, who did not profess to have seen it. There is no published drawing of it. From 1778 it seems to have been utterly lost sight of. It was in 1832 dug from under a heap of rubbish, as something then for the first time discovered. It is now carefully kept at Auld Bar castle.—Unpublished collection.

BALKELLO, FORFARSHIRE:—6 miles north of Dundee; mentioned by Gordon;—stone broken, and much injured.—Unpublished collection.

BALKOURIE, NEAR MEIGLE FORFARSHIRE:—a large but rude block, with sculpture, (No. 2) and other half effaced characters, without a cross.—Unpublished collection.

BEAULIU in ROSSHIRE:—a cross described and figured by Cordiner.

BENNACHIE GAIRIOCH, ABERDEENSHIRE, figured and described by Gordon and Cordiner, more accurately by Logan, *Archæologia*, called Maiden-stone, defaced on one side.

CAMUS CROSS, MONIKIE, FORFARSHIRE:—a large cruciform stone in good preservation, were it not so thickly covered over with lichens: described by Boethius, Hollingshead, and Buchanan, as the funeral monument of a Danish chief, slain 845; figured by Gordon, who gives a description from the Latin MS. of Commissary Maule, 1600.—Unpublished collection.

CRAIL SLAB:—in the church floor, sculptured only on one side; no published description—discovered 1837.—Unpublished collection.

CRIEFF CROSS OF PERTHSHIRE:—figured, in *Trans. Scot. Ant.* 1821, very much mutilated; stands in the centre of the village as a market cross.—Unpublished collection.

COSENS—near Glammis, Forfarshire:—cross, described and figured by Gordon—described and called St. Orlan's Stone in the new Statistical Account. Unpublished collection.

CROSS—Town, Aberlemno, Forfarshire:—One very superb cross and two lesser ones in perfect preservation, close by the side of the Forfar and Brechin road; the same group as that at Aberlemno. These stones have always been objects of attraction to antiquaries. Drawings (incorrect as usual) are given by Gordon, Cordiner and Pennant. — Unpublished collection.

CALLAGE, Perthshire:—a fine stone not any where described.

CREICH:—"There is an obelisk near the church of Creich in Sutherland, 14 feet high by 4 broad, richly sculptured, and said to be the

burial place of a Danish Prince."—Chalmer's *Caledonia*, vol. 1 p. 466. This is nowhere else described, that I am aware of.

DOGTON, Kinglassie, Fife :—A broken cross described and very correctly drawn by Pennant ; called Doctan, described in new Statistical Account ;—Unpublished collection.

DUNNICHAN, Forfarshire :—A rude, but well marked stone, described by Gordon, now built into a park wall.

DUNKELD, Perthshire.—Two large crosses mutilated, used for many years as gate posts, stood neglected at the door of the Cathedral ; one of them turned upside down.—No published account of: unpublished collection.

DUPLIN, Perthshire :—A fine cruciform stone quite entire, described by Pennant and Gordon.—No published drawing.—Unpublished collection.

DYKE, near Forres in Moray :—Cordiner gives a drawing of.

DYCE,—church, of figured by Logan ; in good preservation. *Archæologia*, 1827.

EDDERTON, in Ross-shire :—"There is another obelisk which is 10 feet high, with carved figures, which stands in the parish of Edderton in Ross-shire." It is said by popular voice to be the monument of a Prince of Denmark, who, having fallen in battle, was interred there. *Chalmers's Caledonia*, Vol. I. p. 466.

ESSIE, Forfarshire.—A very richly carved cross near the old church yard. It is figured and described by Cordiner, 1780. Like the Auldbar stone, it seems to have been broken, carried away and lost sight of, till it was exhumed and re-erected by the parish clergyman, about 20 years since.—Unpublished collection.

ELGIN, Moray.—Only one side of the stone visible, the other built into the church wall ; well represented by Logan. *Archæologia*, vol. 22.

FAR.—"At the church of Far, Sutherlandshire, there is a sculptured stone, said to be the monument of a Danish Chief."—*Caledonia*, Vol. I. p. 466.

FORDOUN, Mearns-shire.—A finely preserved stone, dug out beneath the old parish church, accurately represented by Professor Stewart of Aberdeen, and described by him as "probably a monument erected to the memory of Kenneth III., who is said by Fordoun, Wintroun, and Boethius, to have been murdered near Fettercairne, A. D. 994, by Fenella or Fennelli, in revenge for the loss of her son."

FORRES—*Sueno's Pillar*, near Forres, is the most remarkable of

these monuments, both for its magnitude and the richness of its sculpture. It is situated between Forres and Elgin, and is 25 feet in height, and 4 in breadth at the base. It has been badly figured by Gordon, Cordiner and others. It contains on one side a cross, on the other the usual pictorial sculpture. I have not examined this obelisk, and the published engravings on it are so discordant and manifestly unfaithful, that no reliance can be placed on them. It *seems* to belong to the class under review, but the usual emblems appear wanting, though the general sculpture is characteristic. It has always been assigned to the Danes, and known indeed as a monument of the chief Sueno, who, it is said, was here defeated and slain. Boethius is the earliest writer who treats of it: in which he is followed by Buchanan, as well as by Gordon and others — “This stone is supposed, probably erroneously, to have been erected in commemoration of the Scottish victory” (say the writers of the Pictorial History of England); “but what can we make of the Elephant by which it is surmounted?” The cut given by them as well as by O’Brien (Round Towerses), is taken from Cordiner’s engravings.

FOWLIS, WESTER, in *Perthshire*.—There is a very fine cross, with, on the opposite side, a religious procession. Mr. Gough (Camden, Lond. 1789,) states, that this has not been noticed by any preceding writer. It is of one stone 11 feet high. It is mentioned in the new Statistical Account as “being commemorative of a wolf hunt, where the wolf, being pursued through a village, snatched off the head of a child;” As improbable a theory as can well be conceived.—Unpublished collection.

GLAMIS—*Opposite the manse door*, figured by Gordon, Cordiner and Pennant; described by Boethius, and Buchanan, (nearly all subsequent writers following them,—as a tombstone commemorative of the murder of Malcolm II. Anno 1033. It is 10 feet high, and 5 broad at the base. There is a similar stone within Glamis Parish, and another at the village of Cossens near by, (*vide* Cossens) all ascribed to the same source.—Unpublished collection.

INVERKEITHING—figured and described by Gordon, noticed in Statistical Account, considered Danish by both.

INVERMAY PERTHSHIRE within the inclosures; noticed by Gordon.

KINKARDINE, *near Auchterarder*. PERTHSHIRE. Stone in good preservation; no published description.

KINNELLAR *churchyard, Ross-shire*. Logan. *Archæologia*, XXII.

LARGO FIFE.—A small but well marked cross, just behind Largo house. The one side is concealed, being built into the court yard wall.—New Statistical Account.—Unpublished collection.

LINDORES, Fifeshire.—On an eminence called the *Kaim* hill of Lindores, near Newburgh, there is a rude block marked with the symbols 1 and 2. Its genuineness is doubtful.—Unpublished collection.

MAINS OF STRATHMARTIN, Forfarshire.—In the Schoolmaster's garden wall, supposed to be of this same class, carving uninteresting, without characteristic symbol.—Unpublished collection

INCHTUIR, Forfarshire.—What seems a fine cross but of small size. The ornaments of one side concealed. Forms the step of a stair leading to the church-yard.—No published account.

MEIGLE.—A splendid group, consisting of two superbly carved stones with crosses, and a great many sculptured blocks and slabs, which may probably have formed the sides, end, and cover, of a sarcophagus, like that of St. Andrew's. Boethius, Buchanan, and W. H. Maule in his MS. history of the Picts, described these as monumental stones to a Queen Venora or Fenella, and are followed by most other authors. She is said to have been torn to pieces by wild beasts, for her murders and adulteries, about the 9th century. She is said by others to have been the wife of the celebrated King Arthur. "Perhaps the carvings on these stones," sagaciously conjectures Gordon, "as it sometimes, happens, may have given rise to this conjecture; they are all carefully kept and in good preservation."—Unpublished collection.

MUGDRUM, near Newburgh, FIFE.—A large but rude block described by Camden, Gordon, and Pennant, correctly figured in the new Statistical Account of Fife; erroneously there and in Swan's Views of Fife, connected with MacDuff's cross.—Unpublished collection.

MONIFIETH, Forfarshire.—A sculptured but well preserved fragment, built into the church wall.—Unpublished collection.

MORTLACH, Aberdeenshire.—A large stone figured by Logan. Archæologia, vol. XXII.

NEWTON, Ross-shire.—A very rude but well marked stone, referred to by Logan. Archæologia, XXII.

NIGG, Ross-shire. "There is a similar stone to that of Standwick—in the church yard of Nigg, which tradition also assigns to the Danes," Chalmers's Caledonia, vol. I., p. 466.

PITMUIRS CROSS, Forfarshire.—Broken over by the transept, very much defaced; seems to belong to the Aberlemno group.—Unpublished collection.

PITNAPPIE, Aberdeen-shire. * * * *

RUTHVEN, Banff.—Rudely sculptured and much defaced.—Logan; Archæologia.

RHYNIE MUIR, of Aberdeenshire. Two large stones, one 2 feet by 10, the other 1 foot by 9; both figured by Logan. Archæologia: with two others—dimensions not known.

ST. ANDREW'S, Fife.—In digging a very deep grave in the Cathedral yard of St. Andrew's, a little north of the celebrated square tower, in 1833, a large slab, sculptured with hunting scenes, and the figures of men on horseback, of lions, asses, and other animals, was met with, together with a variety of other fragments; they were for sometime tumbled about, broken and partly carried away; the present writer, from the character of their carving, at once pronounced them to be the fragments of a magnificent stone coffin belonging to the same order of monuments as that under discussion. The Rev. C. Lyon, a zealous local antiquary, immediately caused search to be made for other fragments pronounced to be wanting; a considerable number of which were found in 1836, and had correct drawings very carefully taken of the pieces most entire. When put together, it proved to be a most elaborately carved Sarcophagus; the one end and a portion of the side and corner are all that are wanting (Vide plate fig.). To the scandal of the oldest university in Scotland, this most interesting relic is still tumbled about in pieces without the smallest consideration or regard. A portion of it is figured, from the drawings of Mr. Lyon, in the Pictorial History of England; in which however it is incorrectly described. Dr. Dibbin having carried a piece of this stone away with him, has it correctly represented in his 2d. vol.; he considers it as early Saxon.—Unpublished collection.

ST. MADDOES, Perthshire.—A monument very rudely sculptured on one side, but extremely rich and variegated on that on which is the cross. This is in a state of fine preservation; more for the good fortune of the cross than the credit of the local antiquarian taste, it lies buried in the soft earth of the church yard; whence its repose was first disturbed in 1835. It has not, so far as I am aware, been noticed by any antiquary.—Unpublished Collection.



STANDWICK, *Ross-shire*—A fine cross, figured by Cordiner, copied and commented on by O'Brien (*Round Towers*). Chalmers says of this, "At Standwick, in the parish of Nigg, on the east shore of Ross, there stands an obelisk with the sculptures of hearts and a cross; and here tradition accounts that the three sons of a Danish King were interred." *Caledonia*; vol. I. p. 466.

WICK. "At Wick in Caithness there is a monumental stone with hieroglyphic characters, said to be the monument of a Danish Prince." Chalmer at Sup.

From the extent of country over which these relics prevail, comprising the whole eastern and midland parts of Scotland, from the Forth to the northermost part of Caithness; and from the perfect uniformity, under whatever designation they may pass, or whatever history tradition may assign them, of their carvings, style of sculpture and hieroglyphic symbols, we seem perfectly entitled to draw this one inference at least, that the whole of these monuments are of one class, and had the same general set of objects in view: that they were erected under similar circumstances, and when the same general customs and mode of sculpture prevailed amongst all their erectors. As we have no recorded statements of any thing peculiar in this way ever having prevailed in Scotland, we seem entitled either to suppose the period of their erection anterior to the existence of written history, or even of distinct tradition; or, to assume that the custom of raising these sculptured crosses was but of brief duration; otherwise we could hardly fail to have some notices of a thing so remarkable either by the contemporary writers of other countries, or as handed down by tradition to our own. Vague as these conjectures are, they are all which we are entitled to form, from the facts before us, as to the date or mode of their erection. We cannot concur with the idea of O'Brien, that they are older than the Christian era.* The crosses which he makes out to have existed as religious symbols before the Christian era, or to be found at present in heathen countries as religious symbols, bear no resemblance to those on the sculptured stones, which are uniformly of the shape designated "The Cross of Calvary" in heraldry. It is worthy of remark at the same time, that in no single case of a well marked monument of the class, do we find the representation of a crucifixion. The case of

* This observation, though correct as concerns the drawings and description of O'Brien, requires to be received with some modifications.

the goodly Burn-stone, near Perth, would be an exception to this could it be proved to belong to this class of relics: but though in general form and aspect it resembles them, its sculptures are so defective, that, differing from them as it does in this most characteristic particular, I have left it out of the list. Nor is it possible they can have fallen much within this era. Fordoun, who wrote at the close of the 14th century, does not notice their existence, and to we must therefore assume them to have been considered by him of no importance. The same thing holds of Wintoun, who wrote nearly contemporaneously (1420), though there is every reason to believe quite independently of Fordoun. By the time of Hector Boece, A. D. 1500, the more remarkable groups of them seem to have attracted attention; but authentic tradition was as silent regarding them as at present, and the ideas of their describers as cloudy as are those of the antiquarians of our own time. For the history of Scotland by contemporary writers, before the time of Fordoun, we must go beyond the boundaries of our native country and rely on English or French writers, who, though less copious than might be desired, seem to have devoted no little consideration to our affairs. The line of these from the time of Bede in the 6th century, is tolerably continuous. The utter silence of the whole of them in reference to a set of monuments whose existence must have been matter of national importance, and which must themselves, for a long period, have been subjects of deep national reverence, implies, that since the year 500, they have neither been erected nor greatly revered. We have from an architectual fact, an indirect evidence of their very great antiquity. The church of St. Vigean, near Arbroath, is known to have been built considerably before the Abbey of Arbroath, which was founded by David I., A. D. 1200. In the wall near the foundation of the north transept, we find one of these monuments used as a common building stone and luckily not defaced. It is apparent from this, that before 1200, these relics, the elaborateness of whose carving, irrespective of the greatness of their number, proves the deep and long enduring reverence which must have been attached to them, had lost all consideration in the eyes of even the priesthood, or had fallen into utter disesteem. Assuming, then, that the emblem of the cross brings them within the limits of the Christianization of Scotland, and that the silence of English, and ignorance of Scottish, historians, as to the true theory of their erection, carries their date beyond the 6th century, we shall obtain a set of conditions very concordant with

each other, to give us a plausible conjecture at least on this mysterious subject. We are disposed to assume, that while these monuments might commemorate the death, or mark the spot of interment, of eminent individuals, that they were also objects of religious worship—in fact monolith shrines. They prevail all over the ancient Pict land, and hardly beyond it. We have every reason to believe, that, about this period, a colony of Irish became located in Scotland, who would, as a matter of course, bring their habits and customs along with them. “The existence of the celebrated Round Towers in these two districts alone on the face of the earth, is a striking proof of their early connection; and though the perfect identity of the sculptures on the crosses in Scotland and in Ireland has not as yet been so thoroughly established as have the characteristics of the Round Towers, their similitude is so extreme and their existence so remarkably adstricted to these two countries, of the history of this period of peculiar darkness.

The sacrificial processions on various of these monuments—on that of Fowlis Wester in particular,—as well as the representation of other religious ceremonies, seem to point to Pagan observances, then last being obliterated by the prevailing creed. On the coffin at St. Andrew’s, and on the crosses at Duplin and Auldbar in Scotland, and on that of Kells in Ireland, we have the representation of a man tearing open the jaws of a lion or other wild animal, in attitude so precisely similar, that they might pass for copies from the same original, and, in all likelihood, referred to the same event. The idea of Mr. Logan, that the complicated carved work and reticulated interlacings represented on them all, is part of the bardic custom of tying the mystic twig,” seems more than plausible. *Archæologia*, XXII.

ART. VII. — *Notice by the Secretary of the Society on ten Hindu gold coins, found at the village of Hewli, in the Southern Konkan, and presented by Government: also on a collection of gold Zodiac coins of the Emperor Jehangir.*

The ten gold coins transmitted, by Government, for the acceptance of the Society, weigh each 63 grains: and have generally on one side the figure of a lion, with an inscription below in Telagu letters, *Balya Shri*,

(ॐ ॐ ॐ) which may be translated prosperity to the *Bali*; and which are oblations of food offered, at the four cardinal points, to *Indra* god of the firmament, *Yama* judge of the dead, *Varuna* the ocean, and *Soma* the moon.* Two of the coins are hammered and quite plain on one side; having on the other stamped symbols for the four preceding deities, indicated by letters, among which I recognize the Telugu letter K (क) standing for *Yama*, and the cave ch. (च) for *Soma*: The centre symbol must therefore be intended for *Vaivaswat* or the sun. On the reverse of six of the coins we find written within a circle the word *Rudra*, a name for *Siva*; and on another of them the *Trisul*, or emblem of *Siva*, with an inscription below in Deva Nagari, or *Shrimanya Devaya* (श्रीमान् देवाय) to the prosperous god. This last is the newest of the series and indicates the establishment of the Saivite worship.

In the McKenzie collection of Hindu gold coins, two of them are enumerated as the *Sinha Mudra Fanam*, or the *Fanam* with the lion impression, without any further information being given regarding them. These and the ones now under consideration may, with much probability, be assigned to the successors of the *Andhra* Kings of Telingana; or the *Narapati* Sovereigns of *Warangal*, who appear to have been originally feudatories of the *Chalukya* Kings of *Kalyani*. This family is known by the name of the *Kakataya* Princes of Warangal, who at the commencement of their career, in the end of the eleventh century of our era, were *Jains*. Their original residence was *Anumakonda*, from whence, sometime after Sal. 1010, A. D. 1088, these Princes removed to Warangal, which became their capital, and represented the chief Hindu state of Southern India, till destroyed by the Mahomedans, during the reign of Ghias-ad-din Toghlaq of Delhi, Hejirah. 721. AD. 132. The then reigning Prince of Warangal is called in Colonel Briggs' translation of Ferishta *Ludder Dew*: being an evident mistake for his real name *Rudra Deva*: whose possessions appear to have been bounded on the North West by those of *Rama Raja* of *Devagiri*, the modern Daolatabad.

The coins now submitted for examination, having on the reverse the name of *Rudra*, may have been struck during the reign of the Prince just mentioned; but there are good grounds for assigning them a higher anti-

* See perpetual obligations of a householder in Wilson's translation of the Vishnu Purana, Quarto p. 302.

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quity, or the beginning of A. D. 1100 : as at this time the second of the *Kakataya* Princes of Warangal, named *Rudra Deva*, adopted the *Saiva* in place of the *Jain* faith, and built many temples to *Siva*, or Mahadeva, in order to expiate the crime of having killed his father. Only one decisively Saivite coin appears in this collection, and is the most recent of the series : all the others indicating the prevalence of the *Jain* practice of astrology, and the worship of the *Bali* or *Balah*, which are sidereal spirits.

Zodiac coins of Jehangir.

The Zodiac coins of the Emperor Jehangir, consisting of Silver Rupees and Gold Mohurs, are now procurable with much difficulty in India; while there are, I believe, existing collections of them which have been carried to Europe. Catrou, in his history of the Moghal dynasty (page 147), states that the celebrated Empress *Nur-Jehan*, better known, as the favourite wife of the Emperor, by the title *Nur-Mahal*, or the light of the Palace, caused these coins to be struck; when, to obtain full possession of her husband's heart, she procured the banishment of all rivals in his affections, or removed them by less innocent means. John Bowman, Esquire, is in possession of a fine collection of these Gold Mohurs; all of which, excepting those bearing the zodiac signs of *Cancer* and *Capricornus*, were struck at Agra. The two last were issued from the Mint at Ahmedabad. On the obverse of each are the names of Akbar and Jehangir, inscribed in Persian letters, and dated in the 13th year of the Jalus, or personal era of the Emperor Jehangir; which on some of the coins is accompanied by figures 48, intended to represent as would appear the 48th year of the personal era of the Emperor Akbar, or Hejira 1011; when Akbar proclaimed himself, on his arrival at Agra, Emperor of the Dekhan. The 13th year of Jehangir's personal reign corresponds however with Hejira 1027; when the Emperor, after an absence of five years in Gujarat, returned to his Capital of Agra, and soon after lost his father-in-law, the father of the Empress *Nur-Mahal*; who proposed to transmit his fame to posterity by perpetuating his memory in a monument of solid silver, and with the same view may have caused these Zodiac coins to be struck.

(Signed) JAMES BIRD,
Sec. B. B. R. As. Society.

ART. VIII.—*On the origin of the Hamaiyaric and Ethiopic alphabets*, by JAMES BIRD, Esquire.

In making public translations of the *Hamaiyaric inscriptions*, from *Aden* and *Saba*, embraced in Art. IV of the present number of the Society's Journal, it was my intention to reserve a consideration of the question, "*whether this alphabet be of Greek or Semitic origin*," till a more convenient opportunity might permit me to analyze the character of individual letters. My public engagements will not, however, at present admit the execution of this plan, and I am therefore obliged to submit an imperfect outline of my opinion on the subject, in deference to the advice of a friend, who suggested the propriety of publishing, along with *translations* of the inscriptions, an *alphabet* of the character. At no distant period I will resume the subject of the *Hamaiyaric* and *Ethiopic* alphabets, and endeavour to shew that the former had its origin from the ancient *Phœnician*, made apparent by the accurate researches of the learned Gesenius; and that the latter differs not materially from the former, except in having adopted the system of seven Greek vowels, expressed by particular marks and modifications of the letters in the first column, which Dr. Wall remarks, has been termed *Ghiz* ᵂᵂ, or the free, in order to mark its pre-eminence; because the letters, in this column, are not restricted to particular vowel terminations, but constituted the entire system, when the Bible was translated from *Greek into Ethiopic*, and the Abyssinians, converted to Christianity, in the time of Frumentius, received the Greek Scriptures between A. D. 325 and 335.

The *Syrian*, like the *Hebrew* and *Phœnician*, consists of an alphabet of 22 letters, written from right to left; which are either separate or joined with the preceding or succeeding characters; but the *Hamaiyaric* of inscriptions, found on the coast of Southern Arabia, has on the contrary an alphabet of 25, if not 26 letters, written from left to right; for it is probable that further research will discover that the *Hamaiyaric* embraces the whole 26 letters, composing the alphabet of the *Ghiz*, or modern *Ethiopic*. The scheme and arrangement of the latter, called, from two syllables of the series belonging to its first letter, ᵂᵂ ᵂᵂ ᵂᵂ *Ho He Ya T*, differs from that of the *Phœnician* and *Hebrew*, which commences with *Aleph* and *Bet*; but an inspection of the accompanying alphabetical table, plate XIII, will render evident to the most unlearned observer,

Hamaziaric and Compared with the Hebrew, Pte. 1.

Hebrew	Name	Power	Ancient Phoen. Letter	Name	Power	Corresponding Letters of the Arabic.
<p> ז ח ט י כ ל מ נ ס ע פ צ ק ר ש ת י ז ח ט י כ ל מ נ ס ע פ צ ק ר ש ת </p>	Aleph	a	Ⲁ	Aleph	a	ا
	Beth	b	ⲁ	Bet	b	ب
	Gimel	g	Ⲃ	Gimel	g	ج
	Daleth	d	ⲃ	Dent	d	د
	He	h soft	Ⲅ	Hauē	h soft	ه
	Vau	v	ⲅ	Wau	w	و
	Zain	z	Ⲇ	Zai	z	ز
	Heth	h hard	ⲇ	Harm	h hard	ح
	Teth	t	Ⲉ	Tait	t	ط
	Iod	i	ⲉ	Yaman	y or j	ي
	Kaf	k	Ⲋ	Kaf	k	ك
	Lamed	l	ⲋ	Lawi	l	ل
	Mim	m	Ⲍ	Mai	m	م
	Nun	n	ⲍ	Nahas	n	ن
	Samech	s	Ⲏ	Saat	s	س
	Sin	a	ⲏ	Hayin	a	ع
	Phe	ph	Ⲑ	Af	f	ف
	Zade	z	ⲑ	Zappa	z	ظ
	Kaaf	g	Ⲓ	Kaaph	k	ك
	Res	r	ⲓ	Ris	r	ر
	Shin	sh	Ⲕ	Shat	sh	ش
	Thau	t	ⲕ	Taw	t	ت
				Zadai	z	ج or ظ or د
				Past	p	"
				Hoi	h	ح
				Psa	ps	"

that the names of 22 letters in modern *Ethiopic*, corresponding in character with the *Hamaïyaric* of inscriptions from Arabia, and the *Ethiopic* of inscriptions from *Azum* and *Tigré*, differ in no respect from the names and power of the 22 *Phœnician* and *Samaritan Hebrew* letters, from which they were derived. In some of the inscriptions, copied by Messrs. Hulton and Smith, from the neighbourhood of the Bedwin town of *Dees*, distant only four hours from *Ras Sherma*, on the Southern coast of Arabia, the following letters, *Bet*, *Waw*, and *Mai*, retain their original *Phœnician* character, viz. א ב מ, but have not been inserted in the present table.

The names of the *Hamaïyaric* letters, corresponding as they do with those of the *Hebrew* and *Phœnician*, obviously indicate its *Semitic* origin ; and no doubt can exist that these constitute the character, anciently known among the Arabs as *Al Musnad*, or the propped ; being in many cases not materially different from the *Hebrew* and *Syriac* characters, having only the addition of foot props. This and other forms of the Arabic alphabet, including the *Kufic*, was borrowed from the *Phœnician* and *Hebrew* letters, that were in current use among the Jews from the second century before Christ to the seventh of the Christian era. Michaelis in his *Grammatica Syriaca*, pp. 22, 23, correctly asserts, “ Quo tempore Arabes a Syris literas sumserunt mutuas, quod factum est Muhammedis ætate, seculo Septimo ineunte aut paulo antea, tres modo vocales habuisse Syros necesse est, tot enim ab illis acceperunt Arabes, *Fatha*, *Kesre*, *Damma*, quas et Cuphica jam scriptio habuit, totidemque vocales, literis ipsis innexas Sabiorum seu Galeœorum alphabetum habet.” The *Hamaïyaric*, like the character of the *Palmyrene inscriptions*, seems altogether deficient in vowel signs, which as Dr. Wall satisfactorily shews were not in use when the Septuagint version of the Bible was made : all the letters of the Hebrew text being, at this time, employed as signs of syllables, beginning with consonants and ending with vowels.* The letters of the alphabet were all consonental, inclusive of و ا ع of the Arabic, or the *Ain*, *Alif*, *Waw*, and *Yod* of the Hebrew and Syriac, which were termed quiescent in the pointed texts of the Bible ; but were afterwards employed as *vowel signs*, as seen, from the *Hamaïyaric inscriptions*, by a

* Examination of the ancient orthography of the Jews, and of the original state of the text of the Hebrew Bible, by Charles William Wall, D. D. Professor of Hebrew in the University of Dublin, vol. II. p. 271.

comparison of these with the corresponding words in Arabic. The Syrians had at first only three vowels, corresponding to the same in Arabic; but, as the *literati* advanced in translating the Bible and other works into Greek, they endeavoured to express all the sounds of the proper Greek names, substituting at first five Greek vowels, and subsequently carrying them as far as seven;* which number were also adopted by the *Ethiopians* on the transfer of the *Hamaiyric* character to the shores of *Axum*. The quiescent letters of both the *Arabic* and *Ethiopic alphabets* possess no sound in themselves, till animated by points; and the *Waw*, on the coins of the Maccabees, Λ or the Hebrew *waw* so modified is found to retain this character in some other inscriptions, such as the Bactrian Pali, from *Shah Baz Ghari*; which, as can be clearly shewn, had a kindred origin with the Pehlvi writing on the Persian monuments of *Nakhshi Rustam*, *Nakhshi Rajib*, and *Takhti Bustan*, and are closely allied to the letters of the Palmyrene inscriptions; of which the first dates not earlier than the year 135 of our era. The opinion of Dr. Wall, therefore, "that it was from reading Greek that the Jews learned the use of vowel signs, and in consequence applied three of their letters occasionally to this use, precisely in the same manner as the cognate letters were afterwards employed in unpointed Syriac, and are, at this moment, employed in unpointed Arabic,"† is so consonant to truth and the practice followed in the Hamaiyric inscriptions from Southern Arabia, as to bring home to us conviction, that, while the Hamaiyric is a derivative from Phœnician, it at the same time employed four additional characters to express the Greek consonental sounds of Zeta, ζ Eta, η Pi, π and Psi, ψ as apparent in the comparison made of the several alphabets. Along with this adoption of Greek vowels and additional consonental characters, the Hamaiyric and Ethiopic alphabets use, as numbers, certain figures derived from the numerical system of Greek letters.

If the opinions regarding the origin of the *Hamaiyric* and *Ethiopic alphabets* be correct, and of which I entertain not a doubt, it will follow as a matter of course that the *Hamaiyric inscriptions from Aden*, and those translated in Art. IV. should be read from left to right, like *mo-*

* Grammatica Syriaca Joannis Davidis Michaelis, p. 24, et Bibliotheca Orientalis Assemani Tom. I p. 522.

† Wall's examination of Jewish Orthography, vol. II p. 221.

der Ethiopic; and made use of diacritical points, such as appear to have been introduced into Syriac by the Nestorian Christians. The Ethiopic inscriptions, on the reverse of the Greek tablet at Axum, published in Mr. Salt's voyage to Abyssinia;* and written in precisely the same character as the Hamaiyatic of Southern Arabia, read from left to right, and record that John, Bishop of Ethiopia, taught from the neighbourhood of the River (Nile) the Sabeans of Hazramaa. He is the same John who was sent, as appears, into Ethiopia, during the reign of the Emperor Justin A. D. 521, in order to settle the Christian faith of that country, and was accompanied by several missionary assistants. This and other facts give probability to the opinion that the Hamaiyatic of inscriptions, in Southern Arabia, are of comparatively modern origin, and cannot, at the utmost, have an antiquity beyond 200 years before the birth of Christ; when, on the coins of the Maccabees, we find many Hebrew letters cognate with those of the Hamaiyatic inscriptions. The language of those now translated is a mixture of *Ghiz and modern Arabic*; and as the adjectives, found in the inscriptions, are formed on the principles of Ethiopic Grammar, while the preposition *Ba*, used both in Persian and Ethiopic is found in them, it must necessarily follow that these inscriptions can be but little anterior to the commencement of the Christian era, and are, in all probability, several centuries after it, when the Hamaiyatic sprung from the Phœnician, altered to express Greek vowels and proper names.

The comparatively modern origin of the Hamaiyatic alphabet may be also deduced from what we know regarding the origin of the *Coptic*; which, cannot be traced back further than the 1st Century of our era, though the language itself existed at an earlier period. When the early Christians translated the Bible into Coptic, the versions of it from the Septuagint were written from left to right; and where Coptic sounds could not be expressed by Greek letters of similar force, additional Coptic letters were used. In this manner seven additional Coptic characters, were added to the 24 letters of the Greek alphabet; exhibiting, in this respect, a remarkable similarity with the practice pursued in the Hamaiyatic characters, and in the translation of the Scriptures from Greek into Ethiopic. We not only observe this analogy between the systems of the two alphabets, but can distinguish an almost identity of character between the seven ad-

* Salt's voyage to Abyssinia.

ditional letters of the Coptic alphabet and those similar found in Ethiopic. The following seven letters not in the Greek alphabet, **𐤀𐤁𐤂𐤃𐤄𐤅𐤆** or *sh, f, h, k, z, s, ti*, will, on a comparison with the alphabetical table of the Hamaïyaric here submitted, be found to be almost identical in character.

The Semitic origin of the Hamaïyaric letters, and their derivation from the Phœnician may be yet further accounted for by what Masudi in his Golden meadows, and other Arabic historians relate, that the descendants of Khatan or Yoktan, inhabiting Southern Arabia, used the *Suryani*, or Syriac language, previous to the amalgamation of the several dialects now constituting the Arabic language, which probably derived its title, posterior to the Exodus, from the Hebrew **אַרַב** *Arab*, signifying a mixed people. Philostorgius further relates that Syrians were settled in the neighbourhood of the Ethiopic ocean, "*Ad maris rubri inquit exteriorum sinum sinistro latere degunt Axumitæ, ex vocabulo Metropolis ita appellati : urbium enim caput Auxumis dicitur. Ante hos autem Auxumitas, Orientem versus, ad extimum pertingentes Oceanum, accolent Syri, ab eorum quoque regionum incolis ita dicti. Etenim Alexander Macedo eos ex Syria abductos, illic collocavit : qui quidem patria Syrorum lingua etiamnum utuntur !*" And Strabo notices that towards Arabia Felix in the Indian Ocean, there were Colonies of Sidonians, Syrians, and people of the island of Arwad.*

I must therefore dissent from an opinion expressed in a late publication, on the Historical Geography of Arabia, that the Hamaïyaric characters only consist of 20 letters, or can be the first alphabet of mankind.† Mr. Forster terminates his observations with this remarkable conclusion, "there is every moral presumption to favour the belief, that, in the *Hisn Ghorab* inscriptions, we recover the alphabet of the *world before the flood*:" but neither Palæography nor Philology will bear him out in so unphilosophical a conclusion. I may briefly recapitulate the chief points which argue against the correctness of his interpretation of the Aden, Hisn Ghorab, and Nakab-al-Hajar inscriptions. 1st. The Hamaïyaric inscriptions on the coast of Southern Arabia are precisely in the same character as the Ethiopic inscriptions found on the opposite coast of Axum, and on the reverse

* Bibliotheca Orientalis Assemani, Tom. IV p. 603.

† The Historical Geography of Arabia by the Revd. Chas. Forster, B. D. in 2 vols. London, vol. II. p, 408.

of the Greek Tablet there ; which dates not earlier than the 4th Century of our era. 2nd. The existence in Hamaiyari of three quiescent letters, used by the Syriac as vowels, and the change of *Ain*, into ,*a i*, or *u* ; a practice which had not existence prior to the commencement of the Christian era. 3rd. The striking similarity between the *ancient Hamaiyari*, and alphabetic characters of the *Modern Ethiopic*, which had not an antiquity greater than the time of Frumentius, while the probability is that it is considerably later, or about A. D. 508, when Philoxenus translated the Scriptures into Syriac, and adopted the system of the Greek vowels. 4th. The introduction into Hamaiyari of three, if not four, additional letters to express Greek sounds, which differed from those of the Hebrew or Phœnician. 5th. The figure of a *cross* accompanies most of the inscriptions from Southern Arabia, and is very apparent below the Hisn Ghorab inscription, indicating its comparatively recent and Christian character. Such seem to me strong reasons for differing from Mr. Forster, and from his system of reading the inscriptions from right to left, instead of from left to right as in modern Ethiopic. At some future time I will return to this subject.

ART. IX.—*Historical Researches on the Origin and Principles of the Bauddha and Jaina Religions : embracing the leading Tenets of their System, as found prevailing in various countries : illustrated by descriptive accounts of the Sculptures in the Caves of Western India, with translations of the cave inscriptions from Kanari, Ajanta, Ellora, Nasik, &c. indicating the connexion of these caves with the Topes and Caves of the Panjab and Afghanistan.* By JAMES BIRD, Esq., F. R. G. S. Member of the Royal Asiatic Society, and of the Bombay Medical Service.

ANALYSIS.

On looking at the Indian provinces, where unquestionable Bauddha monuments remain, we are surprised at the great extent of country, over which this religion was spread ; and view with wonder the relics which mark its former existence : scattered as they are from the caves of Balkh

Bamian, and the Indus westward, to the confines of Nepal and the Ganges eastward; from Kashmir and the sources of the Jelum, on the north, to the southern promontary of Cape Comorin, and the island of Ceylon. The state and principles of this religion, as now found existing in Ceylon, have been well illustrated and examined by the late Honorable Mr. Turnour; its condition and leading tenets in China, were learnedly expounded by the late Mr. Remusat; Mr. Hodgson in his various papers on Nepal Buddhism, published in Prinsep's Journal, has made us familiar with Bauddha religious literature in Nepal; and Mr. Klaproth has performed for us a like service regarding that of Japan. But relative to the inscriptions written in *Prakrit*, and found on the monuments and caves of this ancient religion throughout India, little or no information has been conveyed to us beyond what is contained in the brilliant discoveries of the late Mr. James Prinsep, on the subject of Asoka's monuments, and the observations of William Erskine, Esquire, on the remains of the Buddhists in India, published in the 3rd Volume of the Bombay Literary Society's Transactions. Our selections from the present work, therefore, though desultory, will be of interest to those general readers, who take some pains to inform themselves regarding the former state of India, both under its Hindu and Mahommedan rulers.

It has been ascertained, beyond doubt, that the earliest grammar of the Pali language, in which the greater body of Bauddha literature was written, was composed in the Dekhan; and it is a subject worthy of learned investigation to determine the relative antiquity of the Sanskrit and Pali grammatical systems; with which question the comparative antiquity of the Brahmanical and Bauddha religions is closely connected. In the publication from which we are now about to quote, the author, for the better investigation of his subject, has done so under the following heads:—

First, a description of the principal excavations of Western India.

Second, a sketch of the system of Buddhism, as it prevails in Ceylon, Burmah and Siam, Tibet, Tartary and China.

Third, translations of the Western Cave inscriptions, and the connexion of these with Buddhism as it now prevails in other countries.

Fourth, observations on the symbolical marks preceding the inscriptions; their similitude to those on the coins found west of the Indus and in the Panjab, and on the connexion between the *Topes*, or Buddhist mau-solea of these countries, and the Western Caves.

Fifth. The history of Buddhism traced and illustrated.

Under the first head he describes the excavations of Karli, Kanari, Nasik, Junir, Aurungabad, Mahar, Ajanta, Ellora, Badami, and Mahamalaiapur. The caves generally consist of two classes. "In the first of them the objects of worship, represented by the sculptures, are confined to personages and manifestations of the deity belonging to the simpler and more philosophical form of Buddhism, which seems to have prevailed at its origin ; in the second, the variety and modifications of objects worshipped have reference to the more complicated and extended Brahmanical Pantheon, the Sakta form of Hinduism, the worship of Siva Bhairava, in conjunction with his consort *Uma*, or Parvati. The former, characterized by simplicity of design and execution, consist of one or more arched temples, which contain the *Dehgop*, or stone spire of an hemispherical form ; and these are surrounded by flat roofed excavations, in which are found one or more sitting images of Buddha, a number of small cells, and sometimes broad benches running round the apartments, shewing that such were dedicated to the use of a monastic fraternity, and the education of disciples, who had abandoned the world in order to submit to religious discipline. These temples are further distinguished by having long inscriptions in a language, which is neither pure *Pali* nor *Sanskrit*, though approaching sufficiently near either to be intelligible through their medium : and the character in which it is written differs but little from that of the inscriptions on *Asoka's pillars* ; which was in use we know during the third century B. C. To this class belong, as would appear, the caves of Karli, Kanari, Aurungabad, Nasik, Junir, Mahar on the Bankut river, and the southern ones at Ellora. The large excavation at Kanari, in the vicinity of Bombay, is further distinguished by having in front of it, on a ledge of the mountain, several small mounds, or burying places of *Rahats*, or *Saints*, who were tenants of the caves. One of these, a dilapidated pyramidal building of earth and stone, was opened by me in 1839 ; when two copper urns containing human ashes were found. In one of the urns there was a small gold box, containing a fragment of white cotton rag, accompanied by a pearl, a ruby, and some small pieces of gold : in the other there was a silver box along with the ashes. The most interesting relics however discovered on this occasion were two copper plates, one of which bore an inscription in the *Lath* character of the caves, and the other in a more florid writing, similar to that of the *Chattisgarh* and

Seoni inscriptions of the 8th and 9th centuries ; which has been aptly enough denominated the *Andhra* character, and from which the alphabets of the southern Peninsula were derived. The last part of this inscription contains the Bauddha creed as inscribed on the base of the image from Tirhut, and on the stone extracted from the Thupa at Sarnath, near Benares ; identifying these as Bauddha Mausolea, with which the Thupas of the Punjab and Kabul are in other respects analogous.

“The second class of excavations, to which belong the nine middle caves of Ellora, those at Elephanta and Badami, are characterized by a more florid and laboured style of sculpture, representing groups of many armed figures of Vishnu and Siva in their various avatars ; miniature scenes of battles from the sacred epics, the *Ramayana*, and *Mahabarat* ; triad figures of *Siva* in union with the female principle, or *Uma* ; and stone lingas in the recess. A greater grandeur of design and spirit of execution is observable in the figures of this class than in the simpler sculptures of the earlier Bauddha College, such as Kanari ; and exaggeration is resorted to in order to give energy to the suggestions of imagination on subjects of religion to which they refer. Their architectural character too, from which the style of the ancient Hindu temples of the tenth and eleventh centuries, A. D. has been derived, would not indicate that such is the early efforts of a rude people, emerging from barbarism, but rather that it has been matured by experience : and that though the types of Buddhism and Saivism were not radically different, when the two religions emanated from a common system, yet the things here typified embrace so many Brahmanical combinations, that the very presence of Saiva symbols and images, in structures exclusively Bauddha, imply, that when such were executed, the tenets of both religions were matter of high debate in the civil society of India. The comparatively few inscriptions found in this class of caves, and the nearer approach of the letters to the present alphabets of the southern Peninsula, point out the more modern origin of the structures : while the smaller number of cells for the priests, compared to the extent of these caves, shew that they were less places of tranquillity and retirement, for monastic establishments, than of public resort and pilgrimage, or *Tirthas*, for the great mass of the people.

“The caves of Ajanta are of a character intermediate between these

two classes of excavations, possessing much of the extent and grandeur of the latter, but without the same marked traces of Hinduism, or of Tantrika principles, that are found engrafted on Buddhism at Ellora. Many of the Bauddha figures would here, however, appear to be distinguished by the symbolical representation of particular animals and things, which indicate some deviation from the original worship of *Buddha Sakya*, and may be the origin of the Bauddha adaptation of Sakya's religion to Vaishnava principles, as explained in the *Sri Bhagavata*; by which the different descents and forms of the deity, as Vishnu, are made the origin of the *Jain* saints. The images in the different caves are characterized by being represented naked, or covered by a robe, and have distinguishing marks engraved on the pedestals, or *Sinhasan*; such as the ape, the lotus, the wild cow, the antelope, the goat, and the *kumbha* or jar; which are the appropriate symbols of the Jain saints, Abhimandanu, Padmaprabha, Vasupujaya, Santi, Kunthi, and Malli. The Bauddha religion of Nepal acknowledges indeed many forms of Buddha, mortal and celestial; but the presence of the *Jain* symbols, on the pedestals of the images at Ajanta, their clothed and naked representations, similar to the Swetambara and Digambara images of the Tirthankaras, and a sculpture of Garura, supporting the roof of one of the caves, have suggested to me the opinion, that while some of the neighbouring excavations at Ellora were dedicated to Tantrika principles and Saiva mythology, engrafted on Buddhism, those of the more primitive Bauddha caves at Ajanta, shew corruption from admixture with the more congenial principles of the Vaishnava faith. I give this opinion more with a view of future research, by those who may find leisure for investigating the native literature and annals of the Jains, than under the conviction that it is one admitting of proof; but as the Vaishnava and Saiva faiths divided the popular mind of India, from the fifth to the tenth centuries of our era, the opinion is worthy of consideration. The larger inscriptions too at Ajanta, though they may be long posterior to the excavations, are closely allied by the character of their alphabet, to the *Chattisgarh* inscriptions of the eighth and ninth centuries, which have been already noticed."

Regarding the architecture of the caves, the author remarks, "Professor Heeren is of opinion that the style of modern Hindu architecture takes its origin from the pyramid; but on looking at the general character of this architecture, as developed in the temples erected, throughout the southern

Peninsula, posterior to the twelfth century of our era, I am rather disposed to conclude, that the model from which they derive their origin is the composite *Deghop* as seen in plate VI. The architecture of the caves is altogether of a monumental kind, possessing much of the colossal grandeur and vastness of the Egyptian style; with which, in the general outline, it possesses a similarity of design: the shafts of the pillars being cinctured, at intervals, by bands of three or more rings, or decorated, in other respects, by the spaces between the bands being reeded and sculptured with figures. The columns too have rarely any distinct base, and exhibit examples of double capitals, peculiar to Egyptian architecture; the square member of the cave pillars being sculptured with a figure of Buddha, as seen in plate XV, instead of the heads of *Isis* as observable on the sides of the Egyptian capitals."

The individual excavations are then described; and in the introduction to the work, and head,

Excavations of Ajanta,—we find the following observations. "These monuments which I have classed as intermediate between the simple Buddha caves, and those which have been termed Brahmanical, by Mr. Erskine, are nearly as magnificent and extensive as those of Ellora; which must, however, be reckoned of later origin, and mark the change of faith among the people of Western India from simple Buddhism to Saivism, and the orthodox system of Hinduism which is now prevalent.

"These excavated temples, known by the name of the caves of Ajanta, or the pass, are situated about three miles south-westward of the village of *Fardapur*, which lies at the bottom of the *Ghat* leading from Aurungabad into the province of Khandesh. The bed of a mountain torrent, winding through the rocky bottom of a ravine, leads to a deep and narrow dell; where the perpendicular face of the rock may be between two and three hundred feet in height, at the place where the caves commence. The repeated doublings of the ravine seem to cut off this sequestered spot from all communication with the world; and the dell at its further extremity narrows into a chasm, which is shut out, on either side, by precipices of rock at least a hundred and fifty feet high, where a cascade of seventy or eighty feet, after falling into a deep and capacious bason at the bottom, overflows to form the rocky torrent, just described, which is dry during the months of April and May. The sides of the ravine, where not precipitous, are clothed with wood; and the features of the

scenery, if not magnificent, are highly romantic, and have an air of wild solitude peculiarly striking.

"The caves are situated in the ravine on the right side, at about one third of its height; and following the winding course of it, from east westward about a quarter of a mile, describe more than the quarter of a circle. Those which were accessible and visited by me, during the hot weather of 1828, amounted to twenty two; but some new ones have been since discovered. Four of these are arched ones containing the *dehgop*, and the others are flat roofed." The former are genuine *Chaityas*, or temples dedicated to *Adi Buddha*, as in Nepal: the others are generally *Viharas*, or monastic institutions for the ascetics, in many of which are found images of *Buddha* seated on thrones, here sculptured with devices of different animals, now the distinguishing marks of the *Jain* saints, and perhaps appropriated to the different manifestations of *Buddha*. Since my visit a subscription was raised to remove obstructions and make pathways to the caves, and two new caves were thus discovered.

