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A few Gleanings in Buddhism, by Lieut.-Col. Low.

The following are some of the memoranda, most of which I made long ago while looking over Bali and Siamese books, in presence of Siamese Buddhist priests. I do not profess an acquaintance with the Pali language, but I had in my service until his death a Siamese, but not a priest, of Bangkok, who was, for his country at least, a proficient in it. I had not, unfortunately, leisure to avail myself of what he did know of the language for acquiring a competent acquaintance with it, and anyhow the want of a Pali grammar and dictionary would have been a serious obstacle.

Some of the Siamese contend that the present Buddha had no right to enter Nirvána or Nirbritti, as *his* period had not arrived, and that he attained to this dignity by practising a deception upon Yakaró Ariyá, his elder *brother*, he himself being the *fifth*. The deception is thus described. These two brothers proposed to justly determine which of them was best prepared for the divine condition of Nirvana, by a trial of superhuman skill or power. Two lotus buds were placed before them. Turning their persons from these, but in opposite directions, they repeated certain sacred formulæ, and on resuming their positions found that Ariyá's bud had blossomed, but that his brother's had not. Buddha, pretending some informality, required another trial; and during this he deceitfully changed the buds, and thus appeared the victor. Ariyá, by his intuitive knowledge was aware of the trick; but being of a humane disposition he said nothing, and permitted Buddha to enter Nirvana.

This must, I should think, have been some heretical doctrine ; for it can hardly be believed that a religion so based on morality as Buddhism is, would at the threshold of its original temples, have tolerated such a breach of it. I feel convinced, that the comparatively pure Buddhism, which was carried from Ceylon to Cambodia by Buddha Ghósá, and thence by others to Siam, perhaps through Laos, was greatly adulterated, and assumed more of a polytheistic character than its hitherto rather theomachistic dogmas had permitted ; about the time when the bráhmans had fully achieved the superiority in India over the Buddhists, and had spread themselves as religionists to the eastward ; and when the heretical Buddhist sects, let loose from all restraint, disseminated their own doctrines far and wide.

Much learning and ingenuity has been expended in the West in the endeavour to trace Western Buddhism to the east, but perhaps the prevalent impression on the mind of the eastern orientalist is that it originated in the west and was there the parent of Indian Buddhism, if not indigenous to India. Hinduism too, under the form and impress in which we now find it, must have been brought to India from western regions, *if* it was really the religion of the *bráhmans* as a tribe of foreigners, and not in the main, as I cannot help considering it to be, a particoloured pantheon, tenanted by deities possessing most incongruous attributes, and jumbled up with monstrous and polluted imaginings, and chimeras dire ; and thus laboriously and cunningly erected, by the bráhmans, for the gratification of their lust for power, and of their hatred of the Buddhists, on whom they had for centuries kept fixed their basalisk eyes, and not with that expanded desire, which the Buddhists seem to have entertained for the amelioration of the moral condition of mankind.

In admitting that Buddha had a precursor in the same path as himself, we are by no means called upon at the same time to unreflectingly adopt the predecessors of the latter, although there would be nothing, morally, to prevent our even admitting them suppositively ; for we should in this case have only to discard the lengthened periods, astronomical or fanciful, which have been assigned to the three first Buddhas, and to bring them nearer to the *bills of mortality*, to render them manageable.

The Buddha of the present period, dating from his apotheosis in

B. C. 543, seems to have had no connexion personally with the nations of the west. But from his religious system, whose roots seem to penetrate to a greater depth than any one appears yet to have reached, or may perhaps be able to reach, and of the volumes, of which not perhaps more than a mere fractional portion has yet been classically examined, rays of light may hereafter emanate to brighten the path both of history and archaiology.

The fact that scarcely any of the names by which Buddha is known are patronymical, but mere titles, leaves open a wide field for their application, and might give rise to a belief that they, or some of them at the least, might have appertained to previous deified mortals.

Of the names, worldly titles, and parentage of the present Buddha, there is now I believe no doubt, and the principal ones may be found in the Mahawanso.

But if any of the names or appellatives now bestowed upon him as contained in the following list, could be proved to have been borrowed, a clue might possibly be found to their original application.

Sir W. Jones gave us a list of Buddha's names, but I believe they are Hindu ones, and most of them also used by Buddhists. But I apprehend that whatever we may receive from that source, relating to Buddhism, cannot, unless corroborated by Buddhist writings be depended upon. I would even look with suspicion upon Buddhist works composed in *Sanscrit*, for when this language superseded the Páli or Magadhi, a change was gradually advancing, the bráhmans were spreading their nets in secret, heresies were corroding the but lately purified doctrines of Buddhism; and the use of Sanscrit rendered it easy for both heretics and bráhmans to color, distort, eliminate or falsify all the Buddhist books which fell into their hands; and which they hoped at least to be able to dovetail into their own system, when they should find it convenient.

The rest, as it is suspected, or rather known, they destroyed.

The names of Buddha, in general, according to Sir W. Jones, are—

1 Muni. 2 Sastri. 3 Muníndra. 4 Vinayaca. 5 Samanta. 6 Bhadra. 7 Dharma Rájá. 8 Sugata.

And his titles—

1 Sacyamuni. 2 Sacyasingha. 3 Sarvartha-siddha. 4 Sud'hodhani. 5 Gautama. 6 Arcaband'hu, or kinsman of the sun. 7 Máyá or child of Máyá, (delusion) or Máyádevisuta.

Buddha is a word, he adds, commonly used for a *mere* wise man, without supernatural powers.

Buddha, like Samana, seems to have been a name or title bestowed on priests, as well as on the Buddha of the period. Samana Khútama, or the man divested of passions, being the Samanakhodam of Siam.

When Budd'ha, or a Buddha, has nearly attained to perfection, he is termed in Siamese sacred Páli books Paramabódhisat [Bod'hisatwa].

I extract from the Siamese Páli work 'Milinda Rájá, the following titles expressive of nature's divinely favored :

Sotá pattimaggá.

Sakidagá mimaggá.

Anágá mitto.

Arahattá ditto.

Sotá patti Phalá.

Saki dágá mi Phalá.

Anágá mi Phalá.

Arahattá Phalá.

The periods assigned in the Milinda Raja to the five Buddhas are—

For the 1st, from the *consolidation* of the world, 12 antara Kalpas.

Ditto 2d, 10 antara Kalpas.

3d, 4th and 5th, also similar periods.

After Metraiyo a space of 12 antara Kalpas will occur, when Sampatti Mahá Meg will appear. Then a period will ensue of 6264 antara Kalpas, at the end of which the world will be consumed by fire, and a new world will be created or will arise, to be called Sangwatto. In the 'Ratana Kalápa Mettaiyo' is described as having been a Bódhi Satwa, of whom there are three classes,—

1. Ughati tango, supremely wise.

2. Wipachi, of great purity of mind, &c.

3. Néyo, possessed of great perseverance ; great mental power militates against purity of soul.

The other names and titles of a Buddha, but whether all are strictly Páli I shall not pretend to say, are :

Sri Saraphet.

Buddhí lakhaná.

Budd'há baltabaróm.

Chinnasí.

Saraphet charangsí
 Chimarat.
 Budd'há Rattaná.
 Salsada chan.
 Yanna Sappanyó.
 Kassa P'halayan.
 Samásam Budd'hó.
 Barómmá.
 Sri Sakhót.
 Bárómmá Buddhí Satwa.
 Bárómmaming.
 Bárómmanát.
 Barommayán.

These are titles of Buddhas who have already been and will again be :

Sathá.	Samantachak'khú.
Dasabaló.	Buripanyo.
Sabbanyó.	Maraji.
Dipaduttamó.	Narasiho.
Munindo.	Narawaro.
Náthó.	Dewa Dewo.
Chákkhúma.	Loká Gúru.
Angirasó.	D'hammasámi.
Lókanáthó.	Tathágato.
Anadhiwaró.	Sayambhú.
Mahesi.	Warápanyo.
Wináyakó.	Náyako.

In the Páli (Siamese) Ratana Kalápa it is stated that there are three Bódhi Satwa.

I find in it also a list of seven Buddhas ending with Gotama, which with Metteya, who is yet to come, will be eight in all. They are

1. Wipassi, his son Sawajakhandá, and his wife Súdano.
2. Sikk'hi, his son Attúla, and his wife Sabbakáma.
3. Wessabhú, his son Súppabúddhá and his wife Súchitá, (which is the name of one of Indra's wives).
4. Kakúsando, whose son was Anútáro, and wife Aparojini.
5. Kónágámanó, son Sattawáho, wife Súwattatí.
6. Kassapo, son Wjita Sena, wife Sunanda.
7. Gotama, son Rahula, wife Bímhá Bhagawati.

Wipassi and Kakúsando rode on horseback when they went to be ordained as priests.

Sikhi and Kónágamano went on elephants. Wessabhú was conveyed in a chariot. Kassapho in a moving palace (Q palankin) and Gotama rode on a horse.

“An account (observes the compiler of the Ratana Kalápa) is to be found of the ages of all of these Buddhas in the book called Buddhánú Puriwatta, Vol 3d.”

In Wipassi's time, it is further observed, a chetí or relic fane was built by Púnabbásúto náma Setthi.

In the time of Kakusando, a temple or dagoba was erected by Abhúta Setthi. (I cannot find the proper name of the place but it was doubtless Abhayapura where king Abhayo reigned).

In Konagamana's time a cheti was built by a rich man at Uggo Setthi. The city was Waddha, and Raja Samiddho reigned; a famine prevailed during this time. [Here the royal garden—the city—the prince Samiddho—and Adam's-peak are described as in the Ceylonese Mahawanso].

In Kassapa's time Súmangúla erected a chetí, which was named Yarama, (the Thúpárama of Ceylon perhaps was named after it.) This was in the country of Wesálipuré to the westward in Mandawip, and the Raja was Jaiwanto or Jaiyanto and Adam's-peak was called Subhakúta. The country was much disturbed during this time.

In Gotama's time, a temple was erected by Anata pindi maha Séti.

The Maha Sammati Wangsa, or a genealogy of Buddha from the same work.

1. Rojo Wararojo.
2. Mahá Panátha who came after many ages had lapsed.
3. Mahá Dewa Rájá.
4. Kala Raja ka Raja.
5. Sanjaya.
6. Mahá Dipati Jayaséna had two sons.
 1. Jaiyansena who lived in Lanká.
 2. Dípakúmára.

Jayasena married into the family of Sákya Rájá of Kapila-Watthú. He slew his father (Q. in-law) and became king of that country.

Dípakúmára became king of Dewa Lanká and he had a son.

Jaiya Dipa and a daughter Kacháyana (or Yena).

Jaiyasena's son was Sihahanú and his daughter was Yasodrá.

Jaiyasena married Kachaiyana, and they had five sons.

Suddhod'hana.

Dod'hana.

Sa'lodhana.

Suk'kodhana.

Amítod'hana.

And two daughters Amíttá and Palítá.

Jaiyadipa married Yasódra who had

Janádhpati, son.

Kakayana, daughter.

Janadipatti married Súnanda Dewi, and they had for issue—

1. Maha Maya } Daughters, and
2. Pajapati }

1. Dantapavi } Sons.
2. Súppabudd'ha }

The latter married Amíta, and they had two sons.

1. Subhada Kabhaiyana.

2. Dewadat'ha.

Sudodhana son of Jaiyasena and Kachaiyana married Maha Maya. Their son Sidhatta Kúmára, who married Bimba *alias* Subhada Kachaiyana. Their son was Rahula.

Bárómmálak'hanát.

Bhakk'hawá.

Somdet Satsaná.

Karunná (Karunya).

Maha Krasát.

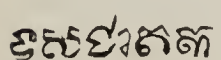
The following are from the Milinda Raja Four Budd'ho, or classes of priests and titles.

1. Suta Budd'ho—who are deeply read in Pali learning.

2. Chatú sachcha ditto—applied to learned expounders of the doctrine.

3. Pachék'ha ditto—those whose virtuous deeds have brought them to the threshold of Nirvana.

4. Sapp'hanyo ditto—who were divinely gifted or inspired with holy knowledge.

I have a Pali book in my possession bearing the title of Thassachatta  as the Siamese pronounce the words, or the ten sepa-

rate states of existence of Buddha. It is in as many volumes, and is rather bulky. With the help of my native assistant I many years ago made short abstracts of each of these sections—and should I find that they may be at all useful in elucidating the history of the kings of central India, and not yet translated, they can be forwarded for the Journal of the Society.

The ten states of the earthly existence of Buddha previous to his becoming a Buddha; from the Pali.

Te	Ja	Su	Né	Ma	Bhú	Cha	Ná	Wi	We
တေ	ဥ	ဏ	နေ	မာ	ဗု	ဇာ	နာ	ဝိ	ဝေ
1	2	3	4	5	6	7	8	9	10

1

မာလဗုဒ္ဓါ *Ela migá.*
2

ပဲခဲလဲဏာ *P'hicha nak'ha.*
3

ဝိဇိဏာ *Wichíta*
4

နေရယ ကာကဏာ *Ne'raya kakh'ata.*
5

ဥမာဗျဗုဒ္ဓါ *Umaungkha pichta.*
6

အာလံကာဗျဗုဒ္ဓါ *Alambhaya hétita.*
7

ယယဗုဒ္ဓါ *Yaya púchita.*
8

ပာဏံဝိဇိဏာ *Panhang wichita.*
9

ယက္ခဗုဒ္ဓါ *Yakké mahithita.*
10

ဝင်္ကတဗုဒ္ဓါ *Wangkaté pap'hachitto.*

ဖောဓိဗုဒ္ဓါ *Phra sídhata or thatha.*

The Siamese have, but not contrary, I suppose, to the spirit of Buddhism, treated Devadatta (or their Thewathát), the persecutor of Buddha throughout his ten states of existence, with more consideration than he would have, under like circumstances, met with from the bráhmans. He did indeed sink down through the weight of his misdeeds into hell, where he is to remain for one half of an infernal day, each of which is equal to five hundred and six years in the heavenly regions—while one day of such a year is equivalent to one thousand earthly years; but, then again, after having undergone this almost eternal fiery trial, he will return to the earth, become an Arahát, a degree of sanctity to which (only) eight [of Buddha's] disciples attained, and after teaching for seven days will enter Nivana.

Wilford remarked that the Buddhi Satwa of Siam calls Salivahana by the name of Devetat.

My observation does not confirm this, although it is not improbable that the bráhmans introduced the belief amongst some of the Siamese priesthood. In a drawing which I got long ago from a Siamese Bhiku or Bhikhu or Buddhist Priest, this Devadhatta is represented in the lowest or fifth mansion of hell, undergoing his punishment. Wilford, in the *Asiatic Researches*, describes this victorious personage under the name of *Tacshaca*, observing that he was “crucified by order of Buddha, on an instrument resembling the cross, according to the writings of travellers into Siam. By others he was impaled alive upon a double cross and hurled into the infernal regions, and Samana Gautama foretold that he would be a God in reality.”

Hence too, certain writers, wishing, with a very misplaced and mischievous zeal, to have it believed that the Buddhists received their ideas of Devadhatta or Devodassa, from the Christians, although the latter person lived and *sinned* B. C. 543, at the latest, have adduced this cross as a proof of their position. I subjoin a correct copy of the representation in my drawing as above alluded to. From the marks of blood on the arms and legs it should seem that it is intended to represent him as having been nailed to the four beams, and not impaled.

“King Aryyá is the same with the Pra Aryya-sira of the followers of Gautama in Siam and other countries to the eastward of it. He is the mighty pre-chief of the Arryas or Christians, and with him Buddha waged war, as well as with *his* disciple Praswana.

The Aryyá Raja is also the same with the Deva Twash'ta or Deva-

tat, who was crucified by order of Buddha.”* “Dévatat being, several times worsted in his wars with Buddha, made overtures of peace, and Samana Gautámá consented on three conditions, first to worship God, then his word, and lastly himself. This last article was rejected, and Tevatat was worsted in the next battle and was taken prisoner, and impaled alive by order of Buddha, and his limbs trussed up upon a *double cross*, and in that state hurled into the infernal regions.”† I suspect, with exception of Devatat’s enmity to Buddha, the rest of this account is apochryphal; first, there was no prominent self-existent God in the then Indian systems; secondly, it does not appear that Buddha inculcated at any period the worship of himself in his earthly shape, and doubtful if he did so in his future one; and thirdly, such a cruelty inflicted on his enemy was in direct contradiction to the whole tenor of his life, which was marked by practising and preaching humanity, forgiving even the person who poisoned him.

Buddha’s disciples were we know numerous enough. They are classed by the Buddhists of Siam as *Araháns*. The chief of these was P’hrá Arahán, but he is stated in the 10th Vol. of the Asiatic Researches “to have been Siva or Uranus, who both preside over astronomy.” But the inference or identification does not appear to me to have been proved. His followers are likewise described as having at one period been the most powerful amongst the heterodox sects, meaning the Buddhists in this instance.

The Phra Araham are borne on the Siamese war flag under the symbol ☉ 8 as there were eight of them—and they are represented in their various stages of the metempsychosis under various forms of half-human half-bestial; or with human heads peeping out of shells, as in Sanchadwip.

In the Páli Book called by the Siamese Milin, which I have supposed to be the Milinda Rájá, and of which I have, as already noticed, a copy, there is a section or passage descriptive of the *Arahantá*, who are rated at 100,000. Amongst these were pre-eminent

Assakhuttá Theró, who full of divine inspiration, abode on the top of the mountain Yúkhunthan, (Vicuntha, I suppose,) and who had gone to call Nágásená down (from heaven) when he was a Devatta.

* As. Res. Vol. x. p. 44.

† As. Res. Vol. x. pp. 94, 95.

P'hra Nágá, who while a Devatta in Tavatinsa, abode in the palace Kétumtí in the west.

Róhana Theró, who was the teacher or spiritual guide of P'hra Nágá until he became priest, and who attended him during the succeeding seven years, until he attained to be *Soda*, or perfectly versed in holy writing, language, and ordinances.

P'hra Nágá was also called P'hra Arahatta when his time of entering the state of Nivan or Nibritti was at hand; and he had become perfect in divine knowledge, and the Dhammanga sacred language. His condition then was that of *essassókárám*, or of one freed from all earthly affections and passions. His residence was in Pataliputro. This holy man also met with Milinda at the Vihan of the priest the Ayúban Asangk'haiá pariwéná, where were multitudes (80,000) of his followers.

Maurice* curiously classifies the Buddhists thus, on what authority I forget, but I think on Wilford's:—"Mahadeva is believed by the Jainas to have assumed the form of Araham or Mahiman, accompanied by his wife Mahámauyá" [Buddha's mother Mahá Máyá is perhaps here meant]. "The *heterodox* Indians [by which he here means Buddhists] are divided into three sects. The followers of Jaina, on the borders of India, the Buddhas in Tibet, *who perverted Devodasa*, and the Araham, said to have been formerly the most powerful, and whose followers now reside principally in Siam." But I have shown that the Siamese do not apply the name to Buddha. The order too I think should have here been reversed. The Buddhists, or so called Araham first, the Tibetans second, and Jainas the last, for I cannot help being of opinion that the Tibet Buddhists received the doctrine after it had changed its dress from the Páli to Sanskrit: leaving the most orthodox class in possession of the original books in the Páli, while the Jainas are confessedly heterodox from both.

Other noted Buddhists were Anirúd'ha, Mahá Kacháyá, Meghi, Khonthan, Assachina, Mahánama, Avapa, Bhakkhaivama, Chún-dha, Maha Thero. This last personage is invoked to cure diseases, and is believed by the Siamese to have been a celebrated astronomer.

Ananda, Kacháyá Upphakhutta, Anirúd'ha, Malaiya, Kassapha, Ubali, Símp'hali, Dattharatha, Anghulimára, who seems to be the Angulimála who was instructed by Buddha.†

* Indian Antiquities.

† As. Res. Vol. II. p. 387.

It is related of this disciple that he was instructed in his duties as a priest, by a high caste brahman, who became much attached to him. He was then however, it seems, of the brahminical sect, for, as the legend runs, this partiality of the spiritual guide towards him so excited the enmity of several other noviciates that they conspired, and accused the favorite to the brahman of carrying on an illicit amour with his daughter.

The brahman, dissembling his rage under the mask of friendship, and with a view to lead to his destruction, sent for the disciple, and communicated to him as a secret a mode by which he would assuredly attain to Nivana without further study. This was to frame a necklace of 109 human skulls (Siva's necklace occasionally). The disciple followed the advice, and had by waylaying travellers and killing them collected 108 of these skulls, when Buddha appeared before him in order to prevent a meditated matricide. The disciple, ignorant of his rank, pursued him to slay him, but Buddha rose into the air, and admonished him, and he, dreading the consequences of his conduct, besought Buddha to pardon him, and place him on the list of his spiritual sons. This legend was doubtless fabricated at a modern period, for if true, which it cannot be, this convert must have been instigated to these reputed and foul murders by a priest either of Kali or of Siva. But it shows how corrupted Buddhism must have become to countenance, as a fact, so atrocious a transgression of the law.

The birth and life of Buddha, as recorded in the Siamese sacred books, agrees closely with the description given in the Mahawanso of Ceylon. The Buddhists attracted so little notice of the learned until some few years back, that I did not think it worth while to publish all of the translations which I had made of portions of Buddha's history. I think it probable that a copy of the Mahawanso may exist in the archives of the palace at Bangkok. But no visitor seems yet to have had access to any Siamese *Library* there.

The Siamese have been deeply embued by the brahmans with a mania for astrology, necromancy, and their kindred arts. The following are some of their invocations, which the Sanskrit scholar will readily trace to their source. Empiricism too, being fostered in Siam, these invocations are in high repute with their *faculty*. They are believed

to have been conferred on Buddha by five Devatta Patítha-thá, whose names are given in the Milinda Rájá.

Om.—The all-powerful invocation which was framed by the mighty *Indra* and *Sri Rama* and the divine *Devattas* of all degrees for the use of man in his several occupations and perplexities.

A. U. M., according to the Asiatic Researches* is Vishnu, Siva, and Brahma or Brahmé. It is the *everliving* of the ancient Tartars.†

Faber notices of this celebrated trilateral word that it thus occurs om-phic-al, or the oracle of the Solar God, which the Greeks changed into om-pha-lus, and the Latins into umbilicus.‡ I have alluded further on to this enigmatical trilateral, in connexion with the worship of the sun as the great first Cause and supporter of life throughout the whole of animated nature, according to the ancient Persians.

Invocations.

May the beneficent and powerful throughout the three worlds, heaven, earth, and hell, namely, the glorious *Indra* or *Ph'ant'ha*, and *Narái* or *Sri Rama*, with all the good and benignant inferior deities give efficacy to their own potent invocation for the attainment of our present desire.

And thou *Sri Sarap'hát*, who art *Buddha* or *Samana Khatama*, and art now in the enjoyment of heavenly rest, who art purified from, and exalted above, every earthly affection, who when *called upon*, art omnipresent, who knowest all hearts, who alone possesses the power and privilege of *walking upon the waves of the ocean*, who nicely discriminateth betwixt good and evil, virtue and vice. And ye inferior *Devattas* who adore *Buddha T'háraní*, and thou, O *Iswára* [*P'ho pen chau*, of the Siamese, or literally “*man become Lord*”] who *established or made the heavens and the earth and all that is in them.*”

Who also framed the equinoctial line [typified by a threefold thread or platted line, and which is used to encircle a new building or a ship to consecrate it].

* Vol. V. p—.

† Key to Hindu Chronology.

‡ Faber's Cabiri, Vol. I. p. 66.

Who art invisible, intangible, and a *respector of Buddha*, although *his superior*. “O come with all the benignant powers of that divine Being (Buddha). He who established the Páli, *founded the sacred order* [the latter one it is to be supposed] of the priesthood, and exhibited in himself a pattern for imitation to the world.”

If such were the tenets of early Buddhism, they were much fewer and more theistical than they now are.

“And thou O Manla phi cháí, the famous physician of old, whose works have enlightened posterity and Saleng.”

“And thou Yama, ruler of the infernal abodes, and *Hunuman* and P’hra Thammayai, and P’hra Thammayan, lend your aid. And ye O Maha Changklí, and P’hra Lai Dárakan, come and render abortive the machinations of evil spirits. And ye all also Krot—Kalinghárát—Phonlawibat—Taling Sakh’an—Narái Seng—Narai Kramáu—Kam-mayáu—Thammay’i—Sonthayá—Ratri and T’háranisan, the latter of whom wrote a book describing whatever there is of evil in Jumbo Dwipa, in air, earth, or water, and injurious to men, come all and prove propitious.

“And may these invocations which I am going to repeat prove efficacious, seeing that *Iswara* deigned to employ them;—Maha Samai, Maha Chai, Maha D’hammachak, Maha Thassahak, Wi-pasit and Parit.

“And may ye O Buddha ong, and Thitp’ha nangkán and Widok Tháutraí and Sut and Winai be gracious.

“And may I be aided by the Maha Chat or the ten states of existence of Buddha (the fourth) which a priest received from that holy one when he had undergone the tonsure at the lake Anaudat [Manasarowara] previous to or at the period when he entered holy orders, and who had seated himself below a pipul tree.”

“At this spot the divine sage was visited by all the Devattas. It happened that a Yakhsha named Marathera, arrived at the same time. Now this Rakhsha had formerly proffered his daughter in marriage to Buddha along with the *sovereignty of the whole world, at the end of 7 days*, but had been refused, because the offer was coupled with the condition that he should abandon his design of becoming a priest. For Buddha contemned the riches and glories of this world. When Bud-

dha had retired and was reclining beneath his pipul tree (Bo tree), this Rakhsha attacked him out of revenge. But Thárani, the *goddess* of earth, came instantly and *rescued* Buddha [not yet a Buddha] by overwhelming the Rakhsha in a lake of water which she wrung from her ebony tresses.”

[This goddess is depicted in this attitude in a Siamese cosmographical drawing in my possession in a compartment betwixt the earth and hell. She occupies the left corner, and Mekhala, I think, the right, and betwixt the two are two snakes entwined and recumbent, but with their heads erect].

“May Methangkaro [a title of Buddha] approaching by the portal of the N. W. render propitious this spell.

Muni Deva, Muni Nagha.

Muni Buddha, Muni Phala.

Sapphé sattru winat sánti.”

[Aparagita protects on the N. W.—*As. Res.* vol. viii. p. 83].

“May Sakya Muni K’hatama resplendently enthroned in the N. prove favorable to this spell, [another title of Buddha.]

Sappa Deva.

Pisa Chewa.

Devá Alawakat’hayo.

Picha K’hattha latang t’hittawa.

Sapphé Yakk’há.

Paláyanti.”

[Varahi riding on a buffalo protect me on the north.—*As. Res.* vol. viii. p. 83.]

“May Saranangk’haro [another title of Buddha] gracing the N. E. render powerful this spell.

Wipassisará namat’hó.

Chakk’hó matsá (or massa) sirimató.

Sik’hitsa pinawat’husa.

B’húb’húta nukámpinó.

Wetsap’hó (or Wessaphó) sanamat’hó.

Natá Katsak’hapá Sinó.”

[Narasinhi protects on the N. E.—*Ibid.*]

“May Kakúsandhó [the 1st Buddha] whose place is every where, prove also propitious to all the spells.

“ May T. Yhipp’ha Macará also shield us by powerful spells, and so may Raja Naga—encircle me with his folds and protect me, and let Saranang come too and Parit aid also.”

Then come invocations for the expulsion of national sprites such as the Phi Mon, who are the cause of diseases and possess men, the Phi Chalong or guardian genii of mines and excavations, and to whom I have every reason to believe human sacrifices were made before Buddhism humanised the Hindu-Chinese, or Mahometanism struck down the bloody altars of Siva, next the spirits of women who have died in child-birth. Then philters and charms are to be guarded against, especially those prepared out of materials procured in *cemetries*, and also lightning and other dangers, and against unmarried persons beyond the age of twenty-two years.

Early marriage is so inculcated in Siam that bachelorism after the above age is considered to harbour something devilish about it, and is to be suspected!

Save us likewise from childless people and dreamers.

“ May we be aided by Chinnasí and by Sena Barami and Dhamma Barami and by

Budd’hó.

D’hammó.

Sanghó.

Saribut.

Buddhá Banlang.

May Buddha’s influence under the following attributes prevail :—

Síla uppa báramí.

Síla báramattha báramí.

Dhammá ditto.

Dhammá uppá ditto.

Ditto baramatha ditto.

Nik’ham barámi.

Panya ditto.

Wiriya ditto.

Khanthí ditto.

Sach’chá ditto.

Athithan ditto.

Metta ditto.

Ubekha ditto.

May Buddha's influence also avert the mischief arising from the spirits of persons who have died a violent death [because such having died in a passion they seek revenge], and from those sprites which hover about the makers of coffins, and door-frames and windows, and flit around all classes of artificers and painters, such people disturbing the spirits pervading matter, the elements, &c. and requiring to make ablutions to drive them away; also the mischiefs produced by the genii of the woods, wells, springs, ditches, and reservoirs, or which follow stage-performers or diggers of hidden treasure."

I may here remark that the Siamese are inveterate seekers for concealed treasure, and that so degenerate have the priests become, that they often set the example. Of this I have had many proofs, and a Siamese who had been a Bhiku or Priest, when he saw me excavating an old ruin, told me as a great secret how to find the treasure he believed I was in search of. Alluding to a book called *Tamra Kritsana*, *lé lai theng*, *lé len ré pré t'hat*—he described such treasure as of three kinds. First, that concealed in the areas of temples [to dig for which is death by the Siamese law, at least where such temples have not been deserted]. The second kind is that which has been buried by charitable persons for the use of those who can find it. The third is that derived from the transmutation of the baser into the precious metals, earths and other substances. This last study, or search for the Philosopher's stone, is in great vogue in Siam.

The simple and innocent owl has not here escaped anathematizing, as being of fearful omen to those over whose house it hoots.