"The following drawings, which were made and lithographed by a native artist, convey a tolerably accurate idea of the style of painting and the subjects of the scenes; which represent rural processions, love and marriage, the storming of fortifications, and groups of women in various attitudes, particularly in the one of performing *Tapasya*, or religious austerity, on the *Asan Siddha* or holy bed of the ascetic. In others of the scenes, teachers are represented instructing their *Chelas* or scholars, in the art of mental abstraction, or *Dhyan*, by meditating on the blue lotus; six *Dhyani Buddhas*, of which *Vajra Satwa* is the sixth, are seen springing divinely from the lotus. Another of the paintings represents the contest of the *Asuras* to get back the ravished daughter of their king, who had been carried to the *Tavatinsa* heaven, or *Bhavana* of *Indra*, an account of which is communicated in Mr Upham's system of Buddhism. In the sculptures most of the figures have curled or wig-like hair, and their heads are generally covered by tiaras. The same are similarly represented in the paintings, which are executed "*alla fresco*," on a composition of white calcareous earth and cowdung, smoothed finely over with a thin coating of choona, or tufaceous lime, found in India. The women are always drawn without any covering to the breast, and their drapery has the form of a petticoat below, part of which is thrown

in some instances over the left shoulder, leaving the right breast bare. The dress of the men is nearly similar to that of the women, and the figures of both are painted black, blue, and other colours, among which however a yellow, or copper brown, is the prevailing one. Several animals as horses, elephants, and bullocks highly ornamented, are depicted; and some visitors remarked that three horses yoked abreast in a carriage were observable. A grave figure with curled hair, thick lips, and lobe ears, sometimes appears amongst the paintings, and is evidently of a character entirely different from the figures around him; and this with the striped petticoats of the women suggests an opinion that the people who executed the paintings were the subjects of the most illustrious prince of the Indies, named the *Balhara*, who was king of *Maharmi-al-adan*, or of those who have their ears bored, and that the inhabitants were subjects of the kingdom of Calabar, who were dressed in those sorts of striped garments which the Arabs call *Fauta*.

The Buddhas here represented, seem to be of all nations and colours, and have each a nimbus round their head similar to that round the heads of Christian saints, and which was not introduced we know previous to the establishment of our era. The people who frequented these religious shrines must have had an extensive acquaintance with various nations; and the nicely combed and curled hair of the women, whose locks, brought down in ringlets over the ears, descending on the neck, with the head dress or fillet which surrounds the brow like a muslin band, and the high tiara of the chiefs or princes, loaded with pearls, indicate artificial taste and habits at the time when these paintings were executed. Some visitors have remarked that Grecian military costumes were to be seen, but I did not observe any such at my visit, and the only thing of this kind which has come to my notice is the head covering of one of the figures drawn for me by Professor Orlebar, and which certainly has a very close resemblance to the Grecian helmet. Mr. Orlebar, in an account of these caves kindly communicated to me, remarks that these paintings are not historical, but seem intended to convey moral instruction, and that in the Indo-Bauddhist system, education was a primary object. In one of the Dehgop caves, a female worshipper of Buddha is painted in the act of teaching, surrounded by a group of smaller figures who are attentively listening, and among whom one seems to be a Brahman. In several of the scenes, representing masters teaching their scholars, the modern *Sannyasi* of the Hindus is observable.

There is one large painting already referred to, representing a siege. Mr. Orlebar remarks that, on the fore ground from the left, the besieging army is seen in advance, and consists of elephants, infantry, and cavalry under the wall of the town. Within the walls the king is seated on his throne and surrounded by attendants; while some of the besieged are throwing themselves down from the wall on the enemy; some are descending, and some have already alighted; and of these one spirited group represents a struggle between two of the besiegers, and a warrior whose dishevelled flowing hair shews that he has just alighted, and others are on their knees begging for quarter. The wall in its construction is as singular as the defence of it. It consists of a series of peaked battlements, in which there are no loop holes. The besieged are here represented with fair European countenances, while some of the besiegers are dark. The infantry of the latter are armed with a shield and sword, of a curious form, and with a short spear. Those mounted on elephants have spears, or bows and arrows; but their dress is generally scanty and they have apparently no defensive armour. The whole appears, as I have already said, to be an attempt of the *Asurs* to get back the ravished daughter of their king from the heaven of Indra.

Besides these, there are domestic scenes, seraglio scenes, processions, and portraits of princes, larger than the rest. There is an Abyssinian black prince seated on a bed along with a fair woman, to whom he appears to be married; here a fair man is dressed in a robe and cap like that of a monk or abbot, and there again, in other parts of the painting, are females seated in flower gardens surrounded by attendants, or are seen sitting within small buildings, with light pillars, resembling Chinese summer houses. Round the neck and over the right arm of many figures, male and female, the mystic triple necklace is disposed, while these hold in their hands the lotus, and appear as if engaged in the contemplation of some deep point of philosophy. Other figures, represented of a dark complexion and with curled hair, are standing on the lotus, and hold in their hands the discus, or *Chakra*, which is one of the sacred emblems in the *Phra Patha*, or divine foot of Buddha, and is typical of eternity and universal domination. We learn, from Captain Lowe, that, according to the Siamese ritual, the worshipper with uplifted folded hands is directed to enumerate it among the sacred emblems. The head dress of many of the figures, which is pyramidal, resembles the Persian tiara; and though less

peaked than the *Mukut*, or crest of Buddha, depicted in the Phrabat, it may be here, as in the other, emblematical of the solar ray, being analogous, in this respect, to the winged crown on the obverse of the Sassanian coins of Persia, the reverse of which is remarkable for a fire altar, and two wheels, or Chakras, over the heads of the officiating priests. The spirit of polytheism is disposed to imitation, so that the legends and practices of one sect are often appropriated by another. We need not therefore be surprised that the Bauddhists of Siam worship the sun, under the name of *Pra Athit*, as mentioned by Captain Lowe; or that we should find pure Buddhism, on the west of India, early corrupted by an admixture of the Sabeian and Magian faith; or blended, afterwards, as in Nepal, with the worship of Siva and Tantra rites. Shamanism, or the gross form of Buddhism, which exists among the Tartar tribes, is combined with astrological superstition of magic and sorcery; and, if it differs in practice, is similar in its doctrine with the *Kala Chakra* system of Tibet, which has been already explained in a note on authority of De Koros. Whatever apparent differences may exist between the style of sculpture, and symbols which mark the alliance of one class of cave monuments with a period when primitive Bauddhist notions prevailed, and of those which refer another class of them to a time, when these notions, were corrupted by foreign admixture; such may be ascribed with more truth to the spirit of imitation and the accommodating temper of superstition, than to the possibility of having derived their origin from rival sectaries, so opposite to each other as were the Bauddhists and Brahmans. The caves of the western coast are doubtless Bauddha, or Jain; and of the latter only a few remains are to be met with at Ellora, which may be posterior to the corruption of pure Buddhism by Tantrika principles.

Among the paintings at Ajanta there are several portraits; one of which is a Raja on his knees performing his devotions, and there are other four placid faces of men and women. The hair of the women is tied by a bandeau, after the fashion of the women on the Garrow hills near Bhagalpur; who are described by Mr. Elliot as having their hair bound with a tape, three inches long, so as to keep it back from their foreheads, though generally it is tied with a string on the crown of the head. There is also a portrait of a lion monstrosity not unlike an Egyptian sphynx. It is deformed by a cap being given to the curling hair of its head, and a girdle to its body, and has doubtless some emblematic

meaning, as it appears at the feet of a Buddha standing on the leaves of the lotus, below which the many headed Nag is painted.

Besides these there is a hunting scene, wherein dogs are represented with collars and short tails, and horses with saddles not unlike what we see in Europe. The borders and patterns on the roofs of the caves are extremely well painted, and many of them are even tasteful and elegant. Some of the colors are fresh as when they were first laid on, especially the light blue, but the red has generally faded into a dirty brown."

Caves of Ellora. These magnificent monuments, which belong to the second class of excavations, are next described, and under this head we find some preliminary observations regarding points of doctrine, wherein the *Bauddha* and *Jaina* sectaries agree or differ, from which the religious sculptures belonging to these particular sects may be appropriated to each of them. We quote the following:—"The two heterodox sectaries of *Buddha* and *Jina* agree in placing within the limits of south Bahar, and its immediate vicinity, the locality of the death and apotheosis of the last *Buddha*, and of the last *Jina*; disavow the *vedas*, and deities of the Hindu Pantheon; lived originally in a state of celibacy in religious societies, or monasteries, as we learn from the fables of the *Pancha Tantra*; select their priests from among the children of all branches of the community; have preserved for their sacred language the *Pali* or *Prakrit*, a dialect closely resembling the Magadhi or vernacular tongue of South Bahar; have nearly the same traditional chronology for the origin of the two sects; do not eat after sunset, and sweep the spot on which they sit down from their regard for the preservation of animal life. Both sects agree too in holding the doctrine of eternal atoms, which are the elements, earth, water, fire, and air; and which become the world's cause when in a state of aggregation, and of its dissolution when universally separated. This opinion they maintain in common with the *Vaisheshika* school of Hindú philosophy, of which *Kanada* is the author; and which is controverted by the more orthodox opinions of the *Vedantis* or the followers of the *Mimansa* philosophy. Though this information, regarding their early opinions, is obtained from the controversial disquisitions of their Brahmanical adversaries, it is essentially correct; and such opinions are perhaps more original than those now prevailing among the Bauddhas of Nepal; who, according to Mr. Hodgson, admit the *Pancha Bhuta* or five elements, of which the five *Dhyani* or celestial Buddhas

are personifications. The Nepalese also admit *Manasa* and *Dharma*, or the sentient principle and condition of merit, as the sixth *Dhyani Buddha*, but as these last do not appear to have been admitted by the earlier Bauddha sectaries in India, nor were such opinions mixed up with the *Saiva* and *Sakta ritual* in Nepal, until a later period, we should be cautious in drawing the inference that such were parts of original practical Buddhism; and the conclusion seems more rational that such *Tantra* rites and symbols were grafted on Bauddha speculation, as was the case we know with the *Gyut*, the seventh and last portion of the *Kah-Gyur* or great scriptural collection of Tibet. The first volume of this portion was introduced from the north it is said, into India, during the tenth century, and into Tibet during the eleventh." *

Succeeding these observations we find an analysis of the character of various sculptures, met within three separate classes of caves at Ellora, called the northern, middle, and southern. The first range consisting of the *Adi-natha*, *Jaggannatha*, *Parishrama*, and *Indra Sabhas*, with some minor excavations now nearly filled up with earth, have been called *Bauddha* or *Jaina* by Mr. Erskine. To these succeed the *Dumar-lena Jan-wassa*, *Kumarwara*, *Ghana*, *Nilkantha*, *Rumeswara*, *Kailas*, *Das Avatar*, and *Rikk Ravan*, which have been thought Brahmanical works, and belonging to this religion. The last or southern range, consisting of the *Tin-loka* or *Tin-tala*, the *Do-tala* or *Dukhyaghar*, *Viswakarma*, and the group of caves, called *Dehreh-wara*, are purely Bauddha ones, and similar to those of *Kanari* and *Karli*."

Of the individual excavations *Kailasa* is thus decribed:—"It is the most extensive and wonderful structure at Ellora, consisting of a Pagoda in form of a cone, about one hundred feet high, standing in a vast area of nearly four hundred feet in depth, and connected by two bridges and elaborate sculptures on an elegant portico; the upper story of which, rising above the gateway, contains the *Nandi* (Sivá's bull,) and appears to have been intended as a room for the accommodation of the band of musicians that attended at great festivals. On passing the gateway below, the visitor enters the area, and proceeding under a small bridge comes to a solid square mass of stone; the sides of which are sculptured with various figures, and support a room above, connected with the balcony of the

* See Analysis of the Kah-Gyur, by H. H. Wilson. Journal A. S. vol. I. p. 386.

gateway. The western face of this basement has a sculptured representation of what the Brahmans call *Lakshmi* seated on the lotus, and watered by the trunks of two elephants, similar to a sculpture of the same goddess from Mahamalaiapur, given by Dr. Babington in plate VIII of his report on these interesting structures. Brahmanical identification of this sculpture, as the *Sakti* among *Saiva* figures, would show how nearly the original creed of Bauddhas and Brahmans approached each other; and though most of the sculptures of Kailasa belong, as will be seen, to the favored religious sectarianism of Siva, the statue of the goddess is here represented agreeably to Bauddha ideas, which recognize the female divinity, *Adi-Prajna*, or *Adi-Dharma*, as symbolized by the *lotus*, or *yonî*; and manifested in Nepal as (*jalsa-rupa*) or the form of water.* On either side of this figure the passage opens right and left into the area, where are standing stone statues of two elephants, one of which is headless. Having passed these we are conducted to a second passage under another small bridge, that connects the upper room of the stone basement before mentioned with the body and upper story of the great temple. Two gigantic statues, similar to the usual representations of Buddha, are to be seen under the bridge at the second passage, and are usually named *Raja Bhoja* and *Ghatotkacha*; the latter of whom is mentioned, by the *Mahabharat*, as the natural brother of the *Pandus*. Two flights of steps lead from the first passage to the upper room which contains the *Nandî*, and is furnished with two doors and two windows. Opposite the latter there are two stone obelisks rising from the area below, and from this room, which is on a level with three small apartments over the gateway, the visitor may cross over the second bridge, and enter, (by a handsome open portico raised on lion pillars,) the grand apartment of the temple, which is supported by two rows of pillars. Two projecting portions, or balconies from the latter, appear to have been once connected, by a bridge, with smaller temples in the upper part of the scarped rock that encloses the area below. The hall of the great temple is about sixty six feet by fifty five in measurement, and the height of the ceiling varies from sixteen to seventeen

* Mr Hodgson's Notes on his sketch of Buddhism. Trans. R. A. S. vol. II page 249-253. In plates XXII and XXX of the Ajanta drawings, women are represented pouring water over the devotees, to remind them, as appears, of this essential principle of their faith.

feet. At the eastern end a doorway leads to a recess containing the *linga*; and the outer wall of the temple is sculptured with a profusion of imagery descriptive of a battle, which refers, as would appear, to the war of the *Kuravas* and *Pandus*, the theme of the *Mahabharat*. Interiorly a doorway, on each side of the recess containing the *linga*, leads to an open platform, where five smaller chapels rise in the form of a pyramid, and are elaborately sculptured with figures of the Hindu mythology, but contain no *lingas*.

Words cannot well convey an idea of this magnificent structure; on the right and left of which are several smaller excavations, in the upper part of the rock enclosing the area; and in rear of the temple, level with its base, three colonnades consisting of a single row of pillars, and corresponding pilasters, are seen between it and the northern, eastern, and southern scarps of the rock. Here between the pilasters, in the several compartments, are sculptured so many figures of the different divinities, as if they were meant to represent the whole of the Hindu Pantheon. Those in the *northern* colonnade, distributed in twelve compartments, are dedicated to the Saiva faith, and intended to represent its superiority to that of Vishnu. It is scarcely necessary here to enumerate the character of the several figures, as others have already done so, though not quite correctly; and I may satisfy myself and the reader by only alluding to some of the principal. The first on this side is the *linga*, surmounted by nine heads, which are those of the demon *Ravana* supporting the symbol, and who is said to have been so devoted a follower of *Siva* as to yield up nine of his heads to the service of this deity, and was about to sacrifice the tenth, that he might obtain immortality and universal dominion. The remaining figures are chiefly various representations of *Siva* and *Parvatī*; number *seventh* is a *Bhakta*, or follower of this deity; and the *twelfth* one represents *Siva* issuing from the primitive *linga*, (pillar of radiance,) when he revealed himself to his consort *Parvatī* or *Chandī*, to slay the demons *Chanda* and *Manda*, who, through a boon granted by the divine mothers, had become so powerful as to fill with alarm the three worlds; and who, though once subdued by *Devi*, were now exalted beyond her might. In the *eastern colonnade* there are nineteen compartments, containing figures that are also chiefly representations of *Sivā's avatars*. In the *second* he has assumed the form of *Virabhadra* to destroy as appears *Dakṣha's* sacri-

fice ; though the Brahman attendants call this the destruction of *Tripura Asur*,* one of the three demons destroyed by Maheswara. In the succeeding one the same deity, as an archer, is standing on a chariot drawn by horses ; and with his upper left hand holds the extended bow, while the lower and third hand, on the opposite side, supports the trident. An elegant sketch of both figures has been given by Captain Grindlay, who calls the latter *Jayadharatha*, meaning nothing more than the bearer of victory ; but which is here a representation of *Siva* going to battle against *Jalandhara*, as related in the Padma Purana ; and of which the legend will be found in Colonel Kennedy's work on Hindu mythology.† The sixth compartment contains a figure of *Vishnu* in the form of *Narasinha*, or a man lion, destroying the demon *Hiranyakasipa*. From the twelfth to the nineteenth compartment, *Siva* appears in his character of eight *Bhairavas*. The southern colonnade contains a similar number of compartments as that on the north side. In the first of these, a figure half male and half female, is represented with one breast, being the type of the two productive principles of nature, and only another form of *Siva*, called *Ardha Nariswara*. ‡ The third compart-

* In all the Hindu legends regarding the destruction of demons, and varied considerably in different works, there would appear to be a veiled meaning or allegory, relative to the efficacy of penance and abstraction, or piety and virtue, raising their votaries to superhuman power, hostile to the religion of the *Vedas*, and the more recent introduction of the *Saiva* and *Vishnava* faith. The three demons here called *Tripura*, having received a boon from Brahma, obtained the construction of three cities, and had become so powerful as to occasion distress to the gods. *Siva* was applied to by the immortals for the destruction of the demons ; but while their chief adhered to virtue it was not allowable that this deity should slay them. The gods failing in their suit to *Siva*, next applied to *Vishnu* ; who, deluding the demons by heretical opinions propagated by a shaved head (or Bauddha,) dressed in dirty clothes and holding in his hand a pot and besom, brought down destruction on the inhabitants of the city of *Tripura*, who had been initiated in the new doctrines. As the demons through the delusion of *Vishnu* had thus abandoned piety, *Siva* no longer hesitated to carry into effect the wishes of the gods ; and accordingly destroyed the *Tripura Asuras*. Col. Kennedy in his *Mythology* has given the whole of this legend from the *Siva Purana*, and mentions also the version of it as related in the *Bhagavata*.

† Hindu Mythology, page 485.

‡ The following passage, from the *Linga Purana*, translated by Col. Kennedy, in his *Hindu Mythology*, will familiarize the reader with the variety of epithets given to the forms of *Siva*, and his consort *Gauri*, or *Parvati* :—

ment contains a figure with four heads grasping a pillar, and intended for *Brahma* paying his devotion to the *Agni Linga*. In the fourth one, *Vishnu*, in the *Narasinha avatar*, is tearing out the bowels of *Hiranya Kasipa*; and in the succeeding one he is sculptured sleeping on *Sesha*, or the *Dharanidhara* of the Jains, the serpent who supports the universe, and the well known representation of *Vishnu* as *Narayana*, who is thus addressed in the first hymn of the *Atharvana Veda*:—"Glorious *Narayana*, celestial light—*Narayana*, the universal spirit—*Narayana*, the supreme *Brahma*, to thee be veneration.—*Narayana*,—God of

"*Siva* is the Supreme Being, and *Gauri* is his energy; *Siva* is the male, and *Gauri* the female principle of existence; *Siva* is the meaning, and *Gauri* the voice; *Siva* is the day, and *Gauri* the night; *Siva* is the sacrificer, and *Gauri* the sacrifice; *Siva* is the heaven, and *Gauri* the earth; *Siva* is the sea, and *Gauri* the tide; *Siva* is the tree, and *Gauri* the fruit; *Siva* is *Brahma*, and *Gauri* *Savitri* (the wife of *Brahma*); *Siva* is *Vishnu*, and *Gauri* *Lakshmi*; *Siva* every male, and *Gauri* every female being; actuality is *Siva*, potentially *Gauri*; a multitudinous sparks issue from fire, so multitudinous forms of a two fold nature proceed from *Siva* and *Gauri*, of which the outward form is *Gauri*, but the spirit *Siva*; the senses are *Gauri* and the power of perception *Siva*; intellection is *Gauri*, and the intellect is *Siva*; the pedestal is *Gauri*, and *Siva* is the lingam, the object of unceasing worship by men and gods; all things of a feminine nature are *Gauri*, and all of a masculine, *Siva*; the three worlds are but the form of *Gauri*, whose soul is *Siva*. Thus are *Siva* and *Gauri* the causes of all things, the preservers of this universe, and those to whom the adoration of men ought at all times to be devoutly addressed,"

The prototype of the same goddess, in Egypt, appears to be *Isis* or *Math*, the mother goddess; who like *Ambica*, (motherly,) or *Parvati*, was named the mundane habitation of *Horus*, or the recipient of productive power, and like the Hindu goddess, is represented more in her *physical* than *astral* character: in which latter she becomes the *Nanaia* of the *Ard-okra* or *Mithraic* series of coins found in the Punjab, and was among the Persians and Greeks, the *Queen of heaven*, sometimes the moon and sometimes the planet *Venus*. The goddess *Uma* (mother) of India appears to have had appellations similar to those given to the Egyptian goddess; and is called on the *Rathas*, (or evolutions of form), at, *Mahamalaiapur*, *Bhuvan Bhajana* भुवन भाजन : or the mundane vessel. She is there depicted with only one breast being the masculo-feminine principle of production. (See Dr. Babington's figures from the east side of the *Rathas*, No. 3. Trans: R. A. S. Vol II plate XVI). But I must not anticipate conclusions from facts connected with the very interesting coins, which have been discovered of late years in the north west of India; to the illustration of which I propose to devote another volume, calculated I hope to shed light on the History and Mythology of India.

gods, preserver of the universe.—Narayana contemplator supreme, to thee be veneration.—Narayana the supreme veda, the great wisdom.—Narayana, thou art all things and manifestly present, to thee be veneration.—Narayana, from whom Brahma originated, from whom Siva sprang.—Narayana, from whom Indra was born, to thee be veneration.—Narayana, the sun and moon—Narayana, light and sacrifice—Narayana, visible in fire, to thee be veneration.—Narayana the object of worship, and the pious preceptor—Narayana, eternal emancipation, to thee be veneration.—Narayana, the chief end and accomplishment and happiness of all—Narayana, the sun and Vishnu, to thee be veneration.” The seven heads of the *Naga*, or serpent, form a canopy over the head of the recumbent figure, as seen in the sitting images of *Parśwanatha*; and from its navel springs a lotus, on which Brahma sits. The whole must be intelligible to the reader from the substance of the hymn just quoted, shewing how intimately the primitive notions of Bauddhas and Brahmans were connected with the worship of the sun and sacrifice; till such gave way before abstract meditation and seclusion, with a tender regard for animal life. The last however, as the means of obtaining emancipation and final felicity, yielded to the preference given to the faith in particular divinities, of which there are strong indications in the sculptures we are now contemplating. The remaining figures have chiefly reference to the incarnations of *Vishnu*, as stated in the *Bhagavata* and *Garura Puranas*, regarding which I before hazarded a conjecture that the adaptation of primitive *Buddhism* to *Vaishnava* principles had given origin to the present form of the Jaina faith.*

The sixth compartment contains a figure of *Krishna* attended by cows, in his character of the cowherd of *Vindravan*; and which from its resemblance to that of the *Apollo Nomios* of the Greeks, bears strong indication of a foreign origin. In the seventh, *Vishnu* is hurling from his throne the giant *Bali*, and traversing earth at a footstep; according to the legend that when the giant gave him, in his dwarf avatar, as much ground as he could cover in three steps, he placed his feet on the three worlds. *Vishnu*, in the *Varaha avatar*, or incarnation of a hog raising up *Prithivi*, or the earth, that had been submerged by the waters, is sculptured in the ninth compartment; and similar sculptures

* See page 75.

to those just mentioned, may be seen among Dr. Babington's drawings from Mahamalaiapur. The tenth compartment represents *Krishna* slaying the serpent *Kaliya*, that had poisoned the pure and sacred river *Yamuna*, and caused the death of many of the cowherds of *Vindravan*. The coincidence between this legend and that of the snake at Delphi, killed by the Pythian Apollo, must be more than casual; and would lead one to conjecture that the tribe of the *Yadavas*, from which *Krishna* sprung, was a northern one, having access to the mythological legends of Greece.*

Chapter second is devoted to Bauddha opinions, and religious tenets in various countries; and regarding the general principles of the Bauddha religion, and the designation of the Bauddha sectaries, we quote the following. "Prior to the publication of Mr. Hodgson's essays, on Nepal Buddhism † much obscurity prevailed in the different accounts of this religious system; rendered yet more unintelligible by European authors having blended the physical and moral parts of it, so as to leave little distinction between, what relates to the nature of a first cause, giving origin to the world; and what to the vital and human soul, produced for the expiation of sin, or to raise man above the power of the passions, and the influence of corporeal impressions; till, in a spirit of philosophy, and true knowledge, (the *γνώσις των όντων* of Pythagoras,) he had reached that perfection which assimilates him with Divinity. To clearly comprehend the subtle speculations, and over refined metaphysics of this religion, it is necessary to remember that its anthropology, which had its origin with *Gautama*, or *Sakya Sinha*, presents a series of the same human degradation and regeneration, as is observable in the periodical revolutions of the physical world. Each of the Bauddha schools teaches, that, at the expiration of long periods of time, this world is destroyed and reproduced; and that the living creatures of former worlds, who had not yet fully expiated their sins by abstraction of the mind, and mortification of the body, dying in the *Abhassara brahma*

* It is still more remarkable that *Krishna's* appellations of *Govinda* and *Kesava*, गेविंद केशव, in Sanskrit, are direct translations of Apollo's titles, in Greek, *νόμιος* *Nomios* (the herding), and *ευχάιρης* *Eukhaïtes* (the well haired).

† Mr. Hodgson's various papers, A. R. Vol. xvi. p. 421, T. R. A. S. Vol. ii, p. 222, and Prinsep's Journal, Vol. iii and v.

loka, one of the celestial mansions, the scene of mortal transmigration, return to each new world; deprived of the natural effulgence, which prevented them from being affected by corporeal perceptions, or by the influence of passion and a spirit of discord.* The Suttans (aphorisms) of Ceylon, and the scriptures of Nepal, relative to the origin of mankind, seem uniform in their accounts; describing generative creation as a degradation, by successive emanations, and maintaining opinions similar to the *Theosophes* of some among the Christian Gnostics; who paid continual attention to the state of the soul, by meditation on the divinity, as being the source of inexhaustible love. Their science, according to Clemens of Alexandria, consisted of two parts; of which the *first* was occupied with divine things, considering the first cause by which all had been made, and without which nothing that is, can exist; examining the essence which penetrates and unites one substance with another: while they sought to discover the powers of nature and asked to what end they tended. The *second* part treated of human things, of the condition of man, of his nature, and what he ought to do and suffer; here examining his vices and virtues, and the means by which happiness could be attained. †

* Sangermano, from Burmese authority, regarding the felicity and misery of beings that live in this world, states that the Bauddhas say, at the death of a man, animal, or other living being, the soul perishes together with the body; but then, from this complete dissolution another individual springs, which will be man, or beast, or Nat, (celestial spirits,) according to the merits or demerits of the actions done by its predecessor during life. Through this successive series of dissolutions and regenerations, all beings go on, for the duration of one or more worlds; till, at length, they have performed such works as render them worthy of the state of Niban (mirvan), which is the most perfect of all states; or one of quiescence as before explained. Sangermano's description of the Burmese Empire, Chapter iii, par. 6; also Mr. Turnours translations of the *Agganna Suttan* of Ceylon; and Mr. Hodgson on Buddhism. Trans: R. A. S. Vol, ii, p. 235.

† These characteristic opinions among the *Christian Gnostics*, to be met with in Clementis Alexandrini Stromatum, Lib. Sept. have been thus embodied by M. Jacques Matter, in his *Historie Critique du Gnosticisme*, Tome second, page 98. Clemens says, "Dei ergo cultus est continua animæ cura qui est præditus cognitione, et ejus perpetua in Deo occupatio per charitatem, qui nunquam intermittitur. Cultus non qui versatur circa res hominum, unus quidem est qui reddit meliores: alius vero, qui in ministerio occupatur: medicina quidem corpus, philosophia vero animam reddit meliorem. Clementis Alexandrini Opera, Græce et Latine, a Frederico Sylburgio, fol. 700.

The *Bauddhas* or *Saugatas*, as followers of *Buddha Sugata*, are frequently called *Nastikas*, or atheists, being disowners of another world; and the term *Jina* or *Arhata*, importing the subjugation of passion, is used to designate the *Jainas*. The last, in reference to the nakedness of one class, are denominated *Digambaras*, while the less strict sect, "clad in white," are named *Svetumbaras*. *Buddha Muni* or *Gautama*, the reputed founder of the Bauddha sect, is the author of *Sutras* (aphorisms,) constituting the body of his doctrine, termed *Agama*; which, from different constructions of the text, has given rise to four schisms or schools, called the *Madhyamika*, *Yogacharya*, *Sautrantika*, and *Vaibashika*. * The same division of these sectaries, as known to the Brahmanical opponents of their doctrines, exists in the Buddhism of Tibet,† and appears not to be materially different from the four leading schools of Nepal, as explained by Mr. Hodgson. In as far as we can now judge, the identity of opinions among Bauddhas, in various countries, may be admitted; and we need not hesitate to express our belief that this religion is a uniform system spreading from a common source, however it may seem to vary, by minor differences of tenets, among particular people. It possesses too a body of religious literature; which, whether in Ceylon, Burmah, Nepal, Tibet, China, or Japan, seems identical in its general principles; being more vulgar or refined, atheistical, or theistical, according to the standard of speculative opinion among its followers. In China, Ceylon, and Burmah, the atheistical system seems prevalent, while in Nepal the theistical is generally accepted, and is also acknowledged in Tibet."

On the subject of agreement between the creeds of the *Bauddhas* and *Jainas*, and the principles which distinguish the primitive followers of the latter, the author makes the following observations.

"The appellation of *Arhatas*, (saints,) by which the more ancient of the Jaina sect appear to have been known, seems applicable to such of the *Digambara* teachers as were deified by their followers; and who except in some minor points of doctrine, recognizing *jiva* (life,) or *manas* (the

* Mr. Colebrooke on the Philosophy of Indian Sectaries, Trans. R. A. S. Vol. i. p. 558.

† Notices of different systems of Buddhism, from Tibet authorities, by Alex. Csoma Korosi. Prinsep's Journal. Vol. vii, 142.

sentient soul), distinct from *Parmatma* * (supreme intelligence), and admitting *akasa* (ether), as the fifth element, were in no respect to be distinguished from the *Bauddas*, or followers of *Gautama*. Like the Christian Gnostics and followers of *Saturnine*, they distinguished the *Bodhatma*, (intelligent soul,) or the πνευμα and νοϋς, spirit and intelligence, from the *Chaitana Atma* or ψυχῇ ζωτικῇ † (the sentient soul). Colebrooke draws the conclusion that the *Sarmanes*, distinguished from the *Brachmanes*, by Clemens Alexandrinus, in the end of the second century of our era, were the Gymnosophists of the Indians; an appellation that seems to him more applicable to the sect of *Jina* than that of *Buddha*, who is said to be the author of distinct precepts, and worshipped as a god, on account of his distinguished virtue. ‡ It does indeed

* Mr. Colebrooke on the *Nyaya*, or dialectic school of Hindu philosophy, Trans: R. A. S. Vol. I. p. 99, and again on the Bauddha sectaries, at page 550; also Delamaine on the Jains, page 416 of the same volume. It appears from the analysis of the *Kahgyur*, by Professor H. H. Wilson and Alex. Csoma Korosi, that the *Prajna Paramita*, or transcendental wisdom of Tibet, like the Karmika system of Buddhism in Nepal, teaches the existence of the *Shad Ayatan*, or seats of the six senses, admitting *manasa* as the sixth, and recognizing *Akasa* (ether), as the fifth element, which though reckoned by the *Nyayikas*, was disputed by the *Bauddhas*, and even by the most primitive *Jains*, if Mr. Colebrooke's exposition of these doctrines be correct. See Prinsep's Journal, Vol. 1. p. 377. Mr. Hodgson's quotations in proof of his authority on Buddhism; in Prinsep's Journal. Vol V. p. 80. and Trans: R. A. S. Vol I. p. 551.

† Historie critique Du Gnosticisme, et de son influence, sur les sectes religieuses et philosophiques des six premiers siècles de l'ère chrétienne Vol I. p. 281; and Colebrooke on the Jains. Trans. R. A. S. Vol I. p. 551.

‡ Mr. Colebrooke in his account of the Jains, has overlooked one passage of Clemens, that more clearly distinguishes them from the *Bauddhas* than the one he has quoted. It makes particular mention of the *Dehgop*, or pyramidal altar covering the bones of Buddha. "*Brachmanes quidem certe neque animatum comedunt, neque vinum bibunt: sed aliqui quidem ex-iis, quotidie sicut nos, cibum capiunt; nonnulli autem ex-iis tertio quoque die, ut Alexander Polyhistor in lib. de rebus Indicis. Mortem autem contemnunt, et vivere nihili faciunt: credunt enim esse regenerationem: aliqui autem colunt Herculem et Panem. Qui autem ex Indis vocantur Σεμνοί, id est honesti ac venerandi, nudi totam vitam transigunt: li veritatem exercent, et futura prædicunt, et colunt quandam pyramidem, sub qua existimant alicujus Dei ossa reposita. Neque vero Gymnosophistæ, nec qui dicuntur Σεμνοί, id est venerandi, utentur mulieribus, hæc enim præter naturam et iniquum esse existimant: qua de causa seipsos castos conservant. Virgines autem sunt etiam mulieres quæ dicuntur*

appear that the *Jainas* are particularly meant; and that the sect here intended were the *Digambaras*, who are also called *Allobi*, अल्लोभी (exempt from passion,) and are so named by Col. Miles in his account of this religion. But both sects, who appear to have lived together as people of one religion, are indiscriminately called *Arhatas* and *Sramanas*; and among the followers of *Buddha* those who have obtained superior proficiency in *Bodhijnan* (divine knowledge), and are segregated from the community of monks, are styled *Arhans*; while the rest of the congregation are divided into different degrees of proficiency, and named *Bhikshu*, *Sravaka*, and *Chailaka*. The laity of the Jains engaged in secular employment, and obeying the precepts of their scriptures, without practising ascetical devotion, are called *Sravakas*; one of the appellations for a Bauddha proficient. Their priests too are the *Saddhus* (Saints), and the *Yatis*, or secular instructors. The former denomination is of similar meaning as *Arhat*, corrupted in Burmah into *Rahatan*, and applied to designate members of the monastic fraternity generally; while in Nepal the same class are called *Bandyas*, and in China *Bonzes*. The general principles of agreement in opinion between the *Bauddhas* and *Jainas*, disavowing the divine origin of the *Vedas*, and appealing rather to reason than to revelation, or authority, accompanied by a tender regard for the preservation of animal life, have been pointed out in the preceding pages; and we are now prepared to consider the extent and quality of the religious literature, possessed by both sects."

The conformity of the Bauddha principles of belief with the tenets taught among the ancient Sabeans, is thus noticed.

"Some of the general principles of the Bauddha religion have been noticed in previous pages of this work; so far as such were deemed necessary to the better understanding of changes that have taken place in *Systems of Hindu belief*; and are yet reflected, to the eye of the observer, from the sculptures of *Ellora*, *Elephanta*, and *Badami*. Various systems of philosophy, similar in outline and object to the Grecian schools, are known to exist among the Hindus; and the leading tenets of two of them, the *Sankhya Darshanas*, or the numeral or rational system, are

Σειμναι, Videntur autem observare cœlestia et per eorum significationem quædam futura predicere." The Greek appellation Σειμναι, used in the above passage is like the *Pali Sumana*; meaning an ascetic, or devotee, and the same as the Sanskrit *Sramana*.

remarkably identified with the only two *philosophical schools* of the Bauddha religion, the *Madhyamika* and *Yogacharya*. The object of all, however, was, by the exercise of judgment or reasoning, to *discriminate spirit from matter, Purusha from Prakriti, or soul from nature*; till having ascended by regular steps to perfection, the sage was able to distinguish the *root, or plastic origin* of things, from that modification of them which is distributive, and pertains to individual beings. It was thus he learned to identify himself and all things. with the source from whence they came, and to which, after a life of virtuous penance, he was doomed to return, escaping the evil of transmigration into other forms. Final excellence (*nishreyas,*) and deliverance from evil (*moksha,*) are the promised rewards of a thorough knowledge of the principles taught by this religion: but this state of felicity is, among *Bauddhas* and *Jainas*, more commonly expressed by the term *nirvana*, profound calm, or imperturbable quiescence. * The characteristic tenet of the *atheistical Sankhya of Kapila*, and of the *Nepal Bauddha School*, called by Mr. Hodgson *Swabhavika*, seems to be that matter is *eternal and productive*, and that *God*, or the intelligence of this system, is rather the energy of *necessity and chance*, than the *ruling creator* of the universe. That however which principally distinguishes its opposite, the *theistical School of Patanjali*, is that an *intelligent agent* is superadded to elementary matter, and acknowledged as *God, or Iswara*; but who is unconcerned with good or bad deeds, and their consequences, though *omniscent*, and instructor of the earliest beings that had a beginning (the deities of mythology). † This more nearly perhaps identifies itself with the *Prajnika Swabhavika* ‡ system of Nepal, than with the

* See Mr. Colebrooke's Essays on the atheistical and theistical Schools of the Sankhya philosophy; and on that of the Bauddha sect. Trans R. A. S. Vol. I page. 95—566.

† Ward's Account of the Hindus Vol I.

‡ Swabhava, a compound of *Swa* (own) and *bhava* (nature), is meant to express that all specific forms result from spontaneous, or instinctive creation; and *Prajnika*, from *pra* (the intensive prefix), and *jna* (wisdom), implies the material goddess *Prajna*, or intellectual energy superadded to crude matter, for the purposes of creation and the evolution of things. In this it differs from the School of *Patanjali* who makes this agent, or energy, *Iswara*; while the *Aishwarika School*, like the *Brahmanical*, appears to teach that all material forms proceed from *Maya* (illusion), and are in action, or *Pravritti*, but emanations of the deity. "Body, (says the Swayambhu purana of Nepal), is com-

purely theistical, or *Aishwariha School*, which acknowledges the *self-existent God*, or the first *intellectual essence*, as *Adi Buddha* revealed by his own will, and immaterial in his essence. The primitive Bauddha atheistical doctrine does not, as before noticed, admit of a triad : nor was such recognized by the two schools of the Sankhya, till a modification of their principles, taught in the mythology of the *Puranas*, ascribed the origin of the world (Sangha), to the union of the active (Buddha), and passive powers of nature, * (Dharma :) which *three*, in the *aggregate* were one person or *deity* ; but *distributive*, were analogous to the gods *Brahma*, *Vishnu*, and *Maheswara*. This triadic doctrine is solely referable to a state of *Pravritti*, (energy and change,) or the evolution of things; and may, as Mr Hodgson remarks, be resolved into a *duad*, similar to the *Yin* and *Yan*, † or the imperfect and perfect principles of the *Chinese rational system*, and astronomical creed of the *Sabeans*, and *Fire worshippers*.

Masudi, in his meadows of gold and mines of jewels, ‡ gives so clear a view of the *dualism* of these doctrines, and the introduction of them from *India* into *China*, that I cannot better strengthen the opinions now given than by here quoting, and translating from Arabic, his account. "The religion of the Chinese," says he, " is that of ancient times, a faith

pounded of the five elements. Soul which animates it, is an emanation from the self-existent." The last, as we shall have occasion hereafter to show, appertains rather to the modern *Jainas* than to the *Bauddhas* : for, in *Burmah* at least, it is pronounced heretical; and Sangermano, in his account of the laws of Gautama, says, " The last of these imposters taught that there exists a Supreme Being, the Creator of the world and of all things in it, and that he alone is worthy of all adoration. All these doctrines of the six false gods are called the laws of the six Deities. demons : " Tandy's Translation of Sangermano, page 81.

* It would thus appear that both the *Swabhava*, and *Prajnika Swabhavika Schools* of Buddhism, are essentially atheistical in their principles, and teach materialism : for, as Mr. Colebrooke observes of the Sankhya philosophy, these may be said to affirm two eternal principles, *soul and matter* : though *Prakriti*, or nature, abstracted from modifications, is no other than matter. See Colebrooke's Observations on the Nyaya School : Trans : R. A. S. Vol : 1. p. 95.

† These are the male and female principles, the active and passive elements, the *tamasa* and *rajasa* of the Hindus, or the qualities of *depravity* and *passion*.

‡ See his account of the Chinese, in the Arabic history called *Murawwaj-az-zahab-wa-maadin-al-jawahir*.

called *Shaminah*, * (Samanian,) similar to the practical devotions of the *Korish*, prior to the advent of *Islamism*; as they worship idols, and turn towards them in their prayers. The intelligent among them invoke by prayer the creator; and place before them, as an altar or type, the images and idols; but the ignorant, from want of knowledge, associate such with the divine creator, and relying on them as his partners, think that adoration of these conducts them to the resting place of God, though, in their devotions, such be considered of inferior rank, and less worthy of worship, than the Lord God, Most High by his glory, greatness and power. The worship of idols, therefore, though inferior to his praise, is the means of approaching him; and such was the cause of its beginning and origin, among the Chinese, through intercourse and familiarity with the *Grandeess of India*: an opinion which is prevalent both among the learned and unlearned of the latter country, as we have already related. This is the current tradition among the people of China, relative to the doctrine of the *two principles* and *nundanists*; and though they differ and dispute concerning them; yet, amidst all their rules, they adopt such part of their ancient law as seems best to them. Their country adjoins that of *Soghd* (Sogdiana), and their tenets, as before related, are those of the *Moghaniah*, (Magians or fire worshippers,) relative to opinions on light and darkness. Previously they were a truly ignorant people, and their principles of belief were similar to those of the Turks; till such time as a *fiend of a fire worshipper overcame them by his opinions*, and taught that every thing in this world, is in a state of enmity and opposition; such as life and death, health and sickness, light and darkness, riches and poverty, collection and division, conjunction and disjunction, sunrise and sunset, existence and non existence, day and night, with such like things."—

On the reputed age and origin of the two earliest *Bauddha* schools, the *Madhyamika* and *Yogacharya*, we have the following historical observation. "The four schisms, or schools, to which the opinions of *Buddha Muni*, *Sakya Sinha*, or *Gautama* gave rise, have been noticed in the first part of this chapter; and the leading tenets of the *Madhyamika* and *Yogacharya*, with their relative identity to systems of Hindu philosophy, have just been briefly stated. It is of some importance, however,

* This word is derived from the Persian, *Shamya* شمایا, interpreted heaven; but is explained in the Dictionary called *Burhani Kaatia*, to be a Syriac word meaning significant light, or understanding.

in tracing the rise and progress of Buddhism, to ascertain about what period these schools originated. The third convocation of the Bauddha priesthood, according to the authority of the *Ceylon scriptures*, took place in the reign of *Dharma Asoka*; but agreeably to the *Tibet books* it is assigned to the time of *Kaniska*, a king of Northern India, reigning about four hundred years after the death of *Sakya*. At this time however, his followers had separated themselves into *eighteen sects*, under the four principal divisions already recorded: and from what is related in the biographical account of *Nagarjuna*, who is the reputed author of the *Madhyamika*, it appears, that, as an orthodox follower of Buddha, he denounced the six *Arhatas*, or mortal predecessors of *Gautama*, who are recognized both in China, Tibet, and Nepal. Our knowledge of this fact rests on Mr. Turnour's translation of a passage of the *Raja Tarangini*, a history of Kashmir, which has been differently interpreted by Professor Horace Wilson. I am disposed, however, to prefer the former; as from what I have been able to ascertain of the origin of the *Jainas* from the *Bauddha* sect, and the consequent derivation of their sacred language, the *Prakrit* from *Pali*, their separation seems to have taken place about the time of *Nagarjuna*, and to have originated in some such difference of opinion as gave a preference to *Kasyapa*, the *Brahmanical predecessor* of *Gautama*, and made him the author of a system of religion which was once common to both.

Nagarjuna, the same as *Nagasena* of the Pali work called *Milindapanho*, was, as would appear, a *Bauddha hierarch*, who lived B. C. 43. He is celebrated for a controversy on the subject of his religion, with *Milindo*, the Raja of *Sagala*, a city well known to Greek history, and otherwise named *Euthymedia* or *Euthydemia*, having been so called in honor of the Bactrian king *Euthydemus*; who, after successfully directing an insurrection in Bactria, against the Seleucidae, pushed his conquests into India, and established this city under his own name. * Some are of opinion that its Grecian appellation of *Euthydemia* was imposed on it by his son *Demetrius*; who, after his father's death, and that of *Menander*, seized on that portion of the *Bactro-Indian* empire which had been theirs. Difference of opinion too exists as to the particular site of this city, which, in the time of Alexander the Great, was called *San-gala*, and is said, in Arrian's history of India, to be situated between the two last rivers of the *Panjab*, the ancient *Hydraotes*, and *Hyphasis*, or

* See Danville's Ancient Geography, Vol. II. p. 105.

the modern *Ravi* and *Vipasa*. The town of *Hurrepah*, south west of Lahore, and distant from it somewhat more than sixty miles, has been, with apparent truth, identified by Mr. C. Masson, as the site of *Sagala*, which, in Alexander's time, was the capital of the *Kathai*, *Kshatriyas*; * and is mentioned in the Kerna Parva of the *Mahabarat* under the name of *Sakala*. † In the latter, it is called a city of the *Bahikas*, otherwise named *Arattas*; who are said to be without ritual, or religious observances; and who, as distinguished from the pure *Hindus*, or followers of the *Vedas* and orthodox system, must have been *Bahalikas*, Bactrians, or of *Indo Scythian* extraction. The inference, that the people of *Sagala* belonged to the latter, is rendered more certain by facts, that this city is mentioned, in the Parthian mansions of *Isiodorus Characenus*, ‡ as belonging to the *Sacæ*, or Scythians; and by Ferishta's history, and the Persian romances again mentioning that one of its Rajas was assisted by *Afrasiab*, in a war against the celebrated *Kaikhusrav*, or Cyrus. A point of connexion, between the *Græco-Bactrian* kingdom and one of the earliest schools of Bauddha philosophy, seems thus established with tolerable certainty, and the name of the city of *Sagala*, met with in the western cave inscriptions, must afford additional proof, that the religious opinions and ritual of Buddhism were not uninfluenced, in the north of India, by the mythology, if not the philosophy of the Greeks. *Nagarjuna's* principal disciples, according to the Tibetan books, were *Arya Deva* and *Buddha Palita*, and though the latter may not be the same as the *Buddha Palit* of No. 23 inscription from the Buddhist tope at Bhilsa, the occurrence of this name, on a monument of such antiquity,

* According to the manner of derivatives from Sanskrit, the Ksha क्ष of the latter is changed into Kha ख, and ther र being always omitted in Pali words, the Sanskrit appellation, for a man of the military classes, *Kshatriya* क्षत्रिय, thus becomes in Pali *Khatya*, a name not far removed from the *Kathai* of the Greeks, which seems a corruption of the original word.

† See Prinsep's Journal for 1837. p. 57, and Asiatic Researches. Vol. xv. p. 108.