May *Patt'ha Muttaró* [another title of Buddha] approaching the East or *Barap'ha*, render efficacious this spell.

"*Patt'hamang b'hint'hukang chatang t'hetiyang t'hant'ha méwa chettayang p'hetcha kánchéwa chattut'hang ángkhosá b'hawang pancha sirisang chatang nataró hoti sambhawo.*" [Sakra guards the East, *As. Res.* vol. vi.] Brahmani protect me on the east riding on a swan, [*As. Res.* vol. viii. p. 83.]

May Buddha or *Rewatto* propitiously occupying the *Akhane* or south-east, also assist me with this spell.

[*Narayani* protects on the S. E.—*Ibid.*)]

"*Samp'hutdd'hó att'ha wisanchá t'hewat'ha sancha sahatsaké panchá sata sahasaní namá mi sirisá ahang tesang dhammanchá sanghanchá*

at'hadaré ninamá mi sri sangháng namá mára nub'háwe mahantawá,
sapp'hé uppat'hawé aneká antára yaní piwinat santé asesato.''

May Kassiyapa [Buddha] entering the portal of the south, prove propitious with this spell. [Maheswari riding on a bull protects on the south, *Ibid.*]

Trini singhé—the three lions. Sattha nakhé—the seven elephants. Pancha Phichanu name wacha—the five ministers of Indra. Chatu thewá—four Devatas. Cha watsa (wassa) Raja—the six kings. Pancha Indra—the five Indras. Mahit t'hika Eka Yaksha—the Rakhsha. Nawa thewa—the nine Devos. Pancha Brahma or (Phrahma of Siam)—the five Brahmas. Sahabadi T'hawé Raja—the two princes. Attha Arahanta—the eight Arahans. Pansha P'hutt'ho—the five Buddhas.

May Sumangkhaló [another title of Buddha] in the portal of the southwest, assist me with this spell. Chamunda protects in the S. W. [*Ibid.*]

Siromé Buddhá t'hewanchá lalaté Brahmá t'hewda hant'hayé t'hannarai nayakan t'hewá hatt'hat'hepéparang surapat'hó powissonu kanchewá sapp'há kamá pasitt'hémi.

May Buddha Sikkhi, another title of Buddha, seated in the west, aid me in this spell. [Caumari riding on a peacock protect me on the west, *Ibid.*]

Faber considers the eight gods of Egypt to be the Octaod, as representing the poetic family, or Archites* spell.

Chatturó.

Nauwá mó.

Thamé chó.

Tri nik'ha.

Pancha.

Sattha.

Attha.

Eka.

Cho.

Sapp'hachai winasanti Buddha.

Buddha received the Buddhist creed from the following deified mortals :—Satakhiriya'k'ho, Asurinthó [or Rahú, I think], Maha Raja of the heaven, Maha Rajika, Sakkotatha or Indra. Maha Brahma, he with four faces.

* Faber's Cabiri.

The creed runs thus—Buddhang pachhakhami, D’hammang pachhakhami, Sanghang pachhakhami. Buddha—the Word—the Hierarchy.

The Vedas were venerated in human shapes because *orally* delivered [A. R.] The brahmans who have in later times gone to Siam continued to instil into many there the belief that [their, the brahman] Trivikrama, and Buddha are the same, alleging that the latter, in guise of an ascetic obtained a boon from a king of Jumbo Dwipa, as much ground as he could compass in three strides, so he compassed the world and thus got the sovereignty, but refused to retain it.

A prominent feature of Buddhism is the veneration of relics.

Some years ago a Siamese priest who had gone to Ceylon to procure relics, arrived at Penang from Siam, bearing the Emperor’s order to the priests to erect a relic temple, or Chaittya, there, and deposit part of the relics in it. There are now two principal ones and one inferior Chaittya on the Island.

The inquirer into the origin of Buddhism is in a great measure relieved from the necessity of classifying gods and goddesses, ad infinitum almost. There is only one real type which he has to trace out, through its corruptions.

Buddha it is said, declared that the relics or S’arira were for the vulgar only (meaning the relics of former Buddhas).* But although he certainly did not manifest any particular anxiety as some western heroes did regarding the disposal of his body after his death, the omission must have been owing also in some degree to his being aware that his relics would be worshipped, since the enshrining of those of his predecessors was a rule or dogma of the religion he preached.

The following is from a Siamese version of a Páli work, entitled “An account of the death of Buddha and the distribution of the relics.”

“Let all praise and glory be ascribed to the mighty and holy Buddhó, who when he was on the eve of entering the divine state of Nivan was reclining upon a stone couch shaded by the meeting branches of two sacred (Bo) trees near to the country of Kosinaraké, the abode of peace and delight.

“In the year of the little snake Maseng [sappo sang wachcharo] in the sixth month, on Tuesday, at the golden dawn of day, did Phra *Chinnasi* [a title of Buddha] disappear from the earth and rest in Nirvana.

* T. R. A. S. Vol. XII.

“ The relics which this divine personage left behind him out of compassion for mankind were in number and quantity as follows :—

First. Seven large bones, namely, two collar bones, the lower jaw-bone, and four canine teeth. The right collar bone was taken to Ceylon in B. C. 307, and the right canine tooth was preserved for a long time in the capital of the Devos (Mahawanso).

Secondly. Of smaller bones there were sixteen thanan or dona measures.*

All of these remained after the body of Buddha had been consumed by the fire which proceeded from it.

They were afterwards separated into portions. The first portion of the small bones, about the size of split peas, comprised five thanan of the Siamese [dona of the Pali] or measures, and resembled gold of the ninth touch.

The second, about the size of rice grains bruised, and vying in lustre with the adamant, amounted to six measures. The third portion, of the size of mustard seed, amounted to five measures.

These relics were all conveyed away by Garuda, by mankind, and by the Devattas residing in the heavenly mansions.

The first mentioned relics [in whole or in part] were thus disposed of :

First. The *right* bone was secured in a holy Phra Chedi (or Dagoba) in the country Khant'haratt'ha wisái, or in Páli, as the Siamese priest gave it to me, Khantará wisayé (Candahar I suppose).

Secondly. The left *collar* bone was conveyed to Sawanna, and there enshrined. This appears to be the Sawanna pabbato or golden mountain.†

Thirdly. One of the upper canine teeth on the right side was taken to Dáuwadungsa Sawan, or in Páli, Tawatinsa se patit-thi-tang, one of the heavens of the Buddhists, the capital of the Devos by the Mahawanso, and enshrined in a *T'hupani* (or *Sthoupa*).

Fourthly. The lower canine tooth of the right side was carried to Sihala t'hipaké, or Ceylon.

* The limbs of Osiris were burned and parted into fourteen pieces, and were then dispersed all over the world (Wilford and other writers). I am not perfectly certain that this osteology is correctly given.

† Not being quite sure to what part of the body these two bones belonged, and having no clue to their proper names, I have left them unnamed, the rest are named as given to me by my Siamese assistant.

Fifthly. A canine tooth of the left side, was enshrined at *Gand'hara wisayé*.

In the Mahawanso of Ceylon this country is thus noticed, “Gand'hára and Kasmira” near the “Naga King.”*

Sixthly. One of the left lower teeth was deposited in a Fane at *Nag'hapuri*.

The sixteen measures of bones before described were divided into three sorts, and distributed throughout eight different regions of Jambu Dwip, in the proportions of two measures to each. These were probably the pre-eminently Buddhist countries at the period. In B. C. 157, according to the Ceylonese Mahawanso,† there were priests from 14 places in India, who attended the building of the Maha Thupo, namely, *Rajagaha*, *Isipattana*, a temple near *Bárúnesí*, Jelo Wiharo (near *Sawathipura*) Mahawanno Wiharo of *Wesalí*. The Ghosita temple of *Kosambia*, *Ujeni* temple, Asóko temple of *Pupphapura*, *Kasmira*, *Pallawabhago*, *Allassada*, the capital of the Yona country (q. Bactria). The *Uttania* temple in *Winjha*, *Bodhimando*, Wannawaso, and lastly from the *Kelaso Wiharo*. But are we sure that the whole of these fourteen countries were Buddhized during Gotama's life?—In the list of countries visited by Buddha given by me [T. R. A. S. 1831, Vol. III.] the following, which are here named, do not appear, unless names be confounded.

Anlakapaké, Ramakhamo (or gamo), Wet'hatípaké, Weya Képale, Panchala [q. Punjab], Kosali, Mithila, Wideha, Indraprestha, Bráhma's Town [q. trans-Himalayan], Kúru Khandahara Wisayé, Naghapuri, Pátaliputra. It is true that in the list alluded to Buddha, like Hercules, is said to have visited the four quarters of the world. It should seem that Buddha did not visit Kandahar. This if proved might show that Buddhism had not travelled east or S. E. by that route. But we must I fancy deem it as more probable from its distance from Buddha's birth-place, and from having thus so early after his death obtained relics, that it had been essentially a Buddhist country, in the days of Kassapho Buddha. Indeed it seems to me that all which we possess regarding the Buddhism of India points towards the N. E. from Sakya's birth-place as the quarter whence it emanated.

* Turnour's Translation of the Mahawanso, 171.

† Turnour's Mahawanso, 15, 16, et seq.

1st. To Rajak'hahá (or Rajagriha in Behar) ; (𑀕𑀸𑀢𑀺𑀓𑀸𑀢𑀺 Páli) also Rajagaha.

The Páli or Bali from the Milint'ha, }
 𑀕𑀸𑀢𑀺𑀓𑀸𑀢𑀺 } 2nd. Wesali, [Yampuré.]

This might be Visala or Oujein, but more probably it was Wisali, the capital of the Wajji, the country of the Lichchawi Rajas, mentioned in the Mahawanso.*

3rd. 𑀕𑀸𑀢𑀺𑀓𑀸𑀢𑀺 Kabiulaphat or Kapilla Watthú (Saming). This appears to have been the birth-place of Buddha, where his father Suddhodano reigned. Supposed, observes Turnour, to be in the neighbourhood of Hurdwar in India, and to have derived its name from Kapillo, the name of Gótama in a former existence. It is elsewhere noticed as a place called Kapilavastu, N. of Gurruckpore, near upon the Rapti river, where it issues from the hills.† The Siamese say it lies close to the Chinese frontier. In the Mahawanso this country is named Kapilawatthapura.

This is the Burmese Kapila pyé over which reigned Ichada and his line.

4th. 𑀕𑀸𑀢𑀺𑀓𑀸𑀢𑀺 Anlakapaké may be the Aláwipúra of the Mahawanso, (p. 181).

5th. 𑀕𑀸𑀢𑀺𑀓𑀸𑀢𑀺 Ramak'ham.

This would seem to be Rámágamó of the Mahawanso‡ a town on the Ganges, for in this work, I find it thus noticed :—

“The pre-eminent priest the Thero Mahá Kássapo, being endowed with the foresight of divination in order that he might be prepared for the extensive requisition which would be made (at a future period) by the monarch Dhammasoko for relics (by application) to king Ajatasattú, caused a great enshrinement of relics to be celebrated with every sacred solemnity in the neighbourhood of Rajagaha ; and he transferred the other seven donas of relics (thither), but being cognizant of the wish of the divine teacher (Buddha) *he did not remove the ‘dona’ deposited at Rájagámo.*” This temple was afterwards destroyed by the inroad of the Ganges, (Mahawanso.)

* Turnour's Mahawanso, p. 73.

† Turnour's Mahawanso, (Index,) p. 11.

‡ *Ibid.* p. 184-5.

6th. ⁺ဝေဠာဒိပ္ပန္တေ Wet'hat'hipaké.

7th. ပာဝေယျာနဗလေ Pawaiyaka or Wéyaképalé.

This appears to be the Pawanaganara of the Mahawanso, (p. 181.)

8th. ^၇ကုဗ္ဗိယာရေ Kosinnarai, Kúsinaraké. The Burmese Kusawady in my list of Burman kings, may have been Kusinagara, or rather the city of Hurdwar, which Mr. Turnour observes is supposed to have been the place where Goutama Buddha died. Buddha however died at Kúsinará, wherever that city lay. In the [Mahawanso this country is written Kúsinanagára,* (p. 181.)

In the Siamese Milin just alluded to, and having several of the features of a Paurana, are some accounts of the relics, which I shall extract.

From the Milin Relics.

ဇာတိဗ္ဗာရေ, Relics of Buddha and their size.

မဟာဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

Mahahanta pancha nali b'hinna mutta suwanna wanna.

မတ္တိမာဗ္ဗာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

matjima chanali b'hinna khantala p'halika wanna pab'ha.

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

uthaka pansha nali chasapha matta phikula wanna.

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ

Chaturo d'hat'ha

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

ဗုဒ္ဓဗန္ဓုပဏ္ဍိတိန္ဒြိယာရေ နာဗိဗ္ဗာရေ နာဗိဗ္ဗာရေ

Then follow the eight countries into which the relics were distributed, as already described, the names agreeing.

Next we have a list of durations and whence derived.

ဣဒ္ဓိ, or 18 D'hato.

ဣဒ္ဓိ	.....	Chako d'hato.
စောဒ္ဓိ	.....	Sota ditto.
ဃာဒ္ဓိ	.....	Ghana ditto.
ဇိဒ္ဓိ	.....	Chiwa ditto.
ဧဒ္ဓိ	.....	Thaya ditto.
ရူပ	.....	Rupa or roop ditto.
ဗဟု	.....	Sat'ha ditto.
ကဏ္ဍ	.....	K'hant'ha ditto.
ရသာ	.....	Rasa ditto.
ဧသုဗ္ဗာ	.....	Dho tha-pha ditto.
ဣဒ္ဓိဇာတိ	.....	Cha ko wi.
စောဒ္ဓိဇာတိ	.....	Sota wi.
ဃာဒ္ဓိဇာတိ	.....	Ghana wi.
ဇိဒ္ဓိဇာတိ	.....	Chiwa-ha.
ဧဒ္ဓိဇာတိ	.....	Kaya wi.
ဗုဒ္ဓဇာတိ	.....	Yana wi.

The dress and effects of Buddha were thus distributed within Jumbo Dwip.

1. His sash or vest to *Pataliputra*.
2. His bathing dress to *Panchala* (Panchal Desa).
3. His drinking cup to *Kosali*.
4. Aranicha or flint and steel, to *Mithila*.
5. Wéthéhé parisawanang widéhá. His cloth strainer to *Wideha*.
6. Wasi suchi gharanchapi Int'hapat'hé patitt'hita. His sewing apparatus to *Indraprestha*.
7. Upahanang kunchi kanchá t'hawiká yancha sapp'haso usira Brahmana khamé. His slippers and his key (to the temple of Cloacina) to a *brahman's town* (trans-Himalayan?).

8. Pachatharana mang kuté. Lanka Thípe (Dwípe), pattanchapi. His cloth or mat for sitting on, to *Magadha*, and his begging pot to *Lanka*.

9. B'hatd'ha nakarécha chiwarang, Kurunak'haré ni sit 'hanang. His upper dress, or chewon, to the Kuru country.

In the 'Ratana Kalapa' are the following notices :—The body of Buddha was burned on Monday and Tuesday, or the 6th and 7th days of the 6th month, year of the *little snake*. The relics were divided on Thursday on the 8th of the moon's increase, in the 7th month of the year *little snake*. The relics will be all collected again upon *Wednesday to Friday* on the 15th of the increase, to 1st and 2d of the decrease in the 6th month in the *rat* year, and they will be finally collected in Nivana (D'hatu Nivana) from Tuesday to Wednesday, the 6th to the 7th of the increase, in the 6th month in the year *rat*. The relics will be first collected and enshrined in a Cheti in Lanká, when all the Devos and Nagas and *Brahmans* will be present, and they will return to Mahá Bodi Mandapa, where Buddha first became a Buddha. Here this holy one will again appear refulgent, and the whole universe will be illumed by his splendour. The deities of the heavens will assemble and utter praises, exclaiming now the time of Buddha has expired, now we shall no longer see him, now has his religion ceased. A fire will then burst forth from Buddha's body and the flames will ascend to the Brahmé lóké. But there will be no more relics.

Ajatasattu Raja protected the faith four months after Buddha entered Nivana, one hundred years after Buddha (B. C. 443) Kalasóka Raja, son of Súsúnaga, became the protector of the faith.

In the year of Buddha 437 (B. C. 106) Wajjagamini (I suppose he may be the Wattagamini of the Mahawanso) appointed Buddhadatta to be chief of the sacerdotal order, at a place called Tissa Maha Wihar, where he had collected 1000 priests.

“It was at this period that they first began to *write* the history and dogmas of Buddha, a labour which occupied (these priests) one year.

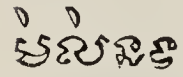
A. B. 953. (A. D. 410.)—Mahanamo directed Buddha G'hósá to put the Páli Sihala Att'hakatha and Tika into the Magadha language in order to preserve the same in Jumbo Dwip. (This date and the circumstances closely accord with the account of Buddha Ghósá in the Mahawanso).

A. B. 1587. (A. D. 1044.)—Parrakoum Bahú Raja and the Theró Kassapa convocated 1000 priests and got them to translate into the Magadha language the *Trai Pikok*.

A. B. 855 (A. D. 312) Buddha's tooth was conveyed to Lanká. In the Mahawanso this is reported to have happened in the 9th year of the reign of the Ceylonese sovereign Tirimeghawanno, who ascended the throne in 845, A. B., so that the difference is only ten years betwixt the two accounts.

A. B. 433. (B. C. 110).—The Panchama Sangayanai was compiled or written by order of Wajjagamini or Wattagamini. I do not find this mentioned in the Mahawanso.

A. B. 1000, (A. D. 457.)—In this year Anurudha arrived at Lanká [q. from the Indian continent] and having had all the sacred books copied he shipped them on board of two vessels and returned.

This *Milin* is, I think, the same as an Indian work which I have seen quoted as the Milinda Raja. This one in my possession is headed  Milithara, and Milintha Raja, is stated to have been the grandson of Punarathéwa (Deva), who was (king) of Sagala nagara. He built a Degoba on the banks of the Ganges. I believe that it contains chapters on subjects not usually found in Pauranas. But its general purport appears to me to support the statement given in the Asiatic Researches* that the writings of the heretical sects of Hindus [meaning I suppose Buddhists] exhibit quotations from the Vedas, or they might have been quotations from books directly received or brought from Persia. However, as the book is chiefly in the form of dialogues betwixt a king, Milintha Raja, and a priest (of Buddha), it is most likely that they are the same as the Milinda Raja describes. If I can meet with a Siamese priest sufficiently learned in the Palí to be a scholastic guide, I may perhaps be able hereafter to include this in an abstract or catalogue of the Palí works in my possession, and those which I may yet procure, for at present I have neither a grammar (excepting portions of a Palí one untranslated) nor a dictionary to assist me. But the Veda called Caushitaci† contains two dialogues betwixt Indra and Ratardama, and another in which Ajatasattu, king of Kasi (and a Buddhist) communicates divine knowledge to a priest named Balasi.

* A. R. vol. viii. p—.

† *Ibid.* vol—, p—.

My copy is evidently an abridged one, for in many places the titles and heads of chapters, and their sub-divisions, only, are given, yet it contains 150 folio pages. The introduction to it informs us that “the Mili (n) thara contains one thousand and one K’hat’ha or chapters.”

Raja Milin is further therein stated to have flourished in the period of Kassypó Buddhó, or the third Buddha, Sakya’s immediate predecessor. His preceptor was Nágháséna a [Buddhist] priest. At this time he was son of Athitcha Wangsa, king of Sakhalá or Sagala Nagara. The youth had many angry discussions with his tutor, who was over-rigorous in his discipline. Both died in the usual course of nature, and were born again.

In the year 500 of the Era of Buddho (B. C. 43) Milin was born again, as king of Sak’hálá. Nágaséna was likewise born again, but many years later than Milin, and in time became an officiating priest (of Buddha) and at this latter period Milin had reached a rather advanced stage of life.

This priest is further known under the titles

Wirásená,	{	Ationg papang nakarotiti nak’ho.
Surásená,		Senti sayanti été nawat’ha pachat’hikachanati seno.
and		Nak’ho chaso senochati nakhaseno.
Sihásená,		Sila khand’ha t’hihi t’hara titi t’hero.

Milin and Nákhasená had a second time left the earth, when a learned priest named Maha Pitaka Chula bháya thera composed this Book, (Milinthara,) purporting to be dialogues betwixt Milin and his said preceptor.

The priest it is added, was considered to have had the best of the argument owing to his former metempsychological abode having been in one of the heavens.

When king Milinthara (last) appeared, the fame of his learning alarmed the priesthood [Buddhist] who could not brook a rival. From this we might infer that Milintha was not a Buddhist. With this feeling one of the Arahanta who resided on the hill Yok’húntara, one of the seven hills of Meru, hurried off to the heaven of Indra, or Tavatinsa, and besought Nakhasená, who was then a Devata, to visit (or revisit) the earth in order to dash the spiritual arrogance of Raja Milintha. These Arahanta were 80,000 in number, and their chief was named Assak’hutta Thero (before alluded to).

Nakhasena, who was residing then in the resplendent palace Ketumtí Wechayantapasat, in the western quarter (of the heaven), condescended to veil himself in a human shape to save the priesthood from the disgrace of being worsted in argument by a person not of their own *order* (the priesthood). Nakhasena's lineage was as follows:—

1. His paternal grandfather Sóna Brahmaná.
2. Ditto ditto mother Sóni Brahmaní.
3. His maternal grandfather T'hóna Brahmaná.
4. Ditto grandmother Sónant'ha Brahmaní.
5. His father was Sonúttá Brahmaná.
6. His mother Sónúttari Brahmaní.

His first residence was called Konlak'hamma, or Donagama, and when he became a priest he resided at the temples and monastery of Esasokarama, in the country of Patalibutta (Pataliputra). His spiritual guide was the learned Rohana Theró, with whom he remained for seven years and ten months; after he had attained to the rank of an officiating B'hikkhú or priest. His piety and knowledge of sacred things then entitled him to be Soda, or one who lives in the world unattracted or corrupted by its frivolous enjoyments or pursuits, and unaffected by its moral vicissitudes. He met Raja Milintha at the abode of the priest Ayuban, who had an immense number of followers of his religion.

Raja Milintha's geneology is thus detailed:—

His paternal grandfather, Punara-t'hewa.

His maternal ditto, Narab'ho K'hawana.

His paternal grandmother, Wichitawi.

His maternal ditto, Sunant'ha.

His father At'hichcha Wangsa (of the race of the sun).

His mother Chant'ha T'hewi (of the divine Lunar race).

His consort was Akk'na Mahesi Int'ha T'hewi.

King Milintha derived much of his knowledge from the sacred books called 1st, Buddha Wuchana, regarding the great saviour, and containing 404 sections or volumes, and from 2d the Winaya pancha chatthicha sattati thawi, satta sutté, abhi dhámmé nawa sathi chattari chattu sattayo (q. the Vinac.)

The abbreviated names of the 28 Buddhas who were anterior to the five Buddhas (including Mettiya who is yet to come) :—

𑀓𑀺 𑀧𑀺 𑀲𑀺 𑀲𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺
 Tang Me Sa Thi Ko Sa So Re So A
 𑀧𑀺 𑀓𑀺 𑀧𑀺 𑀲𑀺 𑀲𑀺 𑀧𑀺 𑀓𑀺 𑀓𑀺 𑀲𑀺 𑀓𑀺 𑀲𑀺 𑀲𑀺
 Pa Na Pa So So Pi A T'ha Si Ti Pu Wi
 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺
 Si We Thu P'ho Ka P'ho

Buddhas.

𑀓𑀺 𑀧𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺
 Na Ma Na A Na Ka Na
 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺
 Ka Ká A Ná A Ná A Ká Ang

Females or the Wives of Buddhas.

𑀓𑀺 𑀧𑀺 𑀓𑀺 𑀧𑀺 𑀧𑀺 𑀓𑀺 𑀲𑀺 𑀓𑀺
 U Mi A Mi Má P'hi Su Tang
 𑀓𑀺 𑀲𑀺 𑀓𑀺 𑀓𑀺 𑀓𑀺 𑀲𑀺 𑀓𑀺 𑀓𑀺
 A So Ná P'ho T'hang So Ná A

Some Account of the Battle Field of Alexander and Porus, by Capt. JAMES ABBOTT, Bengal Artillery—Assistant to the President at Lahore, and Boundary Commissioner, Hazara District.

WHEN Alexander, encamped upon the western bank of the Hydaspes, justly dreading to land his cavalry in face of a long line of elephants, decided upon crossing at a point higher up the stream, he discovered a suitable spot in a woody promontory of the western bank, opposite to a small woody island in the river. Leaving therefore Craterus with a small column in his standing camp at Jelum to mask the movement, he, in the darkness of a night-storm, aided by the uproar of the elephants, conveyed to the promontory the flower of his army ; and

reaching with them the Island (probably by boat, for it was the season of the monsoon) speedily wafted them across the second channel, and supposed the Hydaspes to be passed. But what was his mortification on discovering that they had but gained a second and larger island, around which, considering the force of the swollen torrent, there could be little hope of timely towing the boats.

At length, however, out of hope, (for such good fortune in such a river, at such a season and after such a storm, was marvellous) they discovered a ford, through which the Phalanx waded breast-deep and gained the eastern bank. It is probable that the dawn broke as they reached the larger island, for the alarm was then given, and Porus hastened from his camp opposite the present Jelum to give him battle. They met upon a level plain of firm sand; the chariots, elephants and infantry of Porus, opposed to the Companion cavalry and to the Macedonian Phalanx. The result was the signal triumph of Alexander and the surrender of his gallant foe.

Now, in glancing the eye over the accompanying chart of the river, we perceive one singular advantage in Alexander's position, viz. that he commanded the chord of an arc in his flank movement; whilst his adversary had to follow the curve. Accordingly, the spot selected by Alexander is about 10 miles from his camp by a level road; whereas it is about 19 miles from the camp of Porus. The river is at this moment so exactly as described by Alexander's historian, that the map might seem rather an ancient than a modern production. The only channel which can be forded during the monsoon is that which I have designated Alexander's channel. The bottom is of massive boulders of quartz firmly imbedded. The soil around is a very firm stratum of mingled sand and clay. In fact, the river Jelum, bursting here from its prison of rock upon the open valley, has inevitably diffused its waters by numerous channels, none of which, owing to the solid substratum of boulders can be deepened beyond a certain level, and whatsoever alterations have occurred in the course of the river since first projected upon the valley, arise from the efforts of the water to find the lowest level of this pavement, from which they were originally deflected by the solid cliff on the western bank opposite the fort of Mungla. The firmness of the soil and the shelter from wind afforded by the height on either side prevent any considerable deposit of sand in the older channels,

which remain naked and sharply defined as when first grooved in the soil, and never entirely lose their office of conduits to the waters.

Nearly all the fifty* islands of the Hydaspes are cultivated. Several are thickly inhabited. But the Tamarisk springs rapidly upon the fallow, forming in three or four years cover sufficient to screen at night the passage of a hostile armament. The length of several of the islands is very considerable. That which I suppose to be the larger island of Alexander† is about 6 miles in length by an average breadth of half a mile. It is cultivated like the mainland: and no one from the level plain of the western side could conjecture it to be an island.

A glance at the map will assure us that from time immemorial there has been but one ferry to the Hydaspes between Mungla and Jelum, and that this ferry must ever have been near its present site at Pindi. Alexander could not have been two days at Jelum without discovering that the river above that point was full of islands,‡ and he would naturally have sought a passage near the ferry, because, at that season none of the numerous channels could be supposed fordable. But as the ferry itself would certainly be (as indeed he found it) watched by a hostile force, he would have made the crossing at sufficient distance to escape their opposition.

Now if we suppose both the old and the new channels to be occupied during the monsoon, as at this day, we shall have opposite the promontory at Bhoonna, a cluster of four small islands,—or if we suppose the minuter channels to be recent, we shall have a single island in their stead. The island immediately abreast could not be reached owing to the power of the current; the boats would therefore thread the small channel (a) and come to at the easternmost island of the group; which if covered, as at this day with Tamarisk, would effectually cover the passage. From thence, on the arrival of the rear-guard, they would put off for what they would naturally suppose to be the mainland, being the land of the established ferry. They would land in the parallel of the village Seem, and would quickly discover that they had reached only a

* Between Mungla and Jelum the number of islands is fifty. Below Jelum there are many more.

† Marked in the map (b).

‡ In one of those islands a contest was maintained between the adventurous spirits of Alexander's and Porus' camps, (see Quintus Curtius.)

very large island. Around this, they could not have towed the boats in time to escape opposition.

The channel intervening between them and the shore is that marked Alexander's channel. It is the only channel of the Jelum fordable during the rains. The map will assure any one familiar with the phenomena of rivers that its depth is lessening every year. And accordingly, it is now only knee-deep during the monsoon. But as the Jelum is more effected by the melted snow of the mountains than by the rain, it is at the moment of writing this* about a foot deeper than during the monsoon.

Now it is a fact with which every military man should acquaint himself, that barring accidental holes, the outermost curvatures in the sinuosities of a river are deepest, the innermost, the point of least depth. And it follows, that between any two windings there exists a ridge or shallow, diagonally connecting the two inner curves. It is therefore probable that the ford was opposite Sirwali.

But be this as it may, there can be no question, that this is the channel across which the Macedonian army waded, breast-deep, on that eventful morning. In the course then of 2175 years, the western channels of the Hydaspes have been enlarged just sufficiently to drain off one half of the water flowing by the easternmost channel. This appears to me an important fact, as offering a standard so much needed by the Antiquary and Geologist for decyphering the handwriting of time.

Allowing, then, that Alexander effected his landing somewhere near Sirwali, the camp of Porus, which must have been opposite Jelum, was distant from the landing-place about 19 miles; a considerable detour being necessary to avoid the quicksands of the Sookaytur. The bed of the Sookaytur, a level plain of sand a mile in width, and dry excepting during the monsoon, interposed at the distance of 9 miles from the camp of Porus, and at the same distance from the landing-place. But this level plain, which might otherwise answer the description of the battle-field, is a torrent after heavy rain, and is so full of quicksands as to be unsuited to military operations. As therefore, Alexander could scarcely have completed his landing before noon, and, as by that time Porus must have been six hours advertized of the movement; allowing for the unready to stir of an Indian army, it is probable that they met in the latitude of the village Pubrál; a plain of firm sand stiffened

* April 1848.

M E E R P O O R

J U P P A L



SCALE OF MILES
1 2 3 4 5 6 7 8 miles

J. Brown

with clay, bounded on the S. west by the Hydaspes, and by a range of low hills and ravines on the N. east, the interval being about 5 miles.

Had Porus but been aware, wherein consisted the peculiar strength of his adversary, wherein the peculiar feebleness of his own array, the narrowness of this battle field might have been turned by him to good account ; his right resting upon the quicksands of the Sookaytur opposite Alibeg, and his left upon the Jelum. But it was the encounter of military genius practised in the tactics of eastern foes, with the valor which knew but of one mode of combat.

As I rode upon an elephant over the whole of this haunted ground, splashing across the numberless channels of the crystal Hydaspes, the whole tragedy seemed once more to be enacting around me. The perilous transit of the cavalry, across the swollen and turbid gulf, in the ponderous boats of the country amid the darkness and the thunders of an equinoctial storm. Their formation in the stern silence of perfect discipline. Their sudden mortifying check, as they found a wide, deep and tumultuous current still separating them from the eastern bank ; the galloping of horsemen hither and thither to ascertain at once the length of the island and the practicability of fording ; their dismay when they found the island almost interminable ; their sudden discovery of a ford breast-deep through a current of portentous power, the plunge of the iron clad Companion cavalry and steady stride of the Macedonian Phalanx, hand linked in hand, through the foaming torrent ; the splash, the scramble up the farther bank and instant reconstruction of their veteran Battalia ; the stern joy of the young conqueror, as he finds that nature ceases to oppose him, and that there remains but the encounter with fellow-men.

Meanwhile, fiery with haste the horsemen of the Powarr are dashing toward the camp of their Raja, and suddenly drawing rein before the guarded enclosure, exclaim breathless, "The men,—the iron-men have crost."

Then the mighty camp is one scene of confusion and of life : warriors snatching up their arms ; horsemen saddling their war-steeds or yoking the courser to the chariot of battle ; the elephant caparisoned in his iron panoply, surmounted by the castle, filled with bowmen or hurlers of the winged dart ; the half drest food relinquished, the half formed lustration abandoned, the half-breathed prayer cut short ; whilst

to the sound of the shrilly conch the ranks are rapidly arrayed. And now in one dense, deep mass, the host advances to battle. The cavalry leads the van, throwing out videttes on either hand. The war chariots follow and then the infantry: and lastly, the ponderous elephant, with long, but slow and cautious strides heaves onward his portentous, battle-mented bulk; as if the very towers and castles of the sultry east had mustered in life to arrest the invader. Onward rolls the vast tide, heavy with destruction, carefully and warily they cross the treacherous sands of the Sookaytur. The elephant sounds the footing with his trunk and judges of the ground by the echo of that hollow organ. They have past the sands, they are nearing the Hydaspes. Their van is halted. Doubtless the enemy is in sight. No! it is only their corps of observation flying in disorder and dismay: and he who led them shall return no more. The sight inspires the needful caution. The host proceeds more slowly and in better array. The cavalry falls back upon the flanks. The elephants are advanced beyond the infantry, which leaves intervals for their retreat. And now a distant gleam of steel betrays the presence of the invaders, and the Indian host is halted in the plain, the left resting almost on the Hydaspes, the right some furlongs from the hills. Why does not the noble Powarr diminish the intervals to a span. He counts upon them in either case for the manœuvres of his cavalry. He little knows how terrible a cavalry is opposed to his own light horse. Could he but connect with his Phalanx of elephants the hills and the river's brink he might yet be winner of the fight: for the terror of the invader is the companion horse, and they could never face the array of elephants.

Scarcely is the Indian army in position, when the few, but iron squadrons of the invader are at hand. They form, they pause. Their young leader, conspicuous for his lofty crest and costly arms, and the coal black charger which bounds beneath him, reconnoitres the position from flank to flank. Then, like a whirlwind burst upon the devoted wings of the Indian the iron clad Macedonian chivalry: horse and man inspired with the same uncontrollable ardor and with an energy impossible to the exhausted children of the sun. Like the sound of fire amid the forest is the crash, the burst, the turmoil of those strong sons of battle as the ranks go down before them, as the helmet is cleft and the mail is riven and the spear is shivered upon their iron flanks. In

vain does the gallant Raja bear down with all his force to crush or to sweep into the river by the weight and terror of his elephants and the shock of his chariots the destroyers of his broken ranks. For now the Macedonian Phalanx advances and a storm of arrows, of stones and of winged javelins rains upon the timid elephant, or rolls his guider in the dust. Frantic with terror and with pain, the huge monsters reel round upon their master's ranks and spread confusion and dismay. Then rages the tumult of the battle. The light reed arrows of the Indian archer rebound shattered from the plated mail of the Greek. That steady, self-possessed, never wavering mass of broad shields and brazen helmets and long protruded pikes, never hurrying ever advancing wins, step by step, its gory way. Death is busy in their ranks but makes no chasm there, for the ready files still close together, self-supported and supporting, whilst over their heads and from either flank the archers and slingers pour their murderous hail.

Meanwhile the battle rages upon the Indian left. Cænus with his cavalry has past round the right flank of the Indians and driven before him in confusion the succour sent to the other wing. The cavalry that waits to be attacked is lost, and what chance has the timid light-armed horseman of the Indian with men whose souls are fire, their swords sledge hammers, their tunics of tempered steel. The broken and disordered horse are driven pell mell upon the frantic elephants and upon the wavering foot. The chariots whose power is velocity are destroyed without a blow. The whole dense host of the Powarr abandons the field in the panic of flight.

Porus alone maintains the contest. His elephant still wades through the sea of life and death, trampling, destroying, affrighting as he moves. The Tarkhaili chief is sent to summon him. His answer is a winged shaft. Meroo* is more successful. He represents the hopelessness of prolonged resistance, he points to his scattered army, he assures the Raja of honourable terms. Then, the two brave foes meet face to face: the successful robber and the patriot whose heroism is vain. And the robber, whose heart revolts from the iniquity his ambition has devised, soothes the noble spirit whom, without provocation, he has wronged.

Such were the scenes which crowded upon my mind's eye, as for

* Meroo is still a common name in Huzara.

two successive days, from daybreak until evening, I was wading through the crystal waters of the Hydaspes and sketching the topography of the Battle Field. For it happens that the boundary of the Sikh and mountain kingdoms meet upon this most interesting line, and the inhabitants are either side have inherited all the rancour which animated the combatants here in Alexander's day: so that every island is contested, and an accurate plan was essential to enable me to adjudicate the claims.

The scene itself is quite worthy of the stirring memories with which it is associated. The Hydaspes, bursting from the mountains, sweeps around the castle-crowned cliff of Mungla: and exulting in its escape from the prison of the rock, spreads wide its waters over the fertile valley, forming some fifty smiling islands, cultivated and often inhabited. Its waters gushing over a bed of white Quartz Boulders, form by turns, rapid, pool and shallow, each of which has its own peculiar and lovely tint. The shallows ripple in the most liquid of azure, the rapids pass into a delicate crysolite, as they hurry together, entangling the eye and the heart in their ceaseless whirl: the pools engulph those glad dancing waters without addition to their stilly depths, without alleviation to their sombre blue by accession of those sparklers of the deep.

As we gaze up the glittering, living pavement of crysolite and sapphire, fringed on either hand by the lively green of the willow, other hues are brought into direct contrast with our foreground. The distant greens of the graceful Beere and Seesoo, clumped over the Field of Battle, the purple of the successive ranges of mountains of Jup-pall, and the mighty barrier snow-clad from base to summit, which walls in the loveliest and most unblest of valleys, itself relieved upon the bosom of the azure sky. To Alexander, first arrived from the wretched, ravine-worn waste of Potowar, the scene must have offered happy promise of the land he so coveted to possess. I describe it, as it appears in the winter. At other seasons, but one channel can be forded by the elephant.

To this description I may add, that the Taxiles of the Historian is without doubt the Tarkháili clan,* still inheriting a portion of their

* The personal name of Taxiles was Oomphis. Taxiles was the family name. Khaun i Zemaun Khaun is the present head of the house, to which I lately was permitted to restore their ancestral possessions.

old possessions, viz. the mountain ridge of Gundgurh,* on the left bank of the Indus and about 30 miles above Atok. The Affacini have no doubt long since been identified with the Eusafzyes, who still inhabit the country they then possessed. The long sought rock Aornos towers high above all the neighbouring mountains, its foot washed by the broad flood of the Indus ; the wide plains of the Affacini spread below it on the south, their inaccessible valleys on the east and west, its sides covered with dense forests of mountain pine. Its numberless and perennial fountains, the support of the tillage of the mountain skirts ; its inexhaustible pastures, the sustenance of myriads of cattle of the Affacini ; its forests and fastnesses, the refuge of all the outlaws for hundreds of miles around ; its summit, furrowed by a hundred ploughs ; its skirts by perhaps eight hundred more ; a mountain almost without parallel in the world, and too faithfully described to be mistaken.

There was formerly a fort upon the crest of this mountain, but its very name is lost, although traces of the walls remain, agreeing exactly, if my informant correctly describes them, with the site of Aornos. Professor Wilson has shown that Aornos may be merely the Greek rendering of the Sanscrit word Awur, a fortification. The use of this word is retained only in ancient sites, and the greater number of these have lost it, in the neighbourhood of the Affacini ; Kote being substituted, and every old castle whose name is lost being called Kawfur Kote, or the castle of the heathens. Upon the crest of Moha Bunn (a name embracing a whole district comprised by the trunk and ramifications of this mountain, and harboring some ten thousand matchlockmen) Nadir Shah, the Alexander of Persia, encamped his army, as the only means of reducing to order the lawless Affacini. The mountain is a long isolated ridge not less I think in length at summit than 5 miles. The height is upwards of 7000 feet above the sea's level, or 5000 above that of the Indus. The length at base must be upwards of 12 miles. At the very summit is a small square Tumulus apparently from 50 to 100 feet high and scarped with precipices. This may have been the site of the celebrated fortress—Bunn signifies in the language of the country both a forest and a pool, and Maha Bunn

* This mountain, no thanks to the successor of Taxiles, has been my refuge since the mutiny of the Sikh army, and I despatch this packet therefrom. The Mushwanis of Srikote are the truest and bravest race in the Punjab.

means probably the mighty forest, a name well deserved, as standing in the naked plains of the Eusafzyes.

I would not give in to the notion that any thing is exaggerated* by the Greek historians. Such an idea would, I think, lead us astray. Their history, like their sculpture, emanates from a mental organization most critically balanced. The same severity of taste which caused them to discard whatever was superfluous in architecture, whatever was beyond the perfect law of proportion in nature, seems to have dictated a close adherence to truth in their histories, as the secret of historical symmetry. So far as my own observation extends, (and I have wandered over a large portion of Alexander's track) the difficulties are actually underrated: the descriptions so truthful that on visiting the scene, the dramatis personæ seem to confront us, and that wonderful series of conquests seems but the work of yesterday.

The Maha Bunn agrees to the minutest particular with the description of Aornos, standing on the right bank of the Indus, feathered with forests, watered by perennial springs. Its summit, a plateau capable of holding the camp of a Persian army, and of employing a hundred ploughs; its pastures, the support of innumerable cattle; its forests and fastnesses the refuge of the Affacini of the plains and of fugitives from Ahisara and Taxila; its height, gigantic and pre-eminent: its position sufficiently near to annoy Alexander's columns; its inhabitants to this day unconquered, paying neither allegiance nor tribute to any man. Khubul, a large village washed by the waters of the Indus, is still a noted hotel for fugitives from Peshawur and Huzara; so that I was obliged some months ago to blockade it.

The Taxila of history is supposed by Captain Cunningham to be the present Tukht purri or Trukh purri, 6 miles westward of Manukyala. This old site is adjacent to Rabaht, the cemetery of the eastern or Dhangulli branch of the Gukka family, and subsequently the seat of a subdivision of that tribe. The name long ago struck me: but there are some difficulties attending the identification. Taxila was the place selected by Alexander for recruiting the strength of his army. It was also the capital of Taxiles. Now the Tarkhaili have no tradition of

* The breadth of the Hydaspes at Bukephalia appears to me very correctly estimated by Quintus Curtius as four stadia or half a mile, he is speaking of its state during the monsoon.

ever having held lands so far eastward. Tukht purri also is in a bare uninviting country, far from the Indus, where all Alexander's preparations were progressing, viz. : the structure of boats to be carried to the Jelum. Hussun Ubdul appears to me a more probable locality. Its ancient name I have vainly endeavoured to discover. But it must have been an important place very early, on account of the abundance of its water, and of its lying upon the main road between India and Afghanistan. It is also an hereditary appanage of the Tarkhaili wrested from them by the Sikhs within a few years ; is the boast of the country for its water, its groves and its salubrious atmosphere : is close to the rich plains of Chuch and the fertile valley of Huzara, and sufficiently near the Indus for communication with the Board of works established there. Tukht or Trukh purri is said to signify the disjected rock ; a probable interpretation ; the last spine of the sandstone formation jutting up there through the plain in a remarkable manner, accompanied by several enormous disjected masses of Tufa.

On the Maha Bunn the Ivy must, I think, grow in abundance, as I have found it at much lower elevations in Huzara, and Mt. Mœrus must be looked for amongst the subordinate hills of Maha Bunn. The wild olive forms one of the principal forest trees in Khaunpoor (of Huzara). Waving over sites from which we turn up Grecian relics, it has often occurred to me that it may have been transplanted hither from Attica.

I may perhaps be accused of extravagance in fancying I can trace the course of the Macedonian conqueror in a singular custom prevalent throughout that tract. On the approach of a Chief or Governor, the women run together and sing poems in his praise. The chaunt is every where the same : but it is not often easy to catch the words. When I have succeeded, I have found them to consist in repetitions of " the conquering Raja, victorious in battle ! " Grecian habits sit ill upon Hindu persons. The obligation to be bashful, imposed by eastern decorum, struggling with a determination to maintain a privilege not always agreeable to their Lords, drives the women together in clusters, with faces to the centre : whilst the display of untidy linen and the ravages of time upon such faces as are visible, are dangerous to a reader of Macbeth. Nevertheless the custom is decidedly derived from the followers of Bacchus or of Alexander. On first entering Kote, one

of the towns of Huzara, at a time when the appearance of a British Officer was a welcome sight, I observed two old crones upon a housetop, hiding their faces in one another's rags, whilst one of them beat either a tambourine or a parchment sieve and both screamed in chorus. Here, on the Hydaspes, the villages near Alexander's crossing are dangerous of approach owing to this custom, as it is made an excuse for demanding a *douceur*. In Huzara it is a spontaneous tribute of respect.

This paper, excepting a few corrections, was written in April last upon the Hydaspes, previous to the appearance of Captain A. Cunningham's interesting correspondence in the February number of the *Journal of the Asiatic Society*. It was detained owing to some errors in the measurements of my native surveyors, and subsequently by the disturbed state of the Punjab. Whenever my opinion may differ from that of so distinguished an antiquary, it is offered with hesitation. Had his leisure allowed him to visit the Maha Bunn, I think he would agree with me that it is the only mountain upon the Indus answering to Arrian's description of Aornos. And that if it be not the identical mountain, the site must be sought for upon the Loondi river. This would reconcile the difficulty arising from Quintus Curtius' statement of 16 marches from Ekbolima to Atok. From Umb, at the foot of Maha Bunn to Atok, not above 8 marches intervene. As, however, neither Arrian, nor Quintus Curtius had seen the country they describe, and as both wrote long after the events they record, their itineraries are not very certain guides, and accordingly Quintus Curtius brings Alexander to Nicæa previous to the capture of Aornos, whilst Arrian reverses the order of events. Quintus Curtius on the other hand brings Alexander to Ekbolima after the capture of Aornos, whilst Arrian states that he took part there to reduce the rock.

Aornos is always styled by Arrian *η πέτρα*, the Rock, and certainly the sense of the historian would seem to apply this term to the mountain upon which the Fort was built. Such a term would scarcely have suited the Maha Bunn, which is essentially a mountain and not a rock, albeit scarped at summit with precipices. But on the other hand, it is difficult to imagine any mere rock answering to the description of the historian as abounding in fountains, springs and forests, with arable land for a thousand ploughs and pastures for the hundreds of thousands of cattle of the plains. Such are the attributes of a mountain and not of a rock. I therefore infer that Aornos is a name applicable only to the

castle itself and its basement rock. The ruined castle of the Maha Bunn appears to have been sited upon a square, rock some 50 or 60 feet high, springing from the table summit, scarped to eastward with tremendous precipices, having a ravine to the north and an inferior mound beyond it, and being protected on the other quarters by its own precipitous sides.

Bearing in mind that the Macedonians, themselves mountaineers, were fresh from the conquest of a land abounding in the loftiest and most rugged mountains, and from the storm of several mountain strongholds, I should hesitate to allow that they could have mistaken a hill of one thousand feet, for a mountain of four thousand. The Maha Bunn, by a rude triangulation of bearings, and a ruder observation with the sextant, I made upwards of 5,000 feet higher than the river at its base. Arrian reckons the height of Aornos at 11 stadia or 4125 feet above the plain. And this altitude, if measured at all, must have been computed by means of instruments far ruder than mine. The great and pre-eminent attitude of the mountain is all we can elicit from the reading. There is no mountain comparable with the Maha Bunn upon the right bank of the Indus within twenty miles farther north, a distance too great for the circumstances narrated. Opposite Maha Bunn, and across the Indus, is a rocky curb to the valley, called Durbund, the only site in this neighbourhood to which I have ever heard the name of Alexander attached. The attack upon Aornos appears to me to have occurred in April or May; for the passage of the Hydaspes was effected in July and from Aornos to the Hydaspes, are about 20 short marches. Owing to the great heat of the plains, the Maha Bunn, retains its snow only one third of the period usual to mountains of similar altitude, distant from the plains. By the end of March or earlier the snow is melted from its summit.

Capt. Cunningham's identification of the Dumtour district with the Urasa of Indian history is the more happy, that he does not seem to have been aware, that it still retains the name Aorush. But he would probably not have supposed it the Varsa Regio of Pliny, had he been aware that the huge table mountain of sandstone upon the right bank of the Hydaspes about 35 miles above Dhangulli is to this day called Nurr Varsova, a name which at once arrests the attention by its identity with that of the Polish capital. The Sutti however of this Var-

sova bear not the slightest resemblance to the Sarmati of the Polish Varsova. Their origin is uncertain. They call themselves aborigines and are undoubtedly one of the oldest tribes hereabouts. It was from the pine forests of Varsova that Alexander must have constructed the celebrated fleet by which he wafted his army to the mouths of the Indus.

These observations are offered with deference to the able and accomplished officer with whose conjectures I have sometimes presumed to differ. They are presented as the suggestions of a Pioneer who has been over ground which Capt. Cunningham's leisure did not admit of his visiting, and are insisted upon only so far as they recommend themselves to his judgment.

I see that in the map of that prince of topographers, Arrowsmith, whose delineation of the features of the Punjab is beyond all praise, one of the Swant mountains is designated Aornos: but I know not upon what authority:—whilst in other maps a Nicetta (quære the long sought Nicæa), appears upon the Loondi R.

The rivers Kooner and Loondi may, indeed, by a certain latitude of interpretation, be called the springs of the Indus, and the people of Bajoor (the Bezira besieged by Alexander), would naturally retreat to the Swant mountains.

But it appears to me necessary to the consistency of the narrative, that Aornos should be sited upon the Indus, and I think it quite impossible that so famous a retreat of the turbulent Affacini as the Maha Bunn should have been passed unnoticed by Arrian.

I must however observe, that people of Bajore assure me there is a mountain upon the spot indicated by Arrowsmith's map, of the following description. It stands upon the right bank of the river Loondi. It is girdled to the south and east with stupendous cliffs, which give it the aspect rather of a castle* than of a mountain. Its summit is the abode of the Siah-posh Kawfurs, who maintain such vigilant watch, that no stranger can enter without their permission. It is quite unsailable and forms the principal path of communication between Bajore and the Siah-posh Kawfur country. There is also another mountain of not less altitude than the Maha Bunn, standing about 20 miles to the

* *Terræque motu coactum absistere*—says Quintus Curtius, was the popular tradition of Aornos.

north-west of the latter, extremely precipitous and apparently isolated, but not I think of extent sufficient to agree with Arrian's description. It is called Elum and stands upon the limit of the Maha Bunn and Sohaut districts. A subordinate summit of the Maha Bunn overhangs Khubl on the west bank of the Indus. It is about 2000 feet higher than the river Indus, peaked at summit, extremely steep and covered with forest. Its name is Aonj which the Greeks would probably write Aornos, but there is no record of its ever having been crowned with a fort, though the remains of a temple are there. The position of Rani ka Kote was pointed out to me. It is one of the inferior processes of the Maha Bunn. There is not a doubt that the sculpture of which fragments remain is Indo-Greek. At the foot of the Maha Bunn on the western brink of the Indus, and at the highest point accessible to an army is the celebrated castle of Umb, the stronghold of the late Poynda Khan and now of his son Jehandád Khan. Mr. Vigne thinks this the Umbo-lima of Arrian which Quintus Curtius writes Ekbolima: but although the position agrees sufficiently well with that of the historian, I have vainly endeavored to discover any rock or village in the neighbourhood called Balimah. Such a rock exists on the western bank of the Jelum, above Dhangulli. It is crowned with a castle or rather Tower, in which Chuttur Singh is said to have deposited his wives. Those who have seen Nicetta assure me there is no hill in the neighbourhood of more than 500 feet altitude.

The disturbed state of the country has for the present put a stop to personal research: but I hope the roads will soon again be open.

J. ABBOTT.

P. S. We must look to the Pushtoo names of places with regard to their identification with those mentioned by the Greek historians. Thus Peyshawur is to this day called Peykawur, in Pushtoo, i. e. by the Eusafzyes and establishes the right long acknowledged to be the Peukelaotes of Arrian.

Route from Káthmándú, the capital of Népal, to Darjeling in Sikim, interspersed with remarks on the people and country, by B. H. HODGSON, Esq.

1st Stage to Choukót, East, 7 $\frac{1}{4}$ cos.

Proceeding viâ Mángal, which is within a $\frac{1}{4}$ mile of the city, we came to Nangsál, at the like distance from Mángal. Both are petty suburban Névár villages. Thence to Deopátan, distant $\frac{3}{4}$ cos, a large pakka* village inhabited by Névárs. Thence to Thémi, $1\frac{1}{4}$ cos. Thémi is a considerable pakka town of Névárs, and is famous for its pottery. Thence to Bhátgáon, distant one cos; Bhátgáon is a large handsome Névár town situated near the eastern end of the valley of Népal, and is said to contain 12000 houses. Its palace, temples and tanks are very striking structures. Thence to SÁNGÁ, 2 cos. This bridge-like place stands on a low ridge separating the great valley of Népal proper from the subordinate valley of Banépa. It is a small place, but the houses are all pakka, as usual with the Névárs. Thence to Banépa, one cos. Banépa is a small pakka town inhabited by Névárs, and situated in the vale of the same name. Thence to Khanarpú, one cos. It is a nice little Névár village, situated near the point where the dales of Banépa and Panouti blend with each other. Thence to Choukót, $\frac{1}{4}$ cos, ascending a low ridge and quitting the level country thus far traversed, and all of which is highly cultivated, yielding autumn crops of rice and spring ones of wheat.

2nd Stage to Kálápáni, East, 6 cos.

Ascend the large ridge of Batásia and come to the mountain village of Phúlbári, which is somewhat less than one cos from Kálápáni. Thence along the ridge $2\frac{1}{4}$ cos to Syámpáti, another small village of Parbatias. Thence to Saláncho, one cos. Saláncho is a third small hill village, and it overlooks the glen of Káshi Khand on the left. Thence to Kánpúr, a Parbattia village, close to which is the halting place, at a tank called Kálápáni, distant from Mithya Kót $1\frac{1}{4}$ cos.

* Pakka here means built of burnt bricks. This word and its correlative Kachcha are most convenient terms for which I know no English equivalents.

3rd Stage to Jhángú jhóli, South East, 6½ cos.

This stage runs along the same ridge of Batásia. But it is here called Ténál. Half a cos to the hill village of Bohatia, and another half cos to that of Gimti, both inhabited by Múrmis. Thence $\frac{1}{2}$ cos to Pokri, another similar village of Múrmis. Thence to Chápá Khár, about $\frac{3}{4}$ cos, a fourth Múrmi village. Thence to Gárchá, another hamlet of Múrmis, distant from the last rather less than 2 cos; $\frac{1}{4}$ cos more brings one to the descent into the Biási or vale of Dúmja, on the banks of the Rósi and Sún Cósi. The Biási is low, hot and malarious, but fertile in rice, triangular in shape, and about a mile in greatest width. The Bar, Pipal, Sémal and Khair trees* grow here, and large Dhanéses (Buceros Homrai) are seen eating the fruit of the Pipal. The Sún Cósi at Dúmja flows freely over a wide bed of sand, and is about 40 yards broad and one foot deep. This river, if the Milanchi be regarded as its remotest feeder—arises from the eastern side of Gosainthán, the great snowy peak overlooking the valley of Népál, and is the first of the “seven Cósi” (sapt Cósi) of the Népálcese. Others contend that the true Sún Cósi is that which arises at Kálingchok east of Kúti.† There are several upper feeders of the Sún Cósi which form a delta, of perhaps 30 cos either way, between Milanchi, Kálingchok and Dallálghát, where the feeders are all united. From Dúmja, which lies a little below Dallálghát, proceed along the right bank of the river Sún Cósi to Jhanga-jhóli, by the rugged glen of the river 2 cos, the road impeded by huge masses of rock lying half in the water.

4th Stage to Sital-páti, East, 4 cos.

Leaving the river on the left you ascend the ridge of Sidhak and travel along its side, far from the top, to the village of Dharma, inhabited by Múrmis. It is $1\frac{1}{2}$ cos from Jhanga-jhóli. Thence half cos to Jhámpar, a village of Múrmis. Thence descending again to the bed of the Sún Cósi you proceed along the right bank for one cos to Chayanpúr-phédi, or the base of the Chayanpúr range. Thence an ascent of one cos to the top of Chayanpúr where stands the Powa or small Dharam-sála of Sital-páti, the halting place, and which is close to the village of Choupur.

* The occurrence of the Indian figs, cotton tree, and acacia, so far within the mountains, shows that the Biásis, wherever situated, have a tropical climate. See on.

† See annexed Memorandum and sketch Map.

5th Stage to Liáng, East, 6 cos.

Two cos along the heights of Chayanpúr bring you to the confluence of the Tamba Cósi and Sún Cósi, where the united rivers, of nearly equal size before their junction, are passed at Séliaghát, a little below the Sangam or junction. The Tamba Cósi, or second Cósi of the Népálese, has its source at the base of Phallák, a Himálayan peak situated some ten cos perhaps east of the Kúti pass, which is on the great eastern high road from Káthmándú to Lassa. From Séliaghát the road makes a rapid ascent of one cos to the high level or plateau of Gumounia, one cos along which conducts you to Bhalaiyo, which is only another name for the same plateau. From Bhalaiyo-dánra, one cos to Bétiani village, still along the plateau. Thence one cos along the same high level to the halting place or Liáng-liáng which is a large village well inhabited chiefly by Névárs. Some Parbatias also dwell there, and there is plenty of cultivation and water on the flat top of this low ridge, which is neither mountain nor plain.* The rice called Touli by the Névárs grows well, and wheat, and generally all the field and garden produce of the valley of Népál.

6th Stage to Narkatia, South East, 4½ cos.

One and half cos along the plateau of Liáng-liáng, you come to Bhirpáni, having the Dápcha and Manthali glens on the left, by which there is another road, used chiefly in the cold season. Thence at half a cos you descend slightly to Wádi Khóla, a small hill stream, and passing it make the great ascent of Hiliapáni and reach Lámágáon after one cos of climbing. Close to the village of Lámágáon is another called Sálú, inhabited by Parbatias.† Thence one cos to the Likhú Khóla, a slight descent. Thence a small ascent to Bhálú-dánra or the Bear's ridge, half a cos along which brings you to the village of Nigália or Narkatia, the halting place. The Likhú Khóla is the third Cósi of the Népálese. It is a large unfordable river which is crossed by a bridge, but is smaller than the Sún Cósi or Tamba Cósi. It comes nearly due south from the snows at Kháli Múngali, and forms one of the seven chief feeders of the great Cósi.

7th Stage to Báj-bisounia, East, 3 cos.

Still along the Bear's ridge $\frac{1}{4}$ cos to the small village of Láchia, and another half cos to the village of Chúplú. Thence quit the ridge and

* See note at stage the ninth. † For tribes of Népál, see Journal for Dec. 1847.

by a slight descent reach Phédi Khóla, at $1\frac{1}{4}$ cos. Phédi Khóla is a small feeder of the Molang. Pass the stream and ascending slightly for one cos reach the halting place which is a village of good size, where plenty of provisions may be had.

8th Stage to Búngnám Kót, East, 4 cos.

Along the same low ridge to the village of Saliáni, close to which you come successively to the villages of Chilounia and Pokhalia and Aisiálú, all within the compass of less than one cos. Beyond Aisiálú, $1\frac{1}{2}$ cos, is a small pond, the water of which, though not rising from rock, never fails. Its name is Dhimilopáni, and on its left runs the ridge of Tháriadánra and Katonjia village; on its right, the Bhanda ridge and the village of Jaljalia. Beyond Dhimilopáni commence a descent of somewhat less than a half cos leading to the Molang or Morang Khóla, before named. Cross the Khóla and ascend one cos to Búngnám Kót, a large village and residence of the rural authority, having the smaller village of Bari on its right.