‡ Isiodorus wrote after the flight of Tiridates, about A. D. 36, and mentions the city in these words "Hinc Sacastana Sacarum Scytharum, quæ et Paratacena, schæn: 63, ubi Barda urbs, et Min urbs, et Palacenti urbs, et Sigal urbs; ubi regia Sacarum, propeque Alexandria urbs, et non procul Alexandriopolis urbs: vici etiam sex," *Geographiæ veteris scriptores Græci Minores*, Vol. II.

should not at least pass without remark. Regarding the probable age of the *Yogacharya* school, the Tibetan books mention that the principal works on this system are referred to *Arya Sanga*, about the seventh century of our era.

Two other schools of Bauddha doctrine, the *Sautrantika*, and *Vaibhashika*, which are rather dogmatical, existed among the early sectaries of this religion; and were, as Mr. Colebrooke observes, anterior to the age of *Sankara-Acharya*, and *Kumarila Bhatta*, the last of whom instigated a persecution of the Bauddhas, by which they were driven from Hindusthan. Could the authority of Tibetan books be trusted, the origin of the last of these schisms would be placed in the middle of the sixth century B. C. and immediately after the death of *Gautama*: but there is reason for mistrusting the narrative of events related by the early Bauddha annals, which can only be considered authentic from the well established period of the Emperor *Asoka*. The same division of Bauddha sectaries, as known to their Brahmanical opponents, exists among the Bauddhas of Tibet, whose books mention that the *Vaibhashika* consisted of four principal classes, originating with Sakya's four disciples: who are called *Rahula*, *Kasyapa*, *Upali*, and *Katyayana*.* The latter, called in Pali books *Kachchayano*, was an inspired saint and lawgiver, who corrected the inaccuracies of *Panini*, the father of Sanskrit grammar; and is acknowledged, by the literature of Ceylon, to have been the author of the earliest *Pali* grammar; from which the oldest compiled version, called the *Rupasiddhi* was composed in the *Dekhan*. † The identity of the author is, Mr. Colebrooke says, involved in the impenetrable darkness of mythology; ‡ but if the era of *Gautama* be accurately fixed, and the early annals of Buddhism allowed to be authentic, the origin both of *Sanskrit* and of *Pali* grammar must be dated six centuries B. C.: but this is a subject which is yet imperfectly investigated.

Both the *Sautrantika* and *Vaibhashika* sects admit the existence of external objects and of internal sensations; distinguishing, under the former, elements, (*bhuta*), and things appertaining thereto, (*bhautika*) which are organs and sensible qualities. They reckon, under the latter,

* See notices of different systems of Buddhism, extracted from the Tibetan authorities by Alex. C. Koros. Prinsep's Journal for 1838. p. 143.

† Introduction to Mr. Turnour's translation of the *Mahawanso*, page XXV.

‡ See *Asiatic Researches*: Vol. VII. p. 199.

intelligence, (*Chita*), and what belongs thereto, *chaitta*. The elements are only *four*, consisting of atoms, which when conjoined, form compound substances, or bodics, the objects of sense that are apprehended by individual consciousness, or intelligence, dwelling within body. The *Vaibhashikas* acknowledge the *direct perception* of exterior objects, and the *Sautrantikas* contend for the *mediate apprehension* of them, through images presented to consciousness: but both are of opinion that objects cease to exist when no longer perceived, and teach that, both in the physical and moral world, events are but a concatenation of cause and effect, which are *unreal* and momentary. A belief to the contrary, or in the durability of objects, arises from *avidya* or error; to remove which, these schools maintain that the object of knowledge is the destruction of percipient power; by which the bound soul, (*badhnati*), associated with works, (*karman*), obtains liberation, and exemption from further transmigration.

Some doubt exists regarding the recorded antiquity of the Sautrantika and Vaibhashika schools, which are, however, connected, by this last tenet, with a comparatively modern modification of them; called *Karmika* and *Yatnika* systems of Nepal. The former teaches that phenomena are illusory, resulting only from an act of the sentient principle, (*manas*;) which, yet unembodied, falsely believes in their reality.* This school of Buddhism, which, in Mr. Hodgson's opinion, admits of conscious moral effort, is, he conceives, an attempt to remedy the *Swabhavi-*

* The reader is requested to compare on this subject Mr. Hodgson's quotations on the Karmika system, (Prinsep's Journal for 1836 p: 78,) and Mr. Colebrooke's observations on the philosophy of Indian sectaries, Trans. R. A. S. Vol. 1 p. 562. The following is the quotation from the *Racha Bhagavati*, given by Mr. Hodgson in proof and illustration of these opinions. "The being of all things is derived from belief, reliance, (*pratyaya*), in this order: from false knowledge, delusive impressions; from delusive impressions, general notions; from them, particulars; from them, the six seats, (or outward objects, of the senses; from them, contact; from it, definite sensation and perception; from it, thirst or desire; from it, embryotic (physical) existence; from it, birth or actual physical existence; from it, all the distinctions of genus and species among animate things; from them, decay and death, after the manner and period peculiar to each. Such is the procession of all things into existence from *Avidya*, or delusion; and in the inverse order to that of their procession, they retrograde into non-existence. And egress and regress are both *Karmas*, wherefore this system is called Karmika. (Sakya to his disciples in the *Racha Bhagavati*)."

the denial of personality, conscious power, and wisdom, of a first cause; which denial necessarily results from the theory of self productive energy of matter, called by the Burmese *dammata*, or fate; * and which leaves such cause without the attributes of moral power, conscious intellectual effort, or will. It was a sequel to the declaration of such opinion, that the universe was *without a moral ruler*, and that the change of deity from a state of *nirvritti*, (quiescence,) to that of *pravritti*, (energy,) was effected *without conscious intellectual power*, or free will. If such was the state of a first cause, human nature was equally without a sense of right and wrong, and deprived of free will; for, according to the philosophical schools of Buddhism, man became an irresponsible being, without the power or will of effecting his eternal happiness. To remove this objection, however, to the atheism of Bauddha doctrines, which had linked the physical origin of a first cause with the phenomena of human nature, it was requisite to teach that every free willed man might, through a proper cultivation of his moral sense, and the just conduct of his understanding, realize that external connexion between virtue and felicity, which none of the schools have ever attempted to deny. The *Karmika* system had asserted the superiority of man's moral sense, and the *Yatnika* was produced to advocate the doctrine of his free will; † but both seem comparatively modern, and must have succeeded the *physical theories*, taught by the Bauddha philosophers, regarding the origin of the world and the nature of the first cause. That general law of material energy, or fate, by which one world was destroyed and another reproduced, being made applicable to the phenomena of human nature, primitive men were said to fall off from the perfection of their ancestors, to give themselves up to vice and abandon virtue, and to have their lives gradually diminished; until by their lust, anger, and ignorance, the physical dissolution of the world takes place, and human beings perish only to re-appear under new forms. ‡

* See Sangermano, chapter II para. 1.

† The following quotation by Mr. Hodgson, on the Swabhavika doctrine, shows its tendency to refer every thing to instinct or fate; "who sharpened the thorn? who gave their varied forms, colors, and habits to the deer kind and to birds? Swabhava! It is not according to the will (ichchha) of any; and if there be no desire or intention, there can be no intender or designer: Baud-dha Charitra," Prinsep's Journal, 1836. page 73.

‡ Compare this with the general principles of the Bauddha religion, announced in the first part of this analysis, page 88.

The opinion that these schools are of modern origin, is strengthened by the connexion of the *Karmika* system with some of the leading doctrines of the *Jaina* sectaries; who teach that the duration of punishment, or reward, is according to the powers of the mind and senses; and that, in proportion as they are held in subjection, till apathy or stoical indifference be acquired by discipline, man's happiness or misery is accordingly insured. The act of the sentient power (*manas*,) which, through ignorance (*avidya*,) maintains a belief in the reality of worldly objects, or a desire to maintain its union with them, can, by a higher intellectual effort, *extinguish such sentient desire*; and obtain *moksha*, or release from the trammels of existence, by the realization of true knowledge that all events of this world are unreal.* Contemporary with the adoption, by the Baud-dhas, of the *Karmika* doctrines, the existence of a fifth element (*ahasa*), having been admitted, and *manas*, or the sentient principle, being at the same time acknowledged as the sixth, and called *vajara satwa*; these, together with the four original elements, are represented by the six *Dhyani Buddhas* of the *Aishwarika*, or theistical school; and to which, Mr. Hodgson thinks, the *Karmika* and *Yatnika* systems, on the subject of human nature, more naturally attach themselves than to the physical *Swabhavika*.†

The material *Swabhava* places nature supreme, and considers it as *Iswara*, or God; but that modification of it, which unites a transcendental omniscient principle, called *Prajna*, with the material one, typifies such as the goddess *Dharma*; who is the first member of the *Baud-*

* The reader may consult on this subject, Major Delamaine on the *Karmas* of the *Jains*; and what Mr. Colebrooke has written on the opinions of the Bauddha sect. The latter, from Brahmanical sources, is in direct accordance with Mr Hodgson's quotation, No 4 on the *Karmika system*. These two dogmatical schools are like the exoteric, or practical course of discipline prescribed by Pythagoras, by which, the corporeal parts of man's nature being mortified and subdued, the intellectual portion of it was fitted for the contemplation of immutable truth, and union with the divine nature.

† See note 15 on the sketch of Buddhism. These dogmatical schools have a theistical tendency; and, like the Tantrika portion of the *Kahgyur*, almost teach the doctrine of *Maya*, or illusion, regarding the material existence of things. The reader may refer to the article of this Chapter pointing out the assimilation of doctrines taught by the last volume of the *Nepal Tantrika works*, with those of the *Saiva Hindus*.

dha triad, and is associated with the type of nature's energy, or *Buddha*, as the *second*, both of which give rise to *Sangha*, or union, as the *third*. *Dharma* is here considered the plastic, or elemental state of all things, to which is united for the production of effects in the versatile world, the second member of the *Bauddha* triad or the efficient cause of things. A yet more decidedly theistical system, the *Aishwarika*, represents intellectual essence supreme, and calls it *Adi Buddha*; who, in producing effects and changes in the material world, operates through *secondary* causes, or the *five elements*, of which the *Dhyani Buddhas* are types; and to which are linked individual energies, named *Bodhisattvas*, operating in conjunction with passive conceptive principles called *Saktis*. But when the deity is represented in unity, he is called *Adi Buddha*; and has, according to Mr. Hodgson's quotations five bodies, five jnyans, and five sights, and is said to be the *mukat*, (crest,) of the five Buddhas, without partner. * The latter from its representation in the *Phrabat*, or solar foot, would appear symbolical of the solar ray; and the *Dehgop* of the caves is but a *type* of the *corporeal frame* of the *five elements*, or *Dhyani Buddhas*; which are the vehicles of the subtile person, or spirit, and are generally found represented on four sides of the *Dehgopas*, † both in India and Nepal, the centre of which is supposed to be occupied by the fifth *Vairochana* or light. The *Karmika* and *Yatnika* systems of Nepal have admitted the sentient principle, *manasa*, as the sixth *Dhyani Buddha*; but all these are personifications, or *Buddhas* of celestial origin. Those of mortal birth, before enumerated, and of whom

* Prinsep's Journal, 1836, page 85, and quotation 14.

† The *Dehgop* may be considered an aggregation of the elements, effected by the presidence of spirit, and, viewed as a type of elemental creation, presents an analogy to the *mundane egg*, from which, according to the doctrines of antiquity, sprung the first born of the world. In Colonel Sykes's Notes on the religious, moral, and political state of ancient India, (Journal of the R. A. S., Vol VI, page 267.) taken chiefly from the travels of the Chinese Buddhist priest Fa Hian, the believers of this doctrine are distinguished from the primitive followers of *Sakya* or *Gautama*, and are denominated sectaries, on partisans of *Anda* (the Egg). There seems no just ground for not considering this doctrine part of original Buddhism, though it may have been rejected by *Sakya*; as it is recognized in the inscription from the *Dehgop* of the *Karli* cave, and in the inscriptions from the *Bauddha* caves of *Beira* and *Bajah*; a translation of which by me will be found in Vol. I of the *Society's Journal*, page 438.

Gautama is the last, having obtained plenary power, or omnipotence, *through union with divinity*, have been manifested during the different regenerations of the world: of which there are said to have been *twelve*, reckoning backwards from the present *kappo*, or creation, in which four Buddhas have already appeared and one is yet to come.

The Buddhas acknowledge three different kinds of beings, the material and generative, (*Kama*;) the material, not procreating by the usual laws, (*rupa*;) and the immaterial, (*arupa*;) who do not generate at all. The first order of beings including mankind and genii, (*Nath*, *) ascend according to their good or evil conduct, by progressive transmigrations to states of final beatitude, (*nirvana*;) where they are exempt from further change, or are doomed to pain and punishment in the mansions of the demons, or by repeated worldly transmigration into the bodies of inferior animals. The virtuous, through the merit of their actions, when finally emancipated from existence, are transported to the *bhuvanas* of *Buddha*, while the wicked are hurried to the six abodes of the *Daityas* or *Naraka*, the hell for sinners, fabled to be below the world of waters, (*Jalakand*;) which support the earth. Mankind and their protecting genii (*Nath*;) occupy the earth, and atmospheric region above it; which last is variously divided into *bhuvanas*, or mansions, called by the Ceylon scriptures the *Deva-lokas*. Above these are the three *bhuvanas* of *Mahudeva*, the six of *Vishnu*, and the eighteen of *Brahma*; which are the places of the *visible gods*, or of those celestial physical causes, or beings, which are destined, at the dissolution of worlds, to be the germs of future ones. Above all are the *Buddha bhuvanas*, of which the *Agnishtha* is the highest, and the abode of *Adi Buddha*. Below it, some accounts place ten, and others thirteen *bhuvanas*, inhabited by the emancipated *Arhatas*, *Bodhisatwas*, or faithful followers of *Buddha*, who have passed into a state of *nirvana*; where from *finite* they become *infinite* beings, and the same "with divinity."

In the following account of the Bauddha system of Cosmography, Astronomy, and Astrology, we are made acquainted with the origin of the

* Col. Sykes, in his notes on the religious, moral, and, political state of ancient India, (Journal R. A. S. page 289 Vol VI) seems to think that the worship of the Hindu *Devatas* and of the *Naths*, or spirits, is a corruption of original Buddhism; but the inscriptions of Western India and the Bauddha scriptures of Nepal and Ceylon prove the contrary to be the fact, and that this worship was part of the original system.

religious principles of Buddhism ; which, connected with systems of sidereal astrology, and the worship of the planetary powers, will explain to us why these principles assimilate with tenets taught among the ancient Sabeans. " Bauddha opinions, regarding the generating influence of the atmospheric region and mansion of the planets, have been explained in the previous pages ; and, as has been shewn, this *intermediate aerial space*, peopled with genii, or the *Nath*, possesses the power of secondary causes in the business of creation. The sun, moon and stars, here illuminate the world, divide day from night, distinguish the seasons, and indicate good or evil to mankind. * This belief inculcates that *malignant beings exist inimical to man*, while other *benevolent genii* exercise their influence in protecting him, and hence originates the practice of propitiating the latter, or averting the malignancy of the former, by the astrological worship of the *Bali*, or nine planets. † Besides the seven heavenly constellations, the Bauddhas reckon the ascending nodes, *Rahu* and *Ketu*, as two others ; which are invoked, with offerings and song, in cases of sickness or important undertakings in life. We are yet little informed on the subject of their astronomical system ; but from what Sangermano mentions of the Burmese notions, it appears not materially different from that of the Jainas, excepting that the progressive falling downwards of the earth in space, and the existence of two suns, two moons, and two sets of planets, for the northern and southern quarters, form no part of Bauddha astronomical belief. It is maintained, however, that mount *Meru* exists in the middle of the earth, encircled by seven ranges of hills, between which are seven rivers, and that the sun, and moon, and planets revolve round it, in parallel orbits ; illuminating successively four great islands ; of which *Jambu-dwipa*, or India, is the southern one. The different faces of mount Meru, toward the four cardinal points, reflect the solar beams of various colours, and communicate such respectively to the islands and

* Sangermano Chap. III. para. 14.

† See Mr. Upham's account of the Bali in Ceylon, chap. x. This system of sidereal astrology, called in Ceylon *Baliah*, or the worship of the planetary powers above, is similar in all respects to the Syrian idolatry of worshipping and propitiating the *Balim*, or host of heaven, which protected and influenced mankind in health and sickness. These are the spirits of the stars, the *Ζωφασμυρ* or the sentinels of heaven ; and, in the Greek inscriptions which I copied from the gate of the great mosque at Damascus, (once a Christian church, and previously a heathen temple,) they are called " the things of eternity, and of uncontrolled power in every period of birth and generation."

inhabitants of these quarters. Neither Bauddhas nor Brahmans agree about the particular colours of the different faces; though they generally enumerate them *white* on the east, *yellow* on the south, *green* or *black* on the west, and *red* on the north. * Four kings of the *Nath* are said to preside over these quarters; with whom, as types of the elements and of colour, the *Dhyani Buddhas* seem to have an analogy; as *Akshobhya*, who occupies the eastern niche of the *Dehgop*, is described of a blue colour, and *Ratnasambhava*, on the southern, is said to be yellow or golden.† Around the summit of mount Meru is arranged the *Bhuvana* of *Indra*, or the *Tavatimsa* heaven; where flourishes the sacred tree *Kalpa-vriksha*, granting every desire. The *Lokapalas*, or eight regents of the heavenly quarters, worshipped by the Bauddhas and Jains, are with the elephant of *Indra*, inhabitants of this celestial mansion: in which the *Nath* and *spirits* of the good, not yet joined to divinity in *nirvana*, shining by their own light, need not that of the sun. ‡

The Bauddhas have a system of solar Zodiacs, analogous to ours; wherein the names of the twelve constellations manifest their connexion with the *Greek* and *Arab* schemes of the Zodiac originally derived perhaps from the *Chaldeans*. An annual movement of the sun and planets is admitted, in addition to their diurnal motion; and a gradual declination of them, *north* or *south*, producing the various seasons, is taught with the hypothesis, that there are three distinct paths in the heavens, an *inner*, *middle*, and *outer*. The inner corresponds to our summer solstice, or the tropic of Cancer; the middle to our equinox, or the equator; and the outer to our winter solstice, or the tropic of Capricorn. The inner part is said to be nearest mount *Meru*, and corresponds with the hot season; the middle to the rainy; and the outward, farthest removed, to the cold, when the sun is most distant. They are otherwise named the paths of the goat, ox, and elephant; and as the latter animal delights in cold and

* See Vishnu Purana, translated by Wilson, 4to at note 2, page 167.

† Hodgson's sketch of Buddhism, Trans. R. A. S. Vol. II page 230. and the note at page 20 of the original work.

‡ The ancients supposed human souls were invested after death with a subtle body, which was inseparable from it, until the time of its final exemption from transmigration; and this they called the *σῶμα ἀγώγιδες* or luciform body, spoken of by the New Platonists, or Christian writers of the fourth and fifth centuries, who repeated the tenets of Pythagoras and Plato. See Colebrooke's translation of the Sankhya Karika, page 136.

damp places, he appears to have been selected to distinguish the season when the sun, passing to the south, brings the termination of rain and the production of cold.

The third chapter contains translations of the cave inscriptions, which shew their connexion with the Bauddha religion, and those abstract principles of metaphysical belief that constitute the original system. The following is an extract, "The more intimately we become acquainted with the principles of the Bauddha religion, the stronger will be our conviction, that such principles have their origin in physical and metaphysical opinions, on the subject of a first cause, made applicable to explain the phenomena of the world and of human nature, and that such opinions were closely connected with the worship of the heavenly bodies, and the Sabeian idolatry. This Sabeism too, instead of being engrafted on the Bauddha system, appears to have preceded it, and to have been the source from whence it sprung. But whatever be the conclusion deduced, regarding the relative antiquity of the two systems, their present union in Siam and Tartary, has been indicated by preceding observations; and the *translated cave inscriptions* will tend to establish a fact that the *astrological belief in spirits*, which commenced with the first astronomical observations, was early connected, in the *Greek* and *Bauddha* schools of philosophy, with opinions of those who essayed to explain the origin of the world, and the nature of that cause producing its versatile effects. *Philo*, a Jewish writer of Alexandria, acquainted with the philosophical opinions of the Orientals and those of the Greeks, endeavoured, some time before the Christian era, to convince the world of the excellence and superiority of a *secret system of knowledge*, which had been long since founded in the bosom of the Jewish religion. Like the Bauddha system it taught that the ætherial region was peopled with inhabitants of an immortal nature; some of whom kindred with the earth, and addicted to its pleasures, descended to attach themselves to other spirits, for which, they had a worldly desire; but that others of them, disgusted with the vanities of life, considering the body as a prison, fled on light wings to heaven, where they passed the remainder of their existence. Others of them, yet more pure and excellent, disdaining all the temptations that earth could offer, became the ministers of the supreme God, and the agents of the great King, seeing all and understanding all. Similar opinions are maintained by the Bauddhas regarding the origin of

mankind; and Mr. Hodgson's account of this subject seems but a version of what is related in Genesis, about the association of the Nephilims with the daughters of men;* by which mankind, falling from their state of original purity, came under the dominion of the passions, and a spirit of discord, as already noticed in the general principles of this religion. The Nepal statement of the same history is that the half male and female beings, inhabiting in light and purity, the *Abhaswara Bhuvana*, and who had never yet in their minds conceived the sexual desire, or known the distinction of sex, having eaten of the earth, at the instigation of *Adi Buddha*, lost the power of flying back to their *Bhuvana*, and were obliged to remain on earth; where they lived on its fruits, and associated with each other. † This legend appears to have been taken from a confused idea of Mosaic history; and may have been introduced into the Bauddha religion when the *Indian astronomers*, with a knowledge of it, framed the system of the *Varaha Kalpa*. But on this head, and the connexion of the Bauddha religion with the worship of the sun, the translated inscriptions afford information; and are at least, the only authentic documents of antiquity, which embody primitive principles of the system beyond the chance of sectarial interpolation."

Several translations of the inscriptions from the caves of western India are subsequently given, and establish the connexion and union of Buddha religious principles with those of the *Sabeans* and followers of *Mithra*: which union probably arose from a community of ideas that *Kraka*, the sun, or holy fire was, in his igneous essence, the same with the deity of creation, or Vulcan, the *Hæphaistos* of the Greeks, the *Opifex Mundi*, or the mundane artisan, and the same as the *Viswa Karma* of the Hindus: for according to the Saiva faith of the latter, the *Mithra* of the fire worshippers is the *Unadi*, or *Agnilinga*, the pillar of radiance of the *Linga Purana*, from which the deity first manifested himself for the creation of the world. It is true indeed that the *Atthakatha* and Bauddha annals of Ceylon declare the *adoration of the sun and fire heretical*: ‡ but while *Gautama*, or *Buddha*, may have originally confined his

* Genesis, Chapter VI.

† See Hodgson's second question in his Sketch of Buddhism T. R. A. S. Vol 11 page 234.

‡ Turnour's examination of the Pah Buddhistical annals, in Prinsep's Journal, Vol VI. p. 733.

religious ordinances to *Dhammo*, (morality,) and *Winayo*, (discipline), his system was early corrupted by its union with the principles and practice of the Sabeans and fire-worshippers. The monogram preceding inscription No 8 Plate I. from the caves of Junir, is of constant occurrence on the gold coinage of Kadphises, and on the Indo Scythic, or Indo Mithraic series of coins, from Kabul and the Punjab. Coin figure I, plate XXXVIII Vol IV (Prinsep's Journal page 630,) of this series is unique and of particular interest; as the king on the obverse is represented seated on a war charriot, similar to the chariot of the sun, while the inscription on the reverse, reads *Maha rajasa rajadatu Jina sidato, mitra-rato Dhimukta satha nanado*, translated, *of the great king, the source of energy, Jina the establisher, the supreme emancipated Saint of Mithra, the preserver*. The connexion of this series of coins with the Bauddha system of religion is yet further established by the Pali name of Buddha, "*Satha*," being found in Greek on the coin fig; 13 plate XXXV (Prinsep's Journal, Vol. V. p. 548) and written. ΖΑΘΟΥ

This part of the subject is further illustrated in *chapter fourth*, containing the author's observations on the symbolical marks preceding the inscriptions; and their similitude to those on coins found west of the Indus and in the Punjab. In the last or *fifth chapter* the history of Buddhism is traced and illustrated, whereby it appears that this religion arose out of the ancient Persian worship of the expanse of the firmament, under the name of *Jove*, (or the Hindu Indra,) with the deities of the sun, the moon, earth, fire, water and the winds, to which the Babylonian and Persian festival of *Sakaia* was dedicated and held sacred. But our analysis must here stop, and those requiring further information must refer to the original work; which will be soon issued from the Indian Press, to be immediately afterwards republished in England with additions and improvements.

ART. X.—Literary and Scientific Notices.

We propose to devote two or three pages of the Journal, under this head, to interesting literary dissertations, from other works, on *Philology*, *Palæography*, *Antiquities*, and *discoveries in Geography and Science*;

and will feel obliged to contributors or correspondents, who may kindly favour us with *short* analyses of information on such subjects.

1.—*Stewart's Lydian and Phrygian Inscriptions.*

Mr. John Robert Stewart, formerly of Bombay, and well known for his devotion to literary pursuits, who in the spring of 1837, made a tour from Smyrna to Constantinople, visiting the vicinity of Dongala, Nacoleia, now Sidy Ghazy, Dorylæum, and Brussa, has lately published the *Inscriptions*, from the ancient monuments of Lydia and Phrygia, written in the most archaic form of the Greek letters. The words are divided, by points, like those of the *Hamaiyaric Inscriptions* of Southern Arabia; and are alternately written from left to right, and from right to left. Mr. Stewart has not attempted to solve the meaning of these inscriptions; and does not appear aware that Dr. Grotfend, in revising the observations of M. M. Letronne and Saint Martin on similar inscriptions found in Lycia, has partly made out the meaning of inscription No. 1. We have only yet been able to make a hasty examination of their contents; ascertaining, however, that the language used is a mixture of *Persian* and *Phœnician* words, recording the dedication of the stone monuments, on which these inscriptions are found, to the *Artæi* or *Kabiri*, signifying the *great* and *powerful* ones, or the *Hero-gods* and idols of chief note in Phrygia and Lydia.

2.—*Antimony and Lead mines of Beluchistan.*

Major George LeMessurier, who surveyed the route, via Sohrab and Bagwana, from Kelat to Sunmianni, taking the latitudes and levels of the country, visited the antimony mines of *Seykran*, near *Bagwana*, and found the antimony in chrystals of an inch square, imbedded in black vitrified rock. The mines appear to have been extensively worked at some former period; but the want of water and fuel in the neighbourhood, must always prevent the successful working of these mines as a profitable speculation. The lead ore found was of inferior quality and small in quantity. There are also mines of inferior copper ore, near *Turkabr*, but the exact locality is kept a secret by the people of the country.

3.—*Central Africa and Navigation of the Jub river.*

The river Juba or Jub, on the Suhaili coast of South Eastern Africa, which debouches in 0. 38, south latitude, is known to be navigable in boats

for three months ; and could in all probability be made available for establishing a commercial communication with the south western provinces of Abyssinia, and its capital Shoa. Recent intelligence, from the well known missionary Dr. Krapt, seems to establish the practicability of navigating the Jub river as far as *Garague*, distant from *Shoa* little more than 70 miles ; and, as the disposition of the natives inhabiting its banks would not be inimical to further exploration of this celebrated stream, it behoves our Indian Governments, both for the interests of geography and commerce, to adopt measures for obtaining more minute and accurate information than we at present possess regarding it. An iron steamer and one of our cast off pilot brigs, or schooners, might be placed, with an efficient establishment at the disposal and under the direction of some well qualified officer of the Indian Navy, who is acquainted with this part of the coast ; and might be willing to lend both his talents and his energies for securing the success of any undertaking to navigate and explore this river ; and for establishing such a friendly intercourse with the natives of the country as might lead to permanent commercial advantages. Lieutenant W. Christopher, already favourably known by his geographical reports, and an enquiry into the present resources of Eastern Africa, is doubtless well fitted for the execution of any such expedition as now proposed for the exploration of the Jub river.

ART. XI.—*Extracts from the Proceedings of the Society.*

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held, in the Library rooms, on Thursday the 13th June 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of the last meeting.

The following gentleman was proposed as a member, to be ballotted for at the next meeting of the Society :

W. Seton Brown, Esq. by G. Buist Esq. LL. D. seconded J. F. Morier, Esq.

N. A. Dalzell, Esq. proposed as a subscriber to the Library by Manockjee Cursetjee, Esq. seconded by the Secretary, was admitted agreeably to the regulations of the Society.

The following donations were laid on the table :

TO THE LIBRARY.

By Government, copy of General Circular Orders passed by the Sudder Adawlut Bombay.

TO THE MUSEUM.

By the Rev. G. Pigott, a small collection of shells from Zanzibar and Aden.

By Lieut. C. W. Montriou, I. N. skeleton, of an ant-eater, *Manis*.

This animal was given *alive* to Lieut. M. through the kindness of Mr. Ellis, C. S. Rutnagherry, but unfortunately it died after having been kept for fifteen days.

* The Secretary then presented and read a paper on the history of the Kalhora dynasty of Sindh, by Captain James McMurdo.

On the motion of Dr. Burnes K. H., seconded by the Hon. the President, the thanks of the Society were voted to the Secretary, for the interesting paper presented, and it was resolved that it be published in the forthcoming number of the Society's Journal.

The Secretary was also requested to return thanks for the various donations presented to the Society.

The meeting then adjourned to Thursday the 11th July next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held, in the Library rooms, on Thursday the 11th July, 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of last meeting. W. Seton Brown Esq. and C. Forbes Esq. C. S. having been ballotted for, were duly elected members of the Society.

Assistant Surgeon J. Jephson, was proposed as a member by J. Morier, Esq. and seconded by the Secretary, to be ballotted for at the next meeting of the Society.

The following communications were read:—

The Secretary submitted a circular, from the Sub-Committee of the Museum, suggesting that they should be empowered, in accordance with Art. III, of the rules of the Museum, for the better preservation of such Zoological specimens as are at present suspended in the gallery of the Society's rooms, to transmit them to the Zoological Society of London, where they would be better appreciated.

Resolved.—That the sense of the next meeting of the Society shall be taken on the subject of the above rule; whether the words, “and dispose of donations, “empower the curators to exchange, or give away, at their discretion, articles belonging to the Museum, without the previous sanction of a monthly meeting of the Society.

Read, a letter from M. M. Etienne d' Quatremere, dated Paris, 6th May 1844, acknowledging the receipt of the Secretary's letter, intimating his election as an Honorary Member of the Society, and conveying his thanks for the distinction thus conferred on him by the Society.

Read, a letter from Chas. C. Rafn, Secretary to the Royal Society of Northern Antiquarians, dated Copenhagen, 5th October 1843, intimating the Society had presented to the Bombay Asiatic Society, a copy of their memoirs, from 1840 to 1843; requesting, at the same time, that the other parcels enclosed in the packet, and addressed to individuals, might be transmitted accordingly.

Resolved—That the Secretary be directed to return thanks for the donation, and that the parcels adverted to in Mr. R's letter, be duly forwarded by the Secretary.

The following donations were laid on the table:

TO THE LIBRARY.

By Government, copy of Meteorological Observations kept at Madras from the year 1822 to 1843.

By the Royal Society of Northern Antiquarians, *Memoires de la Societe Royale des Antiquaires du nord*, 1840-1843. Section Asiatique.

Specimens of Glyphography or engraved drawings from the copper surfaced blocks, by the Patentee, Mr. Palmer, were submitted to the meeting, with an intimation that Major T. B. Jervis, F. R. S. had been appointed sole agent for India and China, to receive orders from Societies and other public bodies desirous of illustrating publications, on Literature or Science, by this cheap mode of engraving.

TO THE MUSEUM.

An Hippocampus, from Viziadroog, by Lieut. C. W. Montriou, I. N.
A Turittella, by Lieut. Christopher, I. N.

A Collection of Specimens of rocks and shells, fossil and recent, from

various places in England and Ireland; including a series of the plans of the coal measures, were presented by Professor Orlebar.

The Secretary then presented, and read the following papers to the Society.

* 1st. An account of the temple of Somnath, translated by the Secretary from the Persian of the Appendix to the *Mirat Ahmedi*, to which is added a translation, from Sanskrit into English, of an inscription at *Pat-tan Somnath*, relative to the restoration of the temple in Samvat. 1272. A. D. 1215, by W. H. Wathen Esq.

2nd. A discourse on the form of the earth, or the science of Geography, being the introductory chapter of the *Nazhat-al-Mushtak*, or amusement for those requiring it, in an account of great towns, countries, provinces, islands, cities, and quarters of the world, by *El-Edrisi*, translated from the Arabic by the Secretary.

Resolved, that the thanks of the Society be given for the donations and papers presented.

The meeting then adjourned to Thursday the 8th of August next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held in the Library rooms on Thursday the 8th of August, 1844.

The Hon. J. H. Crawford, President, in the Chair.

Read and approved the minutes of last meeting.

Assistant Surgeon J. Jephson, proposed as a Member, was ballotted or and duly elected.

William Pole Esq. proposed as a Member, by J. Harkness Esq. seconded by A. B. Orlebar Esq., and W. Acland Esq. proposed by A. S. Le Messurier Esq. seconded by Colonel G. R. Jervis, to be ballotted for at the next meeting of the Society.

The following motion, of which due notice was given, was then submitted.

“That the sense of the next meeting of the Society be taken, whether the words, “ and dispose of donations,” as specified in ART. III. of the rules of the Museum, empower the curators to exchange, or give away at their discretion, articles belonging to the Museum, without the previous sanction of a monthly meeting of the Society.”

It was thereon resolved—

That such transfer shall be left at the discretion of the curators, and

recorded in the proceedings of the succeeding monthly meeting.

The following donations were laid on the table—

TO THE LIBRARY.

From the Government of Fort Saint George, through the Government of Bombay, the 6th volume of the Madras Astronomical Observations recently published at that Presidency.

From the Government of Bombay; No. VI. Transactions of the Medical and Physical Society of Bombay.

From J. J. Waterston Esq. a few volumes of the Civil Engineer's and Architect's Journal's.

From Captain Postans, through Messrs. Frith and Co. Copy of a lithographed drawing of the celebrated temple of Somnath.

TO THE MUSEUM.

The capital of a column, and two broken female images, from Zenobia on the Euphrates, by Lieut. C. D. Campbell, I. N. The capital is from a double line of columns which formed the sides of a road leading from gateway to gateway in a fortified enclosure. The figures were corner supports in a square stone edifice with vaulted roofs. The place has been termed "Zenobia" by the expedition, under the supposition that it was built by the Queen of Palmyra; also, a large collection of shells, and some Echinæ from Aden, by Captain S. Young I. N. were presented through A. B. Orlebar Esq.

The Secretary then read the following communications to the meeting:

1st. A letter, from the Secretary to Government in the General Department, dated the 2nd instant, accompanying copy of a dispatch (No. 23, dated 31st May last,) from the Hon. the Court of Directors, enclosed with a communication from the Royal Asiatic Society of Great Britain and Ireland, relative to the preservation of the "Cave temples of India," and the desired execution of correct drawings of the fresco paintings found therein. In this letter the Hon. the Governor in Council expressed a hope that the Society would co-operate with Government in carrying out the objects of the Hon. Court and the Parent Society.

It was thereon resolved that the Secretary be instructed to write, in reply, that the Society is ready to co-operate with Government in any

way it may point out for obtaining copies of the drawings specified in the letter of the Hon. the Court of Directors, or in carrying out a plan for preserving from decay, the sculptures and inscriptions in the Caves of Western India. The Secretary, at the same time, noticed that the lithography of the fresco drawings, copied for Mr. Wathen, from the Caves of Ajanta, was now completed, along with copies of the inscriptions from Kanari, Karli, Beira, Bajah, Mahar, Junir, Ajanta, and Nassick, which he had translated, and expected to publish about November next.

* 2nd. Two ancient inscriptions, on copper, in the Cave character, translated into English by Ball Gungadhur Shastree Esq. and accompanied by a letter from him relative to the probable dates of the grants. The first of these, now in possession of the Secretary, which, with the Devanagri transcript, had been handed over to B. Gungadhur Shastree Esq. is a grant of the village Aland on the Bhima, to the sons of Lakshmana Swami, of the family of Kanshika, by *Vishnuvarddhana*, son of Kirti Varma, son of Rana Vikrama, of the Chalukya family, claiming descent from the lunar race, and formerly ruling over the Kuntala Desha, of which Kaliani, in the Dekhan, was the capital. It is dated in the eighth year of the King; and, as *Vishnuvarddhana* is herein called the nephew of *Palakeshi Vallabha*, whose date is well known from many grants, the present one cannot be later than A. D. 733, and may be as early as the beginning of the sixth century.

The original of the other grant, also in the Cave character, and in the possession of Narsoo Bhalu of Nandgoan, in the Northern Konkan, belongs to the same family of the Chalukyas; being in the name of Kirti Varma Raja, son of *Palakeshi Vallabha*, who conquered the kingdoms of Chera, Chola, and Pandya, or Mysore, Tanjore, and Madura. It is without date, but the land was granted for the support of the worshippers of *Kapilishwara*, or *Siva*, as worshipped by the Kapilas, a sect allied to the Bauddhas, and who, as devotees of the skull necklace, are represented, as associated with them, by the sculptures of the caves of Ellora.

The Secretary was directed to return thanks to the respective donors, and the meeting adjourned to Thursday the 12th of September next.

At a monthly meeting of the Bombay Branch of the Royal Asiatic society, held in the Library rooms on Thursday the 12th September 1844.

James Burnes, K. H. F. R. S. Vice President, in the Chair.

Read and approved the minutes of last meeting.

Professor Wm. Pole F. R. A. S. and W. Acland Esq. proposed as Members, were ballotted for and duly elected.

The following papers were laid before the meeting by Dr. Buist :

* 1st A paper on the Runic monuments found in Scotland and Ireland, and not known to exist in any other part of the world. These consist, for the most part, of magnificently sculptured crosses, ornamented with representations of hunting, and of battle scenes, of religious processions, &c. Many of the animals represented on them, such as elephants, lions, monkeys &c. are obviously Oriental. Some of the figures are apparently hieroglyphical, though their meaning is unknown. The attire and occupations of the individuals represented throw a considerable light on the manners of a period to which written history does not extend. The object of laying the paper before the Society was to endeavour to elicit information on the subject, by inducing a search after analogous relics, if any such exist in India.

2nd A paper on the use of Mr. Adie's Barometer, with some suggestions for an improvement in its structure, so as to render it less liable to accidents in tropical climates : with suggestions, for the improvement of the marine Barometer, so as to increase the delicacy of its readings and adapt it either for sea or land purposes ; and a notice of an improvement, suggested by Dr. Glen, on the syphon Barometer, so as to adjust the scale at once, and get rid of double readings.

The thanks of the Society were voted to Dr. Buist for the papers ; and it was resolved—that they be published in an early number of the Society's Journal, with such illustrations as may be found practicable.

The following donations were laid on the table :

TO THE LIBRARY.

1. By Government two lithographed copies of the Mahratta translation of the Mithakshara and Dhyaya Bhag.
2. From Mr. Shirra, through Messrs. Forbes and Co. Copy of the Maulmein Almanac and Directory, and general commercial trade list, for 1844, accompanied by a map of Maulmein and its environs.
3. By the Bombay Geographical Society, its Transactions from September 1841, to May 1844.
4. By C. J. Erskine Esq. through the Rev. J. M. Mitchell, the follow-

ing Sanskrit M. S. S. Linga Purana, Garuda Purana, Devi Mahatmya from the Markandeya Purana, Parashara Upa-Purana.

TO THE MUSEUM.

1. By Major General Sir H. Pottinger, Bart., G. C. B. A number of very curious Chinese figures, carved in wood, representing the imaginary rewards and punishments of a future state. The collection consists of exact copies of the originals; which were formed of clay, and taken, during the campaign of 1841-42, from a Buddhist temple at Yenyao, a city in the province of Cheakiang, in China.
 2. By Major General Sir H. Pottinger, Bart., G. C. B. A tablet of wood richly carved, and ornamented, in honor of the Emperor of China, taken from a Jos house near the city of Chinkeangfoo. The following is a translation of the inscription it bears:
“A thousand times ten thousand years! may the Emperor live ten thousand times ten thousand years”
 3. By E. E. Elliott Esq. A small collection of shells, and a fine specimen of dog-tooth spar.
 4. By C. B. Skinner Esq. Twelve bottles of snakes, fishes, insects, &c.
 5. By Captain J. Young I. N. Specimens of flying fish from the Arabian Coast.
 6. By Dr. Leith; Specimens of Apophyllite &c. from the Deccan.
- The best thanks of the Society were voted to the respective donors.
The meeting then adjourned to Thursday the 10th October next.

JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

JANUARY, 1845.

ART. I.—*Observations on the Mahomedan Architecture in Cairo.* By A. B. ORLEBAR, M. A., Elphinstone Professor.

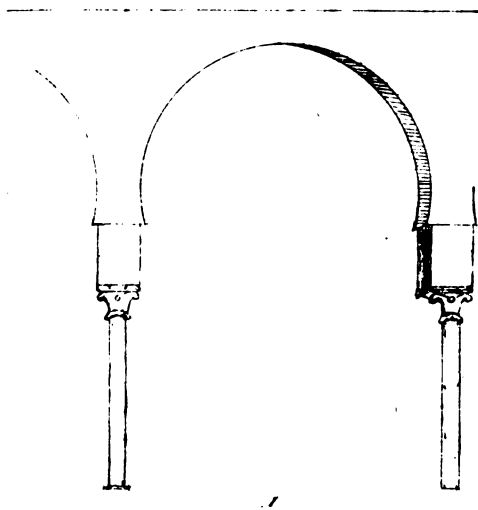
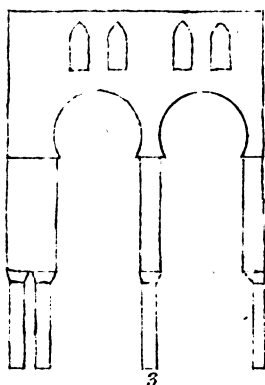
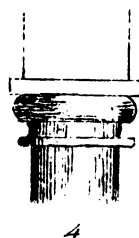
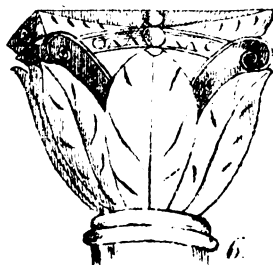
MOSQUE OF AMRU.

Old Cairo contains the first building, which was erected, in any country, by the disciples of Mahomed for the general duties of their faith. It was built under directions of Amru, the son of Nasi, in the year twenty-one of the Hejira, immediately after his conquest of Egypt in the Khalifat of Omar. In it the armed converts of the Arabian reformation were to be assembled, to hear the sermons of their chief against the prevailing idolatry, and to receive the commands of the successors of their apostle for the prosecution of divine vengeance upon idolatrous and schismatic Christendom. To accommodate preachers was the chief object of the building; but the convenience of worshippers as well as of hearers was to be considered. The mosque erected for these purposes is a large quadrangle, surrounded on all sides externally by a plain wall, and internally by a colonnade of many rows of pillars, which being roofed over affords protection from the heat of the sun; the whole of the enclosed quadrangle being a large open court. In the centre of the court is a fountain, by which the worshippers are made secure of a sufficient supply of water, which the apostle had determined to be all but indispensable for orthodox worship. In the eastern wall is an arched recess, which is the *mehrab*, towards which the worship-

pers direct themselves. The colonnade on this side contains many more rows of pillars than on the other sides of the quadrangle; so that a much larger space is there roofed over: for here on account of the *mehrab*, the Mahomedans offer their devotions; and the pulpit being near the *mehrab*, it is here also that they assemble to hear preaching. The *mehrab* is essential to a Mahomedan place of worship; for Mahomedans not assembling for congregational worship as Jews and Christians, but each individual offering himself at the stated times of appointed prayers by and through himself, it becomes necessary to preserve unity of spirit, among those who pray, by directing their thoughts towards one point in the building; which, being towards Mekka, may continually present to their minds the one apostle whose commands they obey, the one God whom they worship, and the reform of corruptions which ought to be the one object of their zeal.

These parts, viz. the open quadrangle with enclosing colonnades deepened on the Mekka side, the central fountain, and the *mehrab*, are common to every mosque in Cairo, and I believe to every mosque elsewhere, which is originally of *Muslim* construction. They are all necessary results of the peculiarities of the religion, and the general plan of Amru's mosque must be that of all others until mosques cease to be built. But the details of the architecture in this edifice differ much from those in other mosques.

The shafts of the pillars are all round, some of alabaster, and others of various stone. A black pillar, near the *mehrab*, is said to have been brought from Mekka, and there is shewn upon it an impression said to be of Mahomed's hand. Be this as it may, the pillars in general are evidently the spoil from more ancient edifices of Greek or Roman architecture: for put upon the shafts in a most rude manner are capitals of various kinds, the greater number being modifications of the Corinthian. These capitals are for the most part exceedingly beautiful, and indicate their having been wrought by hands much more skilful than those which have so barbarously cemented them to their present shafts. The shafts are in general without bases. Some shafts are supported by a single square plinth; and some short shafts are supported by very tall bases. The Mekka pillar is surmounted by a sculpture (fig. 4,) which is immediately recognized as an antique base; nor is this a singular instance of a base misplaced for a capital. In short, a walk round the quadrangle is sufficient to cause full conviction, that the architect required for his roof supports of equal height, that he robbed the existing temples and palaces for materials, that



Hampson's Lib. Bb. 22

he spoiled many capitals in pulling down the works of better architects, so that he was obliged to make some of the bases do for capitals, and thus was obliged to make his average height a capital and a shaft, that some of his pillars were broken, and becoming too short he then put a plinth under them, and that when he had only a portion of a pillar he was necessitated to build up several antique bases to make a sufficiently high base in the new structure.

In order to give some idea of the beauty of the misused sculptures, and to explain the internal evidence that the architect of the mosque could not have been the deviser, or competent in any degree to understand the value of his materials, I have made a sketch of one of the capitals (fig. 6).

Whenever a single pillar is not strong enough to support the masonry raised above it, two are placed very close to one another. This occurs at the entrance, where the pillars are sufficiently apart to allow a thin man to pass between them. Another instance is at the north-east corner of the quadrangle, at the entrance of a small chamber, which is said to have contained the tomb of a son of Amru.

Each capital is surmounted with a plinth of brick.

These brick plinths support a mass of brick, whose horizontal section is a square, and whose vertical section is nearly a double square; and as this mass must be hereafter referred to, I shall call it the stilt.*

The supercolumns support horse-shoe arches, which are longitudinal, or parallel to the walls of the quadrangle. A row of columns, therefore, with their arches form an isolated range; which supporting the roof is quite unconnected to and unstrengthened by the next row, or by the external wall, just as the pier walls of a church without a roof: and as such a row of columns, with their arches, will require often to be mentioned, I shall speak of them hereafter as pier walls. All the arches are alike, and rest upon the stilts; whose breadth is greater than that of the arch walls, but less than the interval between the extremities of two adjacent horse-shoe arches.