9th Stage to Chúrkhú, East, 6 cos.

After one cos of descent reach the Lipia Khóla, which stream you cross at once and ascend the Lipia-dánra or ridge, travelling along which you soon come to Okal-dhúnga, a village of Bráhmans and Khas. Thence to Jyá-miria, another village close by on the right. Thence going a cos you reach Charkhú-dánra, merely another name for the Lipia ridge. Descending slightly and advancing one cos you come to Rúmjátár, a celebrated and extensive pasture tract, where the Gúrúng tribe feed large flocks of sheep (*Ovis Barúál*.)^{*} Thence $2\frac{3}{4}$ cos of slight descent to Dhanswár, the head village of the rural arrondissement, where the Dwária, or deputy of Rankésar Khatri, who holds the village in private property, resides. Had the village belonged to the first, would have been called, as the Dwária's abode, not Dhanswár but Kót.

* The more general character of Társ is described in the sequel. This one must be very unusually lofty and cool, else neither Gúrúngs nor their sheep could dwell in it. It is probably only a cold weather place of resort. Otherwise it must be 5 to 6000 feet high, like the plateau of Liáng, spoken of at stage 5. Both are exceptional features of the country, which nevertheless with all its precipitousness, has more numerous, diverse and extensive level tracts than is commonly supposed.

10th Stage to Háchika, East, 6 cos.

After half a cos of descent we arrived at Thotnia Khólá, a hill torrent which joins the Dúd Cósi about 3 miles ahead. Proceeded down the rugged stony glen of the Thotnia to the junction, which is reached at Rasuá ghát. Thence down the right bank of the Dúd Cósi for 2 cos to Katahar Biási, where the river, which had thus far run through a narrow glen incumbered with boulders, has a wider space on either bank, capable of cultivation and yielding fine crops of wet rice, but hot and malarious. This sort of tract is what is called in the Parbatia language a Biási. Katahar Biási belongs to bráhmans, who dwell on the heights above. The road leads down the Biási, which is above half a cos wide, for more than one cos, and then ascends the ridge of Kúvindia for one cos to the halting place or Háchika, which is a village inhabited by Kirántis, whose country of Kiránt is bounded on the west by the Dúd Cósi, and begins on this route where the Dhanswár estate ends. The Arún is the eastern boundary of Kiránt. The Dúd Cósi is the fourth great feeder of the Mahá Cósi, which latter enters the plains as one river at Váráhá Kshétra above Náthpúr in Purneah. We have already passed three of these great tributaries or the Sún Cósi, the Tamba Cósi, and the Likhú Cósi. The remaining ones are three, or the Arún Cósi, Barún Cósi and Tamór Cósi.* Thus there are seven in all: and eastern Népál, or the country between the great valley and Sikim, is called Sapt Cousika, or region of the seven Cósis, from being watered by these seven great tributaries of the Mahá Cósi. Kiránt and Limbúán are subdivisions of the Sapt Cousika, so called from the tribes respectively inhabiting them; the Kirántis dwelling from the Dúd Cósi to the Arún; and the Limbús from the Arún to the Tamór. The country between the great valley and the Dúd Cósi is not so especially designated after the tribes inhabiting it. But the Névárs and Múrmis of Népál proper are the chief races dwelling there. Of all these tribes the Névárs are by much the most advanced in civilization. They have letters and literature, and are well skilled in the useful and fine arts. Their agriculture is unrivalled; their towns, temples and images of the gods, are beautiful for materials and workmanship; and they are a steady, industrious people equally skilled in handicrafts, commerce and the culture of the earth. The rest of the highland tribes or people are fickle, lazy races, who have no

* See Memorandum at the end of the Itinerary and annexed Sketch.

letters or literature, no towns, no temples nor images of the Gods, no commerce, no handierafts. All dwell in small rude villages or hamlets. Some are fixed, others migratory, cultivators perpetually changing their abodes as soon as they have raised a crop or two amid the ashes of the burnt forest. And some, again, prefer the rearing of sheep to agriculture, with which latter they seldom meddle. Such are the Gúrúngs, whose vast flocks of sheep constitute all their wealth. The Múrmis and Magars are fixed eultivators; the Kirántis and Limbús, for the most part, migratory ones: and the Lepehas of Sikim still more completely so. The more you go eastward the more the several tribes resemble the Bhótias of Tibet, whose religion and manners prevail greatly among all the tribes east of the valley of Népál, though most of them have a rude priesthood and religion of their own, independent of the Lámás.

11th Stage to Sólmá, South East, 3 cos.

Leaving Háchika, which is itself lofty, you aseend for 2 cos through heavy forest by a bad road exceedingly steep to the Kiránti village of Dórpá, which is situated just over the brow of the vast hill of Háchika, the opposite side of which however is far less steep. Going half a eos along the shoulder of the hill you then descend for half a eos to the village of Sólmá, the halting place.

12th Stage to Lámakhú, East, 2½ cos.

An easy descent of one eos leads to Lapehé Khóla, a small stream, which crossed you aseend the ridge of Lámakhú via Gwálúng, a Kiránti village situated near its base. Thence the acelivity of the hill is steep all the way to the halting place, which is about half way to the hill top, and 1½ eos from Gwálúng. Lámakhú is a Kiránti village like Gwálúng but smaller.

13th Stage to Khíka Mácchá, East, 4 cos.

Descend half a eos to the Sáp sú Khóla, a petty stream, which however the Kirántis esteem sacred. Cross it and commenee aseending the great mountain Tyám Kyá. Climb for one eos by a bad road to the village of Kháwa, and another eos equally severe to Chákhéva bhanjáng, or the ridge, and then make an easy deseent of one and half eos to Khíka máechá, the halting place. It is a village of Kirántis in which a mint for coining copper is established by the Durbar of Népál. The workmen are Bánras (Bandyas) of the valley of Népál, of whom there

may be 50 or 60. There is also a Taksári or mint master, and a squad of 25 soldiers under a jemadar.

14th Stage to Jinikhésáng, East, 5 cos.

After a cos of tolerably easy travelling you come to Júkya Khóla, a petty stream, which passed, you arrive in half a mile at Pakri, a village situated at the base of the Khokan ridge. Thence slightly descending for half a cos reach Pikhúá Khóla. Cross it and ascend the hill of Bhaktáni for one cos and reach Múrkiahúlák, a post station of the Government close to the 66th mile* stone of the great military road leading from Káthmándú nearly to the frontier. Thence a descent of one cos to the Khésáng Khóla, one of the innumerable small mountain streams. Cross the Khóla and ascend the ridge of Thaklia for half a cos to Bánskim and Powagaon, two small conjunct villages of Kirántis. Thence along the ridge of Khésáng for $1\frac{1}{4}$ cos to Jinikhesáng, a large Kiránti village, the head of which is Balbhadra Rai, and whence there is a very fine view of the snows.

15th Stage to Jarai tár, South East, $5\frac{1}{2}$ cos.

Descending slightly for $1\frac{1}{2}$ cos reach Yákú village, and then descending more abruptly for one cos, come to the Ghongaria Khóla, a small stream. Cross it and proceed along the nearly level base of the Yákú ridge for two cos and a half, to Jarai tár, a large village inhabited by Kirántis, Khas and bráhmans, and situated at the opening of an extensive and cultivated flat running along the right bank of the Arun river, and raised some 30 or 40 cubits above the level of its bed. Such an elevated flat is called in the Khas tongue a Tár, whereas a low flat or one on the level of the river is termed a Biási. Every great river has here and there Társ or Biásis, or both.† Társ, from being raised are

* The route gives 61. The difference of 5 cos is owing to the travellers making an occasional short-cut, for they kept, generally, the great military highway.

† It is remarkable how universally this phenomenon of high and low levels of the land, indicating change in the relative heights of the land and water, prevails wherever obvious sedimentary deposits are found in definite locations. Herbert and Hutton in their reports of the geology of the Western sub-Himálayas, perpetually speak of the phenomenon as occurring in the mountains, and, according to Herbert, also in the Dúns and even Bháver; and Darwin (*Naturalist's Journal*) constantly records it in the course of his long survey of South America from Rio Janeiro to the north point of Chili.

The same thing is very observable in the great valley of Népál, whose whole surface is almost equally divided into high and low levels, though the operating

usually too dry for rice, but some can be well irrigated from the adjacent mountain, and then they will produce rice as well as Biásis. If not constantly irrigable, wheat, barley, millets, pulse and cotton are grown in them. The elevation of Társ is too inconsiderable to exempt them from malaria, though they are usually rather more wholesome than the lower and often swampy Biásis. Jarai tár is an extensive one, being $1\frac{1}{2}$ cos wide, and, as is said, several miles long, following the river. The soil is red but fertile, and the whole of it is under cultivation. The village is large for the mountains, and has some 50 to 60 houses, some of which are pakka, as a caravansery here called Dharamsála or Powa, and one or two more. The site of the village is higher than the rest of the Tár. The *Pinus longifolia* abounds in Jarai tár and peacocks are very numerous. Also jungle fowl* and Káliches (*Gallus melanoleucos*).

16th Stage to Pákhariús, South East, $2\frac{1}{2}$ cos.

Proceeding half a cos you come to the ferry of the Arún, which is a large river rising in Bhot, passing the Himáchal above Hatlia, and forming the main branch of the great Cósi. It is also the conterminal limit of Kiránt and Limbúán. It is passed at Liguaghát by boat, and is there very rapid and deep, and some 30 to 40 yards wide. Thence down the left bank of the Arún for 1 cos to Mángmá, a village inhabited by Kirántis and Limbús, being on the common frontier of both tribes. Thence quitting the Arún you reach the Mángmá Khóla in $\frac{1}{4}$ cos, and crossing it proceed half a cos along the mountain side (manjh) to Ghórli Kharak, which is the name of a small village, and also of a celebrated iron mine, the workers of which dwell above the line of road. A vast quantity of fine iron is procured. This mine, like all others in Nepál, cause must here have been modified in its action, as indeed is perpetually the case in different localities. The high and low levels of Tár and Biási, I consider to represent the pristine and present beds of the rivers, whose constant erosion has during ages created this difference of level, often amounting to 150 or 200 feet. The low level of the valley of Népal I consider to have been suddenly scooped out when the waters of the pristine lake (for such the valley was) escaped in one tremendous rush under the action of an earthquake, which rent the containing rock and let off the waters at once.—(See accompanying sketch.)

* From these indications, which are altogether exceptional as regards the mountains, it may be confidently stated that Jarai tár is not more than 1500 feet above the sea.

is the property of the government. Iron and copper abound in Népál. Most of the iron is consumed in the magazines for the army or otherwise within the country. But a deal of the copper is exported and forms a good part of the pice currency of the plains on this side the Ganges. The Nepalese are very military. Khas, Maghar, Gúrúng and even bráhmans, except those of the priesthood, constantly wear sidearms of home manufacture; and the large army of the State is furnished with muskets, swords, and Khúkris from native ore. Thus much iron is consumed, so that none is exported, at least none in the unwrought state, possibly because from defective smelting the ore becomes hardened by the accession of fumes of charcoal, and is thus rendered unfit for those uses to which soft iron is applied. From Ghórli Kharak, an ascent of quarter cos to Pakharibás, the halting place, which is a Gúrúng village, large but scattered, according to the wont of that tribe.

17th Stage to Dhankúta, South East, 2½ cos.

After a severe ascent of a cos and half a wide flat-topped mountain is gained, whence there is a fine view of the plains, and on the top of which is a small lake, very deep, and about half a cos in circumference. Its name is Hilia, and the water is clear and sweet. Thence a steep descent of one cos brings you to Dhankúta, distant from Káthmándú 78 standard* cos by the great military road, as recorded on the mile-stone at Dhankúta. Dhankúta is the largest and most important place in Eastern Népál, and the head-quarters of the civil and military administrator of all the country east of the Dúd Cós† to the Sikim frontier, excepting only what is under the inferior and subordinate officer stationed at Ilám, who has a separate district bounded towards Dhankúta by the Tamór river. Bijaypúr, Cháyanpúr, Mánjh-Kiránt and a great part of the Limbuán are subject to Dhankúta, where usually resides a Kaji or Minister of the first rank, who likewise commands the troops stationed there. After defraying the local expenses, he remits annually nine lakhs of revenue to Káthmándú. Towards the plains

* The itinerary gives 71½ cos. The difference has been explained in a prior note. The standard cos of Népál is equal to 2½ English miles.

† The central administration extends to the Dúd Cós. See essay on the laws and legal administration of Népál in the Transactions of the Society, Vol. 17, and Journal of Royal Asiatic Society.

the jurisdiction of Dhankúta extends over the old Bijaypúr principality, and towards the hills, over the country of the Kirántis and Limbús. But both the latter tribes are poor at once and impatient of control, so that the Nepal Government is content with a lax general submission and a light revenue levied and paid through the Rais or native heads of those tribes. And this is the reason why only nine lakhs are remitted from Dhankúta to Káthmándú. The present Governor of Dhankúta is a colonel, and brother to the Premier Jang Bahadur Kouwar. There is a cantonment, a powder manufactory, a parade ground at Dhankúta, where the Sri Jang regiment, 500 strong, is now stationed. The place owes its origin to the Gorkáli dynasty, and is therefore recent; but it is growing fast into a town, the pakka houses being already numerous, and the tradesmen and craftsmen abundant, active and skilful. Provisions are plentiful and cheap, and the workers in Kánsa (mixed metal) are celebrated for the excellence of their commodities, many of which find sale so far off as Kathmándú. The Kirántis and Limbús, who constituted the soldiery or militia of the former Bijoypúr state, pay to the Ghorka Government annually in lieu of all other taxes and claims, $7\frac{1}{2}$ rupees per house or family. The houses or families are large, so that each can cultivate a great extent of ground. But how much (or little) soever they may raise, each family is free on payment of the annual fixed assessment, which the Rais above noticed collect and deliver. The Rais also administer Police and Justice among their own people in all ordinary cases. Capital crimes are referred to the governor of Dhankúta, who must have the Durbar's sanction for every sentence of death or confiscation. Dhankútá overlooks Bijoypúr, the old capital of the Eastern Makwáni or Bijaypúr Principality, which stands on the skirts of the Tarai of Morang, but within the hills; and no part of the low lands (Madhés) is subject to the Governor of Dhankúta. The Madhés is administered by Súbahs, of whom there are seven for the whole.*

18th Stage to Bhainsia tar, south east, 6 cos.

A sharp descent of one cos brings you to the banks of the Tamór, which is a large river, though less than the Arún. It is never fordable and is crossed in boats. It is very deep, rapid, but not clear, and about

* The 7 zillahs of the Népalése lowlands, which extend from the Arrah to the Mechi, are Morang, Saptari, Mahótari, Rotahat, Bára, Parsa and Chitwan.

30 cubits wide between the hot weather banks. This is the seventh and last of the great feeders of the Cósi, which it joins at Tirbéni, a holy place of pilgrimage, so called from its being the point of union of the three rivers, Tamór, Arún and Sún Cósi.* The Tamór rises from the Western aspect of Káng cháng júnga. We crossed the Tamór in a boat, and then proceeded half a cos down its left bank. Thence, quitting the river, you skirt the base of the Mádi hill for one cos to the Tankhudá nadi, a small hill stream. Cross it to Mámagá tár, and then travel through this fine extensive flat for two cos. The whole is cultivable, and the most part cultivated by Dénwárs and Mánjhis, and it is situated on the banks of the Tamór, to which the winding of the road again brings you. Quitting the Tár you advance a quarter of a cos to the Rasua Khóla, which forded, you proceed along the base of the Télia ridge for $1\frac{1}{4}$ cos to another Tirbéni and place of pilgrimage, where the Cherwa and Télia rivers join the Tamór at Cherwa ghat. A great fair is annually held at Cherwa, to which traders go even from Káthmándú. Thence proceeding a $\frac{1}{4}$ cos you reach the halting place or Bhainsia tár. The tar may be $\frac{1}{2}$ cos wide and one cos long. It is very hot and malarious, and is inhabited by the Mánjhi tribe.

19th Stage to Lakshmipúr, E. N. E. 5 cos.

A quarter cos of slight ascent brings you to the Nawa Khóla, a moderate-sized stream, which is ascended for 3 cos by a very bad road that crosses the bouldery bed of the river many times. Thence quitting the Khóla you commence the severe ascent of Lakshmi chúria, which is climbed incessantly till you reach the halting place near the hill top. Lakshmipúr is a large and flourishing village of Limbús, where men and goods abound, and the climate is fine and the water cold—a great relief after the burning Társ recently traversed.

20th Stage to Ibháng, East, 3 cos.

After a slight descent of $1\frac{1}{2}$ cos you come to Pokharia Khóla, a small stream which is at once crossed. Thence a slight ascent of one cos up the ridge of Nángi, along the top of which another half cos brings you to the halting place, which is a Khas village of large size.

* Of the seven Cósis, the Tamba and Likhú are lost in the Sún Cósi, and the Barún in the Arún, the latter, far above the route. Tirbéni is immediately above Báráha Kshetra before noticed, as the point where, or close to which, the united Cósis issue into the plains.

21st Stage to Khándráng, East, 4 cos.

A slight ascent of $\frac{1}{4}$ eos to the village of Múléi, inhabited by Khas. Thence a great descent of one cos to Kokalia Biási, or the Magpie's glen, which is watered by the Déó mai, a small stream. Cross it and ascend the ridge of Timkyá a short way, and then skirting along its waist (mánjh) for $1\frac{1}{4}$ eos come to the Léwá Khóla, another of the innumerable streamlets of the hills. Cross it and proceed for $1\frac{1}{2}$ eos along the base of the ridge of Khándráng to the village of the same name, which is the halting place and a small village of bráhmans.

22nd Stage to Ilám, East, 5 cos.

Descend the Khándráng ridge for half a eos and come to a small stream called the Ratia Khóla. Cross it and then make a severe ascent of one cos up to the ridge of Gólákharak, whence Karphók, the great ridge dividing Nepál from Sikim, is visible. Thence an equally difficult descent of 1 eos to the Ilám Khóla, a small stream. Thence, crossing the stream, make the severe ascent of Tilkiáni ridge for $1\frac{1}{4}$ eos. Thence skirt along the side of the hill (mánjh) for 1 eos to the halting place or Ilám, which is a small fort designed to guard the eastern frontier of Népal. The Chatelain is a Captain and has 100 soldiers under him, with 8 artillerymen and one cannon of small calibre. This officer is also the civil authority of the arrondissement and raises the extraordinary revenues thereof to meet the local expenses, sending the balance, if any, to Kathmándú. The land revenue is wholly assigned to his troops in pay.

23rd Stage to Gódhak, East, 2 cos.

After a steep descent of one eos you come to the Jógmai or Mai river, a small stream, which passed, you commence the steep ascent of Gódhak, and continue ascending to the halting place, which is a small village of bráhmans half way up the hill.

24th Stage to Siddhi, North-East, 3 cos.

Detained much by rain to-day and yesterday, and therefore made short marches. Leaving Gódhak ascended by a very bad road loaded with dense vegetation for $1\frac{1}{4}$ eos to Karphók ehouki, a frontier Gorkháli post, where 8 soldiers always reside. Thence one eos along the ridge or Lékh to Súdúng, which is but another name for the ridge. Thence a slight descent of one eos to the Siddhi Khóla, a small stream, on the banks of which we halted on account of the rain.

25th Stage to the English Chouki, N. E. 7½ cos.

Crossed the Siddhi stream and proceeded 1½ cos of slight ascent and skirting the mountain bases to Thaplia. Thence half a cos of descent to the small streamlet of Séchidcu. Thence a quarter cos over low hills to the Méchi river. The Méchi is the present boundary of Népal and Sikim. It is a small stream which rises in the Singalélah ridge, a spur of Karphók. Crossed it and ascended the hill of Nágri, by a very bad road and severe ascent of 1¼ cos to the top. Thence a severe descent of one cos to the smaller Rangbhang Khóla, a streamlet merely. Thence along the glen to the great Rangbhang, distant one cos. Thence a steep ascent of one cos to Nágri Kót, an old fort in ruins. Thence a painful descent of ½ cos to the Balason river. It is a moderate sized stream, larger than the Méchi. Thence half a cos of rather uneven travelling to the halting place.

26th Stage to Darjeling, North, 4 cos.

A severe ascent of one cos, and then an easy half cos along a ridge, brought us to the Company's high road, along which we travelled for 2½ cos to Jellapahár and Herbert hill at Darjeling.

Total cos 109.

At 2½ miles per cos=miles 254.

NOTE.—The Nepalese standard cos is equal to 2⅓ English miles, and the travellers had this standard to refer to along a great part of their way, as being coincident generally with the measured military road several times adverted to on the route. Hence their distances from stage to stage may be perfectly relied on, though in the details of each stage the same accuracy cannot be expected.

Memorandum relative to the seven Cosis of Népal, by B. H.

HODGSON, Esq.

The enumeration of the seven Cosis by the Itinerists is doubtless the accredited one, and what I have myself often heard at Kathmándú. Nevertheless names are not always applied in strict correspondence with things in geography. Witness the neglected Jáhnavi, the true and transnivean source of the Ganges! Now, if we are to estimate the seven chief feeders of the great Cósi according to the length of their

courses, or their effect on the physiognomy of the country, the enumeration ought seemingly to be as follows :—

- | | |
|-----------------------|---|
| 1st. The Milamchi. | } Local series beginning from the West. |
| 2nd. The Bhotia Cósi. | |
| 3rd. The Tamba Cósi. | |
| 4th. The Likhú Cósi. | |
| 5th. The Dúd Cósi. | |
| 6th. The Arún. | |
| 7th. The Tamór. | |

This list omits the Barún of the usual enumeration, and substitutes the Bhotia Cósi for the Sún Cósi : and not without Nepalese authority for both changes, for it is very generally allowed that the Barún hardly belongs to the Sub-Himálayas, and that Sún Cósi is rather the name of the general receptacle of the Cosis till joined by the Arún, than that of a separate Cósi. The following remarks on each river will make this apparent.

1st. The Milamchi rises above the Bhotia village of that name, and at or near to the eastern base of Gosainthan, the great snowy peak overlooking the valley of Népal. From the snows the Milamchi has a south-eastern course of probably 60 miles to Dallál ghát. It is joined from the west by the Sindhu, the Tánd, and the Chák, and from the north and north-east by the Indrávati, the Balamphi and the Jhári. The three former are petty streams ; but the three latter are considerable ones, one of them rising in the snowy region, and another having two subordinate affluents. The Indrávati comes from the Hemáchal at Panch pokri and flows nearly due south into the Milamchi below Hélé-mú. The Balamphi and Jhári have only sub-Himálayan sources, situated south-east of Panch pokri, but they have longer independent courses than the Indrávati before they unite, after which they presently join the Milamchi not far above the confluence of the Chák. The subordinate feeders of the Balamphi above adverted to, are the Boksia and Lipsia. They have short parallel courses W. S. W. into their parent stream. Thus the Milamchi is a notable river, and it is the more so as forming very distinctly the western boundary of the basin of the great Cósi, of which the equally distinct eastern limit is the Timór.

2nd. The Bhotia Cósi has its sources at Deodhúnga, a vast Himálayan peak situated some 60 or 70 miles east of Gosainthán and a little

north and east of the Kúti pass, being probably the nameless peak which Colonel Waugh conjectures may rival Kángchángjunga in height. The river flows from the base of Deodhúnga past the town of Kúti, and has a S. West direction from Kúti to Dallál ghát, where it joins the Milamchi after a course about as long as the Milamchi's,—the two rivers, of nearly equal size, forming a deltic basin. In about its mid-course the Bhotia Cósi is joined by the Sún Cósi from Kálingchok. But Kálingchok is no part of the true Hemáchal, nor is the stream thence flowing equal to that coming from the snows at Deo dhúngá. Consequently the name Bhotia Cósi should prevail over that of Sún Cósi as the designation of one of the separate seven Cosis, and the name Sún Cosi be reserved for the general receptacle, within the mountains as far east as Tirbéni. The Bhotia Cósi is joined at Listi by the Júm Khóla, whilst from the Mánaga ridge another feeder is supplied to it, much lower down or below the confluence of the Sún Cosi, from the east. But as the Milamchi below the junction of the Balamphi and Jhári is often called the Indrávati vel Indhani, so the Bhotia Cósi below the junction of the Sún Cósi is frequently styled by the latter name, which others again with more reason confine to the more general confluence below Dallál ghát. *There* no doubt the name Sún Cósi begins to be well applied, it being universally the designation of the great receptacle of waters running W. and E. from Dúmja to Tirbéni. At Dúmja, which is only a few miles south of Dallálghát, the Sún Cos; receives a considerable affluent from the west. This affluent is called the Rosi. It rises on the external skirts of the great valley under the names Biyabar and Panouti, from the respective dales watered by the two steamlets.

3rd. The Támaba Cósi. It rises at Phallák in the snowy region, about two journies east and a little north of Kálingchok, or the fount of the upper and pseudo Sún Cósi. The Támaba Cósi's course from Phallák to Sélaghat, where it falls into the receptacle, is nearly south, and as far as I know it has only one considerable affluent, which is the Khimti. The Khimti rises in the Jiri ridge and flowing nearly south, parallel to the Támaba Cósi, joins the latter in its mid-course at Chisapáni.

4th. The Likhú. This river is less than the Támaba Cósi and seems to rise somewhat beneath the snows, though its place of origin at Kháli Mungali is said to be a ridge connected therewith. Its course is still more directly south than that of the Támaba Cósi, to which however its

general direction is very parallel. I know but one of its feeders, the Kháni, which comes from the Cháplú ridge on the east of the main river.

5th. The Dúd Cói. It is a large stream, larger even than the Tám-ba Cói, though inferior to the Arún or Támor. It rises amid the perpetual snows, but at what exact spot I do not know, and it has a southern course to the Sún Cói at Rasua. Its feeders are numerous. But I know only those near Rasua, which are the Thotia and the Sisnia on the west, and the Rao on the east.

6th. The Arún or Arún Cói. It is the largest by much of the whole, and consequently the main source of the Maha Cói, having several feeders in Tibet, one from Darra on the north, another from Tingri on the west, and a third from the east from a lake. The Arún is not only the greatest of the Cosis but of all the Sub-himálayan rivers, if the Karnáli be not its equal. None other can compete with it. The Barún, often reckoned a separate Cói, is a mere feeder of the Arún and joins it so high up that there is little propriety in admitting the Barún as a member of the Sapt Kosi. The Barún is lost in the Arún in the Alpine region, at Hatia, the great mart for the barter trade of the Cis and transniveans by the very accessible pass of the Arún. Lower down the Arún receives many tributaries—from the west, the Salpa and Ikhua—from the east, the Sawai, the Héngwa, the Pilwa, the Ligua, and the Mámagá. Its course on this side the Himálaya is generally north and south; but in Tibet it spreads to the west and east also, covering and draining a deal of ground there.

7th. The Tamór Cói. The Tamór also is a very fine river, inferior only to the Arún. It is alleged to have more than one trans-himálayan source. It passes the snows at Wállúng chúngh, or arises there from the snows. Its course from Wállúng to the general junction at Tirbéni is south-west, and it receives many affluents on the way, as the Wállúng, the Chúngh, the Yángmá, the Méwa, the Kabaili, the Kháwa, the Nhabo, the Tankhua, the Teliá, the Nava, the Chérwa, the Kokaya.

To this appendical memorandum on the Cosis I subjoin a sketch of the several primary feeders of the so called Sún Cói, made from my own observations as well as enquiries. I have no personal knowledge of the rest of the "Sapt Cousika." Indeed no European has yet set foot in this region save myself on the western, and Dr. Hooker on the eastern, margin. We may shortly expect much information from Dr. H. as to the latter, or the skirt confining with Sikim.

On the Chépáng and Kúsúnda tribes of Népal, by B. H. HODGSON, Esq.

Amid the dense forests of the central region of Népal, to the westward of the great valley, dwell, in scanty numbers and nearly in a state of nature, two broken tribes having no apparent affinity with the civilized races of that country, and seeming like the fragments of an earlier population.

“They toil not, neither do they spin;” they pay no taxes, acknowledge no allegiance, but, living entirely upon wild fruits and the produce of the chase, are wont to say that the Rajah is Lord of the cultivated country as they are of the unredeemed waste. They have bows and arrows, of which the iron arrow-heads are procured from their neighbours, but almost no other implement of civilization, and it is in the very skilful snaring of the beasts of the field and the fowls of the air that all their little intelligence is manifested.

Boughs torn from trees and laid dexterously together constitute their only houses, the sites of which they are perpetually shifting according to the exigencies or fancies of the hour. In short, they are altogether as near to what is usually called the state of nature as any thing in human shape can well be, especially the Kúsúndas, for the Chépángs are a few degrees above their confreres, and are beginning to hold some slight intercourse with civilized beings and to adopt the most simple of their arts and habits. It is due, however, to these rude foresters to say that, though they stand wholly aloof from society, they are not actively offensive against it, and that neither the Government nor individuals tax them with any aggressions against the wealth they despise or the comforts and conveniences they have no conception of the value of.

They are, in fact, not noxious but helpless, not vicious but aimless, but morally and intellectually, so that no one could without distress behold their careless unconscious inaptitude. It is interesting to have opportunity to observe a tribe so circumstanced and characterised as the Chépángs, and I am decidedly of opinion that their wretched condition, physical and moral, is the result, *not* of inherent defect, but of that savage ferocity of stronger races which broke to pieces and outlawed both the Chépáng and the Kúsúnda tribes during the ferocious ethnic struggles of days long gone by, when tribe met tribe in internecinal strife contending for the possession of that soil they knew not how to fructify! Nor



A man of the Cheping Tribe.

is there any lack of reasonable presumptions in favour of this idea, in reference to the Chépáangs at least; for the still traceable affiliation of this people (as we shall soon see), not less than the extant state of their language, demonstrates their once having known a condition far superior to their present one or to any that has been their's for ages.