The stilts are not always of the dimensions above described: for instance, on the north side of the tomb of the son of Omar, the pillars being unusually short, and the span of the horse-shoe arches unusually small, it became necessary to gain the required height by lengthening the stilts, which here are longer than the pillars.

* I am indebted for this term to Mr. Clarke.

The arches support a flat roof of wood.

There are two *mehrab*s. They are both arched recesses in the wall, and the arches are pointed. The masonry is very rude, being of small pieces of marble put together without any order. Each of Amru's companions is said to have placed one piece with his own hand.

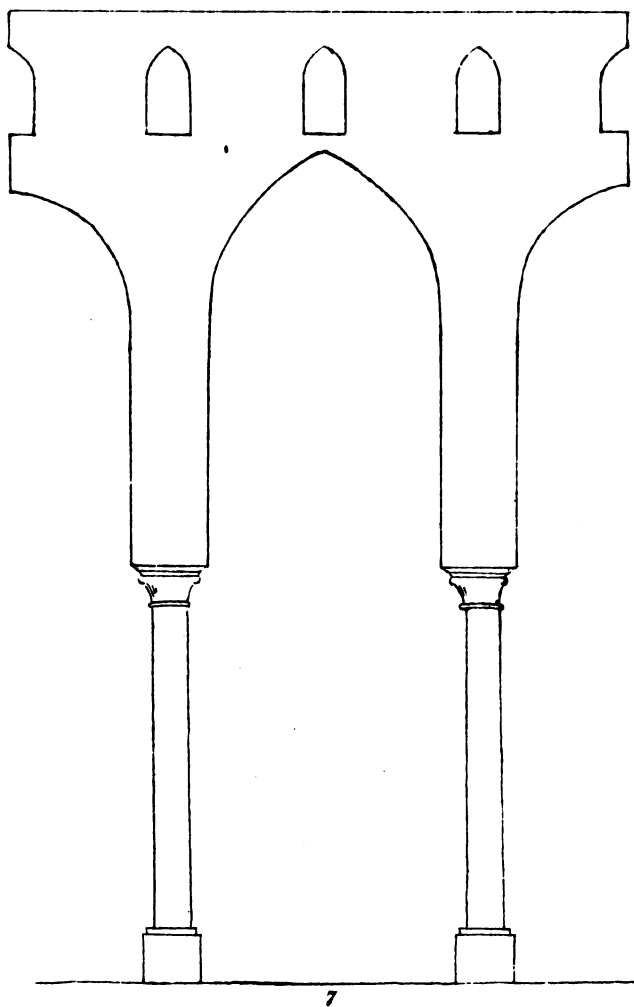
These are not the only instances in this mosque of the pointed arch. Over the two arches which are on the northern side of the tomb of Amru's son, there are four small openings with pointed arches.

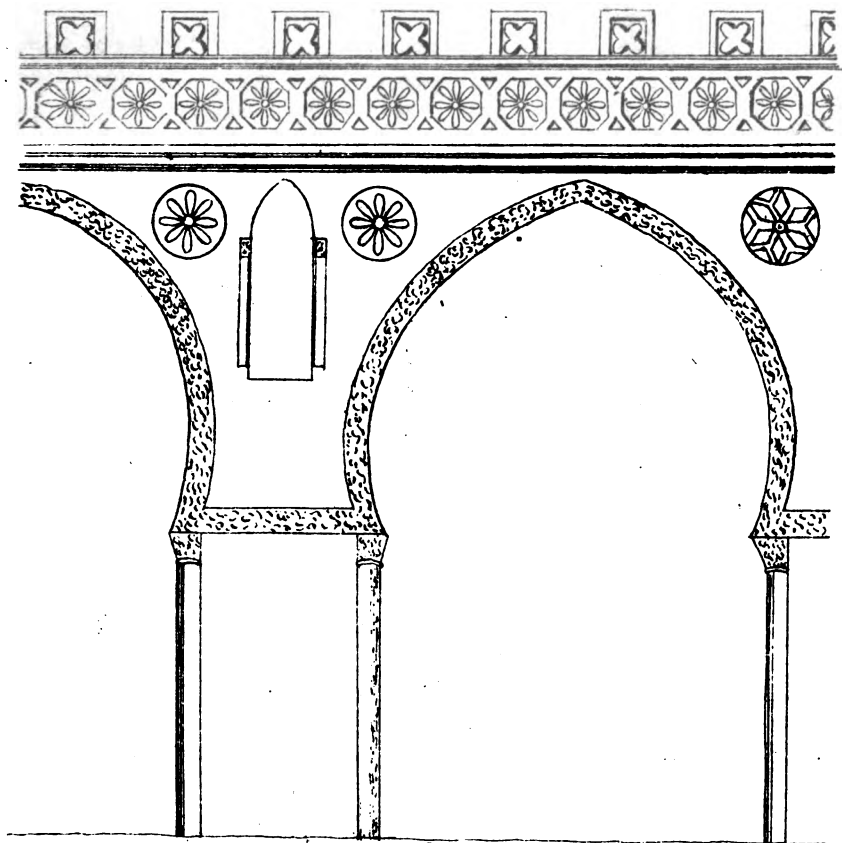
The external wall is quite plain, and without any openings besides the doorways.

The principal entrance is to the west. The minaret at this doorway is covered with a rather acute conical cap.

The most striking appearances in this mosque are explained by the history of the conquest. A wild army of Arabian robbers conquered and plundered a wealthy and civilized country; and, incapable of appreciating the beauty of structures existing before them, applied their materials to any urgent use. Their chief requiring a building, in which his soldiers might conveniently assemble, it became necessary to protect them from the sun; it was proper to cover and roof in a sufficient space round and about the enclosure. Pillars from the neighbouring edifices were taken to support the simplest form of roof—a flat roof. But the pillars were not high enough; and the semi-circular arch was that which was almost the only arch then in use: as this would have raised the roof considerably but not sufficiently, the horse-shoe arch was therefore invented, as giving a much greater height with the same span. The figure is ugly for the purpose, but probably the dissimilarity of it to the round Roman arch recommended it to the reforming spirit of the barbarians. Still sufficient height was not gained; and the monstrous stilts were inserted between the columns and the spring of the arches.

This mosque has ever since been regarded as a most sacred edifice and has been continually repaired. Mouslema bin Mokhad extended it eastward, and built the four minarets, Hejira 21. Abd el Aziz enlarged it eastward in Hijira 79. The Khalif Walid (who is celebrated as a builder and converted the church of Saint John at Damascus into the well known mosque) roofed it. A new pulpit, four gates, the treasury, and a fifth gate were added in Hejira 92. It was injured by fire in Hej. 275, but restored by Kamourieh, who added the present fountain and a portico. But I am





⁹
Mosque of Ahmed.



10.

Hampton's Litch. Bb. ay.

fully persuaded that none of these repairs and additions have affected the architectural character of the building as originally designed. Now, indeed, by order of the present pasha, it is undergoing repairs which are entirely revolutionizing it.

The general plan of a mosque, the horse-shoe arch, and the stilts originated then in a desire to erect, at the least expense, the most convenient meeting-house for the Arab army of Amru. He was probably his own architect, and history would not lead us to expect, from the destroyer of the Alexandrian library, much elegance or grandeur of design.

MOSQUE OF AHMED.

A mosque was erected by Ahmed bin Toulon, who is also called Kamourieh, about Hejira 261, in a style entirely different from that of Amru.

The large quadrangle with its covered colonnades around is essential to a mosque. And in Egypt, where there is little or no rain, it would be a waste both of skill and expense to construct any but flat roofs. The arch also is universally used for the support of the beams, so that pier walls are essential. So simple a structure admits of little variety but in the details of the pier walls. In Ahmed's mosque the arches are not supported by columns, but by cubical masses of brick work. The height of the mass is to its longitudinal breadth in the proportion of three to two, and the transverse breadth is also great. I mean by longitudinal breadth the breadth in the direction of the pier walls; and by transverse breadth, that at right angles to the same. These massive piers are plastered perfectly plain except at the edges, where they are slightly relieved by pilasters. These pilasters have no bases; but they have capitals of foliage which is quite flat, being worked in plaster, and hence lose the object of capitals for want of depth of shadow. (See fig. 10).

The plaster is very inferior, and it must not be supposed to convey any of the effect of the beautiful chunam work of India.

These piers support pointed horse-shoe arches, whose height equal that of the pier. A broad border of flat foliage, or chainwork in plaster, follows the arch, and is continued across the pier from the spring of one arch to the spring of the adjacent arch. The vertex of the border reaches nearly the top of the pier wall. The great breadth of the pier causes a vast space between the arches, which would have had a very naked ap-

pearance notwithstanding the border, had not the architect filled it up with a lancet window, in the centre, and circular openings, one on each side of the window.

The front pier wall is surmounted by a battlement, the design of which will be best understood by the figure.

The central fountain is enclosed in a square building surmounted by a cupola. The upper part of the square building is formed into two octagons, in order to destroy the abruptness which would be caused by the immediate transition from a square to a circular shape.

We have an historical account for the eccentricity and faults of this mosque. The rulers of Egypt, under the Baghdad Khalifs, had in Ahmed's time become powerful and wealthy; as a consequence of wealth, they wished to leave behind them monuments which might perpetuate their memories. Mahomedan architecture presented nothing worthy of being imitated, nothing capable of improvement; still a strong prejudice against every thing of Christian or of Pagan use was an insuperable bar against adopting the style either of churches or of temples. Ahmed had long been perplexed with these difficulties, when at length a Christian prisoner offered the plan of a mosque, which was acknowledged by the Mahomedan court to be equally beautiful and free from religious objection.

As seen in the building, which is even now little injured by time, the characteristics, which may have been adopted from Amru's mosque are,

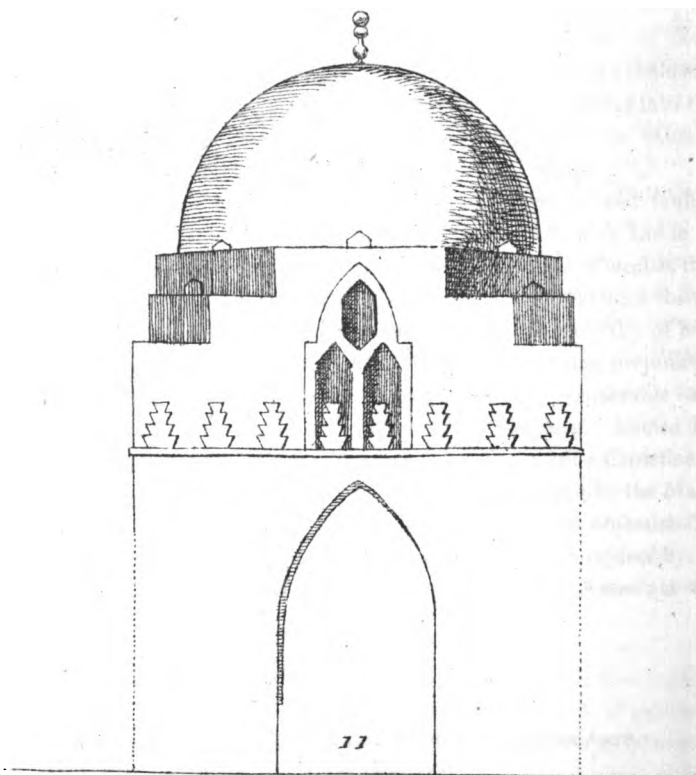
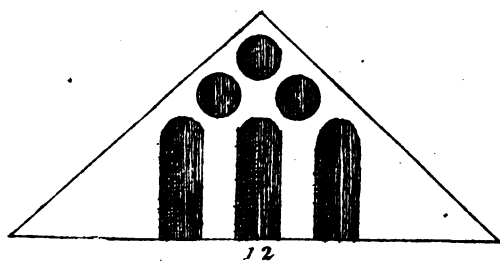
- 1st the general plan.
- 2nd the horse-shoe arch.
- 3rd the small pointed arch.

And the novelties, which the architect introduced, are,

- 1st the pointed horse-shoe arch.
- 2nd the substitution of piers for pillars.
- 3rd the foliage and chainwork in plaster.
- 4th the octagonal ornaments in the battlements.
- 5th the round ornaments in the wall.
- 6th the transition from square to round by means of the octagon.

TOMBS.

Mahomedan tombs are another class of religious buildings which, being more numerous and not being so liable to repairs or alterations in ages subsequent to their erection, promise a larger amount of historical information. There is generally a tomb, or more than one tomb, erected at the



*Hampton Heath
Bury.*

northeast and southeast angles of a mosque ; but the tombs, to which reference is now made, are not subordinate parts of a mosque. They are independent of other uses than the service of the dead ; a small space only being left, on the east side, for worship, and which I suppose is only used for offering up prayers for the dead. The ground plan of Kelaoun's tomb will suffice to give an idea of all. In figure 23, D D D, are the three western doors ; K is the *mehrab* ; T is the coffin enclosed by rails, which are marked by the dotted lines ; S S S S are square piers ; P P P II round pillars which with the square piers support the roof. These tombs are always entirely roofed over.

In the mosques and tombs, which I examined, I found no architectural characters, which were not essentially the same as those above described ; but the principles, which originated in the mosques of Amru and Ahmed, developed and underwent great modifications in subsequent years. To understand these it will be convenient to consider in order :—

- 1 Arches.
- 2 Piers and pillars, pilasters and capitals.
- 3 Pediments.
- 4 Corbel supports.
- 5 Roofs, vaulting and cupolas.
- 6 Windows.
- 7 Geometrical ornaments.

THE ARCH.

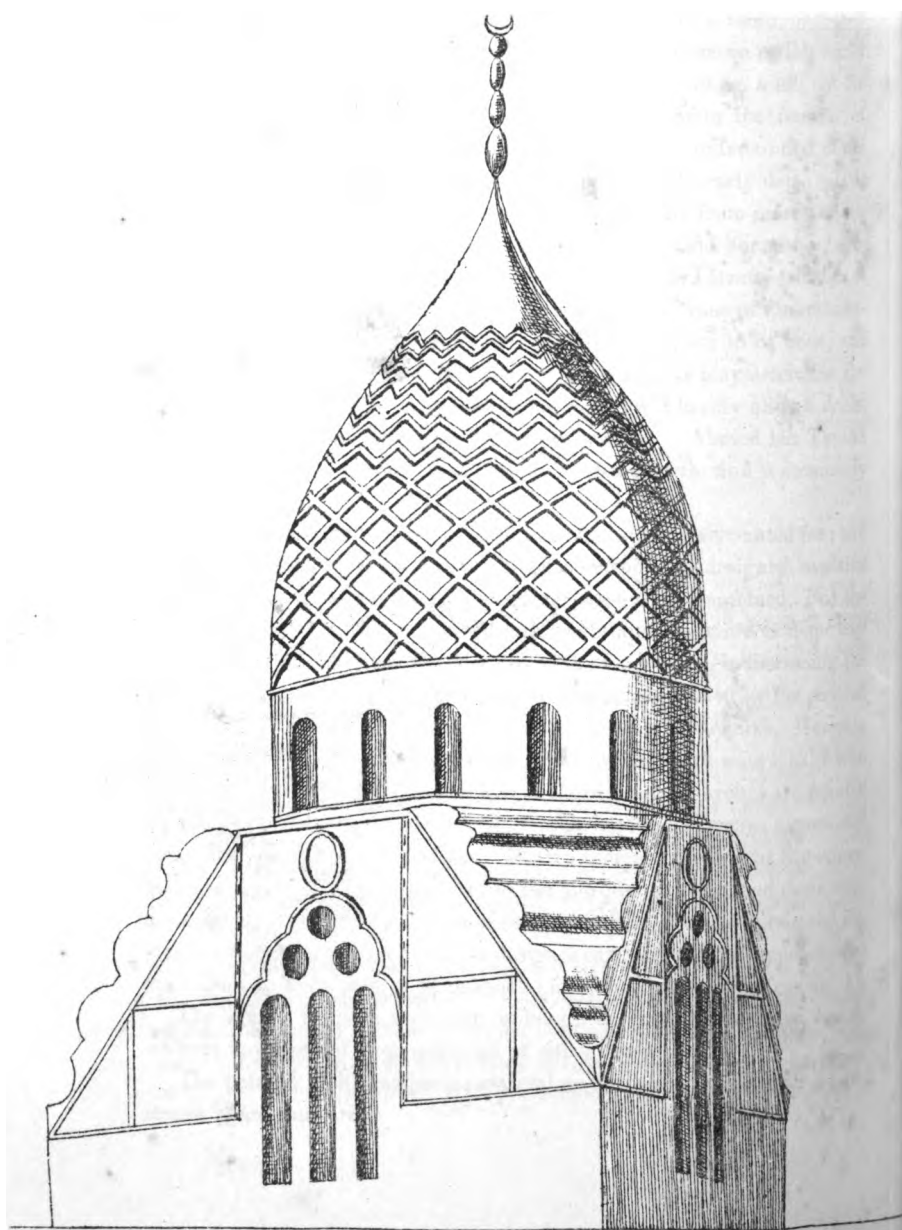
The pointed arch is to be seen in buildings of every date. Whether the pointed openings in Amru's mosque are a part of the original structure, may be doubted ; but the pointed *mehrab* certainly is, for it could not have been introduced into the wall of which it forms the lowest part. Repairs and additions have been recorded above ; but among these the only one which could have affected the *mehrab* is the extension eastward by Mouslema bin Mokhad. If the *mehrab* was then built, it is of no consequence to the present argument, for this alteration is stated to have been in the same year as the erection of the mosque. It is likely enough, however, that by this extension eastward is meant an enlargement of the eastern colonnade, which is more likely to have been enlarged inwardly than outwardly, as the increase in the number of pier walls inwardly would have been effected without any disturbance of the previously existing walls ; and if

this supposition is correct, Mouslema did not build the outer wall in which the *mehrab* is. I do not remember a round arched *mehrab* in any one of the tombs; and as there is necessarily a *mehrab* in every tomb, and as it is very improbable that any alteration should ever be made in a tomb, or indeed any repair beyond what is absolutely necessary to preserve it, this would prove that the pointed arch is co-eval with tombs. But on a hill not far from the mosque of Amru is a tomb, (said to contain the remains of Abu Saad el Ghazi) in which the architecture is so similar to that of the mosque, that it seems impossible to deny it an equally early date. It is built with the same rudeness, and with like materials from more antique buildings. Its minaret is similar; its arches are round horse-shoe; certain piers also, which are substituted for columns, afford strong evidence of antiquity, as will be explained under the proper head. None of the architectural characters, which are known to be of late date, are to be seen; and this tomb has a pointed *mehrab*. Some Arabic scholar may determine the age of Abu Saad el Ghazi, but the above marks will hardly allow a doubt as to the date about which his tomb was erected. Ahmed bin Toulon uses the pointed arch very freely; and we henceforth find it commonly used in all ages.

The origin of the horse-shoe arch has been already accounted for; and the general principle upon which Ahmed's mosque was designed, explains why the pointed and horse-shoe character were there combined. But the horse-shoe arch is so very ungraceful, that subsequent architects dispensed with it; for they observed that the use of the horse-shoe, in increasing the ratio of the height to the span, is equally well accomplished by the pointed arch, which form Ahmed's mosque had now made fashionable. Hence in the mosque of Muiz (whom I suppose to be the first Fatamite Khalif who established the seat of his government at Cairo), the pier arches are pointed but not horse-shoe. The arch is a blunt arch, having its centres somewhere about the quartering of the span. But to increase the height the super-columns are more lengthened than in the mosque of Amru, and their sides made continuous with the curves of the arch. The effect is good; and the pier wall of Muiz (fig. 7) is in its design a carrying out and improvement upon the pier walls both of Kamourieh (fig. 9) and that of Amru (fig. 1).

The arches in other and later buildings are both pointed and round, without any decided preponderance of either form.

The pointed arch is either equilateral or obtuse. I remember no instance of an acute arch.



PIERS, PILLARS, PILASTERS AND CAPITALS.

For supports the Greeks, Romans, and Egyptians, had used only columns, and almost always round columns. Ahmed, in his zeal against ancient architecture, invented the square pier; decorated as it was with pilasters however it did not please; and it has been seldom adopted in subsequent buildings. Muiz imitated Amru, and borrowed round columns and capitals from the temples and palaces of unbelievers. He improved however upon his example, by raising all the shafts upon neat and uniform bases. Each base consists of a square plinth, a few inches thick, supported by a cube, which may be two feet high; no mouldings enrich them or round off their edges; but they have the good quality of neatness which is sadly wanting in Amru's mosque.

In the mosques of the Khalif Hakim and of Sultan Bakok, Ahmed's principle has been observed; but a new contrivance has been made to avoid the round pillars and capitals of other faiths. Ahmed's architect felt the necessity of rounding off the vertical angles, which he effected by means of pilasters, and was certainly guilty of offence against the grand principle. Hakim and Bakok avoided even this by simply cutting off the angles of the square piers, so as to form an octagonal pier, and escaped the necessity both of capital and of base, by rounding off the upper and lower ends of the octagon into hollows, as shewn in figure 14. Although so much more plain than Ahmed's pier, yet this has much the better effect; for its height and diameter are brought much nearer to classical proportion.

We find the same struggle to avoid infidel models in pillars through every age. Kelaoun has used, for the main support of his cupola, large square piers ornamented with horizontal mouldings, mosaic, and various colors. At the edges they are ornamented with round pilasters, which have capitals and bases of the most fantastic device, gaily painted with red, green, and yellow. Pillars and pilasters of this strange character serve various purposes in this tomb; their beauty may be appreciated by figures 17, 18, and 19.

Kelaoun's cupola is also partly supported by four round pillars, which are surmounted by Corinthian capitals. These pillars are tall, but not out of proportion to their diameter, which I found to be 3 feet 3 inches.

Kelaoun's son Ashraf seems to have been possessed with the same

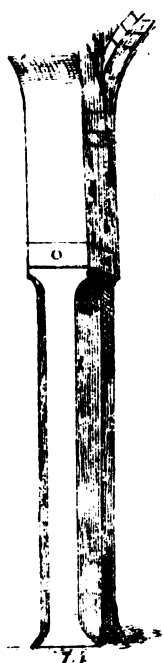
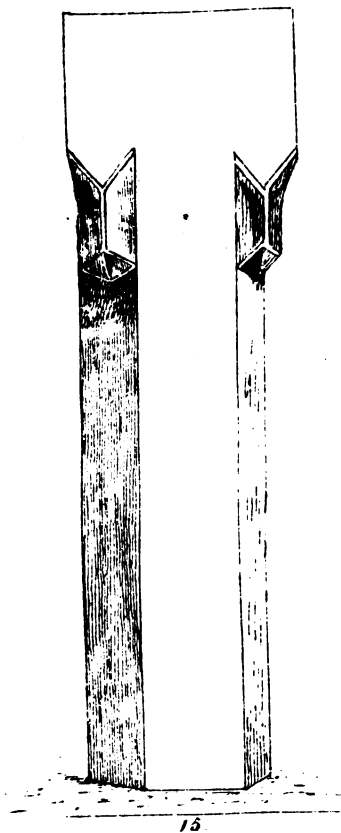
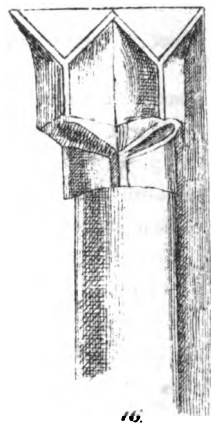
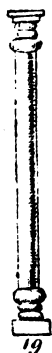
spirit of incongruity. His tomb is fantastically adorned with mosaic, and the shafts (which are round) are supported by inverted Corinthian capitals as bases.

Abu Saad's tomb contains pillars and capitals of another fashion. The round pilaster (fig. 16) is on one side of a doorway leading into a tomb, the arch of which is shewn in fig. 22. A round shaft is here required to support a square. To form a pleasing transition from the round to the square is one of the great problems of architecture. Greek temples are essentially composed of round pillars upon which square edged beams rest; and the classic architects perfected their successive devices, to accomplish this problem, by the Corinthian capital, in which the eye, losing itself among the foliage, is gradually curved away from vertical to horizontal lines, and from the round to the square. The Mahomedan solution of the same problem will be better understood by reference to figure 16 than by description. It will be observed that the change is effected by a succession of bevelments, so that the intermediate figure, which the circle changes to a square, is a re-entrant polygon of sixteen sides. Figure 15 represents an octagonal pillar which supports the roof, of which the upper part may be considered as a supercolumn. The transition from the octagon to the square is here effected by similar bevelments as that from the circle to the square; and forms an incipient capital, not quite so complete as on the pilaster above described.

Thus an entirely new and Mahomedan capital was invented. But it seems to have been little imitated, although it appears to have given the idea of important peculiarities in Cairo architecture.

PEDIMENTS.

Over the fountain, in the centre of Ahmed's mosque, is a square building surmounted by a cupola (fig. 11). In such a case there is the same necessity for a transition as in a pillar; and the same system of bevelment, or cutting off angles, was adopted as in the capitals of Abu Saad. In Ahmed's mosque the angle is twice cut off, so that the whole building is a square prism, upon which is an octagonal prism, over which is a second octagonal prism, and above which is the round cupola. Thus in this instance, the angle of the square is cut off in two steps. In later buildings, as in the tomb of Muiz, the number of steps are increased, and in those of yet later date, the number of steps are so multiplied that at a distance they



are not perceptible, and the upper part of the square face appears as a pediment. In the modern tombs they become a real pediment, as in that of Sultan el Ghori, fig. 12. Sultan Mahomed has ornamented the angles of his tomb by rounding off the steps into horizontal mouldings.—The pediment is sometimes complete (fig. 12), and sometimes truncated (fig. 13).

CORBELS AND MINARETS.

This principle of bevelment was extended to every case where transition from a horizontal plan of straight lines to another horizontal plan of curved lines, was required. Thus the interior of tombs required the same transition as the exterior, and a system of bevelments, exactly the same as those of Abu Saad's pillars, is generally used. The rows of re-entering prisms are of course increased, and each row is increased in the number of its cells, from one at the base, in arithmetical progression, the common difference being one. So that a pleasing triangular assemblage of cells is formed. A fine example may be seen in the tomb of Sultan Bibars, where the cells are very large. In other buildings, as in the tomb of Bakok, the number of cells is increased.

These bevelled cells were further used, wherever an overhanging balcony or room was required. Thus they served the purposes of corbels and corbel tables, and may be called cellular corbels.

Cellular corbel tables are used for the support of the balconies which surround the minarets; the balconies being always round, and the minarets themselves almost always octagonal.

ROOFS, VAULTING, AND CUPOLAS.

The roofs of all the mosques, excepting two, which I examined, are flat; but the tombs are always covered in with a cupola. The cupola over Ahmed's fountain is hemispherical (fig. 11); Mahomed's cupola (fig. 13) is *ogive*, and raised on a cylinder. Ahmed's cupola is quite plain. *Zigzag* ornaments the exterior of the cupola of Muiz. Sultan Mahomed (fig. 13) has used the zigzag and chevron. Sultan Ashraf has embossed his dome with flowers. Sultan Bakok uses the zigzag; and again Sultan Aawad's cupola is quite plain. No universal law has therefore been observed; but in general the more ancient cupolas are hemispherical and plain, and the more modern are elevated and ornamented.

I did not notice any large cupolas of the horse-shoe shape, although minarets are usually surmounted by them. But these little cupolas are rather ornamental finishes to the whole than coverings.

One of the deviations from flat roofs is found in the aisles and temple of Sultan Bakok, built about A. D. 1382. Here the pier walls are connected by transverse arches, and every square of four pillars supports between them an hemispherical cupola : so that the whole roof of the colonnades is formed of a multitude of little equal cupolas.

One other deviation is found in the mosque of Sultan Hassan, about A. D. 1310. This mosque is entirely different from every other, and is the only aberration, (which I observed,) from the type of Amru's mosque.* The ground plan is a Greek cross. The central square is open to the sky, but the four arms are roofed by a simple pointed vault.

The minarets of Abu Saad's tomb and of Amru's mosque are covered by simple conical caps. The simplicity of this form would refer it to the earliest stage of architecture, and is another evidence of the antiquity of Abu Sadd's tomb.

WINDOWS.

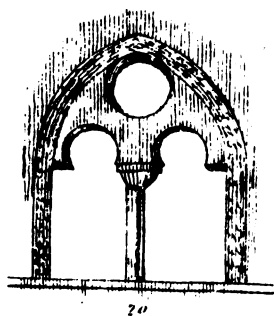
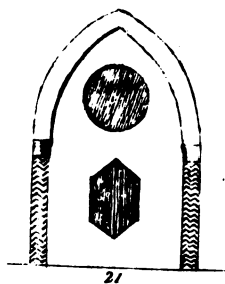
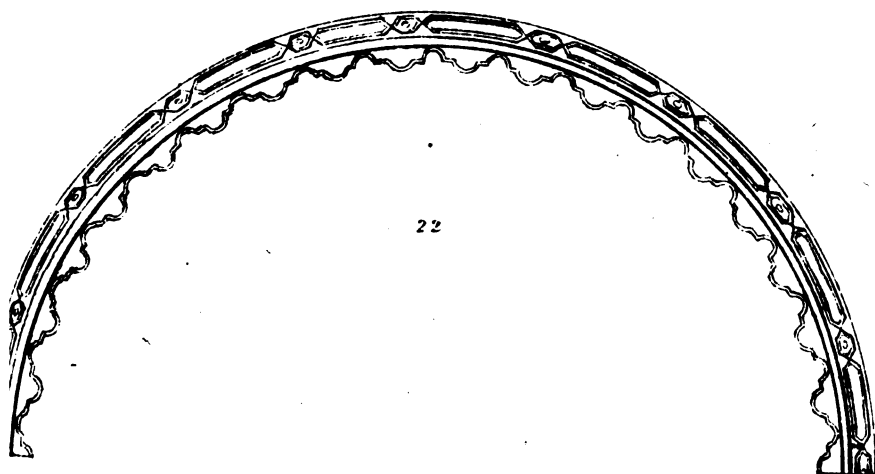
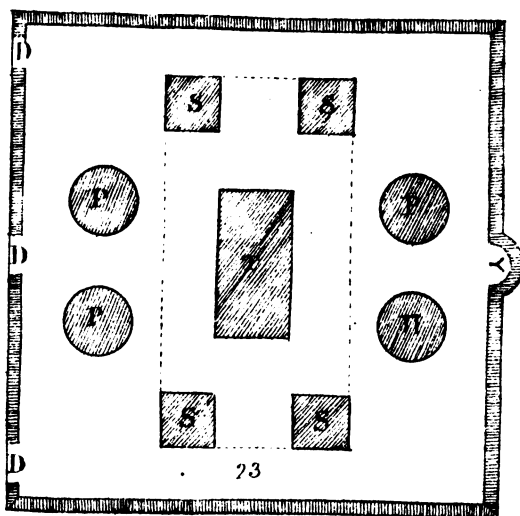
In the tomb of Amru's mosque are small pointed openings, and also in the upper part of the pier walls of Muiz. These are without mouldings.

Between each pier arch, Ahmed's architect has placed a lancet window; and has made a first attempt at mouldings, by introducing, at each side, a pilaster similar to those at the edges of the pier.

No further approach to the idea of mouldings has been made in subsequent years. The window (fig. 21) in the tomb of Sultan Bibars, has also pilasters on the sides; and the window (fig. 20) in the upper part of Kelaoun's tomb, has a rich but flat border round it : but in general the edges of windows are, like those of arches, perfectly plain.

The opening of the whole window is generally filled up by a wall, thinner than the rest of the building, and this wall is pierced with smaller openings. There is an early example of this in the fountain of Ahmed, where the openings are angular, and nearly fill up the whole window; so that the parts of the wall remaining are almost nothing more than the simplest form of geometrical tracery. But in the tomb of Sultan Bibars

* It is remarkable that this mosque, which is quite abnormal, should be shewn to strangers as a specimen of such buildings.



(fig. 21), this window wall occupies nearly the whole space, and there are only two small openings, one hexagonal and one circular. The window (fig. 20) of Keloun's tomb is on the contrary much opened; the upper part only being walled, and the lower part divided by a small pillar which supports the wall above, and made very light by one circular, and two horse-shoe, openings.

The windows consist of either round headed, or blunt pointed arches; and I did not observe any acute pointed ones.

Pediments require a different style of window. In complete pediments, three narrow round headed openings, of equal height, pierce the lower part of the pediment, and the remaining upper space is occupied by three round openings, so that the centres of all six circles are in a triangle similar to the pediment.

In truncated pediments (fig. 13), the same combination is preserved, apparently only for the sake of the fashion introduced by the complete pediment; since, in order to preserve the fashion, it was necessary to introduce the panelling which we see in Mahomed's pediment.

Round windows admit light through the cylindrical base of Sultan Bibars's cupola.

GEOMETRIC ORNAMENTS.

The Mahomedans of Cairo have admitted flowers and foliage among their architectural ornaments; while there was a tendency to discard even these, and to confine all decoration to combinations of the straight line and circle.

Amru's mosque is entirely without ornament; but this must be attributed more to rudeness than to principle; for the former cause would even forbid the use of ancient capitals. Abu Saad's tomb has much ornament and all geometrical; both *zigzag* and chain work (fig. 22) occur over the doorways, as also combinations of semicircles and straight lines. Zigzag and chain work are most common ornaments of every age and are every where seen. Ahmed's mosque is profusely enriched with geometrical combinations, all of which bear some relation to the octagon.

The lattice work, with which the openings of the windows are generally closed, is always geometrical; and for the most part combinations of straight lines only.

The innermost pier wall is generally surmounted by a battlement, (figs.

8 and 9), which also has afforded opportunities for the exercise of geometrical skill.

CHARACTER AND ORIGIN OF CAIRO ARCHITECTURE.

Thus the manner of Mahomedan worship, the climate of Egypt, the desire of princes to perpetuate their memories after death, and the spirit of antagonism to Christianity and paganism, gradually produced an original and peculiar style of architecture. It is recognized by cupolas, minarets, geometric ornaments, the horse-shoe and pointed arch, stilts, windows in triplets, and windows of geometric openings in a plain wall, square massive piers, pediments, and corbels of bevelled cells. The general plan and minarets must be attributed solely to the necessities of the Mahomedan form of worship. Horse-shoe arches and supercolumns owe their origin to the climate, which required a high roof to preserve a moderate temperature under the colonnades. Square massive piers, fantastic capitals and bases, the two styles of windows, and all that originated from the principle of bevelment, whether in pediments or in corbels, must be attributed to the spirit of antagonism against other faiths. In all these points the Cairo style is original, and in some peculiar; but it borrowed from others the cupola, the pointed arch, and most if not all its geometric ornaments.

Constantinople had set the fashion to the Christian temples, which were built, in every part of the Roman Empire, under Constantine and his successors, (1) in consequence of the nearly total annihilation of previously existing churches during the Diocletian persecution (2). The ground plan of these churches was a Greek cross, the centre of which was a cupola supported upon four arches. It is to be observed that the cupola is used by the Mahomedans over tombs only, until the fourteenth century, when Bakok employed it to vault his mosque. They may have been mystical enough to consider that the churches of Christians were but the mansions of the dead: or more probably the wish of leaving their bodies under the richest edifices which their age could produce, overcame the spirit of hatred to Christian form, and caused the Mahomedan Princes to yield to the judgment of infidel architects: since it is known that Christian architects were employed in Mahomedan countries, and even requested by Mahomedan Princes from the Greek Emperors.

(1) Hope's architecture, p. 121.

(2) Lactantius de morte persecutorum.

The *zigzag ornament* is as old as 456 A. U. C. and is a corruption of the Greek dentile (1). A careful enquiry into these geometric ornaments will probably trace most of those used in Cairo to a more ancient period; but their general use is certainly a striking feature and peculiarity of Mahomedan architecture.

It has been shewn that the pointed arch is coeval with Cairo architecture, but that it did not come into general use until Ahmed bin Toulon's time, after which it occurs every where. Hope says, "in buildings of the earlier Byzantine, nay still more antique Roman style, the pointed arch had already appeared." If this be correct, it was without doubt borrowed from Constantinople and the Christian churches, as well as the cupola. In the earliest buildings we have found the arch of the *mehrab* to be the only pointed arch. There is certainly no architectural reason for its use in this position; but the considerations, that the Mahomedans had ever in their thoughts the hated structure of the Christian temple, and that their leaders ever laboured to increase the feeling that there could be no peace between the two religions, suggested a reason for its adoption as the arch of the *mehrab*. All the early churches, both of the east and of most countries in the west, terminated with a round *apse* having a semi-domical roof; (I use the nomenclature of Dr. Whewell proposed in his notes on the Architecture of German churches,) and in the centre of this was the altar towards which the eyes of all the congregation were directed; the domical roofed *apse* therefore became the *mehrab* of the Christian. Now the Mahomedan *mehrab* is an *apse* in miniature, but pointed; and this pointing may have been adopted to contrast with the round arch of the Christian *apse*, and to keep up in the minds of the worshippers the contrast between the two faiths. The history related above of the foundation of Ahmed's mosque leaves no doubt that this spirit caused its universal use in that edifice; for at that time and for centuries after, the round arch was almost exclusively used both in Eastern and Western Christendom. Ahmed's mosque must have been designed in the latter half of the ninth century, and there is not an instance of the pointed arch in Western Europe before the eleventh. The examples quoted by Hope prove its occurrence, only as a rarity, in the Byzantine churches; whereas from Ahmed's time it becomes a characteristic of Mahomedan structures.

(1) Hope, p. 75.

INFLUENCE OF MAHOMEDAN ON CHRISTIAN ARCHITECTURE.

While the Mahomedans were thus producing an original style of Architecture, Christians were enriching the Byzantine style; which in Italy, Germany, England, and France, was assuming local forms and introducing new styles, named by different authors, Romanesque, Saxon, Norman, &c. &c. These were definitely forming into a new order, which was distinguished by the leading principles of the Gothic, when the crusades brought the nations, who were most actively engaged in improving their national forms, into contact with the East and with Egypt. Immediately after the first crusade, the pointed Gothic, in its earliest form suddenly and rapidly developed itself in France and England. English and French barons, (one nation at that time in every moral sense,) were the chief leaders of the early crusades; and in England and France the pointed Gothic first and chiefly flourished. Such coincidences afford a strong presumption that the active minded northerners did borrow the pointed style from the East. Upon this subject much has been already written, but internal evidence, derived from architectural peculiarities, will be much more convincing than external evidence derived from the probabilities of history; and to consider this we therefore now turn.

The pointed arch, in the earliest specimens of early Gothic,* through Germany, France and England, is obtuse and sometimes equilateral. The acute arch appears only in the later early Gothic. Now the acute arch is much more suited to the essential idea of Gothic, which is the predominance of vertical lines; and this is the essential idea both of the Romanesque, Gothic, and of the pointed Gothic; while there is no reason against the use of the acute arch where the obtuse has been actually employed; but the former could have effected all the purpose of the latter. If the pointed arch was borrowed from Cairo, this difficulty is explained; for there it is always obtuse or equilateral, never acute.

The windows of the earliest pointed and even of the lingering Romanesque are frequently in triplets, with round windows often above them. This arrangement has not been traced up to any cause in Europe; but in Cairo,

* The Pointed Gothic is now always distinguished in England into Early English, Decorated, and Perpendicular. The Early English is the development, the Decorated is the perfection, and the Perpendicular the decay of the style. The development of the style in all countries may be called Early Gothic.

where it occurs of an earlier date, a sufficient cause has been found in the forms and position of the pediment.

The window of two lights, with a circular opening above, (fig. 20 Ke-laoun's tomb,) is even more common than the triplet in early English. In the Gothic the round horse-shoe becomes obtuse pointed, and the thin wall becomes tracery. Now Gothic tracery is perfect when all the lines flow easily into one another, and imperfect in proportion to the neglect of this principle. But the combination of two obtuse arches with a circle is made to accomplish this with much difficulty; and notwithstanding, this is the most common window in use, during the predominance of early English—I have seen only one instance where the easy flow is effected in this construction, viz. in the triforium of the nave of Lichfield cathedral. It seems inconceivable that the Gothic architects should have invented a window so unsuited to their principles; but it is comprehensible that it should have become fashionable after having been once adopted from others.

In early Gothic, and in the perfect Gothic, we observe a fondness for geometric ornament, which seems hardly consistent with the tendencies then existing in the Christian church, but which is easily accounted for on the supposition that her architects were gathering ideas from the opposing faith. When the crusades had ceased, and the perpendicular and *flamboyant* succeeded the perfect Gothic, this tendency to geometrical form became weaker, and imagery was profusely used.

The architecture of Cairo may have influenced that of Christendom, through another channel besides the crusades. The Saracenic kingdoms of Italy and Spain may have introduced the new principles; and this may explain the few (if genuine,) instances which are quoted, of early Gothic anterior to the crusades.

But the Gothic Architects were far from being mere copyists. They adopted the pointed arch, and made it subservient to the great principle of verticality which had existed previously in the Romanesque. They also applied it to vaulting: and this reacting again upon the arch produced its more beautiful forms. Geometrical ornaments were increased in number and new combinations formed. Windows in triplets were coalesced into beautiful windows with flowing tracery, filled up with pointed glass in the place of lattice work and void spaces. Mouldings decorated the sides of windows and doors, and combined with the lines of shafts and panelling,

which pointed up beyond the concealed roof. The flat floored border of Ahmed's arch was moulded into rolls, whose deep shadows fixed the eye, and aided to carry it upward from the ground. Piers were adopted to support the mass of masonry which did not exist above the Mahomedan pier, and decorated with clusters of thin shafts and mouldings, they kept up the effect by destroying the tendency of every necessary horizontal line to depress the eye. Nor did they adopt the deformities of the unbeliever's creation; the bevelled capital and the unmeaning capitals of Kelaoun were looked upon only to be rejected; and corbels, more beautiful than those of Cairo, were invented. But they did not reject the Romanesque capital, and modified it into their own uses, by making it a mere knob, by which the eye might be assisted up the shafts. The cupola, on the other hand, was rejected for a more susceptible form of vaulting; and fan tracery was developed out of a system, which the adoption of the cupola would have prohibited for ever.

But in place of the cupola, as a covering for Gothic towers, the spire gradually rose from the same conical caps as we have seen on the minarets of Amru and Abu Saad. The round towers of Ireland are covered in with conical caps, the idea of which seems to have been taken from the stone roofs, which, at the period of the erection of these towers, were framed over the churches. These roofs are formed by horizontal layers of stone, the ends of which are cut off externally at an angle of sixty, so as to form this high pitch for a gable ended roof. * This principle to cover in a round building necessarily produced a conical cap. The blunt spires of the early English are little else but these conical caps set upon a larger base. But as the style improved, the spires ascended with their supporting pinnacles; and crockets and adornments soon became the greatest ornament of the Christian landscape. So much could western energy develope out of so simple a structure as the conical cap; but the Mahomedan extracted nothing from his conical caps, but soon discarded them altogether for the fashionable cupolas.

* St Doulach's near Dublin; St Kevins Kitchen, Glendaloch. It is strange that antiquaries should not have seen that the round towers must be belfries. Bells seem to have been first cast in our western countries; and they were no doubt most necessary in the missionary establishments of Ireland. The architecture of the round towers and of the seven churches at Glendaloch is that which is called Saxon by Rickman, and referred by him to the time of our Saxon Kings.

As I do not refer the idea of the spire to the minarets of Cairo, so neither do I consider the gabel ends and pediments of the Romanesque churches of Germany to have been derived from the pediments of Egypt; because they are easily traced through Italian churches to the civil edifices of Rome, and thence to the Grecian pediment.

Mahomedan architecture, then, is wholly distinct from both the Romanesque and the pointed Gothic. It borrowed from the one, and the other borrowed from it, while the principles of all three styles are essentially distinct. On this subject error is committed by those writers who have taken extreme views; some considering the Mahomedan to have been the source of all middle age architecture, and others giving strong reasons for believing that the reverse has been the fact.

The Mahomedan then invented some novelties which the Christian deemed worthy of adoption, but which under his hand gradually improved into a perfection of which the originals seem hardly capable. He made other inventions which were too ugly to be copied, while the latter was compelled himself to make copies, which he was unable to improve, at a time when Christian architecture was making a progress which has astonished all students of history and science.

From the time of Ahmed to the reign of Bakok, Mahomedan architecture had remained stationary. During five centuries, from the first effort to produce something original, nothing of any real value had been produced; while in England, from the reign of Stephen, when the pointed style commenced, to the time of Sultan Bakok, (that is during two centuries and a half), our countrymen wrought out the varied forms of Gothic, which excite the wonder of our age, and afford subject of untiring contemplation to the student.

Such slowness and incapacity may be attributed partly to want of imagination, in which the Arabs appear to be particularly defective: for Arab science is now pretty well known to owe every thing either to Greece or India. Arab history never passed the limits of mere chronicles, and the bulk of their literature begins and ends with Greek authors; while Arab poetry is said to be all of one model.

Egypt has perhaps been more favored than any other Mahomedan country in the enjoyment of peace, which is the nurse of the fine arts. Yet the law, which permits the father to make any favorite son his heir, rendered the succession to the monarchy uncertain, and caused intestine com-

motions which were quite enough to distract the minds of all from the culture of the fine arts. Besides which, Syria being within the dominions of Egypt, her rulers were never allowed to be in peace, on account of the wars which they were compelled to maintain on this side, successively against the Greeks, the Crusaders, the Tartars and the Turks.

In Christendom, during the middle ages, the architects and founders of our temples were men who did not feel themselves isolated individuals in their work. The same motives which caused one to begin, would cause another to continue his work until it was completed. They could therefore lay out and commence magnificent schemes for edifices, which they themselves never expected to see raised far above the foundations. They were members of corporations; and the labor of one was not only the labor of that one man, but of the whole undying corporation. Mahomed destroyed the ancient cathedral and monastic corporations of Christendom, but substituted nothing in their place. The conduct of all Mahomedans hence assumes an individual and selfish aspect. The founder of a new town planned just such a mosque as he could expect to complete himself, and most princes were contented with building for themselves a tomb. Hence the unsubstantial character of the materials of Cairo buildings; for although the nummulitic limestone supplied ancient Egypt with an excellent stone; yet all the Mahomedan remains are of brick. An exception however must be made in favor of Salah-ed-Din's erections. The fortifications of Cairo attributed to him, and also the great aqueduct, is of nummulitic limestone; which even he however did not attempt to quarry but carried away from the Pyramids of Ghizeh.

Those travellers, who are able to pursue this subject in Egypt, or those who make similar enquiries in this country, will find M. Coste's work on the architecture of Cairo very useful. It is to be hoped that the Asiatic Society will emulate, in India, those Societies whose architectural researches have thrown so much light on European History.

Comparative Chronology of Cairo Architecture.