That the primitive man was a savage has always appeared to me an unfounded assumption; whereas that broken tribes deteriorate lamentably we have several well founded instances in Africa.* Quitting however these speculations I proceed with my narrative. During a long residence in Nepal, I never could gain the least access to the Kúsúndas, though aided by all the authority of the Durbar: but, so aided, I once in the course of an ostensible shooting excursion persuaded some Chépáangs to let me see and converse with them for 3 or 4 days through the medium of some Gúrúngs of their acquaintance. On that occasion I obtained the accompanying ample specimen of their language; and, whilst they were doling forth the words to my interpreters, I was enabled to study and to sketch the characteristic traits of their forms and faces.† Compared with the mountaineers among whom they are found the Chépáangs are a slight but not actually deformed race, though their large bellies and their legs indicate strongly the precarious amount and innutritious quality of their food. In height they are scarcely below the standard of the tribes around them‡—who however are notoriously short of stature—but in colour they are very decidedly darker or of a nigrescent brown. They have elongated (fore and aft) heads, protuberant large mouths, low narrow foreheads, large cheek-bones, flat faces, and small eyes. But the protuberance of the mouth does not amount to prognathous deformity, nor has the small suspicious eye much, if any thing, of the Mongolian obliqueness of direction or set in the head. Having frequently questioned the Durbar whilst resident at Káthmándú as to the relations and origin of the Chépáangs and Kúsúndas, I was invariably answered that no one could give the least account of them, but that they were generally supposed to be autochthonés, or primitive inhabitants of the country. For a long time such also was my own opinion, based chiefly upon their physical characteristics as above noted

* Prich. Phys. Hist. Vol. II. passim. Scott's exquisite Novels throw much light on this subject.

† See the accompanying outline, which is remarkably faithful and significant.

‡ Magar, Múrmi, Khás, Gúrúng, Névár.

and upon the absence of all traceable lingual or other affinity with the tribes around them. So that I took the Chépáangs, the Kúsúndas and the Haiyus, a third tribe, remarkably resembling the two former in position and appearance—to be fragments of an original hill population prior to the present Tibetan original inhabitants of these mountains; and to be of Tamulian extraction, from their great resemblance of form and colour to the Aborigines of the plains, particularly the Kóls. It did not for several years occur to me to look for lingual affinities beyond the proximate tribes, nor was I, save by dint of observation made, fully aware that the Mongolian type of mankind belongs not only to the races of known northern pedigree, such as the mass of the sub-Himálayan population,* but equally so to all the Aborigines of the plains, at least to all those of central India. Having of late however become domiciled much to the eastward of Káthmándú, and having had more leisure for systematic and extended researches, those attributes of the general subject which had previously perplexed me were no longer hindrances to me in the investigation of any particular race or people. I now saw in the Mongolian features of the Chépáangs a mark equally reconcileable with Tamulian *or* Tibetan affinities; in their dark colour and slender frame, characteristics at first sight indeed rather Tamulian than Tibetan, but such as might, even in a Tibetan race, be accounted for by the extreme privations to which the Chépáangs had for ages been subject; and in their physical attributes taken altogether I perceived that I had to deal with a test of affinity too nice and dubious to afford a solution of the question of origin. I therefore turned to the other or lingual test; and, pursuing this branch of the inquiry, I found that with the southern Aborigines there was not a vestige of connexion, whilst to my surprise I confess, I discovered in the lusty† Lhópás of Bhútán the unquestionable origin and stock of the far removed, and physically very differently characterised, Chépáangs! This lingual demonstration of identity of origin, I have for the reader's convenience selected and set apart as an Appendix to the vocabulary of the Chépáng language; and I apprehend that all persons conversant with ethnological enquiries will see in the not mere resemblance but identity of thirty words of prime use and necessity extracted from so limited a field of comparison

* See Journal for December last. I date their transit of the Himálaya from Tibet fully 1200 years back.

† See the subjoined note at the end.

as was available for me to glean from, a sufficient proof of the asserted connexion and derivation of the Chépáangs, notwithstanding all objections derivable from distance, dissolution of intercourse and physical nonconformity. But observe, the last item of difference is, as already intimated, not essential but contingent, for both Lhópá and Chépáng are marked with the same essential Mongolian stamp, whilst the deteriorations of vigour and of colour in the Chépáangs, though striking, are no more than natural, nay inevitable, consequences of the miserable condition of dispersion and out-lawry to which the Chépáangs have been subject for ages anterior to all record or tradition. And again, with regard to local disseveration, it should be well noted, in the first place, that by how much the Chépáangs are and have long been removed from Bhútán, by so much exactly do conformities of language demonstrate identity of origin, because those conformities cannot be explained by that necessary contact with neighbours to which the Chépáng language owes of course, such Hindi, Parbatia and Newár terms as the vocabulary exhibits; and, in the second place we must recollect that though it be true that 300 miles of very inaccessible country divide the seat of the Chépáangs from Bhútán, and moreover that no intercourse therewith has been held by the Chépáangs for time out of mind, still in those days when tribes and nations were, so to speak, in their transitional state, it is well known that the tides of mankind flowed and ebbed with a force and intensity comparable to nothing in recent times, and capable of explaining far more extraordinary phenomena than the disruption of the Chépáangs, and their being hurried away, like one of the erratic boulders of geologists, far from the seat of the bulk of their race and people. Indeed, the geological agents of dislocation in the days of pristine physical commotion may throw some light, in the way of analogy, upon the ethnological ones during the formative eras of society; and, though we have no record or tradition of a Lhópá conquest or incursion extending westward so far as, or even towards, the great valley of Nepal, we may reasonably presume that some special clan or sept of the Bhútánese was ejected by an ethnic cataclysm from the bosom of that nation and driven westward under the ban of its own community alike, and of those with which it came in contact in its miserable migration, for misfortune wins not fellowship.

The lapse of a few generations will probably see the total extinction of the Chépáangs and Kúsúndas, and therefore I apprehend that the

traces now saved from oblivion of these singularly circumstanced and characterised tribes, now for the first time named to Europeans, will be deemed very precious by all real students of ethnology. Their origin, condition and character are, in truth, ethnic facts of high value, as proving how tribes may be dislocated and deteriorated during the great transitional eras of society.

Addendum on Bhútán.

Lhó is the native name for Bhútán, and Lhópá and Dúkpá (written Brúkpa) are native names for an inhabitant of Bhútán—whercof the former is the territorial, the latter, the religious, designation. In other words, a Lhópá is one belonging to the country of Bhútán, and a Dúkpá (rectè Brúkpa), a follower of that form of Lamaism which prevails in Bhútán, and which has become equally distinctive with the local designation for an inhabitant of the country, since the people of Bhót or Tibet were converted to the new or Gélúkpá form of that faith. Bhútán is a Sanscrit word, and is correctly Bhútánt, or ‘the end of Bhót’ (inclusively), the brahmans like the natives, deeming the Cisnavian region an integral part of Tibet, which it is ethnographically, though by no means geographically. Had Klaproth and Ritter been aware that Lhó is Bhútán, and Lhópá an inhabitant of Bhútán, we should not have had their maps disfigured by a variety of imaginary regions placed East of Bhútán and termed Lokabadja, &c. a sheer variorum series of lingual error resting on the single local name Lhó and its derivatives of a personal kind, as correctly and incorrectly gathered by them. Originally some Bengáli rendered Lhó by the, to him, familiar word Lók (regio); and then, being unaware that the Tibetan affix bá vel pá means belonging to, inhabitant of, he subjoined to the bá his own equivalent of já (born of) and thus was deduced Klaproth’s furthest error (I omit others short of this one) of Lokabadja. To trace an error to its source is the best way to prevent its repetition, an aphorism I add, lest any person should suppose me wanting in respect for the eminent persons whose mistake I have pointed out. Klaproth was possibly misled by Hastings’ letters to and from Tés’húlúng’ba.* But he and Ritter are fairly chargeable with constant creation of new regions out of mere synonyma! I could give a dozen of instances from their splendid maps.

* See Turner’s Embassy and native account of Bhutan, in the Society’s Transactions.

Vocabulary of the language of the Chépáng.

<i>English.</i>	<i>Chépáng.</i>	<i>English.</i>	<i>Chépáng.</i>
The world	Caret,	Winter	Namjúng
God	*Nyam Ding	The rains	Nyamwá
Man	Púrsi	Grain	Yam
Woman	Mírú	Rice, unhusked	Yáng
Quadruped	Syá	Rice, husked	Chúí
Bird	Móá	Wheat	Kan
Insect	Pling	Barley‡	Caret
Fish	Gna T	Plantain	Maisé
Fire	Mí T	Pear	Pásai
Air	Máró	Tobacco	Mingo
Earth	Sá T	Pepper	Marich H
Clay, plastic	Sá lena	Red pepper	Raksai
Water	Tí	Garlick	Bin
Light, lux	Angha	Oil	Sáté
The Sun	Nyam T	A tree	Sing-tak T
The Moon	Lámé T	A leaf	Ló T
The Stars	Kar T	A flower	Ró
A mountain	Rías T	A fruit	Chai
A plain	Dáni	Wood	Sying T
A river	Ghoro	Fuel	Jháro sying
A ferry	Titachaparna? (fold)	Grass	Caret
A boat	Caret	Straw	Won
A bridge	Tá	Bran	Rók
Husband	Palam	A horse	Séráng
Wife	Malam	An ox	Shyá
Father	Pá	A bull	You shyá
Mother	Má	A cow	Mó shyá
Brother	Hou	A buffalo	Misha T
Sister	Hou dhiáng	A dog	Kúí T
Grand-father	Tó	A cat	Caret
Grand-mother	Aié	A monkey	Yúkh
Uncle	Páng	A jackal	Karja
Aunt	Múm	A tiger	Já
Child	Chó	A leopard	Mayo já
Boy	Chó	A bear	Yóm
Girl	Chó riáng	A goat	Micha
Kinsfolk	Laikwo	A sheep	Caret
Strangefolk	Sáing	A hare	Caret
Day	Nyi Gni T	A hog, pig	Piak T
Night	Yá	An elephant	Kísí N
Dawn	Wágo	A deer	Kasya
Noon	Syáwa	A rat	Yú
Evening	Nyam rama	A mouse	Mayo yú
To-day	Tén	A manis	Cháng júng
Yesterday	Yon	A fowl (gallus)	Wá
To-morrow	Syáng	Its egg	Wá-kúm
A week	Caret	A pigeon	Bak-wá
A fortnight	Bákha yatlá	A crow	Káwá
A month	Yatlá	A sparrow	Yúrúnwá
A year†	Yatang	A lark	Bajú wá
Summer	Lhapa	A partridge	Títhara H

* Nyam is the Sun, which is no doubt worshipped, and hence the identity of terms.

† The separate 12 months and 7 days have no names.

‡ No other grain named but wheat and rice.

<i>English.</i>	<i>Chépáng.</i>	<i>English.</i>	<i>Chépáng.</i>
A quail	Umbá-wá	Cord, thin	Rhim
A kite or hawk	Mó-wá	Thread	Mayo rhim
A fly	Yang	Needle	Gyap
A bee	Túmbá	Pen	Ré syáng
The human body	Mhá	Ink	Hildang
The head	Tolong	Sovereign	Rájah H
The hair	Min	Subject	Parja H
The face	Khén	Citizen	Béráng moy
The forehead	Jyé	Countryman, rustic	Bó moy
The eye	Mik T	Soldier	Gal moy
The nose	Gné Nyé	Villager	Désing moy
The mouth	Móthong	Priest	Jhákri
The chin	Kám-tyó	Physician	Chimé
The ear	Nó T	Druggist	O'sa yilong
The arm	Krút	Master	Sing chopo
The hand	Kútpá	Servant	Mayo? (small)
The leg	Dom	Slave	Gráng
The foot	Caret	Cultivator	Kámin chara
The belly	Túkh	Cowherd	Góthála H
Bone	Rhús T	Carpenter	Sing kami N
Blood	Wí	Blacksmith	Kami N
Blood-vessel	Só	Weaver	Naik yousa
A house	Kyim T	Spinner	Rhim rhousa
A door	Kharók	Taylor	Rúpsa
A stone	Báng	Basket-maker	Gráng kióni
A brick	Caret	Currier	Pún rúpo
A temple	Ding tháni	Tanner	Pún lai
An idol	Simtá	Cotton-dresser	Rhim rhowan
Dinner	Amjia	Iron	Phalám P
A dish	Ló	Copper	Támba H
A plate	Mila	Lead	Sísa H
Flesh	Mai	Gold	Liáng
Bread	Lang	Silver	Rúpá H
Vegetables	Kyáng	Rain	Nyóng wá
Honey	Túm	Frost	Chépú
Wax	Main P	Snow	Rápáng
Milk	Gnúti	Ice	Chépú
Gheu	Gheu H	Fog	Khású
Cloth	Nai	Lightning	Marang
Clothes, apparel	Nai	Thunder	Marang múra
Bed clothes	Lou	A storm	Marhú
Upper vest	Doura	A road	Liam T
Lower vest	Súmbá	A path	Mayo liam
Shoe	Panai P	A spring (water)	Tíshakwó
Stocking	Dócha P	Trade	Yinláng
Wool, raw	Min	Capital	Rás
Cotton, ditto	Kapás H	Interest	Chó
Hemp, ditto	Kyou	Coin	Tanka H
Bow	Lúí	Robbery	Latiláng
Arrow	Láh T	Theft	Ditto
Ax	Wárhé	Murder	Jénsatáng
Spade, hoe	Taik	Rape	Kútyáláng
Plough	You sing	Cultivated field	Blú
Loom	Caret	City or town	Béráng
Knife	Phiá ghúl	Village	Dési N
Brush, broom	Phék	Horn	Róng T
Basket	Tokorong	Ivory	Laik
Rope, thick	Rá	A still	Kúti póng

<i>English.</i>	<i>Chépáng.</i>	<i>English.</i>	<i>Chépáng.</i>
Beer	Han	Stupid	Waiva chúl
Spirits	Rakshi P	Honest	Waba pina
The senses	Caret	Dishonest	Waba pilo
Touching	Dina ?	Great	Bronto
Smelling	Gnama ?	Small	Maito, Mayo
Seeing	Yorsa ?	Heavy	Lito
Hearing	Saisa ?	Light, levis	Caret
Tasting	Yangsa ?*	Black	Gálto
Hunger	Rúng	White	Bhámto
Thirst	Kióp	Green	Phelto
Disease	Róg H	Blue	Gálto
Medicine	O'sá N	Red	Dúto
Fever	Aimang	Yellow	Yérpo
Dysentery	Boárláng	Sweet	Nimto
Small-pox	Bróm	Sour	Nimlo
Fear	Rai	Straight	Dhimto
Hope	Aphró	Crooked	Dóngto
Love	Mharláng	Hot	Dháto
Hate	Ghrim náng	Cold	Yésthó
Grief, sorrow	Manbharáng	Dark	Caret
Joy	Yang náng	Light, luminous	Takto
One	Yá-zho	Great	Bronto
Two	Nhi-zho T	Greater	Mhák talto
Three	Súm-zho T	Greatest	Mhak táltó
Four	Plóï-zho	Small	Maito
Five	Púma-zho	Smaller	Cholam
Six	Krúk-zho	Smallest	Cholam
Seven	Chana-zho	To stand	Chimsa
Eight	Práp-zho	To fall	Chónsa
Nine	Takú-zho	To walk	Whása
Ten	Gyib-zho	To run	Kísa
Half	Bákhá	To climb	Jyákşa†
The whole	Yágúr	To question	Hótsa
Some, any	Caret	To answer	Dyengnúksa
Many	Jhó	To request	Bajhináng ?*
None	Dómánalo	To refuse	Bainanglo ?
Near	Lóktó	To fight	Kaichináng
Far	Dyángtó	To kiss	Chopchináng
Blind	Mikchángna	To laugh	Nhísa
Lame	Domtonga	To cry	Rhíasa
Dumb	Nósa chúl	To eat	Jhicháng
Deaf	Nósa mal	To drink	Túmcháng
Clean	Bhangto	To talk	Nhocháng
Dirty	Gálto	To be silent	Ashimanga ?
Strong	Jokto	To shit	Yésháng
Weak	Joklo	To piss	Chúcháng
Good	Pito	To ascend	Jyákcháng*
Bad	Pilo	To descend	Súsyáng
Ugly	Pilo	To cut	Palchináng
Handsome	Dyángto	To break	Tléscháng
Young	Dyáng mai	To join, unite	Chócháng
Old	Burha H	To jump	Jyésháng
Clever	Chimo	To sit down	Múcháng

* Sá I think is the infinitive sign, and áng the participial. And one or other should appear uniformly here.

† If as I suppose, Sá be the infinitival sign there must be error and the rather that all the verbs should have one form. Áng I think is the participial sign.

<i>English.</i>	<i>Chépáng.</i>	<i>English.</i>	<i>Chépáng.</i>
To stand up	Chingsa	To write	Résa
To sleep	Yémsa	To read	Brósa
To wake	Tyoksa	To sing	Mansa
To give	Búisa T	To dance	Syákسا
To take	Lísa T	To lie down	Kontimúsa
To lend	Búisa	To get up	Caret
To borrow	Lísa	To tell a falsehood	Hekaktáng
To buy	Yingsa	To see	Chéwáng ?
To sell	Yinlángalsa	To hear	Saiyáng ?*
To exchange	Gyésa	To taste	Lyémsa
To live	Caret	To smell	Namsa
To die	Caret	To touch	Dimsa
To reap	Rása	To count	Théngsa
To sow	Wársa	To measure	Krúsa
To thresh	Rhápسا	To remember	Mhardangsa
To winnow	Krápsa	To forget	Mhoiyangsa

N. B.—T postfixed indicates a Tibetan etymon for the word, H a Hindi origin, P a Parbatia or Khas, and N a Néwár, ditto. It was not in my power to do more than collect vocables. I could not ascertain structure: but comparing all the words I conceive the anomalies of the verbs may be set right by assuming Sá to be the infinitival sign, and áng, varied to chang, yang and nang, the participial one.—
B. H. H.

List of Chépáng words derived from the Tibetan language and especially the Bhutanese dialect of it.

<i>English.</i>	<i>Tibetan.</i>	<i>Lhopa.</i>	<i>Chépáng.</i>
Eye	Mig	"	Mik
Sun	Nyimá	Nyim	Nyam
Sky	Namkháh	Nam	Nam
Ear	"	Nó	Navó
Mountain	Rí	Rong	Rías
Star	Karma	Kam	Kar
Free	Jon-shing	Shing	Sing-tak
Wood	"	Shing	Sing
Leaf	Ló-ma	"	Ló
Salt	Tsá	Chhá	Chhé
Road	Lam	Lam	Liam
House	Khyim	Khim	Kyim
Moon	Lávo	"	Lámé
Bone	Rúspa	"	Rhús
Fire	Mé	Mí	Mí
Arrow	Dáh	Dáh	Láh
Dog	Khyi	Khi	Kúi
Buffalo	Mahi S	Méshi	Mísha
Day	"	Nyim	Nyi
Earth	"	Sá	Sá
Fish	Nyá	Gná	Gná
Hog	Phag	Phag	Piak
Horn	Rá	Róng	Róng
Two	Nyis	Nyi	Nhí-zho†
Three	Súm	Súm	Súm-zho
Give	Búh	Bin	Búi
Take	Lan	Ling	Lí

* These should be Chésa and Saisa I apprehend.

† Zho is a emunctative servile affix like Thampa in the decimal series of Tibetan.

*A passage from Ibn Qotaybah's Adab al Kátib' on Arabic Astronomy ;
by A. SPRENGER. Communicated by H. M. ELLIOT, Esq. Foreign
Secretary to Govt. of India.*

We find in Arabic two sets of names for stars and constellations. Some are purely Arabic, like *بَدَات نَعَش* (the Bear), others are transcribed or translated from the Greek, as *دَب* (the Bear), and *قَيْفَاوَس* a corruption of *قَيْفَاوَس* (Cepheus). In the same manner we find two totally distinct systems. In one (the purely Arabic) we find names for southern stars which are visible only in Arabia and not in Greece or Babylonia ; the ecliptic is divided into twenty-eight parts, and not into twelve, and, consistently, the year has twenty-eight solar months ; many stars have names of which the Greeks have not taken notice, and they are grouped into constellations in a manner different from that of the Greeks. This system of astronomy rests solely on observation without calculation or generalization.

Greek astronomy seems to have been first introduced among the Arabs by Khálid b. Yazyd, who flourished towards the end of the first century of the Hijrah ; he had several books translated from the Greek into Arabic, and was in possession of a celestial globe which had been made by Ptolemy ;* and so rapidly did this science take root and spread among the followers of Muhammed, that the Moors in Spain were, as early as the ninth century after Christ, the instructors of their northern neighbours. We find in the writings of the venerable Bede the words *Alidada* العَضَادَة and *Almajest* المَجَسْطَى which bear witness to the Arabic origin of part of his astronomical knowledge. Ever since the time of Khálid, systematical writers on astronomy follow exclusively the Greek system, whilst encyclopædic authors mix the two without much discrimination. The chapter of Ibn Qotaybah on astronomy, though the tendency of the author is philology, is therefore very valuable ; for he carefully excluded every Greek ingredient from it with the exception

* Kifty's *Bibl. Philosophorum*, the account of this (or globe) is in Casiri II. 417, but not complete : the passage ought to run

وكرة نجما سما من عمل بطلميوس وعليها مكتوب حملت هذه الكرة من الامير
خالد بن يزيد بن معاوية وتا ملدا ما مضى من زمانها فكان الفا وما يتين
و خمسين سنة (compare the MSS. copy of Kifty in the Lib. of Paris).

perhaps of the names of the signs of the Zodiac, with which the Arabs were probably acquainted long before Muhammed.

The object of Ibn Qotaybah's* book called the Writer's Manual, ادب الكاتب or according to others اداب الكتاب, is merely to explain the words and terms which occur in the poems, proverbs, &c. of ancient Bedouin poets, we can not therefore expect complete explanations. To supply what I can, I have added some extracts from the *Mabáhij al Fikr* of Wat-wát وطواط of which I believe, there is no copy in Europe, the extracts from this book however must be received with some caution, for the author is not always critical, and the MSS. not always correct; but the extracts from Ibn Qotaybah may be completely relied upon, and they will be found copied under the respective heads in the *Qámús* and *Ciháh* and translated in Freytag's *Dict. Arab. Lat.*

معرفة فى السماء والنجوم والازمان والرياح

السماء كل ما علاك واطلك ومنه قيل لسقف الهيت سماء
والسحاب سماء قال الله عزوجل وانزلنا من السماء ماءً مباركاً يريد
من السحاب والفلك مدار النجوم الذي بضمها قال الله عزوجل
وكل في فلک يسجون سماء فلما لاستبدارته ومنه قيل فلکة المغزال
وقيل فلک ثدي المرأة وللفلک قطبان قطب فى الشمال و قطب
فى الجنوب متقابلان ومجرة السماء سُميت مجرة لانها كآثر المجر
ويقال هي شرج السماء ويقال باب السماء وبروج السماء واحدها
برج واصل البروج الحصون والقصور قال الله تعالى ولو كنتم فى
بروج مشيدة واسماؤها الحمل والثور والجوزا والسرطان والاسد
والسنبله والميزان والعقرب والقوس والجدي والدلو والكوت
ومنازل القمر ثمانىة وعشرون منزلا ينزل القمر كل ليلة بمنزل منها

* Died A. H. 276.

قال الله تعالى والقمر قدرناه منازل حتى عاد كالعرجون القديم
والعرب تزعم ان الانواء لها وتسميها نجوم الاخذ لان القمر ياخذ كل
ليلة في منزل منها والزمنة اربعة ازمنة الربيع وهو عند الناس
الخريف سمنه العرب ربيعا لان اول المطر يكون فيه وسماه الناس
خريفا لان الثمار تخترف فيه ودخوله عند حلول الشمس براس
الميزان ونجومه من هذه المنازل الغفر والزباني والكليل والقلب
والشولة والدعائم والبلدة ثم الشتاء ودخوله عند حلول الشمس
براس الجدي ونجومه سعد الذابح وسعد بلح وسعد السعود وسعد
الاخبية وفرغ الدلو المقدم وفرغ الدلو الموحر والرشاء ثم الصيف
وهو عند الناس الربيع ودخوله عند حلول الشمس براس الحمل
ونجومه الشرطان والبطين والثريا والدبران والهقعة والهذعة والذراع
ثم القيظ وهو عند الناس الصيف ودخوله عند حلول الشمس
براس السرطان ونجومه الذئرة والطرف والجبهة والزبرة والصرفة
والعواء والسماك ومعنى النوء سقوط النجم منها في المغرب مع
الفجر وطلوع اخر يقابله من ساعته في المشرق واما سمي نوءا
لانه اذا سقط الغارب نأ الطالع ينوء نوءا وذلك النهوض هو النوء
وكل ناهض بثقل فقد نأ به وبعضهم يجعل النوء السقوط كانه من
الاضداد وسقوط كل نجم منها في ثلاثة عشر يوما وانقضاء الثمانية
والعشرين مع انقضاء السنة ثم يرجع الامر الى النجم الاول في
استيناف السنة المقبلة وكانوا اذا سقط نجم منها وطلع اخر فكان عند

ذلك مطرا وريح او حرّة او يرد نسيوه الى الساقط الى ان يسقط
الذي بعده فان سقط و لم يكن مطر قيل خوي نجم كذا و اخوي
و سرار الشهر و سرارة اخر ليلة منه لاستسرار القمر و ربما استسّر ليلة
و ربما استسّر ليلتين و البرء اخر ليلة من الشهر سميت بذلك
لتبرء القمر من الشمس و المحاق ثلث من اخر الشهر سميت
بذلك لامحاق القمر فيها او الشهر و النكيرة اخر يوم من الشهر
لانه ينحر الذي يدخل و الهلال اول ليلة و الثانية و الثالثة ثم هو
قمر بعد ذلك الى اخر الشهر و ليلة السواء ليلة ثلث عشرة ثم
ليلة البدر لاربع عشرة و سمي بدر المبادرته الشمس بالطلوع كانه
يعجلها المغيب و يقال سمي بدرا لتمامه و امتلائه و كل شيء ثم فهو
بدر و منه قيل لعشرة الف درهم بدره لانها تمام العدد و منتهاه و منه قيل
عين بدره اى عظيمة و العرب تسمى ليا لى الشهر كل ثلث منها
باسم فتقول ثلث غرر جمع غرة و غرة كلشئ اوله و ثلث نفل و ثلث
تسع لان اخر يوم منها اليوم التاسع و ثلث و عشر لان اول يوم منها
اليوم العاشر و ثلث بيض لانها تبيض بطلوع القمر من اولها الى
اخرها و ثلث درع و كان القياس درع سميت بذلك لاسوداد
او ايلها و ابيضاض سائرها و منه قيل شاة درعاء اذا اسود راسها
و عنقها و ابيض سايرها و ثلث ظم لظلامها و ثلث حنادس لسوادها
ثلث دأدى لانها بقايا و ثلث مُحاق لامحاق القمر فيها او الشهر و للشمس
مشرقان و مغربان و كذلك القمر قال الله عزوجل رب المشرقين

و رب المغربين فالشرقان مشرقا الصيف و الشتاء و المغربان مغربا
الصيف و الشتاء فمشرق الشتاء مطلع الشمس في اقصر يوم من
السنة و مشرق الصيف مطلع الشمس في اطول يوم من السنة
و المغربان على نحو ذلك و مشارق الايام و مغاربها في جميع السنة
بينها ذين المشرقين والمغربين قال الله عزوجل رب المشارق والمغرب
و سمي النجم نجما بالطلوع يقال نجم السنُّ اذا طلع و نجم النجم
و سمي طارقا لانه يطلع ليلا و كل من اتاك ليلا فقد طرقتك و منه
قول هند بن عتبة نحن بنات طارق نمشي على الذمارق تريد ان ابانا
نجم في شرفه و علوه قال الله تعالى و ما ادريك ما اطارق النجم
الثاقب و سمي القمر قمر البياضه و القمر الابيض و ليلة قمرء اى
مضئية و الفجر فجران يقال للاول منهما ذنب السرحان و هو الفجر
الكاذب شبهه بذنب السرحان لانه مستدق صاعد في غير اعتراض
و الفجر الثاني هو الفجر الصادق الذي يستطير و ينتشر و هو عمود
الصبح و يقال للشمس ذكاء لانها تذكو كما تذكو النار و للصبح ابن
ذ كاء لانه من ضوءها و قرن الشمس اعلاها و اول ما يبد و منها فى
الطلوع و مواجبها نواحيها و اياه الشمس ضوءها و الدارة التي حول
القمر يقال لها الهالة و الرياح اربع الشمال و هى التي تاتي من قبل
الشام و ذلك عن يمينك اذا استقبلت قبله العراق و هى اذا كانت
بالصيف حارة بارح و جمعها بوارح و الجنوب تقابلها و الصبايا ني
من مطلع الشمس و هى القبول و الدبور تقايلها و كل ريح جاءت

بين مبدئى ريحيين فهى نكباء لانها نكبت اى عدلت عن مهاب هذه
الاربع ودرارى النجوم عظامها و احدها دُرِّي غير مهموز نسب
الى الدر لبياضه وقال ابو محمد ومن همز فقال دُرِّي بالمهمز اراد
النجوم التي تطاع عليك و الجدى الذي تعرف به القبلة و هو جدى
بنات نعش الصغرى و بنات نعش الصغرى بجانب بنات نعش
الكبرى على مثل تاليفها اربعة منها نعش و ثلاثة بنات فمن الاربعة
الفرقدان و هما المتقدمان و من البنات الجدى و هو اخرها و السهى
كوكب خفى في بنات نعش الكبرى و الناس يمتحنون فيه الصبارهم
و فيه جرى المثل فقيل اريها السهى و تُرى القمرو الفكة كواكب
مستديرة خلف السماك الرامح و العامة تسميها قصعة المساكين
و قدام الفكة السماك الرامح سمي رامحا بكوكب يقدمه يقولون هو
رمحه و السماك الاعزل حد ما بين الكواكب اليمانية و الشامية
سمى اعزل كانه لاسلاح معه كما كان للاخر و الذسر الواقع ثلثة انجم
كانها اثنافي و بازايه الذسر الطائر و هو ثلثة انجم مُصَطَفَّة و انما
قيل للاول واقع لانهم يجعلون اثنين منه جناحيه و يقولون قدضمهما
كانه طاير وقع و قيل للاخر طاير لانهم يجعلون اثنين منه جناحيه
و يقولون قد بسطهما كانه طاير و العامة تسميها الميزان و الكف
الخصيب كف الثريا المبسوطة و لها كف اخرى يقال لها الجذ ماء
وهي اسفل من الشرطين و العيوق في طرف المجرة الايمن على
اثره ثلثة كواكب بيذة يقال لها الاعلام و هي توابع العيوق و اسفل

العيوق نجم يقال له رجل العيوق وسهيل كوكب احمر منفرد عن الكواكب ولقربه من الافق تراها ابدا كانه يضطرب قال الشاعر اراقب لوحا من سهيل كانه اذا ما بدا من اخر الليل يطرف وهو من الكواكب اليمانية وطلعه عن يسار مستقبل قبلة العراق وهو يري في جميع ارض العرب ولا يري في شى من بلاد ارمينية وبنات نعش تغرب بعدن ولا تعرب في شى من بلاد ارمينية وبين روية سهيل بالحجاز وبين روية بالعراق بضع عشرة ليلة وقلب العقرب يطلع على اهل الربطة قبل النسر بثلاث والنسر يطلع على اهل الكوفة قبل قلب العقرب بسبع وفي مجرى قدمي سهيل من خلفها كواكب وابيض كبار لا تري بالعراق يسميها اهل الحجاز الا عيار والشعريان احدهما العبدور وهي في الجوزاء والاخرى الغميصا ومع كل واحدة منهما كوكب يقال له المرزم فهما مرزما الشعريين والسعود عشرة اربعة منها ينزل بها القمر وقد ذكرناها و الستة سعد الناشرة وسعد الملك وسعد البهام وسعد الهمام وسعد البارع وسعد مطر وكل سعد منها كوكبان بين كل كوكبين منها في راي العين قدر ذراع وهي متناسقة فهذه الكواكب ومنازل القمر مشاهير الكواكب التي تذكرها العرب في شعارها واما الخنس التي ذكرها الله تعالى في كتابه فيقال هي زحل و المشتري والمريخ والزهرة و عطارد و انما سماها خنسا لانها تسير في البروج و المنازل كسير الشمس و القمر ثم تخنس اي ترجع بنيا تري احدها في آخر البروج

كَمَّا رَجَعَا إِلَىٰ أَوْلَاهَا كُنُوسًا لِأَنَّهَا تَكُونُ أَيُّهَا تَسْتَقِرُّ كَمَا تَسْتَقِرُّ
الظباء وتكنس والظباء أي تستقر *

“*On the heaven, stars, seasons, and winds.*”—“All which is above you is called samá (heaven); therefore the roof of the tent is called samá, and a cloud is called samá. It is said in the Qorân, “We have sent from the samá, i. e. from the cloud blessed water.” Falak (sphere) is the name for the orbit of such stars as it contains. It is said in the Qorân ‘They all swim in a falak.’ The name falak has been chosen (to designate a sphere of the heaven) on account of its round shape; for you say the falkah (ball) of the spindle, you also say the breast of a woman became falak (round).

A sphere has two opposite holes; one in the south and one in the north.—The milkyway is called majarrah because it looks like a beam (supporting a vault); it is also called the sharaj (fissure) of heaven and the gate of heaven. The singular of borúj (signs of the Zodiac) is burj; it means fortress or castle (German, Burg); in this sense the word is used in the Qorân; ‘If you are in strong boruj (fortresses).’ The names of the signs of the Zodiac are: the ram, bull, transit, crab, lion, ear of corn, balance, scorpion, bow, goat, the water-basket, and the fish.

There are twenty-eight mansions of the moon. The moon is every day of the month in another mansion. It is said in the Qorân we have appointed for the moon mansions until she returns to her former place.” The Bedouins were of opinion that the term “anwá” (heliacal settings), is exclusively applied to the mansions of the moon; and they called them the stars of occupation, for the moon occupies every night another mansion.

The year has four seasons: the autumn is now called (by the Arabs settled out of their native country) Kharyf; but the Bedouins called it Raby (fresh grass), for in that season falls the first rain. It is called Kharyf, because people cut their crops in that season. It begins when the sun enters Libra. The sun passes during this season through the following mansions of the moon: ghafr (occultation), zobány, iklyl (crown), qalb (heart), shawlah (the curvature of a tail when raised), na’áyim (the ostriches), baldah (fissure).

Winter begins when the sun enters into the sign of Capricorn. He passes through the following mansions of the moon in this season: sa’d

al-dzábih (the butchering luck), sa'd bola' (the devouring luck), sa'd al-so'úd (the luck of lucks), sa'd al-akhbiyah faragh al-dalw al-moqaddam (the foremost trough of the bucket), faragh al-dalw al-mowakhkhar (the hindmost trough of the bucket).

Spring was called çayf by the ancient Arabs, and Raby by the latter Arabs who had settled in cities. It begins when the sun enters into the sign of the Aries. Its mansions are : sharatán (the two signs or marks), botazn (the small belly), thorayyá (multitude, i. e. Pleiades), dabrán or dabarán (Hyades), haq'ah (the race-course), han'ah (the curvature), and dzirá (the forearm).

Summer was formerly called qaytz by the Bedouins, and is now called çayf by the towns-people. Its lunar mansions are : nathrah (the back of the nose, the stars are on the nose of the lion), tarf (the eye, viz. of the sign of the lion), jabhah (the forehead), zobrah (the lion's mane between his shoulders), çarfah (returning), 'awwá (the barker or dog), sinsák.

Nawö (heliacal setting), means that one of those stars sets (heliacally) in the west, whilst another rises (heliacally) in the east. The term nawö, which means rising, is used in this instance (for setting), because the setting of one of the mansions of the moon is always accompanied by the rising of another ; some say that nawö means both rising and setting. One of the mansions of the moon sets (heliacally) and another one rises every thirteen days. The twenty-eight mansions make therefore their revolution once a year. If at the setting of a mansion of the moon a change of the weather took place, the Arabs used to ascribe it to the setting mansion, and they thought that it continued to influence the weather until the next mansion would set (the setting mansion, it must be recollected, proceeds towards coming in conjunction with the sun). If a mansion of the moon set and brought no rain it was called "empty."

Sirár or Sirar (occultation), is a term for the last night of the (lunar) month, for the moon becomes invisible, sometimes one and sometimes two nights. Barä (salvation), is equally the name of the last day of the month, for the moon escapes from the sun ; mohák (destruction), is the name for the last three days of the (natural) month, for the moon perishes during them. Nahyrah (having the throat cut), is also a name for the last day of the month, for the coming month cuts the

throat of the going. The first three days after the moon has become visible she is called *hilál*, and the remaining days of the month the moon is called *qamar*. The thirteenth night of the month is called the night of equation, the fourteenth night is called the night of haste (full moon), for she hurries to overtake the sun before he sets and seems to drive him away. Some say that the word *badr* is to be taken in the meaning of 'completion or fulness' for the moon is then full, you use the word in this sense in calling a purse of 10,000 dirhams *badrah*, and in calling a full large eye *badrah*. Every three nights of the month had, with the Bedouins, a separate name. The first three were called *ghorar*, *plur.* *ghorah*, which means the first of any thing. The next three nights (4th, 5th, 6th) are called supererogations, the next three are called ninth, for the last of this three nights is the ninth of the lunar month; the next three are called tenth, from the first night of the set; and the next three (14th, 15th, and 16th) are called white on account of the silvery light of the moon, during these three nights, and the next three nights (17th, 18th, and 19th) *dora'* the regular form would be *dor*, for the first half is dark and the other half is moonlight; you call a sheep *dar'á* if the head and neck is black and the rest of the body white. The next three nights (20th, 21st, 22d) are called dark, the next three (23d, 24th, 25th) are called black, *dädiy*, because they are a remnant, and the last three nights are called destruction, for the moon perishes.

The sun and moon have two orientes and two occidents. It is therefore said in the Korân "God is the Lord of the two easts, and of the two wests." One is the place where the sun rises and sets in summer, and the other where it rises and sets in winter. The exact place of the east of winter is the point of the horizon where the sun rises in the shortest day of the year, and the east of summer is the point of the horizon where the sun rises in the longest day of the year. The other risings and settings of the sun are between these two extremes; the words (orientes and occidents) are used in the plural in the Korân.

A star is called *najm* because it rises. You say of a tooth *najama*, i. e. it comes forth. You also say a star *najama*, i. e. it rises; a star is also called *táriq*, for it lights at night. You say of a man who comes to hue at night *taraqa*, in this sense, says the poetess, Hind b. (bint?) 'otbah: We are the daughters of a *táriq*, we walk on carpets. She

means to say our father is a star in nobility and height of position. "What do you know of the meaning of *táriq*? it is a bright star."

The moon is called *qamar* because she is white; *aqmar* means white; you say of the night it is *qamrâ* if it is light. There are two dawns, the first is also called the tail of the wolf, it is the false dawn and resemble a wolf's tail, because it is narrow and does not spread; the second is the true dawn which spreads, this is the red of the morning. The sun is called *glowing* for he glows like fire. The morning is hence called the morning of the glowing, (i. e. sun.) The highest part of the sun, which first rises above the horizon is called the horn of the sun. His sides are called *hawájib*; *iyáh* is the light of the sun; *hálah* means the halo of the moon.

There are four cardinal winds: the north wind which comes from *Shám* (left); or from the right if you are in the 'Iraq and place your face towards the *qiblah*. If the north wind is hot in summer it is called *trying*. The opposite wind is called south wind. The east wind comes from whence the sun rises, and the west wind comes from the opposite direction. A wind which comes from between two cardinal points is called *declinating*.

A large star is called *dorriyy* without a hamzah (pearly). *Abú Muhammed* says if you pronounce the word *dorriyy* with a hamzah and say *doriy*, it means a star which rises over you.

By the *jady* (polar star) through which you ascertain where the *qiblah* is, the *jady* of the *ursa minor* is meant. The *ursa minor* is close to the *ursa major* and resembles it; four stars are called *na'gh* (bier) and the other three are called *banát* (daughters). The first two of the four are called *farqadán* (the two calves), the last of the *banát* is called *jady* (polar star, literally, he-goat).—*Sohá* is an obscure star in the larger Bear on which people exercise their eyesight, and hence the saying: I show her the *sohá* (talks on subtilities) and she shows me the moon. *Fakka* (languor) is a round constellation (*Corona borealis*) behind the *Arcturus* the common people (*'ámmah*, and not *ghilmah*, as *Freytag* seems to have read) call it the poor man's cup. Before *Arcturus* is the *simák rámiḥ*, (i. e. the *simák* armed with a spear;) it is called armed with a spear because there is a star before it which is called spear. The unarmed *simák* (*Spica virginis*) is between the southern and northern stars. The setting vulture consists of three

stars disposed like a julha (i. e. a fire-place consisting of three stones placed like a horse-shoe); opposite is the flying vulture which consists of three stars in a line. The former is called the sitting vulture, for two of its stars are considered as its wings; and it is conceived that the vulture has shut its wings like a bird that sits down. The latter is called the flying vulture, for two stars are considered as expanded wings, resembling those of a flying bird. The common people call this constellation the balanee.—The tattooed hand is the open hand of the Pleiades. This constellation has another hand which is called the cut hand and which is below the sharatán. The 'ayyúq is on the right (south) side of the milkyway, behind it are three clear stars called marks. The lowest star of the 'ayyúq is called the foot of the 'ayyúq. Canopus is a red isolated star, as it is near the horizon it appears always twinkling. The poet says "I see a board from the Canopus which when it rises towards the end of the night, resembles a twinkling eye. This is a southern star, a man who faces in the 'Iráq the qiblah sees it to his left. It is visible in all Arabia but it is not visible in Armenia. The Bear sets in Aden but never sets in Armenia. You see the Canopus about ten days sooner in the *Hijáz* than in the 'Iráq. The heart of the Scorpion rises in the country of Rabadzah (which is four days journey from Madynah) three days sooner than the vulture, but at Kúfah the vulture rises before the heart of the Scorpion by seven days. On the track and behind the two feet of Canopus are large white stars, which are not visible in 'Iráq, and which are called *Áyár* in the *Hijáz*. Two constellations are called shi'rah (canis), one is called the shi'rá of setting over (the river), (i. e. canis major), and is in the Gemini, the other is called the shi'rá with sore eyes (canis minor). The canis major and minor have each a star called mirjam.

Ten stars are called sa'd (luck); four of them are among the mansions of the moon, and have been mentioned; the remaining six are: luck of the second grass, luck of the king, luck of the chickens, luck of the hero, luck of the distinguished, luck of the rain. Every one of these sa'd consists of two stars which are apparently one cubit from each other. They are regular, and these stars and the mansions of the moon are well known, and frequently mentioned by the ancient Arabic poets.

The Khonnas (retrograde) mentioned in the Qorân, is said to mean,

Saturn, Jupiter, Mars, Venus and Mereury, they have this name, because they move through the zodiae and mansions, like the sun and moon, but then they return; when you see one at the end of the zodiac it returns to the beginning. They are also called *konnas*, for they conceal themselves like “gazelles in their dens.”

The word *nawö*, helical setting of a mansion of the moon, (plur. *anwá*,) is of frequent occurrence in Arabie authors, and several of them have written monographies on the *anwá*, to which the changes of the weather were ascribed, as with us to the quarters of the moon; yet this term seems to have escaped the diligenee of Ideler, and its meaning has baffled the learning of Richardson and Freytag; the former explains it: “setting in the west (as a star) in the twilight, another one rising in the east.” A passage from *Watwát*, which bears on the meaning of this term, may therefore be useful.

The mansions of the moon alternately watch each other. The term *watling* is employed, because one indieates the rise of another, as if one was waiting the setting of its fellow before it rises. The reason is this. The mansions are divided into two sets (or halves) as we have said, viz. the southern, which eomprizes fourteen mansions, and the northern, which eomprizes the same number. When the first mansion of the southern half rises, the first mansion of the northern sets. The first mansion of the northern set is the *sharatán*, and the first mansion of the southern set is the *ghafr*. When the *sharatán* rises the *ghafr* sets, and so on until the *simák* rises, which is the last mansion of the northern set, and which alternates with the *hút* (fish): the one sets when the other rises the second morning. Rising and setting are not to be taken in the usual meaning, or rising from the horizon; for in this sense, the mansions of the moon rise and set every twenty-four hours. The meaning is this. When the sun approaches to a fixed star or planet, he hides it and it is not visible to the eye of the observer; a star is therefore visible only at night and not at day time, and being in occultation is as much as being not on the sky. The star remains invisible until it is sufficiently distant from the sun; it can first be seen at dawn, for the light of the sun (not of the stars as the MSS. has it) is then weak and does not overpower the light of the stars; the star of the rising mansion can therefore be seen in the east in the morning. This is the meaning of the term “the rise of a mansion.” Its watch-

man becomes at the same time invisible, and this is the meaning of the term "it sets." Fourteen mansions are constantly visible in the hemisphere of the heaven which is above the earth, the other fourteen mansions are concealed under the earth, in the other half of the heaven. To every two and one third mansion corresponds our sign of the zodiac. The mansions of the sharatán, botayu and one third of the thorayyá correspond to Aries, &c.

وهذه المنازل بعضها رقيب لبعض ومعنى الرقيب هو الذي يعرف به طلوع الاخر كانه يراقب بالطلوع غروب صاحبه والسبب في ذلك هو ان المنازل تنقسم قسمين كما قد مناقم يمانى وهو اربعة عشر منزلة وقسم شامى وعدده ذلك فاذا طلعت المنزلة الاولى من القسم اليماني غربت المنزلة الاولى من القسم الشامى واول القسم الشامى الشرطان واول القسم اليماني الغفر فاذا طلعت منزلة الشرطين غابت منزلة الغفر وهكذا الحال الى ان تطلع منزلة السماك وهي اخر منازل القسم الشامى ويغيب منزلة الحوت وغروبها طلوعها مع الفجر الثاني وغروبها مع طلوعه لا طلوعها من الافق وغروبها فيه فان ذلك موجود لها كل يوم وليلة ولكن المراد به ان الشمس اذا قربت من كوكب من الكواكب الثابتة والمتحركة سدته واخفته عن عيون الناظرين فصار يظهر نهارا ويخفى ليلا فكان خفاؤه غيبة له ولا يزال كذلك خافيا الى ان تغيب عنه الشمس بعداً يمكن فيه ان يظهر لا بصار وذلك عند اول طلوع الفجر فان ضوء الكواكب يكون ضعيفا حينئذ فلا يغلب نور الكواكب ويفرى الكوكب فى الافق الشرقي ظاهراً وذلك عبارة عن طلوعه ويخفى في ذلك الوقت رقيبته وهو عبارة عن غروبه فلا يزال اربع عشرة منزلة خافية تحت الارض ابدأ في نصف الفلك ولكل منزلتين وثلاث برج من البروج الاثنى عشر فالسرطان والبطين وثلث الشريا للحمل وكذا الى اخر المنازل *

It seems that the mansions of the moon must be considered as a division of the ecliptic by which the progress of the sun through the vastness of the heavens is measured, and the time of its annual revolution divided into twenty-eight parts or solar months. The motion of the moon has furnished this division. From the observation of the same stars from which the Arabs learned what solar month of the year was, they could also learn the date of the lunar month and even the hour of the night. The lunar mansions were the almanac and dial of the illiterate children of the desert, and they are probably their own invention. As a more precise knowledge of them may be of historical interest, I insert here another passage of *Watwát* (Lib. I. cap. 3) on the subject:—

“As the Arabs (Bedouins) had no knowledge of the results which the ancients had obtained by their observations of the fixed stars, and as they were not acquainted with the stars which might enable them to define the seasons of the year and to fix the time, they observed certain stars and attempted to ascertain by experience to what extent the heliacal setting of every star was true or deceptive (in predicting the weather), and what influence the stars exercise on the temperament and constitution of man when they rise or set. They did not however attend to the signs of the zodiac in their observations, but they divided the sphere of the fixed stars into a number of parts, equal to the number of days of a revolution of the moon, that is to say into twenty-eight. They looked for a sign to mark the distance which the moon passes in twenty-four hours; and called it “stage” (mansion). They began with the two stars in the horn of Aries, called *sharatán*, then they looked out for another star by which to mark the distance which the moon goes in 24 hours, starting from the *sharatán*, and this star is *botayn*. After the *botayn* comes the *tharayyá*, &c. It is the Arabs who gave names to these stars without reference to the division or signs of the Zodiac, thus the *haq'ah* is one of the stars marking the limit of a mansion of the moon, yet it is not in the Zodiac but in Orion. The term mansion is taken by exact writers in the meaning of a portion of the heavenly sphere equal to one-fourth of one-seventh, i. e. one twenty-eighth of the circumference. It is not more than this, for the moon, in her mean course arrives on the 29th day at the spot from which she started. Mansion means originally the respective arc and not

the star, for the stars are only the limits which divide one mansion from another, but these were called after the stars, and now the names of the stars are applied to the respective mansions. Every mansion has $13\frac{1}{11\frac{1}{2}}$ days, for this is the result if you divide $365\frac{1}{4}$, the number of days of the solar year by 28. The almanack of the mansions is calculated by the solar year, for their apparition (read *ظهورها* instead of *طورها*) is connected with the solar year. Every mansion has therefore thirteen days or degrees. But the solar year is one day and one fourth of a day longer than this period (i. e. 28×13 days), therefore one day is added to the last mansion, which is called jabhat. To make up for the remaining fourth, a day is intercalated every four years in the mansion of the jabhah. The sharatán are considered the first mansion, for they are in Aries, which is the first sign of the Zodiac."

و لما لم يصل الى العرب ما حققه القدماء برصدهم من الكواكب
الثابتة وكان لاغنى لهم عن معرفة كواكب ترشد هم الى العلم
بفصول السنة وازمنتها رصدوا كواكب وامتحنوا كلا منها بما يصدر
عنه من صوايق الانواء وكونا فيها وما يحدث من التأثيرات في طبعهم
وقامتهم بطوالعها و غواربها و لم يستعملوها صور البروج على
حقيقتها لانهم قسموا الفلك المكوكب على مقدار الايام التي يقطعه
القمر فيها وهي ثمانية وعشرون يوما وطلبوا في كل قسم منها
علامة يكون العباد ما بينها في راي العين مقدار مسير القمر في يوم
وليلة وسموها منزلة و بدعت بالشرطين ثم طلبوا بعد الشرطين علامة
اخرى تتضمن بعد اليوم والليلة فوجدت البطين و بعد البطين
الثريا وكذلك ساير الاسماء وهم الذين وضعوا هذه الاسماء عليها
و لم تلتفت الى البروج واقسامها و مقادير صورها لانهم ادخلوا
الهقعة في جملة المنازل وليست في البروج وانما هي في الصور
و المنزلة عند المحققين قطعه من الفلك مقدارها ربع سبع الدور
و هو جزء من ثمانية وعشرين جزءاً من الفلك وانما لم تكن اكثر
من هذا القدر لان القمر اذا سار سيرة الوسط انتهى في اليوم التاسع
والعشرين الى الموضع الذي بدا منه فحذف المكرر فيبقى ثمانية

و عشرون يوماً فجعلت المنازل على عدد الايام و المنزلة عبارة عن
العصا لا عن الكوكب و انما الكواكب حدود تفرق بين كل منزلة و اخرى
فعدل بالتسمية اليها و غلبت عليها و لكل منزلة من الايام ثلاثة عشر
يوماً و ربع سبع يوماً و نصف ثمن سبع يوم على التقريب و سبب
ذلك انك اذا قسمت السنة الشمسية التي هي ثلثمائة و خمس
و سبوتن يوماً و ربع يوم بالتقريب على ثمان و عشرين خص كل
منزلة ما ذكر من العدد و الكسور و انما اصيف العمل بها الى الستة
الشمسية لان طورها و اختفاءها يكون بالنسبة الى الشمس و لما كان
الامر كذلك جعل لكل منزلة ثلاثة عشر يوماً التي هي ثلاث عشرة
درجة من درج الفلك و جميع ما فضل من الكسور على كل ثلاثة
عشر يوماً بعد انقضاء ايام المنازل الثمانية و العشرين فكان يوماً و ربعاً
فجعل يوماً في المنزلة التي توافق اخر السنة و هي الجبهة و بقي
ربع يوم فسي اربع سنين حتي صار يوماً فزيد على الجبهة لليلة
المد كورة و انما جعل ابتداء المنازل الشرطين لانها في الحمل
و الحمل اول ما عد من البروج و قد ذكرنا السبب الذي من اجله
عد الحمل اولاً *

In the following account of every mansion of the moon I follow the same author, but abridge his text :—

“ Fourteen mansions are northern and called the left mansions, and as many are southern and called the right. When the northern mansions rise (heliacally) the night is longer than the day, and when the southern ones rise the day is longer than the night. The moon either makes her daily stages in the respective mansion or a little before or behind it (but in the same line), or out of the line of the mansions to the north or south.

1. *Sharatán* or *shartán* (dual), sing. *shart* or *sharat*, pl. *ashrát*, which means signs *علامات*. Also called the horn (نطح) I would observe that this and most other pure Arabic terms of returning are obsolete in their common acceptation, or perhaps belong to a dialect, which forms but a slight ingredient into the written language) being, according to those

who paint the constellations, in the horns of Aries. The *sharatán* are two bright stars, not far asunder north and south; not far from the southern is another and smaller star, which is sometimes added to the preceding two. The setting of the *sharatán* portends luck. The Arabs say

إذا طلع (sic) الشرطان اعتدل الزمان وتخضرت الاوطان وتوافقت الاسنان
وتهادت الجيران وبات الفقير بكل مكان

“When the *sharatán* rise (set?), day and night are equal, the country becomes green, the teeth stand opposite each other (?), neighbours make presents to each other, and the poor man may spend the night wherever he likes.”

2. *Botayn* (the small belly) the diminutive is used because there is a star in the fish called belly (*batn*). Three stars resembling a horse-shoe, somewhat less in magnitude than the *sharatán*. Those who make drawings of the constellations place them in the belly of Aries.

3. *Thorayyá* (Pleiades); six small stars; ignorant people believe that there are seven, they are close together and look like sparks. Some say there are twelve, but it would require the eye of Muhammed to see them. This constellation is called *al-najm* (the star) in the same manner as Venus is called *al-kawkab* (the star) *par excellence*. The Pleiades are also called the fat sheep's tail *اليدة الحمل*; most times the moon does not go into the Pleiades but into *Lhyqah الضيقة* (straits) which is the name of two small stars between the Pleiades and *Aldabaran*. This is considered as the best and most lucky *nawö* by the Arabs, and occurs therefore frequently in their poetry. (The rhymes of the Bedouins on this and some other mansions are so much disfigured by errors that they could not be transcribed here).

4. *Dabarán* is a bright red star, before it (east of it) is a group of many stars, of which two stars are nearer to *dabarán* than the rest. These are called the two dogs *كلبان* of the *dabarán*; and the rest its booty *غذيمة* (its flock of sheep?) or its camels *قلاص*. The two Bedouin proverbs: “more faithful than *dabarán* *اعز من الدبران*” and “more treacherous than the Pleiades *(اغدر من الثريان)*” are owing to the constancy with which the latter follow the former, who is his faithless love. The *dabarán* is also called *النجم تالي* and *تابع النجم* and *حادي النجم* and *عين الثور* and *المجدح* and *الغديق*. It is of the first magnitude.

5. Haq'ah (race-course, *دايرة تكون لسبق الغرس*) three small nebular stars called the jalha (fire-place of three stones disposed like a horse-shoe).

6. Han'ah (curved), five stars resembling a club with a hook at the top called *صوابجة*. Three form a straight line. The third is called the bow of the Gemini *قوس الجوزا*, the fifth is turned back (forms the hook) by about one space towards the south. Astronomers place the han'ah in the foot of the gemini; some call it the bow of the gemini, with which they shoot at the arm of the lion, and give to it eight stars which have the shape of a bow, and of which the two stars which form the han'ah in its more limited sense, form the place where it is held. Others say the han'ah consists of two stars which are very close to each other, and the northern of which is brighter and called the pearl, *در* and the southern is called *الميسان*. Sometimes the moon takes up her quarters in three stars called *الذجاتي*, which are opposite the han'ah. Here the moon crosses the northern galaxy.

7. Dzirá' (arm), two stars, one bright the other dark, distant from each other the length of a horse-whip. There are several small stars between them called the nails *الظفار*. This is the southern of the two arms of a lion and also called *متبوضة* (shut), the other arm is called *مبسوطة* (expand), they are like each other. Astronomers place the latter in the canis minor. The Bedouins say

اذ طلع الذراع حسرت الشمس القذاع واشعلت فى الارض الشعاع وترقرق السراب
بكل قاع و كذت انظباء والسباع

“When the dzirá' rises the sun takes off her veil, the coal is lighted on earth, everywhere shines the mirage, and the gazelles and lions go into their dens.”

8. Nathrah is a nebula resembling a portion of a cloud. Astronomers place it into the hut of the crab. This star is called nathrah (bridge of the nose), because on either side there are two small stars called the nostrils of the lion, and before them is his forehead *جبهه*. Some however say that this mansion is mouth of the lion *فم الاسد* some call it the *اللهاة*.

9. Tarf (the eye of the lion), two small stars close to each other, before them are six small stars called by the Bedouins *اسفار* (traveller; this is probably an error instead of *اشفار* eye-lashes); two of these stars

stand symetrically with the eyes, the other are before them. The Arabs make nearly as much of this mansion as they make of the Pleiades.

10. Jabhah (the forehead of the lion), three bright stars, the middling one is farthest to the east, they form therefore a triangle with long sides and a short base. South of them is a bright very red star called the heart of the lion قلب الأسد. The astronomers place this mansion in the shoulder of Leo. The nawö of this mansion causes high winds.

11. Zobrah, also called الزيرتان and الحراثان and عرف الأسد, two bright stars two cubits asunder east and west, extending along the equator. They are called haráthán (incisions in the bow to receive the string) because they look like holes in the heaven. Below these two stars are nine lesser ones called hair شعر. These eleven stars together are compared with the mane on the back of the lion and called zobrah. The Arabs say —“اذا طلع الحراثان اكلت أم حردان” —“when the haráthán rise the small dates of the Hijáz are eaten.”

12. Cirfah, a bright star, it is considered to be the قتب of the lion, which is explained to وعاء القصيد; close and almost connected with this star are seven very small stars. This mansion is called cirfah, for when it rises with the dawn (in March) the heat returns, and when it sets, the cold; it is therefore said to be the gate of time. Astronomers place it on the tail of Leo.

13. 'Awwâ five bright stars having the figure of J from north to south; four of them are in a line and one turn up. This mansion is also called the buttocks of the lion وركي الأسد. The Bedouins also likened it to a dog who goes behind the lion. Astronomers place it in the breast of Virgo.