Christian Architecture.	A.D.	A.D.	Heg.	Mahomedan Architecture.	Egyptian History.
		640	20	Pointed arch, horse	Egypt conquered by Amru, death of Amru.
		663	43	shoe round arch.	
		698	79	Abdal Aziz enlarges Amru's mosque	
		716	98		Khalif Walid dies.
		874	261	About this time Kamourieh's mosque is built.	
		888	275	Pointed horse-shoe and Piers, Geometrical ornaments. Kamourieh repairs Amru's mosque.	
		970	360	Zigzag ornament on the cupola.	Khalif Muiz establishes the seat of the Fatemite Government at Cairo.
Cathedral of Chartres, said to be pointed.		996	386		Khalif Hakim.
Jerusalem taken by Godfrey of Boulogne.	1098	1020	411		dies
	1099	1166	562		Salaheddin puts an end to the Fatemite Dynasty
St Cross built by Henry de Bloes, an instance of pointed struggling with Romanesque Gothic.	1132	1263	662		Sultan Bibars dies
		1290	689		Almansour Kelaoun dies.
		1293	693		Al Ashraf dies.
		1356	757		Sultan Hassan.
		1382	784		Sultan Bakok.

ART. II.—*Geographical and Statistical Memorandum on Beluchistan.* BY MAJOR GEORGE LEMESSURIER, of the Bombay Army.

The province of Beluchistan, of which Kelat is the capital city, is situated between the 25th and 31st parallels of north latitude, and the 62nd and 67th of east longitude: being bounded, on the north, by the Lorah river, which forms the southern limits of Afghanistan; on the west, by the desert of Noshki, Chargye, Kharan, &c. which separate it from the Persian dominions; on the south, by the Indian ocean; and on the east, by the Hala range of mountains, which divides it from Sindh. This country so extensive is perhaps without a parallel, and certainly no portion of India can in any way be compared to it. In its physical features it approximates to Afghanistan, of which indeed it

may be called an integral portion, as well as a dependency ; it is like it, a country of mountains, intersected by narrow valleys, and happily described as an extensive and varied system of mountain ranges upheaved through an enormous plain, variously covered with *boulders and shingle*, with here and there deposits of soil, in narrow strips along the lines of drainage. This last remark applies peculiarly to the eastern frontier of *Beluchistan*, but scarcely so much so to the western ; where the mountain ranges gradually subside into plains, or rather run, in detached and isolated portions, far into the desert, which divides it from Persia. This part of the country becomes more level and open generally, and with few exceptions sandy. In the report on Afghanistan by Dr. Griffiths, (published in the Journal of the Asiatic Society of Bengal,) the author observes that the system of mountains, which form so remarkable a feature on the eastern boundary of Beluchistan, is referrible to the mountains of the *Koh-i-Safed* ; a name given to that portion of the western continuation of the great *Himalaya chain*, which, after forming the southern boundary of the valley of Jallalabad, extends thence, in a general line, southward along the right bank of the Indus, and includes the *Takhti-Suliman*, the ranges commonly called the *Hala*, or *Harbui mountains of Brahuistan*, (which stretch away south to the sea,) and all those to the east, south east, and south of Kabul, Ghizni, Kandahar, and Quetta. A system of mountains so continuous, passing into each other, by such numerous ramifications, may be best comprehended and described by noticing the remarkable fact of the entire extent being penetrated, *but by three routes** or passes, practicable for our wheeled carriages. It is true that many other passes occur, but they are not of a nature to admit of any particular stress being laid on them, as available means in a commercial point of view. The two passes however, leading from the neighbourhood of Derah Ismail Khan, and Derah Ghazi Khan, may possibly be considered as forming exceptions to this observation ; but, as they are not generally looked upon as practicable routes for carts, they need no particular notice beyond the fact of both being travelled by merchants, trading between the upper and lower countries ; while the direct route from Kelat to Sunmiani, which passes to the *westward* of the mountain ranges, can scarcely be included in the list, although it be considered one of three principal routes

* The Khaibar, the Bolan, and the Mulla Passes.

of Beluchistan, the two others being the Bolan and Mulla passes. Both of these are sufficiently well known as available for commercial purposes, and require not here any detailed description. It may be remarked generally that *all the passes*, penetrating the great mountain ranges, from the Khaibar to the sea coast, partake of the same character, and are ascended and descended by means of the river beds and water courses, which are generally dry, excepting during the season of floods, and afford indeed the only practicable routes of transit. One feature peculiar to these water-courses, and probably confined to this remarkable country, is their resemblance to gently inclined plains, covered by moderate sized boulders and shingle; differing however from the ordinary hill-ravine appearance, inasmuch as these water-courses are not impeded or choked up by fragments and masses, torn from their sides; and the absence of which renders such passes comparatively of easy access.

The Hindu Kush, Koh-i-Baba and Koh-i-Safed mountains in Afghanistan, are marked by a barrenness peculiar to themselves, and in carrying out a comparison between them and those of Beluchistan, it is to be observed that this characteristic feature occurs, in a remarkable degree, throughout the entire *Hala range*, and those numerous mountain ramifications from the south of Kelat, to the sea; where there barrenness may be considered almost absolute. The physical features however undergo no change; but continue closely to approximate, in their character, to the mountains of the Hindu Kush, which they resemble by having rocky scarped and inaccessible faces. Some of the offsets are composed of conglomerate, often exceedingly hard, and of friable mica slate, decomposed on the surface. The higher ranges chiefly consist of limestone.

Regarding the elevation of the Hindu Kush, and other ranges forming the western continuation of the great Himalaya chain, we find the highest accessible point viz. the "Pass of Erak, at Bamian," ascends 13,000 feet above the sea, while the higher inaccessible peaks and ranges attain an elevation of 15 to 18,000 feet. In tracing southwards the course of those ranges, running parallel to the right banks of the Indus, and connected with the great chain of the Indian Caucasus, this elevation is found to gradually diminish; and at Quetta the highest peaks, those of the Chihattan and Takkatu mountains, do not exceed respectively 10,245 and 10,875 feet, while the elevation of the Shawl valley has

been determined at 5,242 feet above the sea. From this point to Kelat the country perceptibly ascends, the valley of Kelat being 790 higher than that of Shawl. Thence to the sea coast, a distance of nearly 300 miles, the country presents a gradually inclined plain, along the lines of drainage; the various ranges and their numerous ramifications are consequently subjected to the same depression, till they subside to an elevation not exceeding 200 feet in the neighbourhood of Cape Monze, situated 20 miles to the S. W. of Karrachee.

The valleys enclosed by these mountain ranges, and their numerous offsets, vary much in altitude and in general character; most of them are narrow and running parallel to the ranges, while the tillable soil, confined to the line of drainage, and the open space between boundary hills, is frequently an inclined plain, strewed over with boulders and shingle. This description applies particularly to the valley of Shawl, to the base of the Chihattan mountain, and the various minor ranges extending south and west towards Kelat and Noshki; at which latter point, the mountain, overhanging that place, to the N. N. E. affords a remarkable instance of that glacial slope, which Dr. Griffiths describes as characterizing the physical configuration of the country in the northern parts of Afghanistan; while farther south, this remarkable feature becomes less and less conspicuous, and ceases to occur altogether 50 miles south of Kelat.

The other form of Valley, and from which the greater portion of the agricultural produce is derived, is, generally speaking, entirely covered with good soil, excepting at the base of the hills; which, as before described, are invariably stony, and the great difference between these forms of valley, is in the amount of the tillable soil. Mustang, Kelat, and Bagwana may be noted as particular instances, belonging to this form of valley.

In a country so remarkably sterile as Beluchistan, a great supply of indigenous timber cannot be looked for. Trees abound in the more remote and sheltered recesses of the mountains, to the east of Quetta; where a description of cedar or juniper, which yields good firewood, is found; but it is difficult of access, collected with much labour, and yields not timber fit for building purposes. The Chelghuzeh or Gurn, described as being found in considerable quantities in the ranges of the *Koh-i-Safed*, is met with from the Shawl valley, to some little distance below Kelat, but the tree seldom exceeds 16 feet in height, and is not fit for the purpose of building.

Excepting the willow and plane trees there are none cultivated that do not bear fruit, and among these the mulberry and apricot, which are not suitable for buildings, seem to be the most common. The mode of planting indeed, by which trees are huddled together in thick groves, stunts their growth and renders them of little value as timber, and such trees as are produced in the country may be considered, therefore, to be reared exclusively for the fruit they yield: which, at Mustang and other places in that neighbourhood, contributes materially towards the subsistence of the lower orders, during the summer months. Fuel is generally obtained from low bushes and the southern wood, which commonly occur all over the country, or from camels dung.

The rivers of Beluchistan, which are few, partake of the character of mountain torrents, and are scantily supplied with water from springs; but where met with, like those of the rivers of Afghanistan, they frequently disappear at various distances from their sources. Such is the termination of those in the Bolan pass, and of many of the rivers met with in the downward march from Kelat to the sea: and we may attribute this result to the very absorbent nature of the soil, which produces the same phenomena in the rivers of Kabul.

Before entering on a description of the principal rivers, some notice of the lines of drainage appears necessary, and these may be enumerated—1st southerly towards the sea; 2nd westerly, towards the desert; and 3rd easterly, towards the Indus.

The principal river of Beluchistan is the *Nal*, which rises 16 miles south of Kelat, and in a plain elevated 6000 feet above the level of the sea, from whence the lines of drainage are to the north and south. The *Nal* river from Kelat has a general direction S. S. W. flowing by So-rahb and *Nal Jowhoo*; entering the sea 80 to 100 miles, westward of *Sunmiani*. The length of its course is nearly 400 miles, and may be considered throughout, a mountain torrent, which is generally dry, and flooded only after violent storms.

The waters flowing north from Kelat form one of the principal tributaries of the *Lorah* river, which they join in the *Peshin* valley; whence flowing west, and south-west, towards the great lake of *Seistan*, they are lost in the sands of the *Noshki* and *Chargye* desert, about half way between these two places. Such also is the termination of all the minor streams which flow westward between *Noshki* and the sea. They are

all absorbed in the desert, and have no apparent communication with the lake abovementioned.

The line of drainage eastward may be best described by a line drawn south by west, from the *Shawl valley* to the parallel of Khozdar, and thence by another line, running along the course of the Baghwana river, south-east, to the *Manchar lake*, as all the rivers flowing eastward within these limits fall into the Indus. Below Khozdar, however, and generally from the neighbourhood of Wadd, for twenty to thirty miles south, the course of the principal rivers (the Puralli and Oornach,) is generally south; and the confluence of both occurs at the town of Beila in Lus; whence, under the general name of the Puralli, they fall into the sea, a few miles westward of Sunmiani. One other river deserving of notice is the Hubb, which rises in the mountain ranges, south south-west of Wadd, called "Pubb," whence, pursuing a southerly course it debouches into the sea between Sunmiani and Karrachi, about twenty miles westward of that place. Some few of the minor rivers and water-courses, between the *Manchar lake*, and the line of the drainage of the Hubb, generally flow into the Indus. The Puralli has a course of 150 miles, which like that of the Oornach, is usually dry, or only filled during the floods. The Hubb partakes of the same character, though with probably a larger supply of water from springs; but in all cases the quantity is very limited, and confined to occasional spots.

The above comprises a general outline of the physical features of Beluchistan, which may be divided into two distinct and separate portions, forming the upper and lower country, possessed by the tribes composing the *Jhallawan*, and *Sarawan* states. The Jhallawans are the most numerous and influential portion of the population, while the *Sarawans*, from their inferiority in numbers, are in some measure subordinate to the former. Both tribes are split into numerous subdivisions; and the line of demarkation, dividing these two great tribes, centres at Kelat; but running east and west, extends to Katchi on the one hand, and the desert of *Kharan*, Noshki, and Khej on the other. The Jhallawans, or tribes "*living below*," occupy the whole of that portion of the country south of Kelat, extending to that point where the main road to Sunmiani approaches the Puralli river, distant twenty-one miles north from Beila, the capital of the province of Lus; and thence extending eastward, by an imaginary line, they occupy the great *Hala range* of mountains, which divide

Sindh from Beluchistan, and from the Mugzee and other tribes, possessing the southern portion of Katchi. Westerly are the tribes dwelling in the desert of Kharan, Panjgur, Khej, &c.

The Sarawans, or the tribes living above, occupy the country to the north of Kelat, as far as the valley of Shawl and the Lorah river, the ancient boundary of the principality of Kelat, and extend westward, as far as Noshki, Chargye, &c. and eastward to the Hala mountains and northern Katchi. The Sarawans, on the day of battle, claim the privilege of forming on the right of their chieftain, the Khan of Kelat; while the Jhallawans, with equal zeal, bring their numerous clans to form on the left. The chief in person and his body guards occupy the van of the army. The Jhallawans bear a red standard, the Sarawans a yellow, while the Royal standard is green; and the union of the three colors constitutes the national flag, which is borne at the side of the chief, by some distinguished, or favored warrior of the day, who has this honor conferred on him for past services, and retains it only during the pleasure of the chief. The Sarawan and Jhallawan standard-bearers are, however, both hereditary officers, and cannot be deprived of their right, but by the united voice of the nation.

These tribes are held together by a description of feudal tenure, differing from that common among the Rajputs, as well as from the ancient feudal system of the Normans, insomuch as when the various tribes, (and these are all rated at certain numbers according to their strength), are called for by the sovereign on any particular service, they are all maintained at the expense of the state, and on the completion of this service are dismissed to their homes with some trifling mark of favor; while their chiefs, or other distinguished characters, are for important services not unfrequently rewarded by grants of land, on a nominal quit rent. This mode of obtaining feudal right in lands may account for so large a portion of the lands being now held on this tenure; but most of these grants date back to the period of Nasir Khan the Great, though some were held, at a period anterior to this: and the chronology of the Brahui-grants is seldom earlier than the date of the reigning prince.

The inhabitants occupying the upper part of Beluchistan, the Kohistan, and the neighbouring desert, are generally termed Brahuis; but those possessing Sindh, Lus, and the coast of Mekran, are called Beluchis.

These people are distinguished more by their difference of language

than by their appearance, manners or customs; and this difference is marked and decisive, as the Brahui speaks a language which bears little or no affinity to any known tongue of the present day; while the Beluchi converses in a corrupt dialect of the Persian, easily comprehended by those who understand this language. * The Brahuīs and Beluchis may not unaptly be termed the Highlanders and Lowlanders of Beluchistan, though many of the latter be found residing in the hill country, while the former here and there occupy the plains. They differ from each other nearly in the same proportion as the Scotch Lowlanders differ from the Highlanders, but do not possess any peculiar characteristic which might mark them, as a separate people, though the dissimilarity of their language would favour an opinion of their origin being different. The long visage, high and aquiline features of the Jews, are common to both, but in a less degree to the Brahui, who is generally a hardier character than the Beluchi. They are both resolute and warlike, implacable in their hatred, and revengeful; but are hospitable, and possess many of the virtues and wild notions of honor among the Arabs, particularly in those parts where, like them, they are the children of the desert. They are also trustworthy, and having once undertaken a trust never betray it.

Numerous as are the tribes which occupy Beluchistan, the country is but thinly populated; as the people are for the most part pastoral, and wander from place to place with their flocks and herds, just as the want of forage and water may render necessary. Their habits are often predatory, and many frequently eke out a precarious existence, partly derived from their flocks and partly the gain of plunder and rapine. They adapt their movements, as much as possible, to meet the changes of the seasons;

* In the first volume of the Transactions of the Bombay Geographical Society will be found some explanatory notes of mine on the vocabularies of languages, spoken in the countries west of the Indus, collected by Lt. Leech.—The Beluchis claim an Arabian descent, but their language, which is Persian mixed with a small proportion of Sanskrit, Pushtu, and Arabic terms, indicates their Indo-Persic descent: and the origin of the *Brahuīs* may be traced to the same source, as their language is composed of many Persian words, makes use of the Persian numerals, and forms the gender of its nouns after the rules of Persian grammar.—Several words of the *Brahui* language have been borrowed from the *Pashai* and other dialects of tribes, inhabiting the *Hindukush*, which are cognate with languages of a *Sanskrit* origin, and *Hindu* stock.—*Editor*.

and during the winter descend into the lower and warmer parts of Katchi and Sindh, while in summer they find a refuge, from the great heats, in the higher parts of Kohistan.

Their habitations are well suited to this wandering mode of life; as they generally dwell in tents, called "*Gidans*," made of a dark coloured felt, or blanket; and a collection of these is termed a "*Toman*" or "*Khail*." So general indeed are these tents or dwellings, that they are found scattered over the whole face of the country; and strange as it may appear, several places, marked in our maps as fixed towns and villages, are nothing more than "tomans" or "clusters" of tents; among which may be mentioned Noshki, Kharan, &c.

The Government of the country is vested in an hereditary chief, and minister, to whom are occasionally added the leading chiefs of the principal tribes of the nation; but the power is, as may be readily imagined, of a character more or less despotic according to the energy, physical and mental, of the chief who restrains and governs the wild and reckless tribes subject to his control, and more disposed to openly defy than submit to his authority. The chief, who would bind such subjects to his will, must possess high qualifications for command, bold bearing, recklessness of danger, personal prowess, and physical strength; which, while they are well calculated to win the admiration of barbarous minds, overcome and compel them at the same time to obedience. These attributes were conspicuous in the character of Nasir Khan the Great, and in an inferior degree possessed by the late chieftain, Mehrab Khan; but as they are rarely combined in one person, we find but too generally in Beluchistan that the allegiance shewn to the sovereign by his subjects, is mainly regulated by his power to enforce it; and the more distant subjects therefore yield but a nominal, or tardy obedience, while those nearer to his person, and more immediately under his control, are ruled with an iron hand.

In the loose and disjointed system of Government, which prevails generally throughout Beluchistan, the elements of anarchy and confusion are abundant; being constantly developed by internal feuds, carried on between tribes, with an animosity only known to Asiatics, and which requires the utmost exertion of power, on the part of the Khan to suppress. To this state of things may be attributed the insecurity of persons and property of travellers and traders, so frequently occurring in the neighbour-

hood of the *Baranlakh*, and other remote parts of the country, which, from their distance from the seat of power, favor the commission of such outrages as cannot be punished.

The towns and villages of this country are few and far between, and generally lie on the main cafila roads, varying from forty¹ to fifty miles from each other. They seldom, (Kelat and one or two others excepted,) exceed in number forty to fifty houses, are mud built, with flat roofs, and are seldom of more solid materials except when a chief of note resides in them.

It has been observed that the population of Beluchistan is scanty; and it is impossible from the wandering habits of the people to arrive, at even an approximation of their true numbers. Neither can we ascertain the amount of population by a reference to the numbers of fighting men, that each of the two great tribes, of Sarawan and Jhallawan, can produce for war under their tenure of serving the Suzerain, as during war only a small portion of the population compose the military body.

The sub-divisions of the Jhallawans are forty-two in number, of the Sarawans nineteen amounting in the aggregate to 10,090 fighting men, but there can be no doubt but that a number of able bodied men, capable of bearing arms far exceeding this amount, could be brought together on a case of emergency.

There is an impossibility of large bodies of fighting men subsisting in a country so destitute of forage and provisions as is Beluchistan, and should any rebellious rising happen therefore, it may prove formidable for a time, from the numbers collected together, but can only continue so for a short period, as every individual added to the fighting body tends to diminish the means of their subsistence, and a few additional days or hours will frequently suffice to disperse a Beluchi horde, which must break up for want of provisions, and disperse over the country in search of food. Once disunited it can seldom be brought together again.

Regarding the produce of the country little can be said, as the people chiefly belong to pastoral tribes, seldom occupying themselves in agricultural pursuits, as the little grain they require is drawn generally from the rich plains of Katchi. In the districts around Mustang, Kelat, Baghwana, and Khozdar, &c. wheat and juwarree are cultivated; yet the supply is but limited, and barely suffices for the cultivators and land-

holders, on whom they are dependent. It would indeed be difficult in a country naturally so sterile, and so scantily supplied with water, to look for agricultural produce to any extent, even with the best management.

The staple commodity of the country is wool; which, in the neighbourhood of Wadd, and generally in the southern parts of Beluchistan, is produced of a quality so superior, that, of late years, it has greatly attracted the attention of our merchants as a profitable article of trade; and is found in great quantities all over the country.

The manufactures of the country are scarcely worthy of notice, excepting the carpet, which approximates somewhat to the Persian, and the coarse description of blanket, made from equal parts of goats hair, and sheeps wool, which is used for tents (or Ghidans,) that are made however south of Khozdar, and to the west, from a description of matting, called "peechee", and manufactured from either the leaf of the date tree, or the palm. In certain of the southern districts, the tents of various tribes occupying them are formed entirely of this matting; and from the coast of *Mekran* generally, much of it is annually exported to Bombay. Arms, such as swords, shields, matchlocks, and other weapons of defence, are brought from *Kabul*, and other northern towns, but many of these are of Persian and Indian manufacture.

Cotton cloths, which are in general use in the country, are of Indian produce. Woollens are brought from Afghanistan and Katchi; and are frequently of European manufacture, either English or Russian; while the cloaks and *fur* dresses, required for the winter, are exclusively from *Kabul* and *Kandahar*. Embroidery and needle work, either in silk, gold, or silver, is in considerable repute; but this manufacture is invariably made by the women, who employ all their time in making up their own, or their husband's dresses.

Horses are bred of a very inferior description, all over the country; but in the neighbourhood of *Jeherri*, twenty miles south-east of *Kelat*, a strong bony description of animal is found; many of which are annually sent to the Bombay market. They are, however, inferior to the *Herat* and *Persian* horses. The district of *Shoráwak*, to the south-west of *Kandahar*, is famous for its breed of camels, whence south to *Mekran* these animals are extensively bred. The hill camels, commonly found on the eastern frontier, and bred in the valleys, lying be-

tween the ranges of the *Hala mountains*, are by far the most enduring of this description of animal. They are small and hardy, and well adapted to undergo the difficulties of that country; and far excel, as beasts of burden, those bred in Katchi and Sindh, which last are ill calculated for the hill country. The camels of *Lus* and *Mekran* are much esteemed by the natives, and may be purchased to almost any extent.

Of the revenue of the country, I am unable to offer any adequate opinion beyond that it is limited in the extreme, the district of Mustang is perhaps the most productive, and yields from 40 to 50,000 rupees annually. *Kelat* probably as much, while Baghwana may be rated at half that amount, and Khozdar at one-fourth. But so vague is all information connected with this point, that what is now stated can only be considered an approximation. The principal source of revenue is derived, unquestionably, from the province of Katchi, which is particularly fertile, and capable of yielding much more than it now does; and without which the principality of *Kelat* could not maintain itself. The revenue is generally, if not entirely, collected in kind; money is little known in Beluchistan proper, and indeed there is no coin of the country, excepting the Company's rupee which, within the last three years, has been scattered by us with so profuse a hand, that it is now the only current coin of the country.

Memorandum of Latitudes, and elevation of places in Beluchistan, taken from several observations.

Names of places.	Latitudes.	Elevation in feet.	Remarks.
Kelat	Lat. 29° 00' 19" N.	6,040 feet.	A lofty range of hills to the eastward.
Sorahb and Anjira.	" 28° 27' 15" N.		
Baghwana.....	" 27° 58' 23"	3,879 "	Lead and Antimony mines in the neighbourhood.
Wadd	" 26° 57' 40" "	3,739 "	The Lat. the mean of three observations.
Baran Lakh.....	" 25° 25' 4" "	3,000 "	
Bella	" 25° 25' 4" "	300 "	
Sunmiani	" 25° 25' 4" "	at the level of the sea.	

ART. III.—*Critical View of the Theological and Ceremonial System of Zoroaster. Translated from the French of Anquetil du Perron:—With Introductory Observations.*

By the Rev. J. MURRAY MITCHELL.

INTRODUCTORY OBSERVATIONS.

The religion which is said, by its professors, to have been promulgated by Zoroaster, is entitled to a high place among the objects of antiquarian and philosophical research. Notwithstanding the exceeding obscurity which hangs over many questions connected with the Zand-Avastá and its reputed author, it is on all sides admitted to be highly probable that the religion which is now professed by the Pársis of India has sustained no *essential* alteration for upwards of 2000 years. So extended a duration would, independently of any other reasons, entitle the system to attentive consideration; but the historical interest pertaining to the once mighty Persian Empire invests the study of this religion with an importance, which corresponds to the elevated rank its professors formerly enjoyed among the nations of the earth.

Residents in Western India have a strong additional inducement to prosecute inquiries into the Zoroastrian faith, in the peculiar and important position which its professors hold in this country. This religion has not, like that of ancient Greece or Egypt, perished from off the face of the earth; it is a living creed, moulding the character and the destiny of myriads of an active and intelligent race, the far greater and more influential portion of whom are our fellow subjects, and mingle largely with ourselves in the affairs of ordinary life.

It should seem, too, a fitting thing that any inquiries that need to be instituted into the Zoroastrian system, should be made in India, in which they can be prosecuted with many and obvious advantages, which cannot be enjoyed in the Colleges and Literary Societies of Europe. And, if our own Society is to take a part in Oriental investigation, the subjects of Pársiism and Pársis appear to belong to it by special right. It is unnecessary to say that members of the Bombay Branch R. Asiatic Society have entered into such investigations with zeal and success, or to dwell on the important contributions towards the elucidation of this subject which have been made by Mr. Erskine, Dr. Wilson, and others.

It will readily be understood that the object of the present paper is not to present the results of any new inquiries into the Zoroastrian religion, but to diffuse over a wider circle the knowledge of facts which have already been discovered. The principles of the system are very imperfectly comprehended by the great bulk of educated Europeans in W. India,—and the general mind even of our own Society refuses to enter, with any considerable measure of interest, into the subject, unless it be divested of intricate literary disquisition. The claims of the paper of which a translation is now presented, may be rested, then,—should higher merit not be conceived to belong to it,—on its simplicity and conciseness,—on its affording a popularized view of this very interesting subject. But it possesses a higher character. Having had occasion, in the course of my own studies, to seek a brief, yet comprehensive and systematic, view of the Pársí religion, I found the article, the translation of which is subjoined, to be, on the whole, the most satisfactory of the statements to which I had access.* It is now presented under the impression that it will be found interesting and useful much beyond the circle of professed Orientalists.

Whatever, connected with the present subject, has proceeded from the pen of Anquetil du Perron, is entitled to profound respect. After all that has been accomplished by later inquirers, the writings of Anquetil on the doctrines and history of the Zoroastrian faith are still standard works. While his philological attainments must be admitted to have been rather extensive than accurate, and his ardent temperament predisposed him to form hasty conclusions, still, his laborious research, and indefatigable zeal in every thing connected with Zoroastrianism, enabled him to amass an amount of information connected with his favorite study, which has proved of immense value to succeeding investigators, and the additions to which, although important in themselves, have not *comparatively* been great,—or, at all events, affect the details, not the essential part, of the system.

We may glance, at some interesting facts connected with the introduction of the Zand-Avastá to the notice of Europe. The well known Dr. Hyde, towards the end of the 17th century, had two small Zand MSS., in

* The library of our Society is not very well furnished with works connected with the Zoroastrian system. We want, in particular, Kleuker's translation of Anquetil with its valuable notes, and Rhode.

his possession; but we have no evidence that he was able to make the slightest use of their contents. George Bouchier, &c. an Englishman, obtained a copy of the *Vandidad Sâde*, at Surat, in 1718. It was brought into England in 1723; but no one could decypher the Zand characters. "Long after this," Mr. Fraser, a Bombay counsellor, procured two Zand books at Surat; but could, by no inducement, prevail on the Pârsi priests to teach him Zand or Pahlvî. Thus matters rested until 1754, when Anquetil happened to see some Zand words that had been copied from the *Vandidad Sâde*. He instantly formed the determination to procure and translate, if possible, the whole work. With remarkable resolution, he enlisted as a soldier, sailed to Pondicherry, from which, amid many hardships, he found his way to Surat. He there succeeded in procuring the coveted MSS., studied Zand and Pahlvî, and, in 1762, returned with his prize to Europe. His great work, containing a French translation of Zand and Pahlvî books, with various disquisitions, appeared in 1771. Besides this, he wrote some valuable articles in the *Memoires de l' Academie des Inscriptions*.

The original of the paper now presented will be found in Anquetil's *Zand-Avasta*, vol. ii. p. 592—604. The entire article has not been translated; the second part, which is occupied with a discussion of the *moral* system of Zoroaster, has been, for the present, omitted, but may perhaps be afterwards supplied, if, on fuller consideration, it appear to possess equal merit with the rest.

The heading which Anquetil has given this article, and which has been retained in the translation, demands a remark, lest it lead to serious misconception. He calls the paper a view of the "*System of Zoroaster*." In so calling it, Anquetil assumes what it is not possible to prove, viz. that the system propounded by that celebrated legislator is the same as that which is contained in those Zand and Pahlvî works from which the present summary is drawn. This assumption is not indeed so extraordinary as another on which Anquetil proceeds in most of his writings, viz. that the *Zand-Avasta* is the actual production of Zoroaster,—an idea not tenable for a moment with respect to any part of the *Zand-Avasta* except the *Vandidad*, and encumbered with many difficulties in regard to the *Vandidad* itself. Reference has, indeed, been already made to the fact that, in *essential points*, the Persian religion, more than 2000 years ago, was the same as that of the Pârsis in the present day,—the notices

of it contained in the Grecian writers from Herodotus downward, agreeing, so far as they go, in a remarkable manner, with what still exists in the chief Pársí books. But that the supposed great founder of the system, Zoroaster, promulgated it in the shape and with the completeness it now possesses, is not probable, or, at all events cannot be demonstrated. In speaking of this religion, it were well to be accurate in the names by which we designate it. In referring to it in its general features, and as a whole, the terms Zoroastrian and Pársí may be used indiscriminately without leading into error. In critical investigation, however, this lax use of terms cannot be allowed. The system of Zoroaster,—the system of the Zand books,—the system of the Pahlví books,—the system of the Persian books written by modern Pársís,—and the system of the Pársís of our own day,—must on no account be assumed to be identical,—but, in every case where strict accuracy is required, must be carefully distinguished from each other. Anquetil, it must be confessed, has failed in this point. He mingles the views of the Bundeshne—a Pahlví work which he himself admits to have been composed as late as the 7th century of the Christian era—with those of the Zand writings, which—to speak cautiously on a point which Orientalists of high name have strenuously contested—are, probably, several hundred years more ancient.

Considerable difference is admitted to exist between the Zand and Pahlví works. Speaking of the Pahlví Bundeshne, professor Stühr remarks that “its contents do not agree with those of the Vandidád,”* and Mr. Erskine, that “much of the cosmogony [of the Bundeshne and later works] is evidently Chaldean and later than the Musulmans.”† Any inquiry into the very interesting question, *What is the religious belief of the present Pársís*, will be met at the outset by the difficulty of discovering how many and what precise books the community now deem authoritative. The difficulty lies in the want of agreement among the Pársís themselves on this fundamental point.

Before concluding these introductory observations, it may be well to remark that Anquetil du Perron, in his expositions of the Pársí religion, manifests a desire to exhibit it in as flattering a light as possible. He was naturally led to represent his own discovery in a favorable aspect, and the cutting sarcasms of Jones, Richardson, and others, who represented him

* Oriental Christian Spectator for 1840, p. 415.

† Bombay Transactions, vol. ii. p. 322.

as having risked his life, and wasted his time, to procure what was essentially worthless, redoubled his desire to uphold the character of the Zand-Avastá. Much too had been expected from the writings of the far-famed Persian legislator, and the Abbé Foucher and others, who had attentively studied all the classical notices of Zoroaster, could not conceal their mortification when the mystic volume was drawn forth to light.* His anxiety not to disappoint their hopes must have swayed Anquetil, however unconsciously, in his expositions. He earnestly labours, in the paper we now subjoin, to shew that the doctrines and institutions of the Zand-Avastá are consistent with reason;—let the reader judge whether his success is equal to his zeal.

All things considered, however, Anquetil is an able illustrator of the Pársi faith. No one will call in question the great extent of his acquaintance with the facts of the system which he unfolds; and the following production of his pen would, of itself, afford evidence that his mind was not wanting in philosophical insight and comprehensiveness.

The following are Anquetil's remarks. The translation, though not slavishly literal, is pretty close.

I. The theological dogmas, on which the religion of the Pársis is founded, exist in a scattered form throughout their ancient books, and the shape which they assume in these books, will, no doubt, appear strange even to those who are most familiar with the writings of Eastern nations. Without anticipating the judgment which may be passed on these dogmas, and on the manner in which they are presented, I venture here to arrange them in such an order as will convey a sufficient idea of their connexion and relations. These dogmas form a system, the principal points of which, (as I have shewn in a work to which I have already referred,) are the following:

1. *Time without Bounds*, the first principle, which creates the first light, the first water, original fire, Ormasd and Ahriman:—The Word, which preceded all created beings, and by which the creation of these beings was effected:—Ormasd and Ahriman, secondary principles, active and productive,—the first, essentially good and the source of all good,—the second, corrupt and the source of all evil.

2. The duration of bounded time, fixed to twelve thousand years, by

* *Memoires de l' Academie des Inscr.* t. xxxix. p. 714.

Time without Bounds, and divided between Ormasd and Ahriman :—The war between these two principles, and the victories which they alternately gain over each other, terminated by the triumph of Ormasd.

3. The Feruers, [Farohars] or first models of beings, which Ormasd creates to combat Ahriman, and of which the most precious in his eyes are the Feruer of the Law, and that of Zoroaster commissioned to re-establish, by the publication of that law, the glory of the master of Nature :—The successive production, in favour of these Feruers, of the different spiritual and corporeal beings which compose the world of Ormasd, and, in particular, of Iran Vej,—a world to which Ahriman opposes wicked spirits, and a world evil and corrupt like himself.

4. The distribution of the universe, all the parts of which are under the influence of the good spirits, who were created by Ormasd, and are themselves obedient to that principle of good,—so that there is a chain of agents which ascends up to Time without Bounds :—The creation of the first bull, from which human kind, animals, and vegetables, are derived,—that of Kaiomars,—that of the soul, formed pure and immortal,—of man, created just and free :—The sin of Meshia and Meshiane, parents of human kind :—The cause of the mixture of good and evil which appears in nature,—a mixture which results from the contrary operations of the subjects of Ormasd and those of Ahriman.

5. Finally, the consigning of man to death ; the abode destined for the righteous ; that reserved for the sinner :—The resurrection of the body, preceded by the conversion of the whole world to the law of Zoroaster, and followed, according to the order established by Time without Bounds, by new punishments, which open to the sinner the gate of Gorotman :—Sinners purified by the pains of hell, by the fire of metals, and then made eternally happy along with the righteous :—The general re-establishment of Nature ; hell itself renewed ; the world of Ahriman destroyed ; and Ormasd, on one side, with the seven primary Izads, [angels], — on the other, Ahriman, accompanied by the seven primary Dews, [devils]—together offering a sacrifice of praise to the first Being.

It is on this system—the whole of which is understood by few of the Dasturs [chief priests] themselves, which the best-instructed understand literally without seeking any allegorical sense, and of which the Pársí works do not furnish the key—that the religion of the Pársís rests. The whole properly reduces itself to two points.

The first is to recognize and adore the Master of all that is good, the Principle of all righteousness, Ormasd, according to the form of worship prescribed by him, and with purity of thought, of word, and of action,—a purity which is marked and preserved by purity of body, which must always accompany it, and which is found only in entire submission to the law of Zoroaster : next, to have a respect, accompanied with gratitude, for the Intelligences to which Ormasd has committed the care of Nature,—to take in our actions their attributes for models,—to copy in our conduct the harmony which reigns in the different parts of the universe,—and generally, to honour Ormasd in all that he has produced.

The second point of the religion of the Pársis consists in detesting the Author of all evil, moral and physical, Ahriman,—his productions, and his works ; and to contribute, as far as in us lies, to exalt the glory of Ormasd, by enfeebling the tyranny which the Evil Principle exercises over the world which the Good Principle has created.

On these two points bear the prayers, the religious practices, the civil usages, and the moral precepts, which are presented in the Zand and Pahlvi books ; and these different objects arise, as we shall see, from the theological ideas of the legislator of the Persians.

As the Law is, so to speak, the body under which has been manifested the primeval Word which created the world, the reading of the books containing it is homage rendered to that Word, and becomes accordingly of indispensable necessity. Besides, those books, when read with the requisite dispositions, must possess on earth an efficacy which corresponds, in some measure, with that evinced by the primeval Word at the origin of beings.

Prayer is one of the duties most strongly enjoined, because man, continually exposed to the assaults of Ahriman, stands in need of the succour which it procures ; and because it affords opportunity for those Intelligences to whom it is addressed, to fulfil the object for which they were created.

The Priest prays for himself,—for all the Pársis,—and in particular, as in the days of Herodotus, for the king whom Ormasd has placed over his people ; and, to give greater efficacy to his prayers, unites them to those of all the Pársis, of all the souls acceptable to Ormasd, which have existed, or shall exist until the resurrection. He declares also that he takes part in the good deeds of all the righteous, and that he joins his

actions to theirs. This communion of prayers and actions appears in all the forms, and all the offices, which compose the liturgical works of the Pársis. It is well adapted to maintain the spirit of peace and union which ought to characterize a people who profess to adore the Author of all good.*

The Pársis commence their prayers with a sincere confession of the sins they have committed. They address them to Time without Bounds,—to Ormasd,—to *the numerous people created in the beginning*, that is to say, the Amshaspands, and other celestial beings, who preside over the different parts of the universe. The prayers made to these are relative to their functions; if they are stars, to the time of their appearance. The sun is prayed to by day, the moon by day and night; Mithra is celebrated because he contends against the productions of Ahriman, and renders the fields fruitful; such an Angel watches over the waters, and such another defends the soul as it prepares to quit the body.

Next to the celestial beings, the whole of Nature exposed to our eyes deserves, say the Pársis, our adoration, because it proceeds from Ormasd. It does not contain any species of being which is not mentioned in the Zand and Pahlvi books. Some of these are employed to celebrate others; wood and odours enter into the offerings which are made to the elements, the stars, &c.

In the number of the elements is material Fire, which represents, although imperfectly, the original Fire which animates all beings, forms their relations, and acts from the commencement.

This original Fire was, and still is, manifested on earth in trees, animals, and man, in different modes which are termed *sons of Ormasd*, either because there exists a more intimate relation of nature between Ormasd and Fire, than between other creatures and him from whom they received their being;—or, because that element is, like Ormasd, the most universal principle of life and motion.

Zoroaster, then, regarding Fire as the purest symbol of the ever-active Divinity, was naturally led to recommend that special worship should be paid to it; and as, of all the elements, Fire is the only one which is not perceptible, (unless when kindled), the legislator was led to order the erection of altars, (or fire-places) on which it might be kept up.

* A very unnecessary remark. Anquetil forgets that he is now stating the system, not defending it. This is not the place for controversy; or it would be easy to refute the view he expresses. M.

In this manner Fire became the most usual and striking object in the Persian worship. Hence the remark of Strabo,* that, to whatever god the Persians might sacrifice, they first invoked Fire. We see, in fact, Cyrus sacrificing first to Vesta † (fire), and then to Jupiter; and the Pársis recite the greater number of their offices in the presence of that element; the *Niáish* of Fire is celebrated day and night, and the *Mobed* [priest] is commanded to put wood and odours in the fire in the five *gahs* [watches] of the day.

We cannot, after this, be surprised that he who defiles the element of fire, should be severely punished. It is forbidden, as in the time of Clitarchus, referred to by Diogenes Laertius,‡ to burn dead bodies, because they are impure. The same reason induces the Pársis to remove dead bodies from the neighbourhood of fire. He who blows the fire with his mouth, is worthy of death,—because, the inside of the body being impure, the breath which issues from it stains that element.

The detailed statement of the ceremonies which must be practised for the purpose of restoring fire to its first condition, when it has been defiled, marks its extreme purity. The sap, nourishing the tree, makes it grow,—changes, in some sort, its body,—and thus purifies it, when it has been defiled. Not so with fire; and it is to supply the place of the successive alteration which Nature produces in vegetables, that the Zand books command that the fire, in which a dead body has been burnt, be made to pass in some sort through nine different fires, before it be exposed in the *Dad-Gah* [Fire-temple] to the worship of the Pársis. The fire Behram, protector of the provinces, is the extract of 1001 fires taken from 15 different species of fire.

But the worship which the Pársis render to Fire, as well as to other creatures, is subordinate to that of Ormasd, the ascription of praise to whom begins and ends all offices of religion.

These offices can be pleasing to the Divinity only when they proceed from a pure heart; and purity of heart supposes purity of body. The first consists in the right regulation of the thoughts, words, and actions;

* ὅτι δ' ἂν θνωοι θεῶν, πρῶτω τῷ πυρὶ ἐνχονται. *Geograph.* L. XV.

† ὁ Κυρος πρῶτος μὲν Εστία ἐθύσεν ἐπειτα Διὶ βασιλεὶ καὶ εἰπὶν ἅλλῳ θεῷ ὅτι Μαγοὶ ἐξηγουντο. *Cyropæd.* L. VII.

‡ Diogenes Laertius in Proëm. ad vit. Philos. Strabo, loc. citat.

it is accompanied by the knowledge of the Law, and maintained by good deeds performed with understanding. The priest, who seeks this purity must do good like the first of the Amshaspands, be wise, true in his words, great, full of intelligence. Such are in fact the dispositions with which Zoroaster presents himself before the Supreme Being. Purity of body is necessary, because it defeats the attempts of evil spirits, and, by obliging the Pársi to maintain a continual circumspection, it renders him more attentive to the duties of the Law, whose principal object is to destroy the empire of Ahriman.

The obligation to preserve purity of body has given rise to a multitude of observances in the Pársi religion. For example, in consequence of being the offspring of Meshia and Meshiane, men are born impure,* because the body of their first parents came from that of Kaiomars, which Ahriman had polluted; and ablutions, although they purify the outside of the body, cannot purify the inside:—whatever, then, issues from the latter, is impure. Hence the obligation, when praying, or when eating, of having the *Penom* on the face, to prevent the spittle from staining whatever it might happen to fall on. Hence, also, as in the days of Herodotus, the prohibition against throwing into the water any thing that comes out of the body of man. Hence, farther, the obligation to render thanks to Ormasd, when the evil spirits who besiege the interior of the body are chased from their domain by the fire which animates man,—a victory of which sneezing is the sign. During prayer, meals, and natural functions, it is not allowable to speak; only inarticulate sounds must be uttered,—such, nearly, as proceed from dumb people. This is called speaking the *Vaj* (Báj). In these various circumstances, the evil spirits seek to distract man, or to insinuate themselves into his body, while his senses are much occupied; and hence the stronger necessity to attend to these observances.

The same principle leads the Pársis now, to remove, as their ancestors did in the days of Herodotus, from inhabited places, lepers and people having contagious maladies,—which diseases came from Ahriman. On the same principle depend the last duties rendered to the dead; the ceremonies then practised drive away the Dews, who besiege the corpses and

* The Pársis maintain that, at a man's birth, Ahriman presents himself to his soul, as he did to Meshia, and says to it in like manner, "I am the Author of Nature." They add that the soul believes him, and so becomes criminal.

pollute every thing around them. Besides, man, when he ceases to live, is exposed to the assaults of Ahriman and unable to defend himself. Hence the rigour of the penalties decreed against those who approach or touch the body, before the prescribed duties are fulfilled. The same precautions are ordained in connexion with the dog when he dies, because that animal, like man, is impure. These obligations render the Pársi attentive both in watching over the life of his fellow-creatures, and in preserving an animal [the dog] that is equally useful to him during life and after death.

But, as the weakness of man scarcely allows this scrupulous guardianship over himself, it was necessary that means should be provided for the recovery of purity when lost. Such is the object of the purifications prescribed by the law of Zoroaster. Water, which forms the principal material of these, chases away all evils and bestows all blessings; and the juice of the *Hom* tree is, during this life, a powerful principle wherewith to oppose the assaults of evil spirits.

Even involuntary defilements require purifications for their removal. Hence the necessity of ablutions before and after natural functions; the order to wash the new-born infant; the purifications prescribed to women after childbirth, their critical periods, &c. But when the person who is defiled, finds it impossible for him to practise what the law enjoins, a sincere repentance, and prayers offered up with a humble and pure heart, supply the place of outward ceremonies: and, if the punishment of death is decreed for certain voluntary legal impurities, it is because man, to whom the law is addressed, as he is a free being and master of his own actions, is the real cause of his own suffering;—and also because the Pársi, being the follower of a religion in which all is directed against the Author of evil, ought to know that faults of this kind give superiority to Ahriman, degrade (so to speak) Ormasd, and, on this ground, are capital crimes. On the other hand, the Dastur believes that, by this severity, he renders the most important service to the erring party; for, when the latter receives punishment, he exhausts on himself the malice of wicked spirits, triumphs over them, and obtains, by submission, a right to be admitted into the abodes of the blessed.

Thus far we have seen Zoroaster prescribe observances connected with his theological views and intended to render man worthy of the favour of Ormasd. But, in this class of precepts, the legislator had still another end

in view, the general good of Nature. These observances had, then, to be, like his morality, directed toward the private good of the Pársi. They thus become, as such, laws of police, frequently relative to the country in which the Pársi legislator dwelt. I stop to notice some of these observances.

Ridicule is often thrown on prohibitions made in certain countries as to the eating of this or that kind of food: while, if one were to examine the soil, temperature, &c. of those countries, the reasons might be discovered which may have led to the prohibitions in question.

In India, for example, no beef is eaten. This has been attributed to the respect paid by the Hindús to the cow, which is worshipped as one of their divinities; or it has been ascribed to the doctrine of transmigration, which is current in the country. I do not, at present, intend to combat this explanation; but the following facts have fallen under my own observation.

1. The ground, in countries lying under a burning sun, has less moisture; the pasturage is less rank and nourishing, so that the animals are proportionally less numerous than in cold or temperate climates. Besides, oxen in India are employed for carrying burdens and for draught; there are few private persons in large towns, and even in small ones, who do not keep them for these purposes, and to give milk; so that, all things considered, there is no greater number of oxen in the country than is required; and, were people to eat beef as is done in Europe, the race would not suffice even for labour.

2. Beef is too rich a kind of nourishment for those climates. The French rarely eat it in Bengal; they have it not at the coast, and are all the better for the want of it. The English eat beef in all their factories, and we sometimes see at Calcutta in Bengal, the fourth part of the colony carried off by dysentery in two years. Independently, then, of religious reasons, the people of India do well to abstain from beef.

In putting in the number of the productions of Ahriman, venomous creatures, reptiles, insects, and wild voracious beasts, such as the wolf, Zoroaster has, in like manner, had in view the special good of the Pársi. He thus orders him to destroy such animals, and, at the same time, forbids him the use of their flesh, which is naturally unwholesome.

Of all known religions, that of the Pársis is perhaps the only one in which fasting is neither meritorious nor allowed. * The Pársi conceives

* Porphyry informs us (*De Abstin.* li) that Darius ordered it to be

that he honours Ormasd by eating plentifully ; because the body, when fresh and vigorous, renders the soul stronger to resist the attacks of evil spirits ; and because man, feeling less uneasiness, reads the word with more attention, and has more courage to perform good works. Accordingly, several celestial beings are specially employed to watch over the [bodily] good of man. Rameshne, Kharom, Khordad, and Amerdad, supply him with abundance and pleasures, and it is the last-mentioned Izad who produces taste in fruits,—the savour which leads to their being used in the way that Ormasd intended in creating them.