14. The unarmed simák (Spica virginis) is a bright bluish star. On its side is another bright star called the simák, with a spear (Arcturus), for it has a small star in front considered to be its spear. Both simáks are of the first magnitude. The unarmed simák is towards the south of the armed, سماك الراصي. The name simák (a thing with which another thing is raised) has been given to these two stars, because they are near the zenith. The astronomers place the simák in the Spica, عذرا; some times the moon takes up his mansion in four stars in front of the unarmed simák, called عجزا الأسد, (buttocks of the lion) or عرش السماك (seat of

the simák). This mansion is between the southern and northern mansions.

15. Ghafr—three very small stars on a curved line ; astronomers place them between the thighs of Leo. Prophets are born at the nawö of this mansion, which takes place in April.

16. Zobányán—two bright stars ; astronomers place them in the scales of Libra. They are the length of a man asunder. The Arabs say : اذا طلع ازباني احدث الدهر لكل ذي عيان شاننا ولكل ذي ماشية هوانا .

“When the zobány rises, time assumes a new shape for every one that has eyes, and easy for every animal.”

17. Iklyl (crown), three stars about one cubit asunder, behind the ghafr. They are like a crown upon Scorpio. They are with astronomers on the beam of Libra. The Arabs say : اذا طلع الاكليل . هاجت الفحول و شموت الذبول تخوفت السيول . “When the crown rises on male animals in heat and rivers dry up.”

18. Qalb—a red bright twinkling star, near two small stars, called نياتي القلب (the vein and artery which issue from the heart) by the Bedouins. Astronomers place this star in the heart of the Scorpion. There are four constellations which are called heart قلب, first the heart of the scorpion, simply called the heart, which has just been mentioned ; second قلب السمكة, third قلب الذوز, fourth قلب الاسد.

19. Shawlah ; several stars in a curved line resembling the raised tail of a Scorpion, among these are two small stars close together like a double star ; one of them is called by the Bedouins ابرة and the other حمة ; close behind them is another star called تابع . Some people say the moon does not enter the shawlah but remains before it. Sometimes she takes up her mansions in the فقار, which is between the qalb and shawlah, and consists of six white stars in a curved line.

20. Na'áyim—eight stars, the four southern of them are bright, and form an irregular square, and are called واردة, this is the station of the moon. Wáridah means sheep ; or cattle going to drink water, and this name has been given to these stars because they are close to the milky-way, which is likened to a river. The other four stars are called الزعام الصادرة (i. e. returned from drinking water), because they are some distance from the milkyway. Astronomers place the wáridah in the hand of Sagittarius, with which he pulls the bow.

21. Baldah—a round fissure in the heaven without a star. Baldah means in the Bedouin dialect a fissure in the ground, فرجة من الارض. This fissure is surrounded by six small stars resembling a bow; some people call them. أُدحي (ostrich's nest), for not far from it are other stars called بيض (eggs) by the Bedouins. The moon sometimes makes her stage in the odhá. Astronomers place the baldah in the forehead of Sagittarius.

22. So'úd, (luck,) so called because they bring rain. There are four sa'd: 1st.—Sa'd dzábih—two small stars less than a cubit asunder north and south. Astronomers place it into the horn of Capricorn.

23. 2d. Sa'd bola'—two stars as far asunder as the above mentioned. Astronomers place it in the heel of Aquarius. The epithet devouring is given to this constellation, because at its nawö the rivers and wells being full the earth devours its own water.

24. 3d. Sa'd al-so'úd (luck of lucks). According to some, two stars, as the above, and according to others three, one is bright, the others smaller. Astronomers represent them in the breast of Aquarius. Sometimes the moon makes her stage in the السعد الناشرة; the Bedouins say: اذا طلع سعد السعد ذاب كل جامود واخضر كل عود وانتشر كل مصرود ودفي كل مبرود “When the sa'd al-so'úd rises, all which is frozen melts, and trees and shrubs come to life again.”

25. 4th.—Sa'd al-akhbiyah. Some are of opinion that this mansion is marked by one star which is surrounded by three others. The latter form a triangle, and are the tent خبا, of the former star, which is considered to be the sa'd. Others considered the central star as the *pole* of the tent. Astronomers place this mansion on the eastern shoulder of Aquarius.

26. Farazh al-moqaddam, also called farazh al-awwal and farazh al-a'lá—two bright stars apparently about five cubits asunder. Astronomers place it into the northern hip of the horse.

27. Farazh al-mowäkhkhar, also called the second or lower (i. e. southern) farazh or dalw. Two stars resembling the preceding; one is north and the other is south. Astronomers place them in the hind quarter of the horse. The moon sometimes stops short and takes up her mansion in the middle of the عراقى, and sometimes in the بلدة الذعلب.

28. Hút, الحوت, also called رشاء—consists of eighteen small stars which have the shape of a fish, whose head is towards the north and the tail towards the south. To the east of this is a star of the first magnitude

called the navel, سرّة, or heart, قلب, or belly بطن of the fish السمكة, or السمك; sometimes the moon takes up her mansion in the lesser fish, which is farther to the north of the greater fish. These two constellations resemble each other, but the lesser fish is broader and shorter than the greater. Another (the star) of them rises at the same time in the east. Nawö, means rising with a weight; some say that nawö means also setting, and that this is one of those words which have opposite meanings. The sun is in every one of the mansions of the moon 13 days, and after he has passed through them he returns into the first. If a change of weather takes place when one of these stars sets and another rises, the Arabs ascribe it to the star thorayyá, dabrán, haq'ah, han'ah or dzirá'. Summer is called qaytz by the Bedouins and çayf by towns-people, it begins when the sun enters into the Crab. The stars of the mansions of the moon are—nathrah, tarf, jabhah, zobrah, çarfah, 'awwá and simák.

The meaning of nawö (*plur.* anwá) is that one of these twenty-eight stars sets in the west in the morning.

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*Notes on the Nidification of Indian Birds. By Captain THOMAS  
HUTTON, F. G. S.*

(Continued from No. 193, for July 1848.)

No. 21.—“*Psilorhinus occipitalis.*” (Blyth, J. A. S. XV, 27).

“*Pica erythrorhyncha.*” (Gould's Century.)

“*Psilorhinus albicapillus.*” (Blyth, nestling plumage.)

This species occurs at Mussooree throughout the year, collecting into small parties of 4 to 6 during winter. It breeds at an elevation of 5,000 feet in May and June, making a loose nest of twigs externally, lined with roots.

The eggs are from 3 to 5, of a dull greenish ash-grey, blotched and speckled with brown dashes, confluent at the larger end. Diameter  $1\frac{4}{16} \times \frac{13}{16}$  inches. The ends nearly equal in size. The nest is built on trees, sometimes high up; at others about 8 or 10 feet from the ground.

The “*Psilorhinus albicapillus*” of Mr. Blyth, is nothing more than the nestling of this species, as I have fully ascertained this season by

robbing several nests,—the plumage of the young birds agreeing exactly with his published description.

No. 22.—“*Dendrocitta sinensis.*” (Gray.)

*Crypsirina sinensis.* (Hodg. Gray.)

*Pica sinensis.* (Gray.)

*Corvus sinensis.* (Daud.)

Occurs abundantly about 5,000 feet during summer ; more sparingly at greater elevations,—and in the winter it leaves the mountains for the Doon. It breeds in May, on the 27th of which month I took one nest with 3 eggs and another with 3 young ones. The nest is like that of *Psilorhinus occipitalis*, being composed externally of twigs and lined with finer materials, according to the situation,—one nest taken in a deep glen by the side of a stream was lined with the long fibrous leaves of “*mare’s tail*” which grew abundantly by the water’s edge ; another taken much higher on the hill side and away from the water, was lined with tendrils and fine roots. The nest is placed rather low, generally about 8 or 10 feet from the ground, sometimes at the extremity of a horizontal branch, sometimes in the forks of young bushy oaks. The eggs somewhat resemble those of the foregoing species, but are paler and less spotted, being of a dull greenish ash, with brown blotches and spots somewhat thickly clustered at the larger end. Diameter  $1 \frac{2}{16} \times \frac{1 \frac{3}{6}}$  inches. Shape ordinary.

No. 23.—“*Geocichla citrina.*” (Blyth.)

*Petrocossyphus citrinus.* (Gray’s Cat.)

*Turdus citrinus.* (Lath.)

*P. pelodes.* (Hodg.) young.

Arrives at an elevation of 5,000 feet about the end of May and returns to the plains in autumn ; it breeds in June, placing the nest in the forky branches of lofty trees, such as oaks and wild cherry ; externally it is sometimes composed of coarse dry grasses somewhat neatly interwoven on the sides,—but hanging down in long straggling ends from the bottom. Within this is a layer of green moss and another of fine dry woody stalks of small plants and a scanty lining at the bottom of fine roots. The eggs are 3 to 4 in number, pale greenish freckled



with rufous; the spots of that colour confluent and forming a patch at the larger end. Diameter  $1 \frac{1}{16} \times \frac{1}{16}$  inches. Somewhat gibbous at the larger end.

No. 24.—“*Geocichla unicolor*.”

*Turdus unicolor*. (Tickell & Gould.)

*Petrocincla homochroa*. (Hodg. Gray.)

*Petrocossyphus unicolor*. (Gray's Cat.)

This bird arrives in the hills up to 7,000 feet, and probably higher, about the end of March, the first being heard this year (1848), on the 26th of that month, at 5,000 feet. Every morning and evening it may be heard far and near, pouring forth a short but pleasing song from the very summits of the forest trees. It is a summer visitor only, returning to the plains in early autumn. It breeds in May and June, laying 3 or 4 eggs of a dull greenish white, freckled, blotched and spotted with rufous, sometimes closely,—sometimes widely distributed.

The nest is neatly made of green moss and roots, lined with finer roots, and placed usually against the body of the tree, from whence spring one or two twigs;—sometimes placed upon the broad surface of a thick horizontal branch, or on a projecting knob. The diameter of egg— $1 \frac{1}{16} \times \frac{1}{16}$  inches, varying a little. Shape sometimes ordinary ovate; at others more rounded at the smaller end. When shot, the crop usually contained the half-ripe berries of a species of laurel (*L. lanceolatus*?)

The following is the description of a male, shot while singing on the topmost branch of an oak tree (*Quercus incana*.)

Bill yellow, as also the rim of the eyelid, gape, inside of mouth and the legs.—Iris brown.—Length 9 inches. Wing from bend  $4 \frac{3}{4}$  inches. Above uniform pale slate-grey;—throat, breast, and sides ash colour, the former palest and nearly white on the chin. Belly and under tail coverts pure white; under wing coverts bright ferruginous. Nails yellow, length of bill to gape  $1 \frac{2}{16}$  inches. Tarse  $1 \frac{1}{16}$  inches.

Female. Bill wax-yellow with dusky about the nostrils; legs and feet wax-yellow; Iris brown; length 9 inches;—wing from bend  $4 \frac{7}{8}$  inches; bill to gape  $1 \frac{1}{16}$  inches—to forehead  $\frac{7}{8}$  inches. Above uniform dark ashy-gray; chin and throat pale cinereous, bordered by a dark stripe descending from the base of lower mandible, between which the feathers are longitudinally dashed with dark centres; breast and

sides ashy tinged with fulvous ; belly, vent and lower tail-coverts white ; under-wing coverts bright ferruginous ; ear-coverts ashy with pale shafts.\*

The nestling is above like the female, but beneath the throat and chin are purer white in some ;—in others with a rufous tinge, but no spots between the stripes descending from the base of lower mandible, and the breast much spotted with brown ;—scapularies and greater wing-coverts tipped with triangular fulvous spots ascending through the shafts of the feathers. This during the summer months is one of the commonest birds in the hills, especially about 5,000 feet, where their nests are numerous.

No. 25.—“*Myophonus Temminckii*.” (Vigors. Gould.)

*M. metallicus*. (Hodg.)

On the 16th June, I took two nests of this bird, each containing 3 eggs,—and another one containing three nearly fledged young ones. The nest bears a strong resemblance to that of the *Geocichlæ* above noticed, but is much more solid, being composed of a thick bed of green moss externally, lined first with long black fibrous lichens, and then with fine roots. Externally the nest is  $3\frac{1}{2}$  inches deep, but within only  $2\frac{1}{2}$  inches ; the diameter about  $4\frac{3}{4}$  inches, and the thickness of the outer or exposed side is 2 ins.

The eggs are 3 in number, of a greenish ashy, freckled with minute roseate specks, which become confluent and form a patch at the larger end ; shape ordinarily, and rather gracefully, ovate ; diameter  $1\frac{6}{16} \times \frac{15}{16}$  in.

The elevation at which the nests were found was from 4,000 to 4,500 ft., but the bird is common, except during the breeding season, at all elevations up to the snows, and in the winter it extends its range down into the Doon. In the breeding season it is found chiefly in the glens, in the retired depths of which it constructs its nest ;—it never, like the Thrushes and *Geocichlæ*, builds in trees or bushes, but selects some high towering and almost inaccessible rock forming the side of a deep glen, on the projecting ledges of which, or in the holes from which small boulders have fallen ; it constructs its nest, and where, unless when assailed by man, it rears its young in safety, secure alike from the howling blast and the attacks of wild animals. It is known to the natives by the name of “*Kuljet*,” and to Europeans as the “*Hill Black bird*.”

\* The female of this race is utterly undistinguishable from that of *G. dissimilis*, nobis, J. A. S., XVI, 144.—E. B.

The situation in which the nest is placed is quite unlike that of any other of our Hill Thrushes with which I am acquainted, and the habits of the bird render it far more deserving of the name of *Petrocossyphus* or “*Rock blackbird*,” than those to which, in the Catalogue of Mr. Hodgson’s Collection, Mr. Gray has assigned that name. Indeed, as applied to the two preceding species, it is altogether a *misnomer*, for they are, in the first place,—not *Blackbirds* or *Merulæ*, as the Greek word “*Cossyphus*” implies,—and in the second place, they are not *Rock* lovers at all, but true forest birds, building in trees and taking their food upon the ground, where they find it in berries and insects among the withered leaves which they expertly turn over with their beaks, and hence the reason why the beak is almost invariably clotted with mud or other dirt. I have never seen these *Geocichlæ* *except in woods*,—whereas “*Myophonus Temminckii*” is as often found in open rocky spots on the skirts of the forest, as among the woods, loving to jump upon some stone or rocky pinnacle, from whence he sends forth a sort of choking chattering song, if such it can be called,—or with an up jerk of the tail, hops away with a loud musical whistle, very much after the manner of the British Blackbird (*M. vulgaris*).\* On the southern side of the range at Jerrepanee, elevation about 5,000 ft. the forest is open and scattered among immense bare blocks of stone;—on the northern side of the same range, the forest is dense and contains much underwood. It is remarkable that while the *Geocichlæ* above noticed, are strictly confined to the close forest tracts of the northern side,—*Petrocossyphus cinclorhynchus* (Gray’s Cat.) affects the rocky southern forest; I have however occasionally seen the latter on the northern side also, but I cannot call to mind a single instance in which I have seen either *Geocichla citrina* or *G. unicolor* on the southern side. This fact will at once show how little applicable to the latter birds is Mr. Gray’s name of *Petrocossyphus*. Mr. Gray may possibly reply to my criticism by asking—“*what’s in a name?*” To which I must respond that in natural history, as with man, a *good name* is most important, and *ought* as much as possible to convey some idea of habits,

\* The sweet songster to which Mr. Vigne alludes, as being heard by him, was not this bird, whose song, if such it can be called, is nothing but a subdued grating chatter, as if singing to itself; the song heard by Mr. Vigne was that of *Merula bouboul*, by far the sweetest songster in the Hills.

manners, or markings, so as to assist the naturalist not only in the identification of species, but also lead him to the places where he might expect to find them. But who would ever dream of seeking in the forest's gloom for birds whose name pointed to the fact of their delighting in rocky situations? Yet, if misled by the generic name *Petrocossyphus*, the naturalist should venture to some rock-bestudded mountain in search of the species "*citrinus*" and "*unicolor*"—he would have nothing but his trouble as his reward, for those species are procurable only amidst the boughs and thickets of the forest.

No. 26.—"*Copsychus saularis*," (L.)

*Gryllivora intermedia*, Swainson.

*Dahila docilis*, Hodgson.

Arrives on the hills up to 5,000 ft. and perhaps higher, in the beginning of April. It returns to the Doon and plains in early autumn. It breeds in May, on the 19th of which month I took a nest from a bank by the road side; it was composed of green mosses and lined with very fine roots. Eggs 4; carneous cream colour. Somewhat blistered at the larger end. Diameter  $\frac{1}{16} \times \frac{8}{16}$  ins.

This species delights to sit on the topmost branches of a tree, generally selecting some dry and leafless branch, from whence it utters a pleasing song, which is replied to by another individual at no great distance; when on the ground it hops with the wings half open or drooping, and at each hop it stops to spread and flirt the tail.

No. 27.—"*Stoparola melanops*." (Blyth.)

*Niltava? melanops*. (Gray's Cat.)

*Muscicapa melanops*. (Vigors. Gould.)

This is a common species throughout the mountains up to about 12,000 ft. during summer, arriving about the beginning of March. It breeds in May and June, making a neat nest of green moss in holes of trees, in stumps, and in the holes of banks by the road side. The eggs are 3 to 4 in number, dull white with faint rufous specks at the larger end and somewhat inclined to form a ring.

The bird has a pleasing song. Gould figures this species very faultily,—as the *black* of the lores *does not* pass beyond the eye, as he represents it, and the under tail coverts instead of being uniform pale greenish, are dull blue green, each feather apically barred with dull white. In the winter it leaves Mussooree.

No. 28.—“*Cyornis rubeculoides*.” (Blyth.)

*Niltava rubeculoides*. (Hodg.)

*Phænicura rubeculoides*. (Vigors.)

*Chaitaris brevipes*. (Hodg.)

Arrives in the neighbourhood of Mussooree in April, and breeds in June, on the 13th of which month I took a nest from a hole in a bank by the road side in a retired and unfrequented situation: I afterwards found another nest in a hole of a rock, also in a retired spot. The elevation was about 5,000 ft. Externally the nest is composed of green moss, and lined with black fibrous lichens like hair. The eggs are 4 in number, of a dull and pale olive green, faintly or indistinctly clouded with dull rufous or clay colour. Diameter  $\frac{1}{16} \times \frac{9}{16}$  ins. The male has a very pleasing song which he warbles forth from the midst of some thick bush, seldom exposing itself to view, like *Stoparola melanops*, which delights to perch upon some high exposed twig.

No. 29.—*Sibia capistrata*. (Hodg.)\*

Remains at an elevation of 7,000 ft. throughout the year, but I never saw it under 6,500 ft.;—its loud ringing note of *tittéréé—tittéréé twééyó*, quickly repeated, may constantly be heard on wooded banks during summer. It breeds at Mussooree in May, making a neat nest of coarse dry grasses as a foundation, covered laterally with green moss and wool, and lined with fine roots. The number of eggs I did not ascertain, as the nest was destroyed when only one had been deposited, but the colour is pale bluish white freckled with rufous. The nest was placed on a branch of a plum tree in the botanical garden at Mussooree.

No. 30.—“*Dicrurus longicaudatus*.” (A. Hay.)

This species, the only one that visits Mussooree, arrives from the Doon about the middle of March and retires again about September. It is abundant during the summer months, and breeds from the latter end of April till the middle of June, making a very neat nest, which is placed in the bifurcation of a horizontal branch of some tall tree, usually oak trees; it is constructed of grey lichens gathered from the trees, and fine seed-stalks of grasses, firmly and neatly interwoven; with the latter it is also usually lined, although sometimes a black fibrous lichen is used;—externally the materials are kept compactly together, by being plastered over with spiders' webs. It is altogether a light and elegant

\* *Cinclosoma capistratum*, Vigors, v. *Sibia nigriceps*, Hodgson.—E. B.

nest. The shape is circular, somewhat shallow and diameter within 3 inches. The eggs are 3 to 4,—generally the latter number, and so variable in colour and distribution of spots, that until I had shot several specimens and compared them narrowly, I was inclined to think we had more than one species of *Dicrurus* here. I am however now fully convinced that these variable eggs belong to the same species. Sometimes they are dull white with brick red spots openly disposed in form of a rude ring at the larger end; at other times the spots are rufescent claret with duller indistinct ones appearing through the shell;—others are of a deep carneous hue, clouded and coarsely blotched with deep rufescent claret; while again some are faint carneous with large irregular blotches of rufous clay with duller ones beneath the shell. Diameter varying from  $1 \times \frac{1}{6}$ ;—to  $\frac{1}{6} \times \frac{1}{6}$  ins.

No. 31.—“*Campephaga fimbriata*.” (Temm.)

*Campephaga lugubris*. (Gray’s Cat.)

*Ceblephyrus lugubris*. (Sundevall.)

*Volvocivora melaschistos*. (Hodg. Gray.)

*Graucalus maculosus*. (McClelland.)

This too is a mere summer visitor in the hills, arriving up to 7,000 ft. about the end of March, and breeding early in May. The nest is small and shallow, placed as in the last in the bifurcation of a horizontal bough of some tall oak tree, and always high up; it is composed externally almost entirely of grey lichens picked from the tree, and lined with bits of very fine roots or thin stalks of leaves. Seen from beneath the tree, the nest appears like a bunch of moss or lichens, and the smallness and frailty would lead one to suppose it incapable of holding two young birds of such size. Externally the nest is compactly held together by being thickly plastered over with cobwebs. The eggs are two in number, of a dull grey green closely and in parts confluent dashed with streaks of dusky brown. Diameter  $\frac{1}{6} \times \frac{1}{6}$  ins.

The bird has a plaintive note which it repeatedly utters while searching through a tree, after the manner of *Collurio Hardwickii*, for insects.

No. 32.—“*Abrornis schisticeps*.” (Hodg.)

*Culicipeta schisticeps*. (Gray’s Cat.)

*Phyllopus xanthoschistos*. (Hodg.)

A common species at 5,000 ft. and commences building in March. A pair of these birds selected a thick China rose bush trained against

the side of the house, and had completed the nest and laid one egg, when a rat destroyed it. I subsequently took two other nests in May, both placed on the ground in holes in the side of a bank by the road side. In form the nest is a ball with a round lateral entrance and is composed externally of dried grasses and green moss, lined with bits of wool, cotton, feathers, thread and hair. In one I recognized more than one lock of my own child's hair, which had been cut not long before, and had been appropriated by the bird. The eggs are 3 in number and pure white. Diameter  $\frac{10}{16} \times \frac{7}{16}$  ins.

No. 33.—“*Cryptolopha cinereocapilla.*” (Vieillot.)

*Cryptolopha ceylonensis.* (Strick.)

*C. poiocephala.* (Swain.)

*Platyrrhynchus ceylonensis.* (Swain.)

I took a nest of this species on the 18th April in a deep and thickly wooded glen at an elevation of about 4,500 ft. It was placed against the moss-covered trunk of a large tree, growing by the side of a mountain stream, and was neatly and beautifully constructed of green moss fixed in the shape of a watch-pocket at the head of a bed, to the mosses of the tree, (with which it was completely blended,) by numerous threads of spiders' webs. The lining was of the finest grass stalks, no thicker than horsehair,—and beneath the body of the nest depended a long bunch of mosses fastened to the tree with spiders' webs, and serving as a support or cushion on which the nest rested securely. Within this beautifully constructed fabric were 4 small eggs of a dull white colour, with a faint olive tinge and minutely spotted with pale greenish brown, and having a broad and well defined ring of the same, near the larger end. The eggs were set hard. Diameter  $\frac{9}{16} \times \frac{8}{16}$  ins. Shape bluntly ovate.

No. 34.—“*Parus erythrocephalus.*” (Vig.)

Common at Mussooree and in the hills generally throughout the year. It breeds in April and May. The situation chosen is various, as one taken in the former month at Mussooree, 7,000 ft., was placed on the side of a bank among overhanging coarse grass; while another taken in the latter month at 5,000 ft., was built among the same ivy twining round a tree, and at least 14 feet from the ground. It is in shape a round ball with a small lateral entrance, and is composed of green mosses warmly lined with feathers. The eggs are 5 in number,

white with pinkish tinge, and sparingly sprinkled with lilac spots or specks, and having a well defined lilac ring at the large end. Diameter  $\frac{8}{16} \times \frac{6}{16}$  ins.

No. 35.—“*Parus xanthogenys.*” (Vig.)

Common in the hills throughout the year. It breeds in April, in which month a nest containing 4 partly fledged young ones was found at 5,000 ft.; it was constructed of moss, hair and feathers and placed at the bottom of a deep hole in a stump at the foot of an oak tree; the colour of the eggs was not ascertained.

No. 36.—“*Acrocephalus montanus.*” (Gray’s Cat.)

*Salicaria arundinacea?* (Hodg. Gray.)

This species arrives in the hills up to 7,000 ft. at least, in April, when it is very common, and appears in pairs with something of the manner of *Phylloscopus*. The note is a sharp “*tchik-tchik,*” resembling the sound omitted by a flint and steel. It disappears by the end of May, in which month they breed, but owing to the high winds and strong weather experienced in that month in 1848, many nests were left incompleated, and the birds must have departed without breeding. One nest which I took on the 6th May, was a round ball with lateral entrance; placed in a thick barberry bush growing at the side of a deep and sheltered ditch; it was composed of coarse dry grasses externally and lined with finer grass. Eggs 3, and pearl white, with minute scattered specks of rufous, chiefly at the large end; diameter  $\frac{10}{16} \times \frac{8}{16}$  ins. (The high winds which prevailed in May, destroyed an incredible number of the nests of various Doves, *Treron sphenura*, *Garrulus lanceolatus*, &c.)

No. 37.—“*Zosterops palpebrosus.*” (Temm.)

*Z. annulosus.* (Swain.)

*Motacilla madagascariensis.* (Gm.)

*Sylvia madagascariensis.* (Lin. Lath.)

*Motacilla maderaspatana.* (Lin.)

*Sylvia palpebrosa.* (Tem.)

*S. leucops.* (Vieillot.)

*S. annulosa.* (Swain.)

*Zosterops maderaspatana.* (Gray’s Cat.)

These beautiful little birds are exceedingly common at about 5,000 ft. during summer, but I never saw them much higher. They arrive



from the plains about the middle of April, on the 17th of which month I saw a pair commence building in a thick bush of *Hybiscus*? and on the 27th of the same month the nest contained 3 small eggs, hard set. I subsequently took a second from a similar bush, and several from the drooping branches of oak trees, to the twigs of which they were fastened. It is not placed on a branch, but is suspended between two thin twigs, to which it is fastened by floss silk torn from the cocoons of "*Bombyx Huttoni*" (Westwood) and by a few slender fibres of the bark of trees or hair, according to circumstances. So slight and so fragile is the little oval cup, that it is astonishing the mere weight of the parent bird does not bring it to the ground; and yet within it three young ones will often safely outride a gale, that will bring the weightier nests of Jays and Thrushes to the ground. Of seven nests now before me, four are composed externally of little bits of green moss, cotton, seed down, and the silk of the wild mulberry moth torn from the cocoons, with which last material moreover, the others appear to be bound together; within, the lining of two is of the long hairs of the Yák's tail (*Bison pöepagus*) two of which died on the estate where these nests were found; and the third is lined with black human hair; the other three are formed of somewhat different materials, two being externally composed of fine grass stalks, seed down and shreds of bark, so fine as to resemble tow; one is lined with seed down and black fibrous lichens resembling hair; another is lined with fine grass, and a third with a thick coating of pure white silky seed down. In all the seven, the materials of the two sides are wound round the twigs, between which they are suspended like a cradle, and the shape is an ovate cup about the size of half a hen's egg split longitudinally. The diameter and depth are respectively  $2 \times \frac{3}{4}$ ; and  $1\frac{1}{2}$  ins. The eggs usually 3 in number, of a very pale whitish green; diameter  $\frac{8}{16} \times \frac{6}{16}$  ins. The young continue with the old birds for some time after leaving the nest, and are often mixed up with the flocks of *Parus erythrocephalus*. They appear to feed greedily upon the small black berries of a species of *Rhamnus* common in these localities. They depart for the Doon about the end of October.

No. 38.—"*Orthotomus longicauda*." (Gm.)

*O. Bennettii*. (Sykes.)

*O. suthorius*, v. *ruficapillus*, v. *sphænura*. (Hodg. Gray.)

*Motacilla longicauda.* (Gm.)

*M. sutoria.* (Gm.)

*Sylvia guzuratta.* (Lath.)

*O. lingoo.* (Sykes) young.

*O. sepium.* (Skyes) young apud Blyth.

*O. sphæcnurus.* (Swain.)

*Sylvia ruficapilla.* (Hutton.)

It is very evident from the accounts given both by Mr. Hodgson and Captain Tickell, of the colour of the eggs of supposed *O. longicauda*, that there must either be more than one species confounded under that name, or that they have erroneously attributed to it the eggs of some other species. In the J. A. S. No. 22, for Oct. 1833, I described the nest and eggs of true *O. longicauda*, under the name of *Sylvia ruficapilla*, and similar nests and eggs agreeing in every respect have since fallen under my observation; in all of these the nest was composed of cotton, wool, vegetable fibre and horsehair, formed in the shape of a deep cup or purse enclosed between two long leaves, the edges of which were sewed to the sides of the nest in a manner to support it, by threads spun by the bird;—the eggs are 3 to 4, of a white colour, sprinkled with small specks, chiefly at the larger end, of rufous or tawny. Captain Tickell gives the eggs “pale greenish blue, with irregular patches, especially towards the larger end, resembling dried stains of blood, and irregular broken lines scratched round, forming a zone near the large end.” These cannot be the eggs of *O. longicauda*, any more than the “unspotted verditer blue eggs” mentioned by Mr. Hodgson, P. Z. S. 1845. p. 29.

The true *O. longicauda* occurs in the Doon along the southern base of the mountains, but does not ascend even in summer.

(Note.—I fear that in many instances Capt. Tickell has trusted solely to native information, in which case the chances are he has often been deceived;—I have noted no nest that I did not either take myself, or examine before I allowed it to be touched.)

No. 39.—“*Drymoica criniger.*” (Hodg.)