Purifications, in warm, or moist and marshy, countries, contribute to health,—and these terms describe the climate of Persia : the provinces of Guilan and Mazendran, situated in the north, are full of unhealthy exhalations, while a fierce sun burns up the southern provinces. And, if the most efficacious purifications are first made with ox's urine, it is on account of the virtue which the cure of Jamshid had shewn to exist in that liquid, or rather, because the bull gave birth to the human race. But purifications are always concluded with water, after the application of earth, which must dry up the last drop of the urine, when it has become impregnated, as it were, with all the strongest part of the defilement.*

But, be the motive of this institution what it may, it obliges the Parsi always to keep an ox [or cow] in his house. He must also, on account of the *Sag-did*, [dog-gaze] have at least one dog ; and the qualities of the cock, who is the wazir of Serosh on earth, and defends men against the snares of evil spirits, impose on him the necessity of having a cock too. These three animals are the most necessary to a Parsi ; indeed they supply all his wants. The ox serves in labour and draught ; the cow supplies milk ; the dog guards the flocks by day, and the house by night ; the hen gives eggs ;—the cock gives the signal for commencing prayer, the labours of the field, and other duties.

The place to which dead bodies are conveyed ought to be on mountains, or at a fixed distance from great roads, cultivated fields, and inhabited places. Now, we know that, independently of the legal impurity

inscribed on his tomb that he had been the master of the *Magi* ; and, according to Athenæus, (Deipnos. L.X) it also bore that this prince could drink deep and carried his wine well. These are two characteristic qualities of a Persian prince.

* Anquetil here leaves the impression that the urine is used only to wash the body. In the greater purifications, it is also drunk. M.

which portions of dead bodies transported by carnivorous animals might produce, the atmosphere surrounding such receptacles of the dead is generally very unwholesome.

Even the festivals of the Pársís, at least the most solemn of them, seem intended only to recal the grand events of Nature, which personally interest the Pársí,—or to mark the seasons. I have spoken of the *Gahanbars*, [the six periods of creation,] which are celebrated in the periods of the years answering to those at which Ormasd, at the origin of the world, created the beings that compose the universe. Next to these festivals, the most solemn are the *Nauroz* and the *Mehergan*. The first of these, in the time of Zoroaster, answered to spring; and the second, which is six months later, to Autumn,—seasons, in which the birth and the fruitfulness of Nature announce the triumph of Ormasd. It was probably for this reason that marriages among the Persians used to be celebrated at the vernal equinox. *

Finally, the ceremonies which accompany interments,—the prayers recited both before and after,—all tend to shew the Parsis that, to the righteous, death is only the passage to a happy life,—and, to the wicked, only the commencement of punishments which expiate their sins, and from which the prayers of the living can deliver them. The love which they bear to relatives, masters, and friends, who are for a time separated from them, is exhibited by these prayers. Their law goes still farther; when a man has committed certain faults, it enjoins on the relatives and friends of the deceased to do pious works,—to give alms, in expiation of those faults. These performances shorten the period which the guilty deceased has to spend in hell.

It was worthy of him who regarded created Intelligences as the ministers of the Eternal, (Time without Bounds)—and the death of man as the short separation of the parts which form his being, and which will, one day, be reunited,—of him who, as I shall afterwards shew, made the essential part of his law consist in that which Nature inspires, and connects with the purest and most tender pleasure, viz. the respect of the creature for his Creator and all that he has made, the reciprocal love of parent and child, husband and wife, ruler and subject, master and scholar,—it was worthy, I repeat, of such a Lawgiver as this, to break down the

* *οἱ δὲ γάμοι κατὰ τὰς ἀρχὰς τῆς ἐαρινῆς ἡμερίας ἐπιτελοῦνται*
Strabo, *Geog.* L. XV.

barrier which death but too frequently puts to affections so lawful, and thus render eternal as its principle the bond by which he sought to unite all the parts of the universe. *

ART. IV.—*A Discourse on the object and progress of investigation, into Oriental Literature and Science; Read at the Anniversary Meeting of the Bombay Branch R. A. S. during the year 1844.* By JAMES BIRD, Esq.

Nearly forty years have elapsed since the institution of the *Bombay Literary Society*, now a Branch of the Royal Asiatic Society of Great Britain, without the time-honored custom of other Societies, to review at their Anniversary Meetings, the intended objects and progress of their inquiries, having ever been observed in this. It is not too late, however, to introduce into this Institution a practice, found so beneficial to the interests of other similar associations: and, on this interesting occasion of submitting to the meeting of the Society the progress made in collecting subscriptions for “the Malcolmson gold medal,” to be accorded, annually, for the best paper, on the Natural History and Literature of India, I will, with your permission, draw attention to the chief objects of investigation, for which this and other similar Societies have been established.

To investigate the Literature and Sciences of Asia; to inquire into the *Geography, Palæography, Philology, History, and Arts of the East*; to prosecute research into the origin and dispersion of the various *Asiatic races and tribes* of mankind, were the objects, which the eloquent and learned President of the *Bengal Asiatic Society* proposed for its labours, and recommended to its attention. Three remarkable and essentially distinct classes of men, separated for ages, and distinguished for diversity of languages, who occupy Asia, the most extensive and interesting portion of the Earth, have been divided into the *Syrian, or Semitic, the Indo-Germanic, and Indo-Chinese families of nations.* With the second of these, the ancestors of the European nations, inclusive of the *Celtic, the German, the Sclavonian, and Pelasgian races,* had a common affinity,

* Another very needless remark of Anquetil's. Were this the place, it were easy to controvert his views. M.

and sprang from the same family of nations, which gave birth, in upper Asia, to the ancient *Medes, Persians, and Hindus*. *Sanskrit*, the sacred and highly refined language of the latter, has been comprehensively compared in Bopp's Grammar, with the *Zend, Greek, Latin, Lithuanian, Gothic, and German languages*; and while it has an intimate relation, to the *Greek and Latin*, the two last are no less intimately connected with the *German, the Lithuanian, and Slavonic languages*, belonging to the *Teutonic, Sarmatian and Slavonic races*. The people of Northern Europe belong, as would appear, to the family of nations which spread itself from the banks of the Ganges to the shores of the Atlantic ocean; and it is an opinion determined, with much probability, that the institutions of the *Celtæ* were analogous to the system of the *Brahmins*, and that the *Gothic* or old *German* mythology was of eastern origin. The fables of the Northmen, preserved in the *Norse* tongue, and poetry of the *Eddas*, have much in common with those of India and Persia: and the *Volu-Spa*, or mystical portion of the poetic *Edda*, which gives an account of the creation of the universe, and of the gods and men inhabiting it, resembles in many parts the superstitions of the East. A late circular, from the Royal Society of Northern Antiquaries, which was published in our Journal, calls the attention of Orientalists to this interesting connexion of Asia and Europe; and doubtless a learned comparison of European with Asiatic antiquities, would make clear many obscure portions in the history of both the European and Asiatic races.

If the *Semitic* families of nations and of languages be less extensive in their range than the former, they are scarcely of less interest to the people of Europe; who through their medium, derived their earliest knowledge of the East, and principles of their faith. The *Aramæan language*, which represents the genuine *Syrian race*, was but a dialect of the *Arabic*; and is now almost lost, in the predominant influence of the latter, being only known, as a spoken language, in a few villages near Damascus. In my Journey through *Syria*, during the year 1833, I learned, at Damascus, that the *Syriac* is still spoken, in some of the villages north east of that city; and that the people of *Malula, Juba, and Bakha*, on the road from Damascus to *Yibrud*, (the Ancient *Jabruda*,) use it in colloquial intercourse. Some of the nations speaking this language appear to have had rather a *Chamite* than *Semitic origin*, and to have derived their lineage from Ham and Mizraim. Among the tribes de-

scended from the former, the most distinguished was that of the *Phœnicians*, inhabiting Tyre, Sidon, and the island of Arwad, and who, on the testimony of Herodotus and others, previous to their settlement on the Mediterranean coast, dwelt on the shores of the Red Sea and Arabia. In the Bible they are known by the name of *Canaanites*; a people who at once spread their commerce, letters, and mythology, to the remotest shores of the known world, during the times of the Greeks and Romans. Commerce the chief object of their pursuit, having introduced among them riches, they increased so greatly in numbers as to be obliged to seek, by emigration, the means of supporting their luxurious habits, which the narrow limits of their native country could not supply. In this manner the islands and maritime provinces of the *Mediterranean* were peopled by their colonies. If their language, of which the *Hebrew* and *Syriac* are representatives, be found to enter less extensively than *Sanskrit* into the *Indo-Germanic* family of languages, certain it is that the *Phœnician* gave its alphabet and letters to people now classed with the *Indo-Germanic* family of nations; such as the Greeks, the Persians, and Etruscans. The Egyptians too, who must be considered the most distinguished of the *Chamite* nations, which took the lead in science and in art, were partly indebted to the same source for their writing; to which the *Aramæan* letters in Egypt still bear testimony. At a later period also the *Cushite tribes* of Arabia, claiming the same descent as the Egyptians, and who were subsequently intermixed with the *Semitic stock* of the *Hebrews*, and *Chaldeans* or *Chasdim*, derived the *Hamaiyaric letters* from the *Phœnician stock*.

The *Indo-Chinese* family of languages has been less extensively investigated and compared than those of the other two; but now that our extended relations, with the Chinese and Islands to the eastward, require a more intimate and accurate knowledge of the languages, literature, and customs of the people, labourers will not we hope be found wanting to give a new impulse to Oriental Literature in this direction, and make us acquainted with how much we are to believe as true of the *Chinese* and *Japanese* Histories; and with what right these nations claim a knowledge, in remote times, of Astronomy, and of practical arts, that were not known in Europe previous to the restoration of learning. Some of the earliest Arab authors, and in particular *Masudi*, assert that the Chinese, who occupied the country of *Soghd*, (*Sogdiana*,) previous to adopting the tenets

the *Moghaniah*, (magicians or fire worshippers,) relative to opinions on light and darkness, or the dual principles of good and evil, were a truly ignorant people, and entertained opinions similar to the Turks. If the evidence however be admitted, that bottles of Chinese manufacture have been found, in the tombs at *Thebes*, by Sir J. G. Wilkinson, Rosellini, and others; and that such present inscriptions in that language intelligible to the Chinese scholar, Mr. Davis, the present Governor of Hongkong, we must conclude that Masudi's opinion is not warranted by fact, and that Egypt traded with China and India from the earliest times, though the tombs from which those bottles were obtained are of an uncertain date. *

Egypt, the natural boundary between Asia and Africa, peopled originally by a nation having a common origin with the *Cushites* of Arabia, becomes a bond of union for our investigation into the arts of civilization and government, both in Asia and Europe, the progress of Geometry, Astronomy, Architecture, Agriculture, and Philosophy. We find that this interesting country, fourteen centuries before the birth of Christ, was well cultivated; possessed numerous cities; and had a regularly organized government, under a despotic monarch. The order of priests too were set apart from the rest of the people, and taught the transmigration of the soul; the latter were divided into castes; their deities were grouped into triads; the lotus was a common object of worship; and several other analogies existed, of which the Egyptian physiological structure, assimilating with that of the *Hindu*, is not the least remarkable. Relative to this country, the origin of the *Copts*, or *Chaphthorim* of the Bible, and of their language, in which the Hieroglyphics are written, is a subject not yet sufficiently investigated, and well deserving the attention of the learned. Wilkinson with truth remarks that Egypt was more Asiatic than African, and questions the soundness of the opinion that *Ethiopia*, or the land of *Cush*, was the parent of Egyptian science and civilization. Certainly the foreign appearance of nations, with which the Egyptians were at war, represented by sculp-

* The reader may consult Wilkinson's *Ancient Egyptians*, Vol. iii. p. 106, where he will find an account of these Chinese bottles. One of them was found by Rosellini in a previously unopened tomb of uncertain date, which he refers, from the style of the sculptures, to a Pharonic period not much later than the 18th dynasty: but while this opinion is purely conjectural there are many facts relative to Chinese history inducing a belief, that Chinese civilization cannot be dated, at the utmost, earlier than the origin of the Greek Bactrian Kingdom, about 250 years B. C.

tures in the tombs of the *Theban Kings*, at *Biban-al-Maluk* &c. fully justifies the correctness of his opinion. In the tomb of the great *Rameses*, the *Shari*, or the Hebrew שִׁחֹר *Shihori** of *Isaiah*, Chap: xxiii. ver. 3, meaning the blacks, or *Ethiopians*, are represented with bows and spears. *M. Champollion* has rightly identified them, I think, with the *Bishari*, a nomadic tribe of *Nubia*, and of the same family with the *Bejas*; who were partly of *Arabian* origin, and possessed the western shores of the *Red Sea* from the earliest times. It will be a subject in philology of great interest to investigate the languages of these aboriginal people; and a comparison of them with the *Suhaili*, *Sumali*, *Ghiz*, *Dankali*, and *Galla tongues*, is an important subject for research in *Ethnography*. In the transactions of our *Geographical Society*, published in May last, *Lieutenant Rigby* of this establishment has in part performed this creditable task; and collected materials for others to extend the subject, and arrive at more definite conclusions regarding the affinity of these several tribes. *Ethnography*, which has been cultivated by the *Germans* with much learning and success, has now become an essential and important part of *Geography*: and, as our *English writers* have been charged, with some justice, of neglecting this study, it behoves our future *Geographers* and *Travellers* to give that due attention to a subject, which has become so necessary a part of *Geographical writing*.

I have thus briefly sketched the existing relations of the three great families of nations; and may, at some future period, illustrate in detail the leading peculiarities of the languages, history, and literature, which characterize the principal subdivisions in each. But I might exhaust your patience, and would be trespassing on your time, were I at present to attempt more than to give a short outline of the principal subjects of investigation, which still claim attention; and regarding which further information is necessary to complete the natural and civil history of the several races. In this field of inquiry I may claim a privilege to commence with the *Semitic family*, from which we derived the earliest and most authentic record of the history of mankind, the books of the *Old Testament*, and whose languages are the *Hebrew*, the *Syriac*, the *Arabic*, the *Ethiopic*, and *Pehlvi*, or the *Semitic* dialect of the *Persian*.

* In *Hebrew Shihor*, which means blackness was applied as a designation of the *Nile*, and of the blacks too on its western bank: for in *1st Chronicles*, Chap. XIII. ver: 5, *David* is said to have gathered all *Israel* from *Sihor* of *Egypt* even unto the entering of *Hemath*.

Hebrew.—The *Samaritan dialect* of this language, considered as the intermediate link of the *Chaldi* and *Syriac*; the direct medium, through which the apostate Jews, or Samaritans, diffused their opinions regarding the worship of the true God, mixed up with an idolatrous reverence for the gods of the Heathen, is a subject not yet fully investigated, and well worthy the attention of Biblical Scholars. The book of *Enoch*, or *Edris*, quoted by the Apostle St. Jude, * copies of which, in Ethiopic, Bruce obtained while in *Abyssinia*, was probably translated into *Samaritan*; and as such, according to Assemanus, contained the principal articles of belief professed by the *Sabeans of Southern Arabia*, search may be made, with some chance of discovering fragments of these books, among the Jews at *Aden*, *Zafar*, and *Sanaa*. One of the Ethiopic copies obtained by Bruce has been translated, into English, by Dr. Laurence Archbishop of Cashel, and one was presented to the library of the King of France. This very curious book is said to have been originally written in Hebrew, and translated into Greek by an Alexandrian Jew; of which a large fragment may be found in Kircher, and the *Chronographia* of Georgius Syncellus. † It records legends of the angels having descended from heaven, and produced giants from the daughters of men; and of their having instructed this race in the arts of war and luxury; giving a superstitious version of the same story as related in Genesis, chap: vi. v. 2. to 12. Matter, in his history of Gnosticism, and its influence on the religious and philosophical sects in the first ages of Christianity, remarks that, in the second century of our era, Philon of Byblos, in Phœnicia, published *Sanchoniatho's Phœnician Cosmogony and Theogony*: teaching, like the books of Enoch, that mankind, falling from their state of original purity, came under the dominion of the passions and a spirit of discord; and that siderial spirits, by generative creation, descending from heaven underwent successive degrees of degradation. According to Mr. Turnour's *Bauddha Annals*, in the Pali language, ‡ the same story is somewhat differently related, among the Ceylon Buddhists. It is also

* Jude ver. 14, 15.

† Bruce's travels to the source of the *Nile*, octavo edition, Vol: II. p: 414: and Kircher's *Oedip. Ægyp.* Vol: ii. p: 69: also Dr. Laurence's translation into English, p: 181.

‡ Journal of the Bengal Asiatic Society for August 1838, p: 694: see also the article, on the Bauddha and Jaina religions in this Vol: p. 107.

known in Nepal; regarding which Mr. B. H. Hodgson mentions his suspicion that the legend had been stolen from the Bible, and contains a confused idea of the Mosaic history. * It will be therefore of utility in tracing the history of the Arabian Jews, and those of India on the coast of Malabar, and in the territories of Bombay, to ascertain the nature of that connexion which subsisted between *Arabia* and *India* from the beginning of the Christian era. By this investigation we may be enabled to ascertain why the figure of *Buddha's foot*, which exists at the top of Adam's peak in the island of Ceylon, was identified as a type of our great ancestor, previous to the arrival of the Portuguese on the shores of India. In the fifth No. of our Journal, I remarked that the Mahomedan author Masudi, A. D. 943, makes mention of mount *Rahwan*, on which Adam descended when expelled from Paradise, adding that a race of Hindus, in the island of Ceylon, descended from Adam, derived their origin from the children of Cain; and that the analogy, between the traditions of the *Arabs* and *Bauddhas*, may probably be traced back to that period of early history, when both people were *Samaneans*; maintaining, according to the authority of the *Mefatih-el-olum*, that the world had no beginning, that souls transmigrated from one body to another, and that the earth is constantly declining.

Regarding the chance of obtaining Hebrew books from the Arabian Jews, it is not unworthy of remark, that Dr. Pickering of Boston, in America, and now amongst us a traveller, lately obtained, while at Aden, a Hebrew copy of the Pentateuch with an Arabic translation; but could not inform me whether such was the *Samaritan version*, as he had transmitted it without examination to America. An Arabic translation of the *Samaritan* text appears to have been made by *Abu-Said*, so late as A. D. 1070.

Syriac. The ancient dialect of *this*, which was common to Palestine, and now a dead language, except in the neighbourhood of *Damascus*, and among the *Nestorians* in the mountains of *Kurdistan* and the neighbourhood of *Orumiah*, is of great interest to every Christian Scholar. While the *Syrians themselves* maintain a doubtful opinion, that, in the time of Solomon, the Old Testament was translated into this language for the use of *Hiram*, king of Tyre, certain it is that our Saviour preach-

* Hodgson's Sketch of Buddhism, Transactions R. A. S. London, Vol: II. p. 248.

ed in it, and that the New Testament, in the time of *Abgar King of Edessa*, * was translated by *Thaddeus* into Syriac. An American Missionary Dr. Perkins, who resided eight years among the the Nestorians, and has published his account of them at Boston 1843, states that the present written character differs from the western, or *Jacobite Syriac*, and is a rounded form of the Estrangelo; adding that in their vernacular language there are twenty two consonants, united by seven vowels which are points, and not the Greek vowels inverted, as in ancient Syriac. † Such would indicate that this form of the *Syrian Alphabet* resembles, in many respects, the *Hamaiyaric character of Southern Arabia*, in which some genuine Nestorian letters are found. In connexion with the Syriac dialect and character, it will be an interesting subject of research to inquire into the origin of the *Palmyrine writing*; with which that of the *Sassanian* inscriptions at *Hajiabad* and *Nakshi Rostam*, in Persia, have a close affinity. The inscriptions too on the Bactrian coins, at *Shah-Baz Ghari*, in the *Yeusaf Zai country* and in the *Topes of the Panjab*, seem to have derived their alphabet from the same source. To trace the gradual developement of this character and to follow it into the countries of *Bactria* and *Tartary*, where it was applied to languages of the *Indo-Germanic family*, will enable us to make clear many obscure points both in Chinese and Indian history. One more head of this subject deserves the attention of the learned, namely, the investigation of the true dates when the Syrian Christians settled in Malabar; or found their way into China and Tartary, where under the name of *Aigures*, they gave letters and literature to the people of *Mon-golia*.

The settlement of the Syrian Christians, on the coast of Malabar, and the period of its taking place, have been long subjects of comment and dispute. In number xxx of the *Madras Journal of Literature and Science*, published in June last, there are fac-similes of the engraved copper-plates, possessed by the *Jews* and *Syrian Christians*, who were granted certain privileges by the *Hindu* princes of *Chera*. Various opinions

* The country of *Osrhoene* in *Mesopotamia*, then under the Parthian Government, was, about A. D. 114 sold by *Arsacces Pacorus* to one named *Abgar*, who, according to *Suidas*, took upon himself the title of king.

† Address to the American Oriental Society; by John Pickering Esquire, of Boston, 1842 p: 30.

have been formed regarding the supposed antiquity of these documents, which are written in ancient *Tamul*. The Jewish tables, which are the oldest of them, consist of two copper plates, written on three sides, and are now in possession of Rabbi Samuel at Cochin, who has also an old *Hebrew* translation of the contents. They are dated in the 36th year against the second cycle, or cyclar period of sixty years, which the Arabs call *Tarikh-Zaki*, and *Tarikh-al-Huakma*, or era of the philosophers; dated as would appear on the revolutions of the planet Saturn, and commencing its new year from the appearance of the first new moon after the winter solstice; which was the common mode of reckoning among the *Chaldeans*, *Egyptians*, *Chinese*, and *Indians*.* The reigning prince of Malabar, who granted this document and had the title of *Peru-mal*, was named *Sri Bhaskara Ravi Varma*; and as the document no where recognizes the existence of the *Brahmanical hierarchy*, the country at that time seems to have been under sovereigns of the *Bauddha faith*. In Asoka's inscription at *Girnar*, it is mentioned under the name of *Pira*,† and associated with *Chola*. While some have dated this document as early as the 31st year of the Christian era, others are disposed to give it no higher antiquity than A. D. 825.

The other documents, in possession of the *Syrian Christians*, consist of six copper-plates, four of which are written in *Tamul*, followed by the names of witnesses attesting to the truth of the grants; and whose signatures are written in the alphabets of three languages; of which the first is *Kufic*, the second apparently *Nestorian Syriac*, and the last *Hebrew*. The well ascertained origin of the *Kufic* form of Arabic, and its existence on these copper-plate grants to the *Syrian Christians*, reduces the probability of the preceding Jewish grant having been given in the third century of our era: as both the Jewish and Christian grants seem nearly of cotemporary origin. The subject however still merits attention as one not definitely settled.

Arabic. The origin of the *Hamatyaric character*, or the writing called *Al-Musnad*, is a subject still open for the investigation of the curious. Though Fresnel in the *Journal Asiatique*, ‡ and the Baron Mac

* See Chevalier De Paravey, sur l' identite des cycles Arabes; Indiens et Chinois, applique's aux jours, aux annees et aux eres diverses.

† Mr. Prinsep's correspondence in page 26 of this volume.

‡ Troisieme serie Tome II, III and IV.

Guckin De Slane in his translation of *Ibn-Khallikhan's* Biographical Dictionary have usefully combined some of the scattered facts, relative to the state of the Arabs during the times of Paganism, and of their literature after the time of Islamism, the subject has not yet received that degree of attention which it deserves. After the decay of the Roman empire and the destruction of the Alexandrine library by *Amru*, the General of the *Khalif Omar*, the knowledge which the Greeks and Romans possessed of Philosophy, Mathematics, Medicine, Natural history, Astronomy and Geography was transferred to the Arabs, through the medium of translations, by the Greeks of *Harran*, and we may hope that the zeal and learning of European scholars will yet enlighten us relative to these dark periods of history, and shew how far the Muslims contributed additions to the two last branches of knowledge.

Busra, *Kufa*, and *Baghdad* attained great pre-eminence for learning; and in their several schools the study of Grammar, Philology, Genealogy, and History was carried out with great exactness. The dialects spoken by the different Arab tribes of the desert became the special object of investigation, and served as the ground work of copious dictionaries of the Arabic language. In arithmetical calculation the Arabs employed certain letters of the alphabet with a numerical value, but subsequently adopted the Indian ciphers. The Algebra of *Mahomed-bin-Musa* has been translated into English by Professor Rosen, who is of opinion that the author was conversant with *Hindu science*, and though he be the first Mahomedan who wrote on arithmetic, he was not the inventor of the art. Before the accession of the *Khalif al Mamun*, *Mahomed bin-Ibrahim al Fazari* had translated, in Hej: 156, A. D. 773, the work of an Indian Astronomer, called the *Sindhind*, or astronomical tables. Connected with Arabia and its language, an investigation into the comparative Geography of this Peninsula and an account of its Geology and natural history are still desiderata.

Ethiopic. Mon: D. Abbadie, in the Journal Asiatique of Paris, for July and August 1843, has enumerated twenty eight dialects of this language, which are partly of *Semitic* and partly of *Chamitic origin*.* The

* In No. 911 of the *Athæneum*, for April 1845, the same gentleman has addressed a letter, to the Rev. G. C. Renouard, foreign secretary of the Royal Geographical Society, on the subject of the Ethiopian family of languages, and as this is one of the undetermined subjects in *Ethnography*, and of great interest in the history of mankind, the letter will be found extracted in the present number of the Journal, under the head of *Literary and Scientific notices*.—

Ghiz is a very pure dialect of the ancient *Arabic*, and is written, from left to right, in a modern character of the *Hamaiyari*, consisting of twenty six consonants, varied in sound by seven vowels: to which were added seven other letters, at the period when the *Ahmaric dialect* became incorporated with the more primitive form of this language.

In both sacred and profane history *Ethiopia* is frequently mentioned in conjunction with Egypt, signifying the *Thebaid*, or *Upper Egypt*, and is designated, on the Egyptian monuments, the land of *Cush*; under which title, Isaiah, Ch: XLV. ver: 14, associates it with the country of the *Sabeans*, or people of Southern Arabia. The Ethiopians claimed even superior antiquity to the Egyptians, as their progenitor *Cush*, the son of *Ham*, was elder than *Mizraim*, from whom were descended the Egyptians. Regarding the origin of the Ethiopians, the most probable opinion now entertained is that the Ethiopians, beyond the parallel of *Syene*, or *Assuan*, were *Copts* less advanced in civilization than the Egyptians; and that under *Sabbacon*, or the *So ** of Scripture, who entered into a treaty with *Hosea* king of Israel, and reigned from B. C. 769 to 729, the *Arabs*, or *Cushites*, migrated from the kingdom of *Midian* into the southern part of Arabia, and western shores of the Red Sea or Ethiopia. Juba, who wrote the History of Arabia B. C. 30, says that *Ethiopia* was then peopled by Arabs, who, under the name of *Blemmyæ*, were led on by the generals of Candace, queen of Meroë, against the Roman cohorts at Elephantine, Syene, and Phylø, during the reign of Augustus Cæsar; and were driven back, as far as Premmis in Nubia, by an army of Romans and Greeks commanded by Ælius Gallus. The Jews had for a long time, and in great numbers, been settled among them, and soon after translated the Holy Scriptures into the Ethiopic, of which the *Ghiz* has many words in common with the *Arabic* spoken by the barbarous inhabitants of *Mahrah*, possessing the mountainous district of Southern Arabia near *Hasik*, *Morbat*, and *Zafar*. This idiom, termed by Monr. Fresnel † the *Ekhhili language*, approximates more nearly to the *Hebrew* and *Syriac* than to the *Arabic*; and appears to have prevailed in the Islands called *Curia Muria*, and in *Socotra*. Herodotus, in Polymnia 70, makes mention both of the eastern and western Ethiopians, or of the *Asiatic* and *African* tribes of this people. The former, who were of Arabic origin,

* 2d. Kings, xvii 4.

† Noveau Journal Asiatique Paris.

served with the Indians in the expedition of Xerxes to Greece ; were armed in all respects like the latter, and had straight hair. They wore on their heads, however, the skins of horse's heads, on which the manes and ears were left ; and are without doubt the *Aswa-Muchas* of the *Hindus*, or the horse-faced people of the *Haya-wansa*, whom Major Rennel has correctly placed in *Kej-Mekran*, or the Persian province near the sea, west of the Indus. They were the people of *Haur*, or the *Oritæ* of the Greeks, and partly of Arabian descent ; of whom the *Beluchis* and *Brahuis*, are the probable remains, though the languages of these two tribes now shew a nearer affinity to the *Indo-Germanic family* than to the *Semitic*, while they themselves proudly claim a Syrian or Arabic descent.

The Philological branch of Ethnography, on the subject of the Ethiopians, appears to have been pursued with considerable success by Monr. D. Abbadié : and as our Society, so early as 1812, obtained comparative lists of dialects in use on the eastern coast of *Africa*, namely the *Suhaili*, *Sumali*, and *Galla-tongues*, it is my intention to add to these vocabularies of the *Kanuz* and *Bisharin languages*, and to publish them in an early number of the Society's Journal. Others will no doubt assist us in collecting materials for determining this interesting question relative to the origin of the *Ethiopians* : and the Rev. Mr. Isenberg, who is now a resident amongst us, has already printed a Grammar and Dictionary of the *Ahmara* language. He has also compiled and printed a Vocabulary of the Danakil dialect ; and the Rev. Mr. Krapf has collected a Vocabulary of the Galla tongue, which has been translated from the German, into English, and published by Mr. Isenberg.

Captain Harris, in his late work on this country, has appended a catalogue of extant manuscripts in the *Ethiopic* and *Ahmari* tongues ; of which the *Sena Aihud*, or history of the Jews in connexion with the history of other ancient nations ; and the *Kibra Nijashi*, or the history of the *Kings of Axum*, would repay the labour of translation. The *Didaskalia*, or institutions of the Abyssinian Church, has been already translated into English and published by the Oriental translation fund.

Pehlvi. This ancient form of the Persian, which is of *Chaldaic* or *Syriac origin*, seems to be an ancient dialect spoken in *Khuzistan* and *Parş*, the two western provinces of Persia ; which, previous to the rise of the Medo-Persian kingdom, formed the dominions of the *Elamites* of the Bible, who were of *Semitic origin*. It gained an ascendancy, pro-

bably, during the period of the Parthian dominion, and reign of Artabanus III. brother of Vonones II. with whom commenced a new line of Parthian kings, descended from the Governors of *Media*. In Avdall's history of Armenia, the then reigning family is divided into two branches of *Pehlavis*, namely the *Sureni Pehlavis*, or western, and the *Karani Pehlavis*, or eastern. It appears from Vaillant and Josephus that *Media*, the modern *Azerbaijan*, came to this second dynasty of Parthian Princes by their father Vonones II. brother in law to *Bardanes*, who belonged to the family of western *Pehlavis*. According to Tacitus * Vologeses the I. by consent of his brothers Pacorus and Tiridates, succeeded to the throne of the *Parthian kingdom*, resigning to his brother Pacorus the chieftainship of *Media*, which his father Vonones held in right of his father's brother Artabanus III. The coins found in *Bactria* and *Kabul*, bearing on one side, in Greek, the names of *Palirisus* and sometimes *Palirius*, with the inscription *Balhara putasa Dhamiasa Bala Farmasa*, published by Wilson and others, belong to this Pacorus, governor of *Media*, and date from the era of the Arsacides 367, A. D. 52.

While it may be shewn that the alphabet of the Bactrian Pali inscriptions, and of the more extensive ones at *Shah Baz Ghari*, in the Yeusaf Zai country, are of *Semitic* origin, and kindred with the Sassanian writing on the monuments of Elymais, or Persepolis, Professor C. Lassen has traced with much learning and ingenuity the affinity between the language of these inscriptions and that of the *Prakrit* in the Indian dramas.† It seems highly probable that the *Sureni Pehlavis*, or western Persians, spoke in ancient times a dialect of the Syro-Arabian stock; but that the *Karani Pehlavis*, or inhabitants of eastern Persia, made use of a language that was intermediate between that of the Indians and Persians, and had a near affinity to the languages spoken in the *Kohistan*, or *Highlands* north of *Kabul*, of which the *Lughmani*, *Pashai*, *Kashkari*, and *Kafari* idioms are the yet existing remains. The Parthians, according to Justin,‡ spoke a mixed language between the *Scythian* and the *Median*; and the Paropamisadæ of the Greeks, and Parthians of a mixed Persian origin, who had the name of *Karani*, may have obtained this appellation from being of a mixed breed: for we are informed, in the travels of Marco

* Tacit Annal, lib: c: 44.

† Journal of the Bengal Asiatic Society for 1840 p. 380.

‡ Justin, lib: 41.

Polo,* that the Choghtai Tartars of *Nikodar Oghlan*, the son of *Hulaku*, mixing with the dark Indian women, produced a race to whom the appellation of *Karaunas* was given, signifying in the language of the country a mixed people. In classifying the dialects of the Persian language, there are good grounds for assigning a Semitic origin to the Pehlvi, or language of the Elymeans; who were not, according to Strabo,† reduced to obedience by the Parthians, until B. C. 162: when Arsaces Mithridates I. the cotemporary of the Bactrian Eucradites, also added Media to his dominions. This also is the view taken by the learned author of the *Ferhang Jehangiri*,‡ who enumerates seven dialects of the Persian; four of which the Hervi, Segzi, Zaweli, and Soghdi had become obsolete, or were not used in composing historical and poetical works; while the Parsi, Deri, and Pehlvi were the current languages of the country. The latter was that which was spoken on the Pehlu, or Arabian and Chaldean border; and prevailed in Khuzistan, Kermanshah, and Persian Irak, § while Parsi was a collateral language spoken in the province of Pars, or Persia Proper.

The family of nations, extending from the Ganges to the British Islands, and speaking languages of a cognate origin, has been called collectively *Indo Germanic*: but has been divided into several branches, denominated the *Arian*, *German*, *Sarmatian*, and *Sclavonic*. The old Persian words *Airya* and *Airyana* have been used to designate the region to which the Hindus and Greeks extended the appellation of *Aria* or *Ariana*; and Monr. Burnouf explains the name to signify “l’Arie dans sa plus grande etendue, c’est a’dire le pays habité par la race des Arya, ou des hommes nobles.”—The ancient Medes, according to Herodotus, called themselves *Arii*: and *Aryavarta*, or the Holy Land of the Brahmins, before they spread themselves into Southern India, was the country sit-

* Marsden’s Edition of Marco Polo, London, p: 87.

† Lib: 16.

‡ The excellent Persian Dictionary written by Jemal-u-din Husain Ibn Fakhr-u-din Hasan Anju.

§ The author of the *Ferhang Jehangiri* calls it the border line from Isphahan to Dinavar; thus including the provinces of Persian Irak and Kirmanshah: in which latter district are the remarkable *Cunei-form Inscriptions* of *Be-situn*, which have been lately deciphered by Major Rawlinson. These inscriptions are written in three dialects, which must be Parsi, Zend, and Pehlvi, and are said to contain interesting details relative to the campaigns of Darius Hystaspes.

uated between the Himalaya and Vindhya mountains. The principal stems therefore of the Arian race consist of the Hindus, or Indians east of the Indus, and the Medo-Persians, west of this river. The Affghans, the Brahuīs and Beluchis, the Armenians, Kurds, and the Ossetes inhabiting the Caucasus, near the sources of the river Terek, belonged to the latter; and though the former people be now limited by the Ganges eastward and the Indus on the west, yet, in the time of Arrian's *Periplus* and of Ptolemy the geographer, * their cities Minagara in Sindh, Ozene or Uja-in in Malwa, Tiagura and Nasica in the Dekhan, were esteemed parts of Indo Scythia; while mixed tribes of Indians speaking Prakrits, or dialects of the Sanskrit language, inhabited the Kohistan and country of Kabul. The mountainous country, immediately west of the Indus, called by Diodorus Siculus Cossea, or the Caucasus, obtained its name from the Khasas or Kas, mentioned in the Kerna Parva of the Mahabarat, and by the Emperor Baber in his memoirs. Hindu and Persian tradition concurs in recognizing the tribes inhabiting this quarter, and even those towards the sources of the Oxus, as members of the Indian family; † while a Philological examination of the dialects now spoken by them will afford strong Ethnological proof that the aboriginal people of Lughman, Kashker, and Kaferistan, belonged to the Indo-Persian stock, though Scythian in their manners. They are known to the Greeks under the name of the Indo-Scythians, and are called collectively, by the Hindus, Haya-hayas, or individually Gandharas and Bhalikas: and as many pure Maharatha words are found in the Lughmani and Pashai dialects, and were primitive parts of these languages, such seem to establish the correctness of an opinion entertained by many, that the Maharathas were of a foreign origin and descended from Naosherwan and the Persians. ‡ This is a subject of much interest, and well worthy of further and more accurate investigation than it has yet received; and the labour of tracing the History of the Indo-Scythian tribes, that, under the name of *Sakas*, or *Sacæ*, overturned the Greek kingdom of Bactria B. C. 126, and pushed their conquests into India, will be attended with much new light on the subject of Indian History, and is calculated to dispel much of the darkness which envelopes systems of Hindu mythology.

* Ptolemæi Geographiæ; Lib: vii.

† See Wilson's *Ariana Antiqua*, p: 125.

‡ Wilford's *Essay on Vicramaditya and Salivahana*, in *Asiatic Researches*; Vol: ix p: 234. Quart: edition.

The Sacæ, according to Ptolemy, were a great people, situated between *Casia* or *Kashkar* and *Bylta* or *Little Tibet*; but the name was a general term used, in ancient Persia, for all Scythians situated eastward of the Caspian Sea. The Asii, Tochari, Pasiani, and Sacarauli, who overturned the Greek kingdom of Bactria B. C. 126, were but branches of the same stem; and by Ma-twan-lin and other Chinese authors, who have written on the subject of India, are called the Great Yue-che or Indo-Scythians. Procopius calls them Euthalites; and Cosmas Indicopleustes, visiting India A. D. 535, notices them under the name of Hunni. Arabic geographers and historians name them Hayathelites, or Hayatelas; and place them, at the sources of the Oxus, in the districts of Khutlan and Cheganian.—During the quarrels of Firuz and Hormuz sons of Behram VI. the Hayathelites assisted the former in recovering his right to the Persian throne; and not long after the period when they are mentioned, by Cosmas Indicopleustes, under the appellations of White Huns, their country was conquered by Naosherwan the Great, of Persia, who put to death their king Akhshawan, and carried into Persia the *Kalila Damna*, which was soon after translated into Pehlvi from the original Sanskrit of the Pancha Tantra. This is given on the authority of the Arabic author Masudi; who in his account of the Sassanian kings, states that the Haiyatelas were the same with the Soghdi, living between Bokhara and Samarkand.*

Persian. The country named from this language, which was originally the dialect of Pars, or Persia Proper, extends from the banks of the river Jihun, or Oxus on the east, to the Euphrates westward, and from Bab-al-Abwab, or Derband, on the north, to the sea of Oman or the Persian Gulf, on the south. Several tribes however, whose primitive tongue appears to have been Persian, are situated beyond these limits, and Klaproth † has shewn that while the Nomadic tribes of Bokhara, Khoten, and Khiva must be reckoned as branches of the Turkish stem, the inhabitants of towns, called *Sarti*, or *Tajiks*, are of Persian origin. The Parthians and Arsacides, who had the national denomination of *Dahi* or *Dajik*, and were partly of Scythian origin, imparted this name to their Persian subjects; and, though it was disavowed by the Persian people, it was afterwards applied to them, in the sense of barbarian, by all the tribes of Upper

* See Masudi's *Meadows of gold and Mines of jewels*, written in Arabic and begun in A. D. 943; also *Histoire Generale des Huns*, par M. Deguignes Tome Premier, seconde partie, p : 325.

† *Journal Asiatique*; No. 9.

Asia, that subsequently overran Persia. The establishment of the *Tajiks* in Sogdiana, and other countries on the borders of Persia, where the original Nomadic population belonged to the *Sacæ*, or eastern Scythians, appears to have been effected during the reigns of several Persian kings; who were probably anxious to form agricultural colonies, in these countries, from among their Persian subjects; who had learned the luxury of fixed habitations, and were capable of teaching mechanical arts to the Nomades, and of weaning them from their wandering manner of life.

It is not certain that the dialects of Persia Proper and of Media were the same, but it is now generally allowed that they were cognate tongues, and that the latter, which was the primitive language of Persia, had a close connexion with dialects of the Sanskrit family. The now obsolete *Hervi*, or dialect spoken in the province of *Herat*, or *Aria*, may have been the lost original tongue from which the ancient Persic was formed, after the rise of the Medo-Persian kingdom, but continental Philologists are disposed to regard the *Zend* as the Vernacular idiom of Media and the northern parts of the Persian Empire. The whole of the ancient Media included, besides Azerbaijan, the provinces of Shirvan and Gilan; and Professor Rask supposes, with great probability, that the *Zend* was the old popular language, at least of a great part of Iran,* and not merely a sacred dialect introduced for religious purposes. English Philologists however have been disposed to consider the *Zend* as a dialect of Sanskrit, introduced from India, for religious purposes, and never spoken in any part of Persia. The testimony of so ancient an author as Masudi, that the book called *Asta* and its commentary the *Pa-Zend* were in existence in his time, establishes the comparative antiquity of the *Zend-Avasta*, and that the language of it is not a forgery of modern times. The grammatical structure of the *Zend*, and its system of inflexion correspond with the Sanskrit, but in some instances approach nearer to the Phrygian class of languages, (that is to say, Greek and Latin, with their different dialects,) in others it is quite peculiar, which seems to show that it is a different language, to be arranged between the Sanskrit and Greek: and it is therefore more natural to conclude with Rask that Sanskrit was introduced, as a foreign language into India, from *Aria* or *Iran*, in preference to the supposition that it was brought from India into Persia. Masudi says that *Zardusht* or Zoroaster, a native of Azerbaijan, and son

* Transactions of the Royal Asiatic Society; Vol: 111 p: 533.

of Astiman, composed the book called *Asta* in a language that no one could understand, and afterwards wrote a commentary on it called the *Zend*: the commentary on which, in another language, was called *Pa-Zend*, meaning what was written interlined with the *Zend*, the ancient Persian language. This commentary was as appears the Pehlvi version, which, as Burnouf in his commentary on the *Yaçna*, remarks, was composed in an age unknown to us, but esteemed of equal value with that of the original *Zend* text. The author of the *Ferhang Jehangiri* notices the *Zend* and *Pa-Zend*, but does not mention the former among the other dialects of Iran. The *Deri* was, according to some authorities, spoken by the inhabitants of Balkh, Bamian, Meru-Shahjahan, Bokhara, and the *Derahs* or valleys at the source of the *Oxus*; while by others it was called the court language, or a highly polished dialect, used vernacularly in the *Deri-Shah*, or Royal court: where, about the end of the fourth century of our era, or A. D. 351, it was introduced by Beharam-gaur in supersession of the Pehlvi, or language of the country. Ibn Haukal in his geography, called *Masalik-wa-Mamalik*, of which the original was written A. D. 858, only makes mention of two languages besides the *Arabic* spoken in Persia, namely the *Pehlvi* and *Parsi*; the former of which was used in writings, but required, even in his time a commentary, as not generally understood. The *Parsi*, of which the dialects in various parts of the country differed somewhat, was then the vernacular language of Persia, though discountenanced in the transactions of government and of public affairs. It was, as already noticed, the language of the province of *Pars*; or Persia Proper, and contemptuously styled the *Ajamian* (barbaric) tongue, but during the tenth century, under the patronage of Mahmud of Ghaznah, it was restored to its ancient honor by the celebrity of Firdausi, when being mixed up with many Arabic terms and words of Semitic origin, it became the now current language called Persian. Many translations of Historical and Geographical works were made into this language from the Arabic; and many of them hitherto little known are of much interest, and would repay the labour of translation into the European languages. Those of them composed during the reigns of the Perso-Moghal sovereigns, the descendants of Jenghis Khan, deserve particular notice. From among these the *Jama-la-Tawarikh*, a history of the Moghals by Rashid-ad-din, and the *Matla-as-Sadein*, a history of Sultan Shah Rokh's reign will be acceptable additions, when translated, to the history of the east.

Sanskrit. It is now generally admitted by Philologists, that the several dialects spoken in India belong to two great families, the Northern and Southern ; or that of India proper, between the Himalaya and Vindya mountains ; and that of the Dekhan, south of the Nermada river. The former called the five *Gauris*, or the *Saraswati*, *Kanyacubja*, *Bengali*, *Tirkutiya*, and *Uriya*, are chiefly derived from Sanskrit, which was introduced into India previous to their origin, and was the precursor of civilization in the countries, where these *Prakrits*, or Provincial dialects of the Sanskrit, are now spoken. These, with the Gujarati and Maharatha languages, are of the Arian family, and intimately connected in their affinities with the Zend, or primitive dialect of the Medo-Persian. But the Southern family of languages, including the *Tamul*, *Telugu*, *Karnataka*, and *Malayalma*, agree exactly, in grammatical structure, with the Tartar dialects of Northern and Central Asia, and are largely composed of words, that are not of Sanskrit origin. A great proportion, however, of these languages is Sanskrit; which, as in the North, was incorporated with them by means of civilization and the progress of literary composition. Mr. Ellis, in his dissertation on *Telugu*, prefixed to Campbell's grammar of this language, observes, that neither *Tamul* nor *Telugu*, nor any of their cognate dialects are derivations from the Sanskrit; but that they form a distinct family of languages, with which the Sanskrit has, in latter times especially, intermixed, but with which it has no radical connexion.* The language of the mountaineers of Rajmahal abounds in terms that are common to *Tamul* and *Telugu*; and throughout India, in the hills of Rajputana, the districts of the Bhills on either bank of the Nermada river, the territory of Gondwana, and the Garrow hills, are tribes of people who, both in manners and in language, are altogether different from the civilized Indians of an Arian stock, speaking languages of the Sanskrit family.

The study of Sanskrit literature, and the principles of etymological affinity which connect this highly learned language with the languages of Greece and Rome, as well as those of the more modern European nations, have contributed greatly to elucidate the history of all languages, and by means of them to make more certain the history of the various tribes of mankind. The history also of philosophy and science has been largely indebted for illustration to the same source; and the cultivation of San-

* Mackenzie Collection, preface p. xxix.

skrit literature is particularly commended to the attention of our countrymen, by their employment and position in this country. Much in this department has been already effected by Jones, Colebrooke, Wilkins, Wilford, Wilson, and others ; but a critical examination of the various dialects spoken in India is yet a desideratum ; though the labours of Bopp, Lassen, and other continental philologists, have already accumulated materials of great value, which will be highly useful to all future investigators. The Pali language, which is certainly a derivative from the Sanskrit, has received important elucidation, in the “*Essai sur le Pali, par E. Burnouf et Chr. Lassen,*” and all the provincial dialects, or *Prakrits* in other parts of India, are learnedly commented on in Lassen’s “*Institutiones Linguae Pracriticæ.*” The Ethnology of the several wild tribes and mountaineers of India has, hitherto, been too imperfectly investigated, to admit of implicit confidence being placed in the opinions formed relative to the affinity that these tribes bear to each other ; and here there is a wide field still open to the inquiries of our Indian scholars. These tribes seem to be the remains of the Indian aborigines ; and their present condition, languages, religion, and customs, particularly merit investigation, and will contribute greatly to elucidate the ancient history of this country. Translations of the cave inscriptions, that are found in the various parts of the Dekhan, and of the books of the Jainas written in the same dialect, will be of great interest to continental scholars ; and contribute to illustrate the connexion that exists between the religious system of the Bauddhas and Brahmins, and the principles of belief professed by the Jaina sectaries. The language in which these books and inscriptions are written, is that which has been styled *Prakrita* “*par excellence,*” and is allowed, by all Prakrit grammarians, to have been the original language of Maharashtra, or country of the Maharathas. It is an immediate derivative from the Sanskrit, and intermediate between the latter and Magadhi, or language of Behar, which is the same as the Pali, the sacred language of the Bauddhas.*

There are many other subjects connected with India, but yet imperfectly investigated, which are well worthy the attention of members of our Society, and Oriental investigators generally ; and of which those, not least important, are the Statistics, Geology, Botany, Zoology, and comparative Geography, (Hindu and Mahomedan,) of the several provinces and districts. Those of our own Presidency will of course chiefly merit our attention.

* See Lassen’s *Institutiones Linguae Pracriticæ*, p : 12 and 60.

Pali. This which was the official language of the Bauddha dynasties, once existing in India, and is now the depository of Bauddha religious literature in Ceylon, and the countries beyond the Ganges, has lately attracted much attention from Orientalists, and promises to become daily a subject of greater interest, on account of its connexion with Sanskrit and the history of the Bauddha religion. It is a contested point whether the Pali or Sanskrit be the more ancient language of India; but those who have supported the superior antiquity of the former, seem to have been imperfectly acquainted with the grammatical principles and affinities of the two languages, which have been investigated with great learning by Burnouf, Lassen, and others; whose opinions are opposed to this view of the subject, and claim deference from their profoundness and learning. The Pali grammar and vocabulary of this language, published in Ceylon, by the Rev. Mr. Clough, the "Essai sur le Pali," a Grammar and Dictionary of it lately published at Paris, and the late Mr. Turnour's translation of the Mahawanso, supply abundant materials for the study of this learned language, in which are embodied several metaphysical tracts, fabulous or real biographies of the several patriarchs who succeeded *Buddha*, and systems of Cosmogony and Mythology.

There are plausible grounds for a belief that this language, though a *derivative* from *Sanskrit*, was originally a *western dialect*, spoken by the *Sakya* race inhabiting *Sindh*, *Surashtra*, and *Gujarat*; and that when they emigrated, from the northwest, to *Kapilavastu*, and the *Gangetic* province of *Magadha*, this dialect, called originally the *Sindhu* language, obtained the name of *Magadhi*, and prevailed along with the religion, which was promulgated through its means, from *Magadha* to the shores of *Kalinga* and island of Ceylon. "In the north-west it approached nearest to the Sanskrit and diverged from it in *Magadha* and *Kalinga*: but was in both places essentially what is now called *Pali*, a word supposed to be derived from पल्लि *palli*, a village, as we should now a days distinguish *gaonwari*, village, boorish, from *urdu* the language of the court." * In the great inscription from the Bauddha caves of Nasik, it is called *Gao-vacha*, or the vernacular language of the cowherds and pastoral tribes of this quarter; and it is confirmatory of the truth of Mr. Prinsep's opinion that the modern dialect of *Sindh*, and

* Prinsep, on the Girnar and Dhauli inscriptions, in the *Journal of the Bengal Asiatic Society*; Vol : vii, p : 280.

Bhashas, or dialects of western India, present striking analogies to the *Pali*, in the removal of *r* from original *Sanskrit* words, and in the modification of the auxiliary verbs: the admission of which into *Pali* conjugations is considered, by Monr. Burnouf, as a proof of the language being more modern than *Sanskrit*.* The *Pali* and *Zend* are derivatives of nearly the same grade from the *Sanskrit* stock. If the *Magas*, mentioned by the *Puranikas*, came originally, as asserted by Wilford, from the *Dwipa* of *Saka*, and gave name to the province of *Magadha*, were the same as the *Sakas* or *Sacæ*, noticed in previous pages, the fact of their identity tends to confirm the opinion that *Pali*, though matured and systematized as a language in India, had its origin like *Sanskrit* westward of the Indus, and in the districts of the Indian Caucasus.† In the *Bhavishya Purana*, these *Magas*,‡ are described as silent worshippers of the sun; and are associated by the compiler of this *Purana* with the fire-worshippers of Iran under the general term of *Mogh*.§ This identification is quite in accordance with what is known, from the Geography of Ptolemy, that a race of foreigners, denominated *Sadinoi*, from the *Sanskrit* *Sadhana* lords or masters, inhabited the mountains of the Dekhan, and were otherwise named the *Tabaswi-magi*: whose capital was *Banawasi*; of which the remains are yet to be seen southward of the Dharwar Collectorate, near the sources of the Wardha river, that rises in the Bednore district. From an inscription in the *Maga* language found at Islamabad, and dated the 14th *Magha*, in the *Samvat* year 904, or A. D. 848, they appear to have been *Bauddhas*.|| They are also mentioned in an inscription, written with white paint, in one of the side caves at Karli, commencing thus—*Sidharaka vasu thapanasa Sri parma vacha ravinavisa thakara magana pati ganaya—devasavitri*: which may be translated, *The supreme word of the sun-born lord of the Magas of Thakara to the demigods during the established years of Sidhara*: O

* Burnouf on the *Pali* in Balbi's Introduction al' Atlas Ethnographique du Globe.

† Lassen says, Ut dicam, quod sentiam, uno seculo commode orta esse possunt discrimina, quibus Palica a Prakrita distinguatur. Cohæret autem Palica lingua cum emigratione Buddhaicæ doctrinæ in terras meridionales, ipsa autem in India sine ullo dubio nata est. Institutiones Linguae Pracriticæ, p: 60.

‡ The *Pali* word *Magga* signifies fire.

§ See preface to Wilson's translation of the *Vishnu Purana*, p: 40.

|| Asiatic Researches; Vol: 11, p: 383.

divine sun ! From this it would appear that if the Magas were followers of Buddha ; they were at least heretical disciples of this faith, since they *adored the sun and fire* : but this union of Buddhism with the principles and practice of the Sabeans and fire-worshippers is manifested by the cave inscriptions of the Dekhan ; written in a *Prakrit* which, according to all the grammarians, was the vernacular language of *Maharashtra*, and is not materially different from the Pali, though intermediate between the latter and the Sanskrit.* The comparative antiquity and origin of *Sanskrit* and of *Pali* grammar is a subject yet open for a more perfect investigation than it has hitherto received ; and facts seem to warrant the conclusion that the grammatical system of both languages is of nearly cotemporary origin, as the literature of Ceylon recognises *Kachchayano*, or the *Katyayana* of the Brahmans, as the author of the earliest Pali grammar ; from which the oldest compiled version, called the *Rupasidhi*, was composed in the *Dekhan*.†

After being widely spread over India, prior to the birth of Jesus Christ, the Pali became a dead language, like the *Sanskrit*, and is now the learned medium through which we must obtain access to the historical and religious literature of Ceylon, and of the countries eastward of the Ganges, now comprehended under the name of Indo-China. The language in which the texts of the Bauddha books of China are written, is named *fan* by the Chinese, and *hendkeh*, or Indian, by the Moghals ; but it is yet a question whether this appellation, which only indicates that the dialect, in which they are written, is Indian, be applicable to *Sanskrit* or *Pali*.—Monr. Burnouf says that *fan* is a Chinese translation for *Brahma*, and that consequently the *fan* language, or that of *Brahma*, must be the *Sanskrit* ; but it is doubtful whether the name be not equally applicable to the *Pali*.

Other Arian languages.—The vernacular dialects of the Afghans, the Brahuis and Beluchis, the Armenians, Kurds, and Ossetes, belong, as already noticed to the Arian family ; and only require to be here partially mentioned, though there be some points in their Philological history yet uncertain and calling for further investigation.

The Afghans call themselves *Pushtanah*, and their language *Pushtu* ; which is a dialect cognate with the Zend, and strongly evidences the im-

* Lassen's *Institutiones Linguae Præcriticæ*.

† Mr. Turnour's Introduction to his translation of the Mahawanso.

mediate relation of this people to the Iranian or Persian branches : but there is no specification of their existence as a distinct race at any very remote period, as Ibn Haukal, about the middle of the ninth century of our era, notices the districts of their country under the names of *Rukhoh Khilij*, *Kabul*, and *Ghaur* ; and further states that, while the *Khiljians* were of a Turkish or Tartar race, the people of *Ghaur* spoke a dialect similar to that of Khorasan. The features of the Afghans are Jewish, though not more so than those of other Caucasian tribes ; and there exists no solid support for the tradition of a Jewish descent.—Their language, which has in many instances a near affinity with the idiom of the Kurds, connects their origin with the main Indo Germanic family : the intermediate branch of which, connecting them with the European nations, was the tribe of Khozars, with whom, during the seventh century, many Jews and Christians were associated, previous to their extension from the shores of the Caspian and banks of the Volga into the northern countries of Europe.

The vernacular dialects of Beluchistan are two, namely the *Beluchi proper*, spoken in the lowland country southwards of Kelat ; and the *Brahui*, which is the vernacular language of the inhabitants of the upland country, or Kohistan.* The former is a corrupt dialect of the Persian ; and the latter, called *Bravda*, in Indian treatises on the Prakrits, is nearly related to dialects of the Indian language and Sanskrit stock.—Both tribes of this people are known under the general appellation of Beluchis, but are divided into the *Jhallawans*, or tribes *living below*, and *Sarawans*, or tribes *living above*. So early as the time of Ibn Haukal they are distinguished by the names of *Beluj* and *Koj* ; and are said to have spoken two different dialects. The name by which the *Brahui* tribe was then known, is doubtless a corruption of *Arokhaj*, or the Arachosia of the Greeks, which province included that part of the country, above Kelat, now inhabited by the *Brahuis*.

The Kurds, inhabiting the mountainous tract now called Kurdistan, in the western part of Persia, are composed partly of Christian emigrants from Syria speaking a modern dialect of the Syriac, but chiefly of barbarous Muslim tribes, who speak different dialects of the Kurdish language ; which belongs to the Persian stock, and contains many words in common with the *Pushtu*, or dialect of the Afghans ; with whom the Kurds have an evident resemblance in feature and character. The mod-

* See page 146, of this Journal.

ern Kurdistan comprehends the ancient Assyria, and parts of Armenia and Media; and may be said to extend from the neighbourhood of the great lakes *Urmiah and Van*, southwards to Luristan, where the *Lur*, *Khogilu*, and *Lek* tribes, belong to the same family as the Kurds; who are considered by the Baron C. A. De Bode,* neither of Arab nor of Turkish descent, but representatives of the old Iranian settlers, or Zend race, who migrated from Media. If the correctness of this opinion could be proved, or that the present inhabitants of Kurdistan are in uninterrupted descent from those Medes, who took Nineveh and possessed the country of Assyria, it would afford curious evidence between the historical and philological branches of Ethnology on the subject of this people, whose language is a rude dialect of the Persian and said to contain many *Zend* and *ancient Persian* words. The identity of the modern Kurds with the *Kardushians*, or *Carduchi* of the Greek historians and geographers, has been disputed; as the latter were clearly a branch of the northern *Chaldaean people*, and consequently of Semitic origin; whereas the Kurdish language affiliates them with the Arian branch of the Indo-Germanic family. Masudi, in his *meadows of gold and mines of jewels*, assigns an Arab origin to the Kurdish tribes, who, from time immemorial have been wandering barbarians, and keepers of flocks, but in doing so he is in error, as their language, though mixed with many Semitic words, is cognate in grammatical structure with those of other Arian dialects, and affords the safest clue to the origin of this people; whose country Ibn Haukal places on the river *Kurdanah*, and calls their encampments *Ord* or *Ordu*, an Indian appellation for a wandering horde.

The other branches of the Arian stem are the Armenians and Ossetes. Klaproth considers the Armenian language as part of the Indo-Germanic stock, and that it contains many Indo-German roots, and points of relation with the languages of northern Asia, which are allied with dialects of the Arian race.

The *Ossetes* or *Osi*, inhabiting the central portion of the western Caucasus, north of Georgia, speak a dialect which contains many words in common with the German and Persian languages; and are considered by the Georgian historians, to be descendants of the Khozars; a tribe of Scythian Nomades, allied to the Soghdians, or Indo-Scythians; who

* *Travels in Luristan and Arabistan by the Baron C. A. De Bode*, London Vol: 1 p: 275.

about A. D. 625,* penetrated into Azerbaijan by the pass of Derband; and, extending themselves between the rivers Kur and Araxes, left a colony of their own in place of the tribes whom they expelled. The districts in which they settled are called by Arab geographers *Alan* and *Aran*; to the north of which between the mountain of *Jabal-al-Fatah* and the Caspian sea, Naosherwan, king of Persia, built a wall in order to shut out from his dominions these Sarmatian tribes; among whom, at an earlier period, Arian colonies from Persia appear to have settled and given to this mixed race the names of *Aran* and *Alan*. They belonged to the same original race as the *As'i* inhabiting the eastern Caucasus, previous to the destruction of the Bactrian Empire; and became known to Europe as the *Alani* of the middle ages; but have been erroneously taken for a Turkish tribe. Masudi classes the Khozars with the Alans, the inhabitants of *Jabal-al-Fatah*, the *Balghars*, the *Khatahs*, (inhabitants of Khutlan,) and *Bakars*.† They are probably the same as the *Asii* or Northmen, who were conducted, by Odin, to the shores of the Baltic and Black Sea from their original clime, and carried with them those relations in language and mythology which have been found existing between the North of Europe and Asia.

It is now generally admitted, on the evidence of Philological affinities between the languages of Europe and Asia, that the European nations are successive colonies of the Arian or Indo-Germanic race; of which the most ancient are the Celtic nations. To these succeeded the Germanic family, consisting of two principal branches, the Northmen, or Icelanders; and the true Teutonic, or High German and Gothic race. These two great races, whose descendants can be yet distinguished by their language, appear to have been divided and separated long before they quitted their abodes in Upper Asia: and in Germany, Bohemia, Poland, Russia and Servia, were succeeded by nations of the Slavonic race. Many subjects of great interest, such as the origin of letters among these nations, the affinities of their languages, and the connexion of their mythologies, are still open for further investigation, and will repay the labours of the learned.

* *Histoire Generale Des Huns* par M. Deguignes Vol: ii p: 507.

† El-Masudis meadows of gold and mines of jewels, in the original Arabic: my copy of which differs somewhat from Dr. Sprenger's translation into English: Vol: i p, 310.

The northern traditions and songs attribute the introduction of the Runic alphabet to Odin ; but the learned differ in opinion regarding the origin of these letters, some thinking that they were used in the North prior to the era of authentic history, and others asserting that they were carried there, by the Phœnicians, during their commercial expeditions. Ancient inscriptions, in this character, are found on the rocks and stone monuments of Denmark, Sweden, Norway, and part of Germany ; and are written in the Icelandic or ancient Scandinavian language. The greatest number of them exist near Sigtuna and Upsala, in Sweden ; where Odin is said to have resided, and introduced the mythological superstition connected with his name. In the Icelandic language, the word *run* signifies a letter, and *runa* a furrow or line ; and as this alphabet has a marked deficiency of curved lines, and abounds in straight ones, it probably derived its appellation from this peculiarity, though some are disposed to trace the import of the name to the *Saxon Ryne*, which signifies a mystery or hidden thing. The Runic characters were used for inscriptions, magical charms, and imprecations ; and have been found on arms, trinkets, amulets, buildings, and wooden tablets ; but were principally employed for lapidary inscriptions, connected with elegiac records of the dead and the pretended art of magic. The oldest existing record in this character is a digest of the laws of Scania, written in the thirteenth or fourteenth century, which is now preserved in the University library of Copenhagen.

The original number of Runic letters is sixteen ; and whether borrowed or invented by the early Goths, they preceded the Mæso-Gothic alphabets, which, derived from the Latin and Greek, were in the third century of the Christian era applied to the Gothic language. The most striking resemblance existing between these and the characters of the Celtiberian and Etruscan alphabets would argue in favour of their Phœnician origin : and it is not improbable that the Runic, though derived from a Semitic alphabet of greater power, was reduced to its present poverty of letters, by writing in the same manner and under one character, like the alphabet of the Aigures, all letters which belong to similar organs. But I cannot further pursue here the existing analogies between the languages, writing, and mythology of Asia and Europe ; and must briefly direct your attention to that interesting family of languages called by some Indo-Chinese, and by others Trans-Gangetic.

Trans-Gangetic languages. The American Missonaries, stationed at Sadiya, on the north-eastern extremity of Assam, and Mr. Campbell the Superintendent of Dorjeling in Eastern Nepal, have supplied new and valuable materials for a comparison of the Trans-Gangetic family of languages: under which name may be comprehended the *Bhutiya*, or *Tibetan*; the *Chinese*; the *Indo-Chinese*, or those of ulterior India, beyond the Ganges and Brahmaputra rivers; the *Korean*, and the *Japanese*. A certain analogy existing between the composition and grammatical structure of the Tibetan, Chinese, and Indo-Chinese languages, authorizes their classification into one family; though some Ethnographical writers have affiliated the Bhutiya race with the Nomadic Tartar tribes, inhabiting the central region of Upper Asia; but while the great number of mono-syllabic roots, which are found in the Trans-Gangetic languages, affix to them a certain family relation, they indicate such to be a distant one of remote times. The subject, however, is so extensive as to require for its elucidation volumes instead of pages; and we can therefore only briefly enumerate the principal subdivisions.

Tibetan. The great upland or plateau of central Asia is bounded on the south by two chains of mountains, the Kuenlun and Himalaya, between which lies the highland of Tibet; from whence the two great rivers of India, the Indus and Brahmaputra, originate, and insulate the country of Hindustan. The native name of this valley is *Bhut*; which is divided into *Beltilstan*, or *Little Tibet* westward; *Utsang*, or *Middle Tibet*; and *Lassa*, or *Eastern Tibet*. Immediately south of the Himalaya, or Tibetan southern border, are the lower hill countries of *Kunawur*, *Garhwal*, *Kumaun*, *Nepal*, *Sikim*, and *Bhutan*, which run parallel to the great chain of snowy mountains, and are inhabited by tribes of kindred origin, speaking dialects of the Bhutiya family. Many of the tribes in these districts are Nomadic, and their languages are as yet imperfectly investigated and compared. Their physical ethnological character is Mongolian; being clearly evidenced by their form of features, absence of beard, and yellow color of the skin; and many roots and words of their languages, common to the proper Tibetan idiom, seem to verify the tradition of their origin, that, at some remote period, they migrated across the snows from *Bhut*.*

* Notes, on the Limbus, and other hill Tribes, hitherto undescribed, by A. Campbell, Esq. Superintendent of Dorjeling: and on the literature and origin

We have not as yet materials sufficient for accurately determining the family relations of these several hill tribes, and can only venture to speak with certainty relative to the mountaineers of Sikim, and neighbouring countries of Eastern Nepal. Here the mountaineers and men of the *Turai* are partly Hindus, speaking dialects of Hindi; partly Buddhists, speaking languages of Tibetan origin; and partly Pantheistical idolaters, not following the Brahmanical religion, and speaking languages that are referable to the Bhutiya stock. To the first belong the Khas, Mogurs, and Gurungs, or real Gurkhas, who constitute the chief portion of the population of Nepal. The second includes the Lepchas, Murmis, and Bhutias; and the third subdivision comprehends Limbus, Haius, Kerantis, and some other mountain tribes, not within the pale of either Hinduism or Buddhism. A comparison of the languages, spoken by these various tribes, with the Tibetan and Sanskrit; and with the numerous dialects spoken in the countries eastward of the Brahmaputra river, to the borders of China, is a subject well worthy the attention of Philologists, and one which will enable them to extend our knowledge of the several races who peopled India previous to the advent of the Hindu religion; if they but extend this comparison to the language of the Parbatiya races of Hindustan and the Dekhan, including the natives of the Rajmahal hills, the Koles, Gonds, Bhils, and Dhangars.

The real Gurkhas of Nepal, who now form the great bulk of the army, are denominated *Khas*, *خس*; which is a Persian term, adopted into Sanskrit, for a rustic or mountaineer, and was applied, as we have before noticed, to the Indo-Scythian tribes of *Kashkar* and *Bylta*,* dwelling in the neighbourhood of the *Sakas*, or Eastern Scythians: with whom the Bhutiya race, or native Tibetans of Ladak in Little Tibet, were connected in their origin. In the middle of the sixth century of our era, the Khakhan of Tibet, according to Masudi, sent a letter and presents to Naosherwan king of Persia;† the former of which was written, in gilt letters, on the bark or leaf of a tree, agreeably to a custom yet prevalent

of certain hill Tribes in Sikim, by the same gentleman, in the Journal of the Bengal Asiatic Society for the years 1840 and 1842, pages 379 and 4.

* See page 180.

† See Masudi's meadows of gold and mines of Jewels, under the account of the Sassanian kings of Persia: and again under the section on the Arabs, and other desert tribes.

in the Bauddha countries of Burmah and Siam. The Arabic author further adds, that the Turks and people of Tibet are of one general stock; and a closer Philological examination of the Bhutiya family of languages will serve, I think, to establish that this opinion is not far removed from the truth. But the limits of this discourse will not admit of our entering into a more extended investigation of the origin of the Tibetans, or of their language, and the hill tribes connected with them; though it be certain that the people derived their knowledge, literature, and mythology from India, previous to the sixth century of our era, if facts stated by Masudi be correct.

Indo-Chinese languages. The Indo-Chinese Peninsula, situated between the bay of Bengal on the west, and the sea of China on the east, is formed by mountainous chains, running south eastward to the Gulf of Tonkin; which are continuous branches from the great Himalaya chain. The physical character of the nations inhabiting this remarkable country is Chinese; and the languages spoken by the inhabitants, excepting *Asamese*, evidently belong to the Chinese stock, consisting of monosyllabic roots, whose accidents of case, tense, and mood, are expressed by particles, and are varied by *intonations*; by which sounds originally the same are made to express entirely different meanings. The *Asamese* is a derivative from Sanskrit, and has a close affinity to Bengali; the Singpho, Abor, Burmese, and Manipurean dialects, are spoken by extensive tribes, who appear to have been the aborigines of the country, extending east and south east from the Brahmaputra to China, and contain several words common to them and the Bhutiya dialects; the Siamese, Laos, Khamti, and Ahom, merely dialects of the same original language called Tai, are more closely allied to the Chinese than the others, and evince that the tribes speaking them have a nearer affinity with the Chinese than the Singphos, and others of a Burmese stock.*

Anamese or Cochín-Chinese. This is a mono-syllabic language, having intonations, and all the other characteristics of Chinese; of which it is a coarse dialect. The learning of the natives seems confined to Chinese literature.

* Comparison of Indo-Chinese languages by the Rev. N. Brown, American Missionary at Sadiya, in the Journal of the Bengal Asiatic Society for 1837, p. 1023.



*H. I. Carter del.
et sculp.*

BENI GARRAH.

*Hampton's Lith.
Eng.*

Japanese and Korean. The Japanese is polysyllabic, and only resembles the Chinese in so far as it has adopted words from that language; but the physical characteristics of the people speaking it is that of the nations who inhabit high Asia. The affinity between the Japanese and Korean languages is not doubtful; but the last is more amalgamated with Chinese, as the people of Korea, since the Chinese conquest of the country, have borrowed much from their conquerors, both in language and literature.

I have thus sketched, imperfectly, the wide field of investigation open to Orientalists; and it is one of such interest that I may venture to hope, however brief the outline may be, it will be sufficient to stimulate to further exertion all those who are zealous and interested in the Geography, Ethnography, and History of the East.

ART. V.—*Notes on the Gharah Tribe, made during the survey of the Southeast Coast of Arabia, in 1844-45.* By Assistant Surgeon H. I. Carter of the H. C. Surveying Brig Palinurus.

The Ghārah Tribe, *ج, ل* or *Beni Quorrah*, as they themselves pronounce the word, are a fine race of Bedwins, who occupy that part of the highland on the south east coast of Arabia, which intervenes between the town of Morbaat, and Ras al Sair. Their country is mountainous, and cavernous, and consists of a white stratified limestone formation, rising from four to five thousand feet above the level of the sea. The upper parts of the mountains are covered with good pasturage, and their slopes with a dense thicket of small trees, among which the frankincense and several other species of gum trees are the most plentiful.

The whole tribe are essentially *troglodytes*, from the nature of the country in which they live; which, in every direction, affords them much better natural habitations, than any they could erect for themselves.

They consist of a fixed, and nomadic population; those who still continue to inhabit the caverns of their ancestors, and those who wandering from place to place, chiefly seek their subsistence in a predatory life; of the two, the former appear to furnish the most favorable specimens of their tribe.

The following are their physical and ethnographical characters: They

are quick, active, tall, and well made, but too slender to be termed athletic, being more formed for agility and enduring fatigue, than for great bodily exertion : their features are, generally speaking, handsome, and their expression pleasing and generous, with a quick and apprehensive eye, but with no deficiency of boldness, or determination in their character. Their skin is of a light brown colour, with a shade of red in it ; their hair glossy black, long, crisp, and curling, and principally confined to its natural localities, the other parts of the body presenting little or none ; even on the face, there is seldom hair enough to be perceived at the distance of more than twelve paces off. The face is oval, the forehead low, but not receding, the frontal sinuses prominent, and the eyebrows more horizontal than arched : the eyelashes long, black, and thick ; the eye itself moderate in size, transparent, and clear, with a deep, brown-black coloured iris. The nose, which is proportioned to the oval figure of the face, is long, and compressed laterally, with a slightly aquiline profile ; the nostrils which are also compressed, have their alæ a little elevated, but this elevation appears more than it is in reality, from a prolongation of the *septum nasi* towards the upper lip. The lips are thin, the upper one short, with its superior border slightly elevated. The incisor teeth perpendicular, the chin rather projecting than receding, the posterior angles of the jaw more square than obtuse, and the cheek-bones high and prominent.

Nothing can be more simple than their clothing ; a long piece of coarse blue cotton, wrapped two or three times round their loins, and descending towards their knees, in the manner of a short kilt, is all that the men wear ; sometimes however, they twist a second piece round their waist, which serves as a belt, and to prevent their untrimmed hair from falling over their face and shoulders, they bind a small black cord round the margin of the scalp, so as to include the whole mass within its turns, and then secure the longer portion at the lower part of the back of the head, where the whole is fastened. This manner of dressing their hair, is more becoming to them than otherwise, the longer and loose portion being allowed to flow down their backs, or to remain between the shoulders in a large bunch, according to the nature of its curl. The band, or cord, with which it is tied, is made from their own hair, and not only serves them for the purpose mentioned, but also for any other use to which it may be applied, in case nothing better is at hand.

The women are much finer, fatter, and lighter coloured than the Arab

women of the coast, and their features are small and regular. They wear a loose frock, which is also made of blue cotton cloth, and is of the same size from the shoulders to the ground; it is open in front for about a foot, where it buttons tightly round the lower part of the neck, and the sleeves are short and large; behind, it trails on the ground, but in front it does not descend much below the knee. In addition to this, they have another portion of the same coloured cloth, which they throw over the back of their head and shoulders in the manner of a *dopattah*; but this they seldom use, and never think of concealing their faces under it, as is the custom with the Arab women. Their hair is divided by a narrow line, braided on the scalp, which passes from the centre of the forehead to the middle of the back part of the head, and they collect the hair into two large tresses, one on each side, which passing down behind the ears, hangs loosely over the breast. Few possess ornaments, not because they despise them, but because they have no money to purchase them. I have seen large pewter rings in the ears of some, though I am certain gold or silver ones would not have been refused for the same purpose.

Both men and women are tattooed over the front of the cheek-bones with three linear, perpendicular cicatrices. This Burckhardt thought to be confined entirely to the Mekkawis, and expressly says "It is called the Meshalé (مشالہ). The Bedwins do not follow this practice."* It appears to be performed in Mekka and Djidda by the parents of the child forty days after birth †, but the period appears to be disregarded by the Bedwins, as I witnessed the process taking place in a girl of the Ghārah tribe, about eighteen years of age, and being permitted to examine it, I found, that three small pieces of a rush, above half an inch long, had been introduced over each cheek-bone, beneath the skin, and that the exposed ends of each had been tied together: from this it was evident that they had to remain there, until the portion of skin immediately over them had perished, the result of which would be a permanent cicatrix over each of the parts, after they had healed.

The men are all armed with a sword, or matchlock; those who carry a sword, have also in addition, a sharp pointed stick, and shield. The matchlock men carry nothing in addition to their powder horn and pouch, excepting the crooked knife or jambia which all wear attached to

* Trav. in Arabia, Vol. 1. p. 334.

† Ib.

a leathern girdle that encircles their waist ; and none ever wear a matchlock and sword together, as the incumbrance of one would interfere with the free use of the other. Their matchlocks need no description as they are like all other matchlocks, and their powder horn is slung against the right side, by an ornamented belt passing over the left shoulder, while the pouch is secured, on the same side, to the belt which holds the jambia. Their sword is about a yard long, with a straight blade, a little more than two inches broad ; the hilt, which is bound round with twine for the purpose of making the grasp more firm, is without a guard, and the pommel consists of a cubic piece of iron, about an inch in diameter, through which passes a hole, in an opposite direction to the broad surface of the blade. It has no scabbard, and is always carried in the right hand, sloping over the right shoulder ; in the same hand also is carried a smooth round stick, about a yard long, made of a hard piece of wood, seldom exceeding an inch and a half in diameter in the centre, and diminishing gradually towards each extremity so as to end in a sharp point, which is charred ; this they use as a weapon of offence, and throw in such a manner that it may transfix the objects at which it is aimed : they do not however appear to possess much skill in using it, for except in one or two instances I never saw it thrown with much precision, and in one of these, the Bedwin refused to repeat the experiment, intimating that he did not wish to risk his reputation a second time. If it were to impinge on the surface of the body, it would create a severe wound, which according to its situation might, or might not prove mortal. Among a crowd probably it would do much injury ; but in single combat, the chances against it would be very great, as it could only be used at a distance, and in the hands of the people who are most familiar with it, and to whom I believe it is peculiar, it is any thing but a formidable weapon from their want of precision in throwing it. Each swords-man, in addition to his sword and stick, carries a small conical shield, about a foot wide, made of cane basket-work, and slung behind the left shoulder ; this with the other arms mentioned completes the martial accoutrements of the Ghārah Bedwin.

Their language is the Bedwin dialect of the Southeast coast of Arabia ; being, like that spoken by the inhabitants of the island of Socotra and by those also of the islands in the Bay of Kuria Muria, intensely guttural ; and in some of their songs the modulation of the sounds is almost entirely confined to the throat. They do not understand the Arabic

spoken in the towns unless they have had much intercourse with the Arabs, who themselves on this coast appear to prefer conversing in the dialect of the Bedwins. In their singing they display a great fondness for melody, and their guttural articulation, which is never very harsh, is rendered most agreeable in some of their plaintive airs, which accord much with the European taste.

That part of the tribe, who have permanent places of abode in the mountains, live in natural caverns of the rock, which have been hereditarily transmitted to them, through their forefathers, and have been selected near some rivulet, or fresh-water spring, for domestic purposes, and for the sake of their cattle. In these caverns, which are of gigantic dimensions, and in the form and proportion of an interior fourth of a hollow sphere, with a stalactitic ceiling, they have ample room to pen their flocks and herds at night, or to afford them shelter during heavy falls of rain and wet weather; for which purpose they are surrounded by a dense fence of interwoven brushwood. In the different recesses of the interior, the Bedwin and his family live, and towards the outside, still sheltered by the overhanging vault, are the huts of the herdsmen and his dependents.

While the more peaceable part of the tribe are to be found among those who possess large herds of cattle, and are frequently connected with some of the principal people in the Arab towns, to whom in times of disturbance they afford protection, among the wandering or nomadic population, are to be found the poorest and most predatorily inclined; the latter possess but few cattle, have no fixed place of abode, and are the terror of all the industrious inhabitants of the coast; even the cultivator of the soil in the plains goes to his ground with a sword on one shoulder and his hoe on the other. Any insult offered to one of this tribe would afford a pretext for general revenge, when descending into the plains from the mountains, and pitching their miserable tents in the neighbourhood of some unprotected village, where the corn is half grown, they allow their cattle to stray into it during the night, until the whole is consumed, harassing the inhabitants at the same time with repeated thefts: the villagers knowing this and having no other prospect than that of losing every thing they possess, are thus compelled to desert their houses, and seek for safety and protection, in the more populous towns. In this way the village of El-Robaat, with its picturesque mosque, in the district of Dofar, has lately been completely deserted, although it is not

more than two miles from either of the large towns of Dareez, and Silalah.

On the coast opposite the district occupied by the Ghārah tribe, they have acquired a desperately bad name; and my own experience among them leads me to infer, that without the protection of an influential member of their tribe, some of them would murder a stranger solely for the yard or two of cloth that may be on his back. The predatory population by no means afford the best type of their race; in every point of view they are inferior to the fixed inhabitant of the cavern, in whom the purer blood of his ancestors appears to be handed down to the present day.

They acknowledge no head, have no Shaikhs, and yield to no authority except that of an old chief, in the decision of a dispute, or in matters which concern the whole tribe.

They encourage blood feuds, and in an affray which ends in the death of one of the parties, the survivors, or one of his relatives, sooner or later, is murdered by the friends of the deceased, when the feud is at an end. At the village of Thagah, one of the Beni Ghārah came up to the Purser of the H. C. Brig *Palinurus*, and asked him if he were a Banian, to which the latter answered in the negative, whereupon the Bedwin rejoined, "if you had been one, I would have killed you, for it was through a Banian that my brother was murdered."

Their food consists almost entirely of milk, flesh and honey, and the wild fruits of the mountains; they possess also an intimate acquaintance with all the edible roots and vegetables that are indigenous to their soil, as well as the medicinal virtues of the gums that exude from the trees on the slopes of their mountains, and hold the juice of the aloe in great esteem for every thing. They are much addicted to smoking tobacco, and every one carries a short pipe about three inches in length, made out of a piece of soft limestone rock which hardens on exposure to the atmosphere. This is kept in a little leathern pouch, together with their supply of tobacco, a piece of flint, some tinder, the blade of a razor, and sometimes a penknife. Their manner of smoking is peculiar; it seldom consists of more than one inhalation; the tobacco being well lit, they make a forced expiration, and then inhale as much as possible, allowing the smoke to issue gradually through their mouth and nostrils, while they pass the pipe on to the next person; seldom more than five minutes are allowed to elapse, before a fresh pipe is prepared, and it almost ap-

pears to form part of the ceremony of greeting, when they meet each other on a journey; should there be no pipe present, they make use of the hole which is in the pommel of their sword, by fixing in a little stone on one side, and filling up the remaining part of the cavity with tobacco through the other, then scraping a few shavings with their sword, from off the surface of their pointed stick, they envelope a lighted portion of tinder within them, and rolling the whole up into a ball, apply it to the tobacco in the pommel of their sword, forcibly drawing the air at the same time through that side in which the stone is.

Their mode of salutation consists in placing the tips of the three first fingers of the right hand on those of the persons they salute, and afterwards kissing them audibly; they do this to every member of the assembly, to strangers as well as to acquaintances. It is the first passport and best introduction, and should never be neglected by any one who wishes to establish a friendship among them.

They profess themselves to be Mahomedans, undergo the operation of circumcision, and keep up the ceremony connected with it; but they pay very little attention to the other formalities of the Mahomedan religion. Their chief fear appears to be of ghosts and the devil, and this far exceeds their confidence in the protection of the Supreme Being.

ART. VI.—*Memoranda on the Great Comet of 1844-5.* By WILLIAM POLE, Fellow of the Royal Astronomical Society of London, Professor of Civil Engineering in the Elphinstone College, Bombay, &c. &c.

The object of the present paper is to offer to the Society a summary of the information obtained in India, respecting the great Comet that appeared in these latitudes in the beginning of the present year. Some of the following details have already been published in the Journals of this and other Presidencies, but I trust it will not be thought inexpedient to preserve them in a more permanent form; and it is with this object I have collected the whole together, and now present the information to the Society.

The circumstance that the Comet was, from its position in the heavens, invisible to the greater part of Europe, renders it more to be desired

that all the information gained respecting it, in these more southern latitudes, should be preserved and recorded. Had it been observed in England, or in those parts of the Continent where the best Observatories and the most skilful astronomers are located, our contributions towards its investigation would have formed but a small item in the general stock ; but as it is, they are of much more comparative value. The only Observatories where the Comet could be well seen, excepting in India, were those of the Cape of Good Hope, St. Helena and Paramatta ; from all which it has doubtless been observed, but the results of the observations have not yet been published, or at least have not yet reached this country. In some of the more southern of the European establishments, observers may perhaps have caught a glimpse of it, but at too low an altitude and too much involved in the sunlight to admit of their accurately noting it. In India, a multitude of observations have been taken upon it, and from these no less than six separate determinations of its orbit have been made, four in our own Presidency, and two in that of Madras. In Bengal nothing appears to have been done, perhaps for the reason that in the higher latitude of Calcutta, it could with difficulty be seen.

In treating of the present Comet, we may notice (I.) ITS HISTORY ; (II.) ITS PHYSICAL CHARACTER ; (III.) ITS APPARENT PATH IN THE HEAVENS ; (IV.) ITS ORBIT.

(I.) THE HISTORY OF THE COMET, *or, speaking more strictly, of its present visit to our system.* Comets are only visible for a short time before and after they pass their *perihelion*, or nearest approach to the sun ; and it is generally after this that they are best seen, owing to the increased brightness they then attain. The Comet we are now describing passed its perihelion about the middle of December : before this we do not find that it was noticed at all. It first became visible in these latitudes, as it emerged from the sun's rays, about the beginning of January 1845 ; but though it daily outran the sun considerably in right ascension, and acquired a more favorable position for observation, its light gradually diminished as its distance from the sun and the earth increased. About the beginning of February it became invisible to the naked eye, and early in March it was lost sight of altogether.

The first published notice of the appearance of the Comet was contained in a letter inserted in the *Bombay Courier* of the third of January, where it was simply described as appearing in the western sky,

south of the zodiacal light, with a "tail of terrible length," and with the star or nucleus perfectly clear.* The *Bombay Times* of the following day added, that the tail was very distinct, about 7 degrees in length and of a pear shape; the nucleus also was well defined. The *Courier* of the 10th contained, I believe, the first definite account of the place of the Comet in the heavens. This was a communication from myself, and ran as follows:

"The Comet is at present situated in the constellation *Grus*, between the stars β , and γ , its right ascension being about 22 h. 45 m. and its declination about 45° south. It passes the meridian about half past three in the afternoon, and sets, bearing S. 41° W. at a quarter past eight. It never rises to those parts of the earth which are of a higher latitude than about 45° north, and is therefore invisible in England, and at most Observatories where the greatest facilities for observation are found. The tail of the Comet points directly to the two stars α and η of the constellation *Phoenix*, and may be distinctly traced for 10 degrees or more."

The *Times* of the next day published also a determination of its place in the heavens on the 30th of December, from observations taken on board the *Anonyma* clipper,† then off the Malabar Coast in latitude $14^\circ 22'$ N. Long $74^\circ 18'$ E. on her way to China. The writer of this communication describes the tail as 5 or 6 degrees long, and the nucleus as large as a star of the fourth or fifth magnitude.

The first published determination of the orbit of the Comet, was given by Mr. J. T. Waterston, teacher of Astronomy to the Indian Navy, in the *Bombay Courier* of the 21st January. This was however only intended to be a rough approximation to the elements of the orbit. The same Journal contained, on the 24th of January, another determination by myself, from different observations, and this latter, although also an approximation, subsequently proved to be nearer the truth than the former one. Many other notices of the Comet subsequently appeared; the results of the whole will be found in the following Tables.

* The Comet ought to have been visible at Madras before it was seen here. In the *Madras Spectator* of the 4th of January, is an article drawing attention to the Comet of *Mauvais* in the constellation *Cyrus* (?). Probably "Cyrus" is a misprint for *Grus*, and if so, the new Comet must have been meant, and must have been mistaken by the writer of the article for that of *Mauvais*.

† By Captain Drinkwater Bethune. C. B.—R. N.

PLACES OF THE COMET OF 1844—5, AS OBSERVED IN INDIA.

Date.	Mean time at Place of Observation.			Right Ascension.			Declination ; South.			Observer.
	H.	M.	S.	H.	M.	S.	°	'	"	
1844. Dec. 30th	6	50	7	20	50	43	43	13	0	Bethune.
1845. Jan. 4th	7	0	0	21	53	39	44	41	25	Young.
" 5th	6	47	31	22	5	7	44	49	10	T.
" 6th	6	48	33	22	18	6	44	49	20	T.
" "	7	12	0	22	18	44	44	48	0	W.
" 7th	6	53	13	22	30	35	44	42	45	T.
" "	6	56	32	22	30	41	44	40	45	B. O.
" 8th	6	52	15	22	42	38	44	27	39	T.
" "	6	54	32	22	43	1	44	28	50	B. O.
" "	7	6	58	22	42	59	44	29	41	C.
" 9th	6	46	23	22	54	31	44	12	16	T.
" "	6	56	25	22	54	56	44	11	45	B. O.
" "	7	4	40	22	54	57	44	11	28	C.
" "	7	15	0	22	54	30	44	15	0	P.
" 10th	6	46	4	23	6	25	43	50	29	T.
" "	6	57	09	23	6	27	43	50	0	B. O.
" "	7	8	50	23	6	37	43	51	1	C.
" 11th	6	51	23	23	17	45	43	24	15	T.
" "	6	58	04	23	17	57	43	25	50	B. O.
" "	6	53	35	23	17	53	43	25	6	C.
" 12th	6	42	27	23	28	46	42	53	54	T.
" "	6	53	42	23	28	57	42	55	13	C.
" 13th	6	53	54	33	39	36	42	21	45	B. O.
" "	7	0	17	23	39	38	42	21	49	T.
" 14th	6	50	23	23	49	52	41	43	40	T.
" "	6	56	5	23	49	57	41	45	28	C.
" 15th	6	47	12	23	59	42	41	6	39	T.
" "	7	5	27	23	59	58	41	6	11	C.
" "	7	15	0	23	57	0	41	40	0	P.
" 16th	6	35	14	0	9	4	40	24	30	T.
" "	7	17	31	0	9	28	40	24	23	C.
" 17th	6	50	54	0	18	29	39	40	57	T.
" "	7	8	2	0	18	40	39	41	5	C.
" "	7	12	0	0	19	12	39	40	0	W.
" 18th	6	40	47	0	27	3	38	56	38	T.
" "	7	0	0	0	28	32	38	55	0	W.
" "	7	2	1	0	27	26	38	56	13	C.
" 19th	6	43	27	0	35	24	38	8	56	T.

PLACES OF THE COMET OF 1844—5.—Continued.

Date.	Mean time at Place of Observation.			Right Ascension.			Declination ; South.			Observer.
	H.	M.	S.	H.	M.	S.	°	'	"	
1844.										
Jan. 19th	7	6	1	0	35	50	38	9	16	C.
" 20th	7	0	9	0	43	51	37	21	32	C.
" 21st	7	17	20	0	51	12	36	30	56	T.
" "	7	38	17	0	51	44	36	31	46	C.
" 22nd	0	56	17	0	58	50	35	46	43	T.
" "	7	0	0	0	59	12	35	50	0	W.
" "	7	7	49	0	58	57	35	44	10	C.
" 23rd	6	40	36	1	5	54	34	53	44	T.
" "	7	0	0	1	6	12	35	2	0	W.
" "	7	2	33	1	5	57	34	55	17	C.
" 24th	6	40	49	1	12	28	34	2	44	T.
" "	7	0	0	1	13	04	34	10	0	W.
" 25th	7	0	0	1	19	36	33	17	0	W.
" "	7	12	16	1	18	55	33	9	44	T.
" "	7	13	18	1	19	12	33	16	0	C.
" 26th	6	46	45	1	25	2	32	22	44	T.
" "	7	0	0	1	25	48	32	25	0	W.
" "	7	8	21	1	25	20	32	26	41	C.
" 27th	6	59	42	1	30	57	31	33	43	T.
" "	7	0	0	1	50	48	31	41	0	W.
" "	7	21	15	1	31	21	31	37	6	C.
" 28th	7	15	38	1	36	51	30	46	22	T.
" "	7	19	45	1	37	1	30	48	53	C.
" 29th	6	58	1	1	42	10	29	58	31	T.
" "	7	29	3	1	42	27	30	0	23	C.
" 30th	6	50	47	1	47	21	29	9	55	T.
" "	7	5	13	1	47	36	29	13	15	C.
" 31st	7	3	3	1	52	18	28	21	55	T.
Feb. 1st	6	53	43	1	57	16	27	34	55	T.
" "	8	43	9	1	57	49	27	36	50	C.
" 3rd	8	57	46	2	6	21	26	2	55	T.
" "	8	3	16	2	6	36	26	8	44	C.
" 4th	6	56	22	2	10	53	25	26	56	T.
" 5th	6	55	41	2	15	13	24	44	56	"
" 6th	6	53	9	2	19	1	24	1	56	"
" 7th	7	0	19	2	23	4	23	21	56	"
" 8th	6	55	26	2	26	51	22	39	56	"
" 9th	6	54	1	2	30	28	21	59	26	"

PLACES OF THE COMET OF 1844—5.—Continued.

Date.	Mean time ⁶ at Place of Observation.			Right Ascension.			Declination. South.			Observer.
	H.	M.	S.	H.	M.	S.	°	'	"	
1844.										
Feb. 10th	6	59	26	2	33	52	21	24	26	"
" 11th	7	2	6	2	37	21	20	47	56	"
" 12th	7	1	44	2	40	48	20	10	56	"
" 13th	6	57	4	2	48	2	19	30	56	"
" 14th	7	3	25	2	47	14	18	53	56	"
" 15th	7	7	11	2	50	18	18	21	56	"
" 16th	6	57	23	2	53	7	17	45	56	"
" 17th	7	6	52	2	56	10	17	12	56	"
" 18th	7	3	9	2	59	5	16	36	56	"
" 19th	7	6	11	3	1	56	16	5	0	"
" 20th	7	0	1	3	4	29	15	34	56	"
" 21st	7	1	8	3	7	18	15	2	30	"
" 23rd	7	8	40	3	12	15	14	7	56	"
" 24th	7	6	35	3	14	44	13	38	56	"
" 25th	7	22	37	3	17	23	13	12	30	"
" 26th	7	9	39	3	19	37	12	44	4	"
" 27th	7	16	4	3	22	3	12	19	4	"
" 28th	7	11	57	3	24	19	11	53	4	"
March 1st	7	11	55	3	26	44	11	27	4	"
" 2nd	7	13	6	3	28	49	11	1	4	"
" 3rd	7	7	47	3	31	3	10	37	4	"
" 4th	7	10	23	3	33	7	10	14	4	"
" 5th	7	26	9	3	35	24	9	52	4	"
" 6th	7	11	27	3	37	23	9	29	4	"
" 7th	7	20	8	3	39	7	9	5	4	"
" 8th	7	43	8	3	41	47	8	46	4	"
" 9th	7	23	13	3	43	27	8	25	4	"
" 10th	7	32	15	3	45	43	8	2	4	"
" 11th	7	3	15	3	47	29	7	43	4	"

(II.) THE PHYSICAL CHARACTER OF THE COMET will appear partly from the quotations already made. The nucleus presented the brightness of a star of about the fourth or fifth magnitude; it was distinct, but not so well defined as to lead to the supposition it was a *solid* nucleus; it had rather the appearance of a condensed nebulosity.