*Suya criniger.* (Hodg.)

This little bird appears on the hills at about 5,000 ft. in May. A nest taken much lower down on 22nd June was composed of grasses neatly interwoven in the shape of an ovate ball, the smaller end upper-

most and forming the mouth or entrance ; it was lined first with cottony seed down and then with fine grass stalks ; it was suspended among high grass and contained 5 beautiful little eggs of a carneous white colour, thickly freckled with deep rufous, and with a darkish confluent ring of the same at the large end—Diameter  $\frac{1}{16} \times \frac{8}{16}$  ins.—I have seen this species as high as 7,000 ft. in October. It delights to sit on the summit of tall grass or even of an oak, from whence it pours forth a loud and long continued grating note, like the filing of a saw.

No. 40.—“*Pyrgita indica.*” (Jard. Selb.)

This, if really distinct from the European Sparrow, does not appear to be a common bird on the heights,—nor is it nearly so common at 5,000 ft. as it is in the Doon ; yet it cannot be called scarce. It breeds in the caves of buildings and in bushes, making a loose slovenly nest of a round form with lateral entrance ; it is of large size and constructed chiefly of dry grasses or hay externally, and plentifully lined with feathers, bits of cotton and wool. The eggs are pale ash colour, *moderately* sprinkled with specks and dashes of neutral tint, clustering rather thickly at the large end. Diameter  $\frac{1}{16} \times \frac{9}{16}$  ins. Eggs usually about 6 in number. Breeds several times in the year.

No. 41.—“*Francolinus vulgaris.*” (Steph.)

This is a common bird in the Doon, and by no means rare in warm cultivated valleys far in the hills ; it breeds in the hills in June ; and a nest taken by a friend on whose accuracy I can rely, and who shot the old bird, contained 6 eggs of a dull greenish white colour ; the egg appears very large for the size of the bird, and tapers very suddenly to the smaller end ; diameter  $1\frac{1}{2} \times 1\frac{3}{16}$  ins.

There is no preparation of a nest, the eggs being deposited on the bare ground. Called “*Kala-teetur*” by the natives.

No. 42. “*Euplocomus albocristatus.*” (Vigors.)

This species, the “*Kalich*” of the hill men, is found in the hills at all seasons, and is common at every elevation up to the snows. It breeds in May and June. In the latter month I found a nest, by the side of a small water course, composed merely of a few dead leaves and some dry grasses, which had very probably been accumulated by the wind and tempted the bird to deposit her eggs upon them. The spot was concealed by large overhanging ferns, and contained the shells of 8 eggs of a sullied or faint brownish-white like some hens’ eggs ; the tops of all

were neatly cut off as if by a knife, showing that the young ones had escaped, and singular enough I had the day before captured the whole brood, but knowing the almost impossibility of rearing them, had allowed them again to go free. The diameter of the egg is  $2 \times 1\frac{6}{16}$  ins.

In Mr. Gray's Catalogue of the Collection presented to the British Museum by Mr. Hodgson, this and *Phasianus Hamiltonii* are given as synonymes of *Gallophasis leucomelanos*. In this there appears to be some degree of error, for the species are distinct. Mr. Blyth in *epistola*, writes that "there are" 4 true races and 2 hybrids. Of the former, one is *albocristatus*; crest rarely very white, the white on the rump always well developed, and found *exclusively* westward of Nipal. *Melanotus* (Blyth), has black crest, and no white on rump; common at Darjeeling; and the Nepalese *leucomelanos* is certainly a cross between these two. *Cuvieri* of Assam, Sylhet, &c. has white on rump, but underparts wholly shining black; and this has produced a mixed race with *lineatus* of Arracan.\* If such be the case, the name of *leucomelanos*, belonging only to a hybrid, and not to a true species, must give place to Gould's name of *albocristatus*. *Phasianus Hamiltonii* of Gray's Ill. Ind. Zool. looks very like an immature male of the present species, but being from Nipal, is probably an immature hybrid. In the neighbourhood of Mussooree and Simla, we have only *Euplocomus (Gallophasis) albocristatus (verus)* the others all occurring more to the eastward, as correctly observed by Mr. Blyth. The long white crest is seldom or perhaps never found except in fully mature birds, it being generally of a dirty or dusky hue like that figured in Gould's Century; every place however is now so thoroughly poached over by native shikarrees, that an old white-crested bird is extremely rare.

No. 43.—“*Pucrasia macrolopha*.” (Gray's Cat.)

*Phasianus pucrassse*. (Gray. Griff. An. King.)

*Gallophasis pucrasia*. (Hodg. Gray.)

For the eggs of this species I am also indebted to a friend who took them in June from the ground, where there was no other symptom of a nest than a slight scratching away of the leaves and grass. The eggs were 5 in number, of a sandy brown, sprinkled over with specks, and

\* Since the above was written, I have seen the series of specimens of these birds preserved in the Society's museum, and fully concur in Mr. Blyth's opinion.

large spots and blotches of deep red brown resembling dried blood. The diameter was  $2\frac{1}{16} \times 1\frac{7}{16}$  ins. Shape ordinary, and altogether a very close miniature of the egg of *Lophophorus Impeyanus*. This bird occurs in the hills at all seasons, from Mussooree to the snows, and bears several names, such as “*Plass*” at Simla, “*Koklass*” at Mussooree, and “*Pocrass*” farther to the eastward.

No. 44.—“*Phasianus Wallichii*.”

*Lophophorus Wallichii*. (Hardw.)

*Phasianus Stacei*. (Vigors.)

This beautiful species is likewise truly a hill bird, being found at all seasons. Its egg is pure white and of the ordinary shape, but the number not ascertained. It is known as the “*Cheer*,” and “*Bunchel*.”

No. 45.—“*Lophophorus Impeyanus*.”

*Phasianus Impeyanus*. (Lath.)

*L. refulgens*. (Temm.)

These birds do not occur so low down as Mussooree, but are found in abundance on the next range; in days of yore they were found at Simla, but civilization has of late years banished them to the less disturbed localities. It makes no nest, but lays its eggs on the ground; the number not satisfactorily ascertained, as one nest contained 3 and another 4 eggs of a pale brown or sandy hue, thickly sprinkled over with reddish brown spots and dashes.

The diameter  $2\frac{1}{2} \times 1\frac{1}{8}$  ins. Shape ordinary. Called “*Monaul*.”

No. 46.—“*Tragopan Hastingsii*.” (Vigors).

A pair of these birds kept in confinement produced 2 eggs in June, both of which were destroyed by the male; the colour was pale rufous brown like what are usually termed in this country (India) “game hen’s eggs.” These birds are only found on the loftier hills along the confines of the snow. They lived contentedly in confinement and became exceedingly tame. In the catalogue above referred to, Mr. Gray gives *Satyra melanocephala* of Hardwicke’s Ill. Ind. Zool. Plates 46, 47, 48. as synonymous with Gould’s *Tragopan Hastingsii*. This is again erroneous, for the plates quoted, unless intended as caricatures, can never represent *T. Hastingsii* in any state of plumage. Plate 46. gives what is termed “the adult male” and although agreeing pretty well in other respects with *T. Hastingsii*, it is represented with “ochreous yellow

wattles'' whereas in living specimens of the latter species, the wattles are of a *bright metallic ultramarine blue* ; those on the head are usually concealed beneath the feathers, and are only occasionally exerted when the bird is excited, but never erected as represented in plate 46. Again Plate 47 represents no phase of plumage of *T. Hastingsii*, while Plate 48, purporting to be a female, is in all probability the young male of some other species,—but is assuredly not the female of *T. Hastingsii*, which is correctly figured by Gould in his Century of Himalayan Birds ; a comparison of his plate with that of Mr. Gray's Ill. Ind. Zool. will, I think, be sufficient to convince any one of the total distinctness of the birds represented. I therefore reject Gray's Synonymes *in toto*, and retain *T. Hastingsii* as an undoubtedly good species, peculiar to the snowy regions of the *North Western Himalaya* ; while *Satyra melanocephala*, if it be a species at all, must be sought for farther to the *Eastward* of the range.\* At Simla called "*Jahjee* ;" at Mussooree "*Jwire* ;" by Europeans the "*Argus Pheasant*."

\* We doubt altogether the existence of more than two Himalayan species of this genus, *Hastingsii* in the N. W., and *cornutus* in the S. W. A third exists in the Chinese *Temminckii* ; and fine specimens of all are in the Society's Museum.—E. B.

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR DECEMBER, 1848.

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The usual monthly meeting was held at the Society's House on Wednesday evening, 6th December.

The Hon'ble the President in the chair.

The minutes of proceedings of the November meeting were read, and the accounts and vouchers for November submitted.

The following gentlemen, duly proposed and seconded at the November meeting, were ballotted for and unanimously elected :—

*T. A. Anstruther, Esq.* Madras, C. S.

*Rev. J. Richards*, Chaplain, Madras Establishment.

*Wm. Macintosh, Esq.* was proposed by Mr. Alex. Mitchell, seconded by Rev. J. Long, as a candidate for election at the January meeting.

Letters were read—

From Dr. Jameson, withdrawing his name from the list of members in consequence of an application made to Mr. Jameson, by the Librarian, for a book supposed to have been in his possession.

From F. J. Halliday, Esq. Officiating Secretary to Govt. of India, Home Department, dated 25th November, transmitting a list received from Capt. Kittoe, of the pieces of sculpture presented by Government, as recorded in the Proceedings of last meeting.

*List.*

1. Large erect figure of Sakhya, with kneeling attendant.
2. Large erect figure with six arms, holding the attributes of Brahma.
3. Large seated figure of Buddha on lion and elephant throne, with a figure of a female dancing on a prostrate Gunesha ; height 5 ft.
4. Large seated figure of Buddha ; 4 ft.
5. Six-armed figure seated ; same attributes as No. 2 ; height 3 ft.
6. Erect figure of Buddha and attendants ; 3 ft.

7. Female figure of Pudmavati, or Mahamaya on lion throne, inscription ; 3 ft.
8. A very elegant erect figure, 2' 6".
9. A small Buddha seated ; 2 ft.
10. An erect (female) figure, two attendants, with inscription—"Sri Balchundra," 1' 10".
11. A Budhiswata or prince, 1' 8".
12. Small four-armed male figure, 8".
13. A small figure of Budhiswut with inscription ; 2.'
14. A remarkable fragment of a figure of a fat man seated on lotus-stool ; 3.
15. Figure representing the Nirvan or death of Sakliya, beneath the two trees, with his disciples lamenting, and heavenly musicians playing.
16. Fragment of a beautiful miniature Chaitya (not sent).
17. Ditto of a Chaitya figure of Budhiswatus and inscriptions (not sent).
18. Shiva and Parbutti ; the Siva has six arms ; from the Chaitya at Poonaha.
19. Siva and Parbutti and ten Avatars, from the Chaitya ditto.
20. A Guryogh in two pieces ; in shape of a monster with a trunk.
21. A seated figure of Buddha in two pieces with attendant figures ; 3'.
22. A large erect figure of Sakhya with royal umbrella, attendants ; 4' 6".
23. A broken figure with six arms ; in two pieces.
24. Seated Buddha on lion throne ; 3' 6".
25. Large figure (erect) of Mahamaya ; 6 ft.
26. A small pillar.
27. Seven small Chaityas.

(Sd.) M. KITTOE, Capt.

*Archæological Enquirer.*

(True Copy)

FRED. JAS. HALLIDAY,

*Offg. Secy to the Govt. of India.*

From H. A. Harland, Esq. M. D. Genl. Secretary Honkong Branch of Royal Asiatic Society, forwarding a copy of the Transactions of the Society for the past year.

From the Secretary Royal Asiatic Society, London, dated 1st Sept., calling for payment of subscription to the Oriental Translation Fund for 1847-48, (£21.) Payment directed accordingly.

From Henry Vincent Bayley, Esq. dated London, August 19th, requesting co-operation in the preparation of a revised edition of his Bengal and Agra Gazetteer. The Librarian was directed to afford the information required.



From Dr. Campbell, Darjeeling, communicated by the Hon'ble the President, giving a summary report of Dr. Hooker's progress in the eastern Himalaya.

From Dr. Campbell, forwarding, with a chart, a note on some of the results of Colonel Waugh's operations in the Great Trigonometrical Survey of the Himalaya near Darjeeling.

From B. H. Hodgson, Esq. Darjeeling, forwarding a paper entitled 'Anatomy of Ailurus, Porcula, and Stylocerus, with sundry emendatory notes.'

From the same, on the Aborigines of India.

From Capt. Newbold, Madras Army, forwarding notes on the rocks of the Mokattam Chain and of the eastern desert of Egypt, by Hekekyan Bey, Honorary Member Asiatic Society.

The Secretary then read the following extracts from a Report from Oriental Section :—

*To Dr. W. B. O'SHAUGHNESSY, Secretary to the Asiatic Society of Bengal.*

*Dated Asiatic Society, the 2nd Dec. 1848.*

SIR,—By direction of the Oriental Section I have the honour to acknowledge the receipt of your letter, dated the 6th ult., requesting the opinion of the Section on several subjects of reference.

1. With regard to Mr. Kœnig's books, I submitted a report to the Section, on the strength of which I recommended the immediate purchase and despatch of the books asked for by Mr. Kœnig, the money to be gradually repaid by the sale of Mr. Kœnig's publications. The Section, however, are against the purchases alluded to, without receiving further explanation as to the source whence the expenditure on behalf of Mr. Kœnig is to be defrayed, or some certainty that the Society will not be a loser by the measure. Nor do they think that the Society are at all called on to act in the matter. At any rate they wish the case to be submitted to a general meeting of the Society.

Among Mr. Kœnig's books, there are some of great value, which ought to be in the library of every Oriental scholar, for instance : " Westergaard's Radices Sanscrit," " Koregarten's Pancha Tantra," " Boethlink's Panini," " Lassen's Indian Antiquities," etc., and I have no doubt that the books will sell soon, if their prices be reduced. I submit for the approval of the Section and the Council a list at reduced prices.

2. The Section have not expressed their opinion about the arrangement of the sculptures, referred to in Mr. Bushby's letter.

3. The Section approve of the reduction in the prices of the Society's books, and submit a list recommending a still greater reduction of the prices.

4. The Section approve of the proposition to publish the Kámanduk Níti Sha'stra, in the Oriental Journal.

5. The Section would recommend the Society to subscribe to at least 20 copies of Mr. Corcoran's work.

6. The Section consider Mr. Laidlay's translation of Fa Hian, with its numerous original notes, a valuable addition to Oriental Literature, and recommend to subscribe to at least 30 copies.

7. I take this opportunity to invite the attention of the Society to a work of the highest importance for Oriental literature, viz. Lassen's "Indische Alterthumskunde" (Indian Antiquities). It is of a very comprehensive character, embracing the political, religious and social history of India. In fact it contains the result of the previous researches in India, and is founded on the most diligent study of the various branches of Hindu literature, monuments, inscriptions, etc. as well as on the information of the adjacent nations and of travellers in India. The work is dedicated to the Asiatic Society in very flattering terms. I add a translation of the dedication for the information of the Society.

8. The books and original enclosures are herewith returned.

I have the honour to be, Sir,

Your most obedient servant,

E. ROER,

*Secy. Oriental Section of Asiatic Society.*

*To the Secretary Asiatic Society.*

SIR,—I beg leave to bring to the notice of the Asiatic Society a rare and interesting manuscript lately received from Capt. Kittoe, and respectfully suggest, if it shall meet with the approbation of the Oriental Section, to publish it in the 'Bibliotheca Indica.'

The work is entitled the "*Polity of Kámandaki*" (कामन्दकीय नीतिशास्त्र) and was composed about the end of the fourth century before Christ, by a disciple of the celebrated minister—Vishnugupta. It treats of the duties of man as a member of society; of the principles and form of civil government as prevalent amongst the Hindus; of the rights and privileges of kings and ministers: of the art of fortification; of the principles of military tactics;—in short, of all the branches of political science, which engaged the attention of Hindu statesmen at the time of Chandragupta. It is perhaps the only work of its kind that is known to exist, and considered with reference to the state of civilization in India about the time of Alexander's expedition, possesses a strong claim upon the attention of the Society.

It comprises twenty chapters, which together with an English version, and notes, would occupy about 120 pages of the Oriental Journal.

I am, Sir

Your obedient Servant,

RAJENDRALAL MITTRA.

*Asiatic Society, 1st Nov. 1848.*

*To the Secretary to the Asiatic Society of Bengal.*

SIR,—Being of opinion that the sale of the Society's Oriental Publications would be greatly promoted if the enclosed reduced scale of prices were adopted, I beg to submit it to you for your approbation and recommendation to the Society.

I am, Sir,

Your obedient servant,

RAJENDRALAL MITTRA.

*Asiatic Society, 25th Oct. 1848.*

*Names of Books.*

|                                                                     | <i>Present price.</i> | <i>Proposed reduction.</i> | <i>Proposed price.</i> |
|---------------------------------------------------------------------|-----------------------|----------------------------|------------------------|
| Mahabharata, an Epic Poem, 4 vols. 4to.                             | Rs. 40                | 8                          | 32                     |
| Index to ditto, 4 vols. 4to.                                        | 6                     | 2                          | 4                      |
| Naishada Churita, or adventures of Nala Raja, 1 vol. 8vo.           | 6                     | 2                          | 4                      |
| Susruta, 2 vols. 8vo.; vol. I. pp. 368; vol. II. 562 pp.            | 8                     | 2                          | 6                      |
| Harivansa, 1 vol. 4to. 563 pages.                                   | 5                     | 1                          | 4                      |
| Rajatarangini, 1 vol. 4to. pp. 440.                                 | 5                     | 1                          | 4                      |
| Fatawe Alamgiri, 6 vols. 4to.                                       | 48                    | none                       | 48                     |
| Ináyá, 3 vols. 4to.                                                 | 24                    | none                       | 24                     |
| Khazunat ul Ilm, a Treatise on Mathematics, 1 vol. 4to.<br>pp. 694, | 8                     | 4                          | 4                      |
| Jawame ul Ilm ul Riázi, 1 vol. 4to. with 11 plates, pp.<br>168,     | 4                     | 1-8                        | 2-8                    |
| Anisul Mosharrahín, 1 vol 4to. pp. 541.                             | 5                     | 2                          | 3                      |
| Sharaya ul Islam, 1 vol. 4to. pp. 641.                              | 8                     | 3                          | 5                      |
| Istallahat e Sufia, 1 vol. 8vo. pp. 168.                            | 5                     | 3                          | 2                      |
| Tarikh e Nadiri, 1 vol. 4to. pp. 386.                               | 8                     | 4                          | 4                      |
| Tibetan Grammar, 1 vol 4to. 256 pages,                              | 8                     | 2                          | 6                      |
| Tibetan Dictionary, 1 vol. 4to. 373 pages,                          | 10                    | 8                          | 2                      |

Much discussion having ensued on the presentation of this report, regarding the purchase of the books required for Mr. Koenig—

It was proposed by W. Seton Karr, Esq. seconded by Capt. Latter, and agreed unanimously,

“That in the case now before the Society, Mr. Kœnig has a right to expect that the books furnished to him in March, 1847, be forwarded, and that the Society do procure and despatch them accordingly as soon as possible, but also that for the future the Society do abstain from disbursing or pledging itself to disburse sums in the purchase of works *not* published by the Society, for individuals in Europe, which sums are only to be prospectively repaid by the sale of works received from such individuals, the Society not considering themselves in the light of purchasing agent for any parties.”

The other recommendations of the Section were unanimously agreed to, as well as a subscription for 100 copies of Mr. Laidlay's version of the travels of Fa Hian.

The Hon'ble the President then brought to the notice of the Society the loss they had sustained in the death of their distinguished Honorary Member, Mr. David Hiram Williams, and proposed the following resolution, which was unanimously agreed to:—

“Resolved, that the Society desires to record its sense of the loss which this Society, as well as the public service, has sustained by the premature death of DAVID HIRAM WILLIAMS, Esq., the Superintendent of the Geological Survey, and an Honorary member of the Asiatic Society of Bengal.”

“Resolved, that the above resolution be communicated by the Secretary to Mr. Williams' family.”

The Curators and Librarian having submitted their usual reports, the meeting adjourned to January, 1849.

(Signed) W. B. O'SHAUGHNESSY,  
*Secretary.*

*Report of the Curator Musuem Economic Geology for the month of November.*

*Geology and Mineralogy.*—I can do but little more this month than record what has been received, having but just restored this department of the Musuem to some order.

From Captain H. L. Thuillier—Deputy Surveyor General. Eight Coloured Lithographic Impressions of Captain Sherwill's Geological Map of Zillah Monghyr and Bhaugulpore.

W. Bracken, Esq. C. S.—A specimen of Fibrous Gypsum from America.

I have put into the form of a paper for the Journal my notice of the magnificent mass of Meteoric Iron now exhibited, which is the gift of our indefa-

tigable associate and contributor Capt. Sherwill, B. N. I. and refer our readers to that paper for full details of the examination of it.

*Economic Geology.*—From the late D. H. Williams, Esq. Company's Geologist, we have received specimens of two new beds of Coal, the exact locality of which is not given, but the one is stated to be from a new locality 15 or 20 miles to the south-east of Hazareebagh, and the other from two new beds in the Damooda Coal field; and specimens of Iron ore, also from the Hazareebagh and Burdwan districts.

From Messrs. Jardine, Skinner and Co. a specimen of Coal from Newcastle, N. S. Wales, from which part of the world we hitherto had no specimens for comparison if required.

From J. Homfray, Esq. some small but highly curious specimens of the Ball Coal from the Seetarampore Colliery in Burdwan, of all sizes, from that of a walnut to a small Cheshire cheese. Mr. Homfray has also presented the Museum with another splendid specimen, which appears to be the carbonised and flattened stem of a tree, the first tree stem, I think, of any kind, which has been found in the Coal in this country.

Mr. Homfray's letter is as follows:—

MY DEAR MR. PIDDINGTON,—I have now the pleasure to send you some specimens of the "Boulders of Coal" from a new Colliery opened upon the same vein of Coal as that to which my printed notice refers. The largest boulder I think very unique, and some of the small ones still more so, but you will observe that in some pieces I have sent there are 2 small boulders or nodules close to each other, and imbedded in the circumjacent Coal remarkably—the boulders having their concentric layers of Coal, whilst the masses in which they are imbedded has the layers *horizontally* disposed.

There is one specimen which has the appearance of the stem of a tree, as though it had been cut across. The layers of Coal are also concentric, just similar to those in the stems of trees—this specimen was originally about 3 feet in height, but broke across in its carriage from the Colliery to this place. I am still very undecided what to say about the formation of the balls, the manner in which they originally increased by additional coats of carbonaceous matter, or, if you please, Coal. About 175 feet above the Coal vein are found the Ironstone measures 43 feet in thickness, and having several veins of Ironstone, some of which are what we call *ball Ironstone*. In my survey of the Palamow Coal July 1837) recorded in the Coal Committee's Report, (page 159, and section, p. 162,) the Ironstone thence alluded to contains beautiful "Ball Ironstone," and in page 163 you will see the allusion to the existence of pebbles and rounded conglomerates in the sandstone overlying one of the veins of Coal. I mention these to call your attention to the fact of its having been

now eleven years under notice. I had occasion to send home some copies of my printed Coal Survey reports to Glamorganshire, and it has been the means of arousing attention to the same circumstances as to Boulders of Coal being found in veins of Coal which have *horizontal layers*. An old acquaintance, Mr. Benson of Swansea, an extensive Coal Miner and Copper Smelter, at the late meeting of the British Association, read a paper on the Boulder Coal found in a vein of Coal. I send you the paper, which is interesting enough, but I must not be deprived of my priority of its public notification, which now stands as recorded in the Society's Journal, as well as in my printed reports of 1842.

I beg you to take care of the paper, not having any other Copy, and request you to return it as soon as you conveniently can.

1st Nov. 1848.

Your's truly,

J. HOMFRAY.

P. S. It may be interesting to some persons to know that the locality of this new Colliery whence these Boulders are taken, is situated *less* than one mile from the site of the *oldest* Colliery in that district opened by Mr. Heatly near Aytura village, and upon the same vein.

*“The following is an extract from Mr. Benson's paper.”*

“Mr. Benson next read a communication on a boulder of Cannel Coal found in a vein of common bituminous Coal.

About ten years since, Mr. Logan noticed the frequent coal and iron stone conglomerates occurring in the sandstones of the Town Hill, near Swansea. His attention was first awakened to the subject from the discovery of an undoubted boulder of Cannel Coal above the seam of common bituminous coal, called the Five-foot Rock Vein, at Penclawdd. The series of coal measures included in the Pennant rock are easily traceable throughout the South Wales Coal field, from the greater hardness of their sandstone, and their elevation as a nearly continuous range of hills. It would appear that whilst the sandstones and slabs of the coal measures below the Pennant rocks have been deposited or formed in comparatively quiet water the sandstones of the Pennant series contain frequent conglomerates of coal and ironstones, drifted plants, and occasionally small boulders of granite, with other proofs of drift to a considerable extent having occurred during the period of their formation. Bivalve shells are also found in considerable masses in the shales below the Pennant group, both on the north and south outcrop, evidently showing that they now repose unmoved from their original beds, whilst the only shells I have yet seen on the Pennant were at a short

distance from the Penclawdd seam, which is one of the lowest in that series. During the present year another boulder of cannel coal, was discovered in the Penclawdd seam, which the workman who found it positively affirms to have been in the vein of bituminous coal. The boulder is 13 inches long, 7 wide, and 3 thick, one corner having been broken off after it had become rounded by attrition, probably a short time prior to its arrival at the spot in which it was found; a siliceous cement has coated a part of the surface of this fracture, has filled the cavity caused by another fracture and also attaches a piece of rock to the boulder. The Penclawdd five feet vein, is about 300 yards in geological position below the quarries of the Town Hill sandstone, and throughout this depth there would appear to be frequent instances of drift and false beds of coal: in some specimens the pebbles of the older or drift coal having from their greater hardness, penetrated into and distorted the drift plants, which have since become coated with the newer coal. One or two other pieces of cannel coal have been found at Penclawdd, but as these were discovered in the heap of bituminous coal, after it had been raised to the surface, and from exposure to the air had heated, and slacked, they may have originally formed parts of large boulders, and their present angular form is no certain proof of their having been derived from other beds in the immediate locality. In the subjacent measures of the South Wales coal field, some seams associated with regular seams of cannel coal are known to exist about 700 yards below the Penclawdd vein, and laying conformably with it. In alluding to the boulder he discovered Mr. Logan remarks:

“To suppose that the boulder is derived from the lower seams, after they had been indurated, converted, and crystallized, would, it is apprehended, be carrying the age of the whole deposit to the extent that has never yet been conceived and is perhaps inadmissible for it is not easy to account for any mode in which a fragment of them, without a disturbance of the stratification, which yet exhibits none of a requisite order, could be displaced and conveyed to the newer beds whilst forming. It is therefore, safer to refer the boulder to some anterior deposit of coal, perhaps no longer in existence.\* To attempt to determine whether these boulders of cannel coal are derived from the lower measures, or from some anterior deposit, I have not been able to collect sufficient data, but some pieces of the top stone of the Penclawdd vein may be interesting, as they show that a conglomerate of small pebbles of ironstone, apparently identical in quality with the large deposits of ironstone of the lower measures, has been deposited within a few inches of the top of the Penclawdd vein of coal. If the boulders have been derived from the lower veins of the

\* See Journal for January, p. 60, in which, with reference to our Indian Ball Coal, the same view is expressed.—H. P.

series, they may probably have been supplied from partial destruction of the lower measures at the south-west corner of the basin, previous to the formation of the veins included in the Pennant series of sandstones. It may have occurred, that during the gradual subsidence of the land beneath the estuary or basin in which the successive strata of coal, sand, and shale have been deposited, communication between such basin and the larger seas have been formed or enlarged, and that the detritus of the lower measures, thus exposed to the action of the sea, has from time to time supplied the boulders and drift during the formation of the Pennant series. The greater coarseness of the Pennant sandstones, and the frequent conglomerates and marks of drift, infer that these deposits have occurred frequently under the action of the rough sea, rather than of the quiet lake, and if the boulders of granite should, upon examination, be found to be equivalent to that of Pembrokeshire, it would rather point to the line of drift. The destruction of a portion of the lower beds before the deposit of the higher, might, as I have ventured to suggest, have been effected without disturbing the conformity of the lower and Pennant measures on the existing portions of the coal field. The question whether a large portion of the coal measures has or has not been cut off by the anticlinal line of Cefu Bryn, would not affect the suggestion; as this upheaving of the old red sandstone equally distorts the higher and lower measures, and probably occurred when the present coal field was again raised above the level of the waters. But if the suggestion is admitted as deserving of further enquiry, namely, that these boulders are derived from the lower veins of the same coal field, the inference (and a question of considerable interest it is) would follow, that sufficient time has elapsed between the deposit of each vein to allow the perfect crystallization and formation of the vein below it. It also yields information interesting with reference to the ascertaining of the manner of the formation of the coal; as it would infer, that the material of which, in this instance, the bituminous vein was formed, was originally too soft and yielding, notwithstanding its present hardness and density, to fracture the boulder during the period of pressure necessary for its formation, and also that the chemical agents acting, or escaping during the formation of the bituminous coal, do not appear to have in any way affected the cannel coal deposited within it."

It will be noted that Mr. Benson speaks of boulders of *Cannel Coal*, which renders these facts still more extraordinary. I have not been able to examine our boulders, yet having some other researches on hand which are not yet completed.

H. PIDDINGTON.

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SKETCH MAP  
 OF THE POSITIONS  
 OF THE BRITISH AND SIKH ARMIES  
 IN THE  
 BATTLE OF CHILLIANWALLA  
 NEAR THE JELUM (HYDASPES)  
 13<sup>th</sup> JANUARY 1849.

FOR THE JOURNAL OF THE ASIATIC SOCIETY OF BENGAL.