The tail was of the ordinary wedge shape and presented no unusual characteristic. It appeared to extend through a space varying from four

or five to ten degrees, according to the state of the atmosphere and the acuteness of the eyes of the observer ; I believe I once traced it for upwards of ten degrees on a very favorable evening.

The only remarkable physical peculiarity presented by this Comet was that, according to some observers, it had two tails. I give the following extract from Mr. Waterston's letter of the 21st January, where this appearance is mentioned.

“ There is a very remarkable appearance attending upon this Comet which I do not see noticed by any of your correspondents. It has got two tails !! The second tail, which is nearly in an opposite direction to the principal one, was first seen on Thursday evening last, (16th January) and has continued visible ever since, although the increasing moonlight is very unfavorable. It is extremely faint, but has been recognized by several persons, and I have traced it distinctly for about 3° towards the sun ; as the telescope is none of the best, perhaps some one of your readers, with better means of observation, will be able to give evidence on the subject. The only instance on record of a like appearance is the Comet that was seen in January 1824. Two tails were observed in it, diametrically opposite at first, but they soon began to make a visible angle, and when last seen, the angle between them was 130° . The tail towards the sun was then, as in the present case, much the fainter of the two.”

It is to be regretted that we have not obtained the results of the examination of the Comet with any really good telescopes ; and therefore our knowledge of its physical character is but little beyond what we could have obtained with the naked eye.

(III.) THE APPARENT PATH OF THE COMET IN THE HEAVENS, has been ascertained with tolerable exactness. The places of the nucleus have been taken at three Observatories in India, namely Madras, Trevandrum, and Bombay ; and occasionally by private individuals.

The *Madras* Observatory is, as is well known, under the charge of Mr. T. G. Taylor, the Hon. Company's Astronomer, who has kindly favored me with the particulars of his observations expressly for this paper. They have been forwarded to the Astronomical Society of London, but have never before been published in this country. They were taken with a five feet achromatic, mounted as an equatorial ; but the circles for time and declination were small.

The *Trevandrum* observations were taken by Mr. John Caldecott, with a seven feet equatorial, and corrected for the effects of refraction. Mr. Caldecott states, that the Comet was first observed there on the 30th of December, but owing to the obscured state of the atmosphere for several nights subsequent, no favorable observations of it were attainable till the 8th of January. Mr. Caldecott's observations, as given in the preceding table, are taken from the *Madras Spectator* of the 1st and 12th of February.

The *Bombay* Observatory is now under the care of Professor Orlebar; but the observations on the Comet were taken while Dr. Buist had charge of the establishment. They were made with an altitude and azimuth instrument by Gilbert, both circles reading to seconds with micrometer eye pieces. The condition of the instrument is not very good, and the support is uncertain; but great care was taken in the levelling and adjustments immediately before the observations. The observers were Keru Lukshman and Janardhan Ramchunder, Native Assistants at the Observatory, and formerly pupils at the Elphinstone College. The time was taken from an excellent sidereal clock corrected by transits observed every day.

In addition to these observatory data, isolated observations were taken by several individuals,* and the whole I have been able to procure are collected in the preceding table, in the order of their dates. Those by Mr. Waterston were kindly communicated by that gentleman to me for this memoir.

The first column of the table gives the date: the second the *local* mean time of the observation. The third and fourth contain the reduced place of the Comet. The letters in the fifth column refer to the name of the observer, thus:

Those marked	T.	are	by Mr. Taylor, taken at Madras.
"	C.	"	by Mr. Caldecott, Trevandrum.
"	B. O.	"	those of the Bombay Observatory.
"	W.	"	by Mr. Waterston.
"	P.	"	my own.

(IV.) THE ORBIT OF THE COMET is determined from its apparent path in the heavens. There are six elements required to be known, the longitude of the perihelion, the longitude of the node, the inclination of the orbit to the ecliptic, the perihelion distance, the direction of the motion, and the date of the perihelion passage. These may all be obtained from *three* observed apparent places of the Comet in the heavens. The problem is however one of considerable difficulty. It was

* My own means of observation were, I regret to say, very limited. An indifferent sextant, kindly provided by a friend in the Indian Navy, a worse theodolite, and an old sea glass, were all the apparatus I could command.

first resolved by Newton, who called it *Problema longe difficillimum*. Its direct solution analytically is impracticable, and therefore astronomers have adopted indirect methods; first finding an orbit near to the truth by mechanical and graphical means, and then correcting it, by computation, until such a parabola is found as will satisfy the data. The approximate method given by Vince (*Astr.* Art. 656) is one of the most easy and simple, and this may be corrected afterwards by the formula of Olbers.

There have been, as I have already stated, six separate determinations of the orbit of the Comet made in India. They are all presented in the following table.

ELEMENTS OF THE ORBIT OF THE COMET OF 1844—5

	A WATERSTON	B POLE	C WATERSTON	D TAYLOR	E CALDECOTT	F POLE	MEANS of all of D. E. F.
Perihelion Passage, Greenwich Mean Time. 1844 Dec.....	19.584	13.95	13.605	14.075	13.44	14.04	14.792 13.851
Longitude of ascending Node....	0° 19' 20"	0° 123' 23"	0° 117' 41"	0° 119' 24"	0° 118' 31"	0° 119' 26"	0° 122' 34" 0° 119' 25"
Longitude of Perihelion	259° 47' 6"	288° 34' 30"	293° 30' 0"	295° 9' 0"	298° 51' 28"	294° 26' 30"	288° 23' 5" 296° 8' 59"
Inclination.....	41° 22' 25"	45° 7' 30"	45° 51' 0"	45° 19' 0"	45° 33' 46"	45° 17' 10"	44° 45' 8" 45° 23' 18"
Perihelion distance	0.0342	0.2166	0.244	0.2401	0.2707	0.2367	0.207 0.2491
Motion.....	direct	direct	direct	direct	direct	direct	direct

Column A. by Mr. Waterston, from his own observations. This determination has the merit of being the first published ; but, being founded on observations confessedly rough and imperfect, it was only intended to give a general idea of the position of the orbit with reference to our system.

Column B. is a determination of my own, calculated from two observations by myself and one by Capt. Bethune. It is nearer the truth than the former one.

Column C. is a later determination of the orbit by Mr. Waterston, from his own observations. This has not before been published.

Column D. is by Mr. Taylor of the Madras Observatory, and is calculated from his own observations. Mr. Taylor published a first approximation to the orbit, in the *Madras Spectator* of the 5th of February, 1845, but afterwards found it necessary to alter some of the elements. This column gives the corrected determination, which Mr. Taylor has kindly supplied me with. He informs me that these elements represent the observed longitudes with great accuracy, but do not agree well with the observed latitudes ; he is of opinion that no parabolic orbit will agree with the actual path of the Comet.

Column E. is the determination of Mr. Caldecott, from the Trevandrum observations, published in the *Madras Spectator* of the 12th of February, 1845.

Column F. is calculated by myself from the observations made at the Bombay Observatory. These latter were kindly furnished me for the purpose by Professor Orlebar, who had not sufficient leisure himself to undertake the computation.

The amount of discrepancy between these determinations respectively, will appear but small, (particularly between the three latter ones), when the nature of the operation by which they are deduced is considered. It is required that we work from the lesser to the greater, from a small part to the whole. We are enabled only to observe a very small arc of the orbit, and from this we have to calculate the whole immense sweep that the Comet makes through our system. It is an analogous case to a person being required to determine the configuration and dimensions of a colossal arch by an inspection of only one of the stones which compose it ; for the orbit whose elements we have to determine, bears as great a proportion to the minute track in the heavens lying within our ken, as does the

curve of the largest arch to that of one of its isolated voussoirs. Of course therefore every trifling-error in the data becomes in the result proportionately magnified.

The two last columns of the table contain the *means* of the foregoing six. The first of the two is the mean of all; but I have thought that the average would be more likely to be correct, if the first, second, and third determinations, (A, B, and C,) were excluded, as these were only approximations: I have therefore added the last column, giving the mean of the three *Observatory* determinations D, E, and F. I have no doubt that the orbit shewn in this column is very near the true one.

The symmetrical position of the orbit of this Comet in respect to the ecliptic is remarkable. * The axis of the parabola lies very nearly in the plane of the ecliptic, so that the perihelion and the descending node almost coincide. Moreover the inclination is about half way towards the perpendicular; and the perihelion distance is one-fourth of the mean distance of the earth from the sun.

The following particulars may be interesting to the general reader.†

1. The Comet's least distance from the sun's centre, (which, position before as mentioned, was attained on the 14th of December) was about 24,000,000, miles.

2. The following were its distances from the sun and the earth at the times named respectively:

	Distance from the	
	SUN.	EARTH.
	Miles.	Miles.
30 December 1844.	54,000,000	97,000,000
9 January... 1845.	76,000,000	98,000,000
15 „ ... „	91,000,000	102,000,000

3. The mean velocity of its motion, between the 30th December and the 15th January, was about 2.6 millions of miles per day, or about 30 miles per second of time.

4. The length of the tail (supposing this appendage to have appeared about 10 degrees long) would be about 20,000,000 miles.

5. This Comet never approached, and never can approach, within many millions of miles of the earth's orbit; and therefore can never cause any sensible disturbance in the motion of our planet or its satellite.

* This was brought to my notice by Mr. Waterston.

† These were founded on the orbit given in column B.

When the orbit of a Comet has been determined, it is usual to search the lists of those already known, to ascertain whether any of the latter are identical with it, or whether it is the first appearance on record. By this process the periodicity of three comets has been demonstrated: these have been found to re-appear at regular intervals, and have in fact become ranked as members of our known solar system. On comparing the orbit of the Comet of 1844-5 with others already recorded, it does not appear to be absolutely identical with any one. There is an occasional similarity, and some of the dates interpolate well; but the discrepancies are too wide to admit of proof that the present comet is a return of any one previously known.

I have stated that the position of this Comet's orbit is such that the body itself, be it solid or vapor, can never approach within a great distance of the path in which the Earth moves. But this is not the case with all Comets; there are some whose orbits nearly intersect that of the Earth, and with such, there is therefore a *possibility* of collision; and many timid minds have on this account looked upon these erratic visitants of our system with much dread. But happily the light of reason and philosophy shines brightly enough in our day to dispel the gloom of such direful forebodings; the subject has been discussed by men of the most profound learning and science, and it has been shown to a mathematical demonstration that an event of the nature referred to is so far removed from *probability*, the the fear of its occurrence ought to have no place in the minds of reasonable men. On this subject I quote the following remarks translated from an able little work by M. Arago.

“By virtue of first causes, whose natures are unknown to us, and which have given rise to many theories of the creation more or less plausible, the planets of our system perform their revolutions round the sun in orbits almost circular. The comets, on the contrary, travel in paths of extremely elongated ellipses, and they move in all imaginable directions. In returning from their points of aphelion, they constantly traverse our solar system; they penetrate within the interior of the planetary orbits, often they even pass between Mercury and the sun. *It is not then impossible that a comet may come in contact with the earth.*”

“After having acknowledged the possibility of a shock, we hasten to say that the probability of such an event is extremely small. This will appear evident at the first glance; if we compare the immense space in which our globe and the comets move with the small capacities of those bodies. Mathematical calculations go yet much further; as soon as a

determinate hypothesis is formed of the comparative diameters of the earth and comet, a numerical estimate affords the probability of the question."

"Let us suppose a comet, of which we only know that at its perihelion it is nearer the sun than we are, and that its diameter is *one-fourth* of that of the earth. The calculation of probabilities shows that, of 281,000,000 of chances, there is only one unfavourable—there exists but one which can produce a collision between the two bodies."

"Without endangering the tranquillity of mind which the above number ought to give to the most timid persons, I can say that if, in calculating the probability of the collision of the earth and the nucleus of a comet, we have taken the supposed estimate of the comet's diameter at *one-fourth* of that of the earth, we have much underrated it : that the chances of their meeting according to the calculation, will be much too low, in the case where the question would be not of the nucleus properly so defined, but of the nebulosity which covers it on all parts. If then the number be taken at ten times the preceding, the result certainly will not be exaggerated. Just ideas on the calculation of probabilities are as yet so little known, and the public sometimes mistake in so strange a manner as to the numerical results to which the computations, lead, that I felt disposed, at one time, to suppress this short chapter. I could have done so with less scruple; for as to what regards the comet of 1832, the considerations of probability are quite superfluous; for the orbit is known, and we can tell with certainty what will be, during the future apparition, its least distance from the earth."

"The problem, it should be understood, was quite different in the calculations of which I have stated the results. There we wanted to determine, *without any information as to the form and position of the comet's orbit*, to how many chances of collision the earth was exposed. In this manner we have found, as to the nucleus properly so called, *one* chance of collision, *one* woeful chance to 280,999,999 favourable chances. As for the nebulosity, in its most habitual dimensions, the unfavourable chances will be from 10 to 29 in the same number of 281,000,000. Admitting, then, for a moment, that the comets which may strike the earth with their nucleuses would annihilate the whole human race; then the danger of death to each individual, resulting from the appearance of an *unknown comet*, would be exactly equal to the risk he would run, if in an urn there was only *one single* white ball, of a total number of 281,000,000 balls, and that his condemnation to death would be the inevitable consequence of the white ball being produced at the first drawing."

“Every man who is willing to make use of his reason, however he may be attached to life, will laugh at so small a danger. Well, then, the day on which a comet is announced, before observations have been made on it, before it has been possible to determine its path, then is there, for each inhabitant of our globe, the chance of the white ball from the urn of which I have just spoken.”

ART. VII.—*Literary and Scientific Notices.*

I.—*M. Botta's discoveries in the ruins of Nineveh.*

To the letters which we have heretofore published from M. Botta, respecting the excavations at Khorsabad, we may add the following from the Augsburg Gazette. There are at present 160 workmen engaged thereon, and besides the walls, which are covered with sculptures and inscriptions, many antiquities of a peculiar and at present inexplicable nature are met with. For example, under the large bricks, of which the floor consists, are stone repositories, which are filled with small clay enamelled figures of men and beasts, without anything on the surface indicating the existence of such repositories, or there being anything within them to explain their contents. In another place they discovered great rows of earthen vases of a remarkable size, placed on a brick floor and filled with human bones, and similar to those which have been found at Babylon, Ahwaz, and other places in South Persia. The place seems to have been plundered before its destruction, for neither jewels, nor instruments, nor even the small cylinders, so numerous in the neighbourhood, are any where found; merely some bronze images of beasts, (for instance a very fine lion,) have been discovered, as also a part of the bronze wheel of a war chariot. But the most incomprehensible circumstance is, that the alabaster slabs with which the walls are cased, and which are covered with inscriptions and sculptures, bear on the back likewise inscriptions in arrow-headed characters, and certainly not in the Assyrian, but in the Babylonian language. As it is naturally not to be presumed that the architects would have been so foolish as to have graven these inscriptions, where no one could have seen them without pulling down the wall, it must be presumed that the slabs have served twice, first belonging to a Babylonian place, and afterwards have been transposed by the Assyrians and freshly graven. At present no sculptures have

been found on the back, which would, indeed, be of the greatest interest, no Babylonian sculptures having ever yet been discovered. Some of the lately found bas-reliefs are especially remarkable; for instance, one representing the siege of a town situated on an island: the sea is covered with ships, the fore part of which form a horse's head, and which are occupied in bringing the trunks of trees for the purpose of erecting a dam. The water is covered with all kinds of marine animals, fishes, crabs, and winged sea horses. The richness of the details, and the mass of sculpture which the palace contains, are amazing, and it is incomprehensible how so magnificent a building should have been so strangely buried in the earth.

Letters from Constantinople announce, that M. Botta has nearly completed his discoveries in the subterranean palace of the ancient Nineveh. He was then on the point of clearing the grand southern facade. The vast entrance of this front is entirely cleared: six colossal bulls, with the heads of men, and two human statues, also colossal, strangling lions in their arms, form its principal ornaments. These sculptures are said to be of great beauty, and as fresh as if executed yesterday. The two bulls in the centre, as seen from the front, form entrance-pillars. The animals have inscriptions between their feet, some of which have, however, been cut away by the chisel, so as to leave only their traces; a circumstance which would seem to indicate that a new dynasty, or a new monarch, taking possession of the palace, had removed the inscriptions of his predecessors. M. Botta is anxious to transport these figures to Paris, but the physical difficulties are very great. Still, he hopes to remove them on wooden rollers to the Tigris, which is five leagues from Khorsabad, whence they might go, by the first flood, to Bassora, and there be received on board a ship of war for France. This discovery of M. Botta's is one of the most valuable which has been made, for many years, in the field of archæology,—supplying an important link, hitherto wanting, and believed to be irrecoverable, in the history of the Arts amongst the earliest civilizations of the world. It deserves, therefore, some words of further notice, which we collect from the French papers in general, and the *Revue de Paris* in particular. The Greek historians and the books of the Old Testament, furnish the very vaguest hints as to the condition of Art among the Medes, Assyrians, and Babylonians; and hitherto no monuments were known to exist by which they were more fully represented.

Unlike the cities of ancient Egypt, which have transmitted to our times, almost in their integrity, the Arts of their builders, the great cities of Central Asia—Susa, Ecbatana, Babylon, Nineveh—have perished from the face of the earth, leaving, in the language of ancient prophecy, scarcely one stone upon another. Dreary mounds of rubbish, traversed by deep and narrow ravines that indicate the lines of the streets, alone mark the sites of these mighty cities. Nineveh, the city of fifteen hundred towers, whose walls were a hundred feet in height, and had space on their summit for three chariots abreast, seemed more utterly ruined than even Babylon; yet from beneath its dust has the long buried Art of the Assyrians been recovered, and an impulse been communicated which may end in bringing, through future excavations, our knowledge of the former to something of a level with our understanding of Egyptian Art. M. Botta, as our readers know, is a distinguished Archæologist, who was Consul for the French at Mosul; and there, his neighbourhood to the ancient Nineveh inspired him with an earnest desire to try some excavations in the soil of the lost city. His first attempt was on the most conspicuous mass, (for the ruins of the various gigantic edifices of old present now the appearance of separate barren hills,) near the village of Nininoah, supposed by tradition to be the tomb of Ninus. Here however, finding only broken bricks and insignificant fragments, he opened his trenches in the sides of another hillock, on whose summit is built the village of Khorsabad, where bricks had been frequently found covered with inscriptions in the cuneiform arrow-headed letter. It was principally the hopes of finding other inscriptions, which might help, by comparison, to decipher the cuneiform writings, hitherto unreadable, that had tempted M. Botta to these explorations. Something of the success our readers know [No. 895, and elsewhere]. An Assyrian edifice has been recovered, in a state of unlooked for preservation. On this discovery, as our readers know, the French Government supplied M. Botta with the means of continuing his researches, and sent out M. Flandin to make drawings of whatever could not be removed. A tolerable judgment may now, from what is laid open, be formed of the extent and importance of these ancient constructions. Fifteen halls of this vast palace, with their corresponding esplanades, have been cleared. The rest of the monument, it is made quite certain, has been destroyed,—intentionally however, the stones having been carried off to serve for other buildings. A fortunate accident—that would seem an

evil one at the time—has preserved for us what remains. This portion of the palace has been ravaged by fire, which has entirely destroyed only the timbers of the roofs, but as the other calcined materials were rendered useless for new construction, they have been left where they were; and thus, one-third of the edifice remains, to testify of the rest. We have, from time to time, described the sculptures and inscriptions found within its walls; and we announced to our readers the work which, embodying M. Flandin's drawings, will furnish the details of this curious discovery. We may add, that the fragments thought worthy of being collected and transmitted to France, are numerous and important enough to load a ship. *Athenæum* No. 895 p. 1179 and No. 900 p. 99.

2.—*Microscopic Life in the South Polar Ocean.*

Prof: Ehrenberg laid before the Berlin Academy, on the 23rd May 1844, a paper containing some of the results derived from his recent investigations upon materials furnished from the South Polar Expedition of Captain Ross, and the voyages of Messrs. Darwin and Schayer; their object being to determine the relation of minute organic life in the Ocean, and at the greatest depths hitherto accessible.

The study of the relations under which minute organisms exist has been recommended as one likely to throw considerable light upon the principal questions now agitated, involved in the recent history of the earth's crust; and the Author accordingly gave directions as to the methods of collecting them, which were adopted throughout the whole voyage. These relations of minute organic life were found, as the Author had anticipated, to be the same at the South as at the North Pole, and generally of great extent and intensity at the greatest depths of the Ocean. The following are the results:

1. Not only is there, as resulted from the former observations of the Author (vide *Mikroskopische Leben in Amerika, Spitzbergen, &c.*), an invisible minute creation in the neighbourhood of the Pole, where the larger animals can no longer subsist, but a similar creation is highly developed at the South Pole.

2. Even the ice and snow of the South Polar Sea is rich in living organisms, contending successfully with the extremity of cold.

3. The microscopic living forms of the South Polar Sea contain great riches hitherto wholly unknown, frequently of very elegant shape,

since no less than seven peculiar genera have been discovered, of which some contain several, one as many as seven species.

4. The forms collected in the year 1842, near Victoria Land, were capable of being examined in an almost fresh state in Berlin, in May 1844, which shows how long preservation is possible.

5. The Ocean is not only populated at certain localities, and in inland seas or on the coasts, with invisible living forms, but is proportionately thickly crowded with life every where in the clearest state of the seawater and far from the coasts.

6. Hitherto but one perfectly microscopic form from the high sea was known, and even that from the neighbourhood of the coast, namely the *Astasia Oceanica*, which Von Chamisso had observed; all other accounts were imperfect and useless. By the new materials, the number of species is increased nearly 100.

7. The hitherto observed oceanic microscopic forms are chiefly siliceous-loricated animals with some calcareous-shelled. Do these numerous forms derive the material of their shells from the bottom of the sea? This question becomes daily more interesting.

8. Siliceous-and calcareous-shelled minute living forms are not only mixed up with the muddy sea-bottom but they themselves form it. They live even to a depth of 270 fathoms, and consequently support a pressure of water equal to 50 atmospheres; the whole influence of this does not indeed bear upon their organic tissues when they are locally fixed, but when they move from the bottom upwards or reversely; yet it does not appear to have acted on the drawn up specimens. Who can doubt, but that organic beings which can support a weight of 50 atmospheres, may support 100 and more?

9. The supposition, that in great depths, above 100 fathoms, there is no fresh nutriment for organized beings of any kind, has become untenable.

10. Life and temperature in the depths of the ocean are in their variable relation, the points which at present deserve especial attention.

11. The showers of meteoric dust, or supposed ashes, have at present been proved to be, even in the case where they fell 380 sea-miles from land, of organic and terrestrial origin.

12. It is not perishable *Protococci* or *Ulvæ* or *Lichens*, that principally constitute the organic covering and soil of the ultimate islands in the

Polar Sea ; but the living creatures that form the first layer of solid earth are invisible, minute, free animals of the genera *Pinnularia*, *Eunotia* and *Stauroneis* with their siliceous loricae. Several species from the North Pole and the South Pole are identical. *Jardine's Magazine of Natural History* ; No. 90. p. 180.

3. *Depression of the Caspian.*

The President of the Geographical Society of London, in June last, read the note of a Russian operation for determining the actual depression of the Caspian Sea below the level of the Mediterranean, which operation had been reduced by the eminent astronomer, M. Struve, then in England, and communicated by that gentleman to him. A few years ago it was generally believed that the waters of the Caspian were at least 300 feet below the level of those of the Black Sea and Mediterranean. This view was adopted in consequence of a series of barometrical observations ; but it having been found that, from the great number of stations across the land separating the Caspian from the Sea of Azoff, small errors had become greatly magnified, a new survey was made. Three able mathematicians Messrs. Tuss, Savitch, and Sabler were, therefore, employed to make independent trigonometrical levellings ; and their observations agreeing to within a foot or two give for the mean result, 83,6 English feet as the depression, the possible error being limited to 1-3 foot, which definitively settles this long pending geographical question. *Athenæum*, No. 870, p. 601.

4. *Ethiopian Family of Languages.*

To the Rev. G. C. Renouard, Foreign Secretary of the Royal Geographical Society.

My dear Sir,—On opening, this morning your copy of Ludolf's Ethiopic Dictionary, to answer the inquiries of two Gondar scholars, I was naturally led to explain to them the gentlemanly kindness which induced you to trust your precious volume to the wear and tear of an African voyage, in the hands of a yet untried philologist. Though conscious that your only motive was that charity in science which is the highest boon of a philosopher, I feel myself bound to inform you, that your loan has not been thrown away ; and while proceeding to give you a sketch of my gleanings in Ethiopic lore, I scarcely imagine that your love for the dif-

fusion of knowledge will allow you to take offence at receiving my letter through the channel of the Athenæum.

I am now seated on the ground, in a small thatched house, near the palace built by the Portuguese for king Facilidas. Upwards of one hundred manuscripts are scattered round me, most of them little better than Ethiopic rubbish; for the carelessness of the copyists and the indifference of the professors are such, that I have four copies of the Gospels affording far more discrepancies than any which Griesbach or Tischendorf have pointed out in the original Greek. As for the Old Testament, the Abyssines of later days have taken even greater liberties with the text, adding or lopping off altogether, not only two or three verses at a time, but even whole chapters. I have tried in vain to infuse a spirit of criticism, or, at least, of examination, amongst the few learned who still stand, like Pompey's Pillar at Alexandria, the tall remnants of ancient lore and might. But all my labour in instructing others is unrequited. Each *savant*, mantled in his own scholarship, answers fiercely to my arguments on the absurdity of various readings: "Your book is wrong, and mine is right." "*Du choc des opinions jaillit la verité*," says the French proverb, and I contrived to bring together a few scholars (whose manuscripts I had previously ascertained to be different,) in the vain hope that they would, at least, fall upon each other, and show me, unconsciously, their skill in critical warfare. But when hard pressed, they merely answered, "The Gypt (white man) deals hardly with us poor sons of Cham: he is a son of Japhet, has consequently four eyes: the Arabs have two eyes, and we Ethiopians are blind." There is a deeper meaning of despair and helplessness in these few words than my pen can now impart to an ardent European philologist. The same feeling pervades all Eastern Africa, and wherever I have wandered, in the vast regions drained and watered by the Nile and its tributaries, I have always heard the same remark. But to return to the learning of Abyssinia: I shall merely mention that I have taken cognizance of 140 works, besides the Bible; that 15 or 20 of these are scarcely known even in Gondar; and that there are not, in my opinion, a dozen more to be discovered. This is a slender stock for a nation which began to shine in the days of the Ptolemies. As for Ludolf's Dictionary, it requires not to be new-modelled, for the ground-work is good, and the plan admirable, but it needs several alterations, for Ludolf's Ethiopian amanuensis was evidently not a *pāmtr* (i. e. scholar) and in guessing the

meanings of many Giz words from the corresponding Greek text, sundry errors were committed. Some rules in Ludolf's Grammar are palpably incorrect. But I must waive further explanation for the present, as these would oblige me to lay down my Perry's pen, and take up my Ethiopian reed. The Giz, or sacred language, though still spoken in the *Shub a'té Quoolfee*, near Hamagen, is sadly neglected in Tigray since the days of Nadjach Walda Gabriel, son of Raj Mikael. This prince, himself a first rate poet, was the last ruler who encouraged letters; and the Gojam scholars well remember the single verse spoken in Axum by a mendicant, and which so much delighted the Dādjazmach, that he stuffed the ragged poet's mouth with gold powder, and seated him on his own throne. But these golden days have joined the past eternity, and there is not now on the east of the Takazay a single professor capable of explaining the Old Testament. In Gondar, when I put myself under the tuition of the only learned man here, I found him literally starving. Bagemidr and Showa are still worse off; and the few students of the latter country who aim at learning are obliged to cross the Galla country, and resort to Gojam, the last strong-hold of Ethiopian literature.

The other languages of Abyssinia which, like the Giz, belong also to the Shemitic family, are the Khusy, called Tigray, south of A'ylat and the Tigray spoken east of the Takazay, on the high lands, and also in Samen, Walgayt, Bira, Wasaya, &c. I have some specimens of the latter language, otherwise slightly known by the translation of the Gospels made at Adwa.

But the most important family of Ethiopian languages is what I have named Chamitic, either on account of the traditions which ascribe their origin to Cham, or because the first of its languages which I have studied is the Khamtinga (i. e. Kham's tongue). This latter is spoken by the Khamta, or Agaws of the Way, or Wag, which is a country adjacent to, but different from Lasta. My Khamtinga vocabulary comprises 1,500 words. The language next in importance is the Awnga, spoken by the Awawa, or Agaws bordering on Little Damot. I have got upwards of 2,000 words of this harsh but copious dialect. Short vocabularies show that the Agaw languages are closely allied to the Gabi spoken by the Bileu, (probably the Blemmyi of the Romans,) and to the languages of Atala, in Simen, of Alafa, and of Kwara, or Hwara. The Hwarasa, spoken in the latter country, and by the Falocha of Gallagar, Kayla, and

of the Awawa, is illustrated by a vocabulary of 1,300 words ; but having lately got a good teacher, I have begun afresh in the kindred dialect of the Gimant, which differs from the genuine Hwarasa only as much as the Basque dialect of Soule from that of Labourd.

I have vocabularies of the three principal Chamitic languages of great Damot ; namely, Sidama, 1,700 words ; Dawrooa, 1,500 ; and Yamma, or Yangara, 1,400. The Gongga language, spoken on both sides of the Abay, is closely allied to the Sidama. A collection of 400 words induces me to place, also, side by side with the Sidama the Shay language, spoken by the Gimira, Gamrow, or Gamarou, a nation but little known and whose name, written in the Arabic character, has given rise to the fabulous mountains of the Moon—Djabal el Gamr ; that is, mountains of the Gamrou. The Nao language appears a mere dialect of the Shay, and that of Hadiya Wanbe is in close contact with the Dawrooa tongue.

The Amhara family is remarkable for its ground-work of Shemitic expressions, and its Chamitic Grammar. Signor Giuseppe Sapeto having collected an extensive Amhara vocabulary, I had little else to do besides buying the two or three Amharna works extant. My vocabularies of the members of the Amhara family are lamentably small ; but I can affirm the relation of the Ada'ri spoken in Hararge ; of the Tambaro, spoken near Koullou ; of the Damot, and of the language of Argoubba. The other languages which I have classed in this family from mere hearsay, are those of the Gofat, of Wardj, Damou Ouba (?), Ourbaraga, Aymallal, Innamour, Chachouga, Manzi, Allichou, and Absho.

The A'far family is a mixture of Shemitic and Amharna words and forms on a Chamitic ground-work ; and, like most mixed languages, it is daily increasing in importance, and menaces to swallow up, not only the Chamitic, but even the Amhara languages. The principal members of the A'far family are the A'far proper, spoken by the Adai'l, Taltal, Tal-fen, &c ; the Saho, spoken by the Hazaorta and Toroua ; the Szomaliod, spoken by the Szomal ; Ilnorma, by the Orme or Ormo, better known under the name of Galla ; and the Toufte, spoken by a small nation near the Tambaro, and issued, according to their own traditions, from the same ancestors as the Orme. My vocabularies of the A'far family are, A'far, 900 ; Saho, 1,400 ; Ilnorma 2,300 ; Szomali 600 ; and Toufte, 10, which last is only better than nothing at all.

Two hundred words of the Bidja language, spoken at Sawakin, and

40 of the Barea spoken by the Samin negroes near the Takazay, are not sufficient to pronounce on the proper place of dialects which have always seemed, at least politically, disconnected with Abyssinia.

My specimens of the Negro tongues are trifling ; namely, Gwinza 400 words ; Souro 19 ; Dokko, 29 ; Yambo, 30 ; and Gamo, 10. The other negroes bordering on Ethiopia and speaking, as it is said, distinct languages are the Gabutou, Danka, Fa-zoglo, Shilook, Djanga, Nouba, Goumis, Barta, Hamadj, Agoudi, and the Arouro, who live in the islands of lake Abbole, on the east of Walamo, or Walahayta. As for the Konfal, who live between Kwara and the Awawa, I have no sample beyond the first ten numbers, which are partly Giz ; and the all but unknown Konfal tribes are the most perfect medium between the straight-nosed Ethiopian and the grovelling Negro. Although the learned Pritchard has striven to prove the unity of origin between Negroes and Caucasians, I did not feel myself satisfied with his reasons ; and the desire of throwing more light on this obscure but interesting subject, was one of the principal incentives which urged me into the heart of the African continent. I have now come, on personal observation, to the same conclusion as Pritchard ; and, if I am ever doomed to return to Europe, nothing will give me more pleasure than adding my slender stock of philological and physical observations to prove that community of origin which revelation teaches, but which science has often doubted.

Anthony d' Abbadie.

P. S.—I forgot to mention that the letter sent to Dadjach Goshoo, by Abba Bagibo, king of Inarya and Limmoo, is, and probably long will remain, a mystery. The facts of the case are too long to be detailed at present. The hope of elucidating this unknown character was one of the prominent objects of my voyage to Inarya and Kafa. I am now satisfied that it is neither Ilmorma writing nor a hoax of Abba Bagibo. Wonders cease when viewed closely : the men with dog's heads, which all Ethiopians believe to exist near Kafa, vanished as I approached the mysterious spot ; the Dokko pigmies grew up to the stature of five feet when the eye, and not the ear, was called to bear witness ; but the mysterious handwriting sent from Inarya is buried in greater obscurity than ever, and we can only add the quotation of your immortal Bruce,—
Διβη αἰεὶ φέρετ τι καίνον.

Athenæum. No. 911.

ART. VIII.—*Extracts from the Proceedings of the Society.*

At a monthly meeting of the Bombay Branch of the Royal Asiatic Society, held, in the Library Rooms, on the 10th of October, 1844.

The Hon'ble J. H. Crawford, President in the chair.

Read and approved the minutes of last meeting.

The following gentlemen were proposed as Members, to be ballotted for at the next meeting of the Society :

H. Pendock St. George Tucker, Esq. C. S., by J. Harkness, Esq., seconded by James Burnes, K. H. Vice President.

Archibald Graham, Esq., by James Burnes, K. H., seconded by the Rev. J. M. Mitchell.

Notice was then given of the following motion to be brought before the Society at their next meeting :

Proposed by Colonel Waddington, C. B., seconded by Colonel Jerris, Vice President,—

That the Bombay Branch of the Royal Asiatic Society, having the greatest confidence in General Kennedy's experience and ability, do gratefully accept his offer to prepare an amended classed catalogue, on the plan proposed by him.

The Officiating Secretary intimated, that a highly interesting paper had been received from the Secretary, Dr. Bird, containing a translation of some Hamaiyaric inscriptions from Aden and Saba, with observations on the establishment of the Christian faith in Arabia ; but as light had already begun to fail, the reading of this, as well as some other business, was unavoidably postponed ; and the meeting adjourned till Monday the 25th November, next, upon which day it was agreed, that the General Annual Meeting should be held.

At the Anniversary Meeting of the Society, held agreeably to rule on the last Monday of November, the 25th.

The Hon'ble J. H. Crawford, President, in the chair.

The minutes of last meeting were read and approved of.

H. Pendock St. George Tucker, Esq., C. S., and Surgeon A. Graham, proposed at last meeting, were ballotted for and duly elected.

The following gentlemen were proposed as Members, to be ballotted for at the next meeting of the Society :

Captain J. M. Shortt, by L. C. C. Rivett Esq., seconded by P. W. LeGeyt, Esq : Lieut W. R. Dickinson, Engineers, by S. S. Dickinson Esq., seconded by J. P. Willoughby Esq : Frank Duncan, Esq., by J. Harkness, Esq., seconded by Rev. G. Cook.

The following motion proposed by Colonel Jervis, of which due notice had been given, was then submitted :

That the Bombay Branch of the Royal Asiatic Society, having the greatest confidence in General Kennedy's experience and ability, do gratefully accept his offer to prepare an amended classed catalogue, on the plan proposed by him, in communication with the Committee of the Society :— and having been seconded by Captain H. B. Turner, was carried by a great majority, only two votes of the members present being given against.

The Reverend J. M. Mitchell, seconded by Colonel G. R. Jervis, proposed that the meeting having before them M. D'Ochoa's completed catalogue, and adverting to the great and disinterested labours of that gentleman, do record the Society's grateful sense of his services. The same was carried unanimously.

The Society then proceeded to the election of its Office bearers for the ensuing year ; when the President, Vice Presidents, and Secretary were re-elected, and the following gentlemen added to the Committee :—

Captain H. B. Turner,
Reverend G. Cook, and
H. Cormack, Esq.

The following donations were laid on the Table.

TO THE LIBRARY.

1. Journal of the American Oriental Society, No 1. containing an Address to the Members, at the first Annual Meeting of the Society, by the President, John Pickering, Esq. of Boston : presented by C. Pickering, Esq. M. D.

2. By Government, Wight's *Icones Plantarum Indiæ Orientalis*.

3——ditto——Mr. Poole's further continuation of the circular orders of the Sudder Board of Revenue of the Bengal Presidency, from 1839—42 and for 1843.

4——ditto——Copy of a report on the Hon'ble Company's Botanical Garden at Calcutta.

5. By the Medical Board, Medical Topography and Statistics of the Southern Division, Madras Army.

6. ———ditto——— Medical Topography and Statistics of the Province of Malabar and Canara.

7. From the Dublin Geological Society, through Professor A. B. Orlebar, Vol I, parts II, III and IV, Journal of that Society.

8. ———ditto———ditto———accompanied by the Addresses delivered at their first anniversary meeting.

TO THE MUSEUM.

1. From Government, ten ancient gold coins, found at the village of Hewli, in the Malwan Talooka; of which a notice was given by the Secretary.

2. From the Bombay Geographical Society; stuffed specimen of a Pelican, and skin of a Baboon.

3. From Lieut. C. P. Rigby, through the Bombay Geographical Society, specimens of minerals, collected in the districts of Bejapoor.

4. By J. P. Malcolmson Esq., Skeletons of fish picked up at Aden.

Read letters from the Secretary of the Royal Geographical Society, London, the Secretary of the London Horticultural Society, and from M. M. Garcian D. Tassy, acknowledging the receipt of the Society's Journal, and returning thanks for the same.

The Secretary then presented to the Society the following communications:

*1. Observations on the Mahomedan Architecture on the mosques at Cairo, illustrated by drawings; by A. B. Orlebar, Esq. M. A., Professor, Elphinstone Institution.

2. A notice on the Sowahili Calendar, and identity of its new year with that of the Parsees; by Dr. Pickering, of Boston, America.

*3. Notice by the Secretary of the Society on ten ancient Hindu gold coins, found in the Southern Concan, and presented by Government.

*4. A discourse on the object and progress of investigation into Oriental Literature and Science, by the Secretary.

The meeting then adjourned to Thursday, the 12th of December, next.

At a monthly meeting of the Bombay Branch Royal Asiatic Society, held in the Library Rooms, on Thursday, the 12th of December, 1844.

James Burnes, M. D., K. H. *Vice President*, in the Chair.

The minutes of last meeting were read and approved of. Captain J. M. Shortt, Lieut. W. R. Dickinson, Engineers, and Frank Duncan Esq., proposed at last meeting, were ballotted for and duly elected.

Assistant Surgeon John Peet, proposed as a member by Dr. Morehead, and seconded by the Secretary, to be ballotted for at next meeting.

The Secretary reported to the meeting that numerous errors existed in the Society's accounts for 1844, which had been drawn up by the Librarian, and were submitted at the Anniversary Meeting of the 25th November; proposing that a corrected statement of the same should be laid before Auditors appointed by the Society, which nominated Captain H. B. Turner, S. S. Dickinson Esq. and the Secretary, to audit the accounts. A rough statement of the Society's receipts and expenditure, with an estimate of its liabilities for the year 1845, was also laid before the meeting, with proposals for diminishing the amount of expenditure on account of Newspapers, the publication of the Society's Journal, and the office establishment; which when reported on by the committee of audit, are to be brought before the next meeting of the Society. While the continuation of the Quarterly Journal seems desirable for the character and interests of the Society, the funds will not, under present circumstances be available for this expense, and connected with this subject, the Secretary submitted a proposition, "that Members of the Society be charged Rs 2. for each number of the Journal, they having the option to contribute or not as they may see fit; and that subscribers, not members, pay for the same at the rate of Rupees 2. 8. The meeting directed that due notice of this be given in the next monthly circular, calling a meeting of the Society, along with the proposition for diminishing a portion of the sum now expended on account of Newspapers.

The Secretary reported that the subscription collected for the Malcolmson Gold Medal, amounts to Rupees 830; and recommended that, as this seems insufficient for carrying into effect the Society's resolution, "*of granting annually a gold medal to the author of the best paper on the Natural Philosophy and Literature of India*," the subscription list should be further circulated among the friends of the late Dr. Malcolmson. Connected with the annual distribution of the Society's gold medal, the meeting resolved that the subject for the first gold medal is to be, "*The Historical connexion with India of the Bactrian*

Parthian, and Sassanian Kingdoms, and the influence which this connexion produced on Hindu Literature and Mythology. Essays on this are to be forwarded to the Secretary before the 31st October, next, accompanied by a sealed packet, containing the name of the author, to be opened by a Committee of the Society appointed to determine the merits of the respective essays.

The following donations were laid on the table:

1. An elaborate series of Magnetic and Meteorological observations for 1842, and 1843, made at the Colaba Observatory by Dr. Buist. In this are given the reading of several Barometers, in reference to the Maximum and Minimum of pressure, as recorded throughout the year, accompanied by Registers of the standard Thermometer, day and wet bulb, direction and force of the wind, the fall of rain &c., pointing out the chief peculiarities of climate between the Tropics, and particularly that of Bombay.

2. A Voyage round the world, and visits to various foreign countries in the United States Frigate Columbia, under Commodore Read, presented by the author, the Rev. Fitch W. Taylor, Chaplain to the vessel.

3. The North British Review, Nos. 1 and 2, by the Rev. Dr. Wilson, Honorary President of the Society.

The Secretary was directed to return the thanks of the Society to the various donors, and the meeting adjourned to Thursday, the 9th of January, 1845.

JOURNAL
OF THE
BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.

JULY, 1845.

I.—*Some Observations on the Geology of the Egyptian Desert;*
by A. B. ORLEBAR, M. A.

Immediately south of the town of Cairo, the Mukattim hills present a section which represents the structure of the whole desert as far as I examined it; and here the total absence of vegetation enables one, at a single glance, fully to observe the arrangement of the various beds of which the Egyptian Desert is composed. The lowest beds consist of a dazzling white limestone, which is capped by a yellow variety; and superposed on the yellow limestone, on the east side of the landscape, rises a red hill which is formed of various sands and sandstones, in which some red beds give a colour to the whole. In general, the beds may be said to be horizontal; but their stratification is undulatory, in bold sweeps, which the nakedness of the land enables the geologist to see in frequent sections. The red hill, above referred to, rises to a considerable height, but in general, the sandstones are imperfectly developed. They seem, however, to have furnished the fine quartzöze sand, which overlies the limestones, sometimes to the depth of a foot or more, and which, driven about by the wind, is so annoying to the traveller.

No district can present greater facilities for geological research than the

Desert, and we need not here conjecture any law of superposition, as the mind has little to do ; for if the eye be active, every observation must be a theory and every theory a fact. Those who have labored to trace out the strata in cultivated or jungle countries will appreciate these remarks, if they but turn their attention to Egypt.

I shall now describe, *seriatim*, the three formations, viz. white limestone, yellow limestone, and sandstone.

WHITE LIMESTONE.

The appearance of this rock is very much that of the chalk but it does not soil. It is sufficiently hard to be made use of for building, but is very soft and easily broken, being composed of minute uncrystallized particles of lime.

The most marked characteristic of the rock is the abundance of nummulites, which seemed to me to be larger in the lower beds than in the upper. The *neritina grandis* is also very common, as is the *clypeaster varians*, and fossil crabs of the genus *carpilius*. The rock in many parts is wormed through and through by cylindrical bodies, which I take to be branching coral. The fossils in this formation are very numerous and well preserved, the shells having only lost their colour. I found no bones, but a piece of dicotyledonous wood, with central pith and seven concentric rings.

Its thickness must be very great ; for beyond the spot where travellers are usually taken to visit the fossil forest, the Pasha (March 1844) was sinking a shaft in search of coal, and they had then sunk 328 feet through the formation.

The beds of white limestone are parted by beds or seams of black clay. In the Pasha's shaft there were three such beds, the uppermost twenty feet thick, the next eighteen, and the lowest ten feet. In one of these clay-seams, in the Mukattim hills, there were many arborescent iron markings between the dry laminated strata.

The Pasha was induced to sink this shaft after the discovery of a black mineral, which his Officers, (but not his professed mineralogist, who unsuccessfully endeavoured to undeceive the Officer who conducted this vain speculation,) have supposed to be coal. It is mineral pitch, and coats the fossils in a very curious manner, making a black and white rock. I found some crystals of carbonate of lime at the mouth of the same shaft ;

and also some of the lower rock, which contains sulphur, and blackens on exposure to the atmosphere. I found no where in this rock any other mineral, or pebble, or imbedded fragment.

It is extensively quarried for building. The pyramids are built on and of it, except the casings of the principal chambers.

YELLOW LIMESTONE.

This is a thin formation, not exceeding 60 feet at the most in thickness. It is much more rich in fossils than the white beds, but they are by no means so well preserved. Casts only remain in most cases, particularly in the harder beds. In the softer beds, they are much better preserved ; and in the lower part of this series there are partings of black and of yellow clay, and in the upper part the lime is intermixed with quartzose particles.

The yellow limestone also contains nummulites, but they are smaller in its lower beds than in the white limestone, and disappear altogether in the upper beds.

The series of beds are very strongly marked off by characteristic fossils, which are much better grouped than in the white beds. One of the lowest beds contains a vast quantity of coral, belonging to the genus *eschara*, with fragments and spines of *echinidæ*. Another a little above it has *anomia placunoides* in situ, with bone of a *mammalia* ! Higher up is an oyster bed. *Turitella egyptiaca* is quite characteristic of another, and *Cerithi* a characterize a higher one. The highest fossiliferous bed in the Mukattim hills abounded with very large *solens* like the common razor shell. The highest fossiliferous bed, a few miles N. E. of the middle station, is formed of oysters, *pectens*, *anomias* and *scutellas*, upon which barnacles are fixed, all heaped confusedly together in vast numbers. The same bed may easily be studied just behind the third station.

The fossils in the softer beds, particularly the corals, are sometimes coated with rust.

The uppermost bed, are *unfossiliferous* and abound in common salt and gypsum. The gypsum is fibrous, and in thin seams. The salt frequently reddens the soil, and being washed down the tali of little hills by the rains, gives the whole of them a red tint, which is not unpleasing in the general yellow hue of the desert landscape, but deceives the geologist, at first sight, with the expectation of finding a distinct formation.